# Mobile Network Video Recorder

User's Manual

V1.0.0

# **Regulatory Information**

The regulatory information herein might vary according to the model you purchased. Some information is only applicable for the country or region where the product is sold.

#### **FCC** Information

# 

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### FCC conditions:

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

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

#### FCC compliance:

This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the guide, may cause harmful interference to radio communication.

- For class A device, these limits are designed to provide reasonable protection against harmful interference in a commercial environment. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- For class B device, these limits are designed to provide reasonable protection against harmful interference in a residential installation. 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.

# **Cybersecurity Recommendations**

#### Mandatory actions to be taken towards cybersecurity

#### 1. Change Passwords and Use Strong Passwords:

The number one reason systems get "hacked" is due to having weak or default passwords. It is recommended to change default passwords immediately and choose a strong password whenever possible. A strong password should be made up of at least 8 characters and a combination of special characters, numbers, and upper and lower case letters.

#### 2. Update Firmware

As is standard procedure in the tech-industry, we recommend keeping NVR, DVR, and IP camera firmware up-to-date to ensure the system is current with the latest security patches and fixes.

#### "Nice to have" recommendations to improve your network security

#### 1. Change Passwords Regularly

Regularly change the credentials to your devices to help ensure that only authorized users are able to access the system.

#### 2. Change Default HTTP and TCP Ports:

• Change default HTTP and TCP ports for systems. These are the two ports used to communicate and to view video feeds remotely.

• These ports can be changed to any set of numbers between 1025-65535. Avoiding the default ports reduces the risk of outsiders being able to guess which ports you are using.

#### 3. Enable HTTPS/SSL:

Set up an SSL Certificate to enable HTTPS. This will encrypt all communication between your devices and recorder.

#### 4. Enable IP Filter:

Enabling your IP filter will prevent everyone, except those with specified IP addresses, from accessing the system.

#### 5. Change ONVIF Password:

On older IP Camera firmware, the ONVIF password does not change when you change the system's credentials. You will need to either update the camera's firmware to the latest revision or manually change the ONVIF password.

#### 6. Forward Only Ports You Need:

• Only forward the HTTP and TCP ports that you need to use. Do not forward a huge range of numbers to the device. Do not DMZ the device's IP address.

• You do not need to forward any ports for individual cameras if they are all connected to a recorder on site; just the NVR is needed.

#### 7. Disable Auto-Login on SmartPSS:

Those using SmartPSS to view their system and on a computer that is used by multiple people should disable auto-login. This adds a layer of security to prevent users without the appropriate credentials from accessing the system.

#### 8. Use a Different Username and Password for SmartPSS:

In the event that your social media, bank, email, etc. account is compromised, you would not want someone collecting those passwords and trying them out on your video surveillance system. Using a different username and password for your security system will make it more difficult for someone to guess their way into your system.

#### 9. Limit Features of Guest Accounts:

If your system is set up for multiple users, ensure that each user only has rights to features and functions they need to use to perform their job.

#### 10. UPnP:

• UPnP will automatically try to forward ports in your router or modem. Normally this would be a good thing. However, if your system automatically forwards the ports and you leave the credentials defaulted, you may end up with unwanted visitors.

• If you manually forwarded the HTTP and TCP ports in your router/modem, this feature should be turned off regardless. Disabling UPnP is recommended when the function is not used in real applications.

#### 11. SNMP:

Disable SNMP if you are not using it. If you are using SNMP, you should do so only temporarily, for tracing and testing purposes only.

#### 12. Multicast:

Multicast is used to share video streams between two recorders. Currently there are no known issues involving Multicast, but if you are not using this feature, deactivation can enhance your network security.

#### 13. Check the Log:

If you suspect that someone has gained unauthorized access to your system, you can check the system log. The system log will show you which IP addresses were used to login to your system and what was accessed.

#### 14. Physically Lock Down the Device:

Ideally, you want to prevent any unauthorized physical access to your system. The best way to achieve this is to install the recorder in a lockbox, locking server rack, or in a room that is behind a lock and key.

#### 15. Connect IP Cameras to the PoE Ports on the Back of an NVR:

Cameras connected to the PoE ports on the back of an NVR are isolated from the outside world and cannot be accessed directly.

#### 16. Isolate NVR and IP Camera Network

The network your NVR and IP camera resides on should not be the same network as your public computer network. This will prevent any visitors or unwanted guests from getting access to the same network the security system needs in order to function properly.

#### Models

MNVR4104 series and MNVR4208 series

#### Safety Instructions

The following categorized signal words with defined meaning might appear in the Guide.

Symbol	Description
	Indicates a high potential hazard which, if not avoided, will result in
	death or serious injury.
	Indicates a medium or low potential hazard which, if not avoided,
	could result in slight or moderate injury.
<b>^</b>	Indicates a potential risk which, if not avoided, could result in
	property damage, data loss, lower performance, or unpredictable
	result.
© <u>_</u> TIPS	Provides methods to help you solve a problem or save you time.
	Provides additional information as the emphasis and supplement to
	the text.

#### Terms

To simplify descriptions, frequently cited functions and names in this manual have the following meanings:

- Unless otherwise specified, "Device" in this manual particularly refers to "MNVR4104 series or MNVR4208 series products".
- "Remote devices" in this manual refer to NVR, IPC, speed domes connected with the devices through network.
- "Smart module" in this manual means smart cards installed on devices.
- "IP host" in this manual refers to hosts configured with IP addresses. PC, NVR, IPC, and speed domes are all IP hosts.
- To keep the devices safe, IP addresses, MAC addresses, and serial numbers cited in this manual have all been modified.

#### **Revision History**

No.	Version	Revision Content	Release date
1	V1.0.0	First release	January 2019

# **Important Safeguards and Warnings**

The following section describes how to use this product correctly and how to prevent dangers and property loss in using it. Before using this product, read this Manual carefully and comply with it strictly. Keep this Manual properly after reading.

#### Requirements

- Do not place or install the device near a heat source or where there is direct sunshine.
- Do not install the device in a humid, dusty, or smoggy place.
- Install the device horizontally or in a stable place. Take measures to prevent it from falling.
- Do not drip or splash liquid onto the device. Make sure that the device does not bear any
  objects filled with liquid to prevent liquid from flowing into the device.
- Prevent foreign objects from entering the Device, which might result in damage.
- Install the device in a place with good ventilation. Do not clog the air vents of the device.
- Use the device only within the rated input and output range.
- Do not dismantle the device without permission.
- Do not transport the Device with the front panel on the bottom.
- Transport, use and store the Device under the allowed humidity and temperature conditions.
- Do not expose the Device to water or excessive moisture when washing the car. A failure to follow this instruction might result in short circuit, fire, or other malfunctions.
- The dust on the circuit board will cause short circuit, which affect the normal operation of the Device and even damage the Device.To make the Device work stably for a long time, please regularly use the brush to remove the dust from components, including circuit board, connectors, and chassis.
- Keep the Device installed horizontally and make sure the internal anti-vibration components work properly.
- Unlock the HDD box before pulling it out; otherwise there might cause damage to the Device.
- After all the cables are connected, tie up the cables to avoid the dangers such as short circuit, heat and electric shock resulted from loose cables.
- When a device is connected with a car mount display, mount the camera at least 2m away from the display. If the camera and display are too close, tune down the volume of the car mount display to avoid squeal.

#### **Power Requirements**

- Use the battery exactly as prescribed; otherwise, the battery might catch fire or explode!
- Always replace with the same type of batteries!
- Use the wires (power cords) recommended for the region where the device is used within the specified range of specifications!
- The appliance coupler is a disconnection device. Keep a convenient angle when using it.

- Take care to complete the circuit connection. A failure to follow this instruction might result in Device damage.
- Prevent short circuit from occurring on all external wiring parts.
- After all the lines connections are completed, you can start connecting power cable.
- Ensure the project is well grounded to avoid interference to video and audio signals and avoid electrostatic or induced voltage to damage the Device.
- Unplug the power cable before you remove the audio/video signal cable, RS-232 or RS-485 cable; otherwise these ports might be damaged.

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# **1.1 Product Overview**

MNVR4104/4208 series mobile video monitoring products are developed on the new generation of platform, integrating video, locating, and driving recording.

Features:

- Supporting up to four/eight routes of remote video input.
- The use of H.264/H.265 encoding ensures high encoding efficiency and saves storage space.
- Netcom wireless network modules (3G, 4G and Wi-Fi modules are optional) are built in after full consideration of network application needs of car mount products.
- The use of professional car-mount design in standard size features low power consumption and novel shape.
- Wide power voltage range adapts to various car mount power supply.
- Unique HDD and SD car storage design makes recording backup and management easier.

This product can be widely used for car mount monitoring in public transportation, long-range passenger transport, police patrol, urban management patrol, cash carriers, hazardous goods transport, and logistics transport, or video monitoring in harsh environments.

Function	Description	
Storago	Stores the data in the dedicated format which cannot be falsified and	
Storage	ensure the data security.	
	Supports multi-channel audio and video signals, and each channel	
Compression	signal supports real-time compression by independent hardware to	
	realize the sync between sound and image.	
	<ul> <li>Plug in a USB storage device (such as USB flash disk and mobile HDD) to back up</li> </ul>	
Backup	<ul> <li>You can back up the data by downloading the files from the device HDD and SD card through Internet</li> </ul>	
Video playback	<ul> <li>Every channel supports real-time and independent recording, and you can play backward, monitor on Internet, query and download recordings</li> <li>Supports several playback modes: Slow playback, fast playback, backward playback, and frame-by-frame playback.</li> <li>Displays the accurate time when the event occurred during playback.</li> </ul>	
Operation through	Supports remote operations through network, such as real-time remote	
Network	monitoring, recorded video search and playback, and PTZ control	

# **1.2 Functions**

Function	Description	
Alarm linkage	<ul> <li>Provides nine routes of electric level alarm inputs that can connect to signals such as car door signal, cornering lamp signal, reversing and braking signal, to give an indication and take a record</li> <li>Supports two routes of electric level alarm output to realize easy alarm linkage</li> <li>Supports protective circuit for alarm input port and alarm output port, which protect the Device from damage.</li> </ul>	
Communication interfaces	<ul> <li>Offers RS-485 interfaces to connect with external devices</li> <li>Offers RS-232 interfaces to connect with external car mount display</li> <li>Offers standard Ethernet ports that support remote network accessing</li> </ul>	
Smart operations	<ul><li>Mouse operations</li><li>The same settings in the menu can be quickly copied and pasted</li></ul>	
Satellite	Supports positioning function and recording linkage. Recording search	
positioning	can be linked with vehicle moving track	
3G/4G, Wi-Fi networks	Adopts the latest wireless communication technology, which has improved the manageability of the Device.	
Removable HDD	The extractable and seismic design make you lock and move the HDD easily to realize data backup. Just connect the removable HDD to the USB port of PC, you can perform data-related operations conveniently.	
Dual stream	To cope with the low-bandwidth and instability of wireless network, the Device adopts the dual stream technology (respectively encode the real-time video and encode video in network transmission) to optimize the coding of network transmission, which improves the control capability of wireless network transmission	
Rollover and	The integrated G-sensor supports rollover and collision detection and	
collision detection	timely releases alarms through the platform	

# **2** Dimension and Installation

Describes the installation of hardware. Prior to installation, you need to know about the front panel, rear panel, structural sizes, and interface definition of the device. Then you can install corresponding HDD, SIM card, SD card, antenna, and devices.

# 2.1 Out-of-box Audit

When you receive the Device, unpack the box for checks.

Firstly, check if there is any damage on the Device appearance (although the packing materials are specially selected for protecting the Device from most of accidental hit during transportation). Secondly, open the accessory box to check if the accessories are complete against the packing list.

Instructions about front panel, rear panel, and labels:

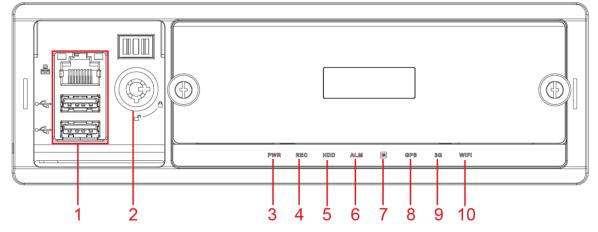
- The functions of indicator lights and ports are described in the later chapter of the Manual.
- The labels on the Device are very important for our after-sales service. To ensure the after-sales service, **keep the labels well, and do not tear or throw away.** You need to provide the serial number of the product when calling the after-sales service.

# 2.2 Device Structure

# 2.2.1 Front Panel

Describes the functions of the indicators and interfaces of the front panel.

Figure 2-1 MNVR4104/4208 front panel



No.	Name	Descriptions of interfaces and indicators
	RJ-45 network port	One network port.
1	USB interface	Two USB ports that connect to peripheral devices such as
		USB storage device and mouse.

No.	Name	Descriptions of interfaces and indicators
2	Lock switch (Device switch)	<ul> <li>When pulling out HDD, the Device must be unlocked, and if the Device is turned on, it will shut down automatically.</li> <li>To protect the HDD, this Device cannot be turned on if it is unlocked. Turning on the device only after locking it</li> </ul>
3	PWR	The red light is always on when the Device is powered on, and off when the Device is powered off
4	REC	Recording status indicator. The blue light is always on when recording, and off when not
5	HDD	HDD status indicator. The light off indicates the hard disk runs normal while the light keeping red indicates that there are something wrong with the hard disk (such as disk missing, loose disk connection and nearly full space occupation).
6	ALM	Alarm status indicator. The red light is always on when alarms occur, and off when not
7	IR	Receives infrared signal from remote control.
8	GPS	GPS status indicator. Glows blue when GPS positioning is working properly, and the indicator is off when GPS function is not enabled.
		This function is supported on the Device with GPS positioning module.
9	3G	3G status indicator. Glows blue when 3G dial-up is working properly, and the indicator is off when 3G function is not enabled.
10	Wi-Fi	Wi-Fi status indicator. Glows blue when Wi-Fi connection is correct, and the indicator is off when Wi-Fi is disconnected.

# 2.2.2 Rear Panel

Describes the interface functions of the rear panel.

The illustration of the rear panels of the Device. See Figure 2-2 and Figure 2-3. Table 2-2 describes interface functions. For interface definitions, see "2.2.3Interface definitions".

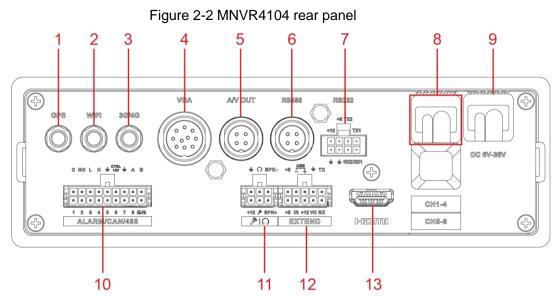


Figure 2-3 MNVR4208 rear panel

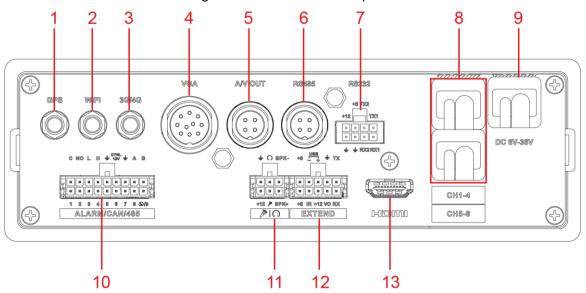


Table 2-2 Descriptions of rear panel interfaces

No.	Name	Function
1	Positioning antenna port	Connects with positioning antenna for receiving satellite positioning signals <b>NOTE</b> This function is supported on the Device with positioning module
2	Wi-Fi antenna port	Connects to Wi-Fi antenna and receives Wi-Fi signals. <b>NOTE</b> This function is supported on the Device with Wi-Fi module.
3	3G/4G antenna port	Connects to 3G/4G antenna for receiving 3G/4G signals.
		This function is supported on the Device with 3G/4G modules. Outputs analog video data to the connected display with VGA
4	VGA interface	port. For details, see "VGA Port" introduction.
5	AV OUT port	Connects to the display with audio function on the vehicle for simultaneously video and audio data output. For details, see the "A/V OUT port" introduction

No.	Name	Function	
6	RS-485	RS-485 communication port.	
7	RS-232 interface	Connects to external RS-232 devices. For details, see the "RS-232 interface" introduction	
8	CH1-4	Connects to IP camera.	
	CH5-8	Different devices corresponds to different number of channels	
9	Power cable	<ul> <li>Connects to DC 6V-DC 36V power supply for getting power from the car accumulator</li> <li>The red end with fuse is the anode of the power supply</li> </ul>	
		<ul> <li>(always-live wire)</li> <li>The black wire is the ground wire</li> <li>The orange one is the ACC signal (key starting wire)</li> </ul>	
10	ALARM/CAN/485	<ul> <li>Alarm input/output port: Includes alarm input/output port, grounding, and 12V output port. For details, see "2.5Alarm Input and Output Connection."</li> <li>CAN port: Used for data transfer between the Device and vehicle CAN network or other devices with CAN port</li> <li>A, B: Controls PTZ operations.</li> </ul>	
11	Voice talk port	Connects to voice talk device. For details, see "Voice Talk Port" introduction.	
12	EXTEND port	See "EXTEND Port" introduction.	
13	HDMI interface	Used to connect with HDMI display	

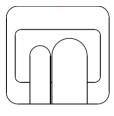
# 2.2.3 Interface definitions

#### NOTE

This Manual only describes functions of all jacks of each interface. You can follow these descriptions to prepare cables or contact our sales staff for purchasing cables.

## 2.2.3.1 Power input

Figure 2-4 Power input interface



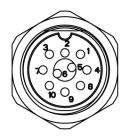
DC 6V-36V

#### Table 2-3 Power input interfaces (left to right)

Cable color	Pins
Red	Anode input
Black	Ground
Orange	ACC signal input

## 2.2.3.2 VGA interface

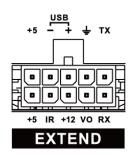
Figure 2-5 VGA interface



No.	Function	No.	Function	No.	Function
1	+12V/1A output	5	Audio output	9	VGA line sync
2	Ground line	6	VGA_B	10	VGA line sync
3	VGA_G	7	VGA_R	-	-
4	RXD_232	8	TXD_232	-	-

# 2.2.3.3 EXTEND port

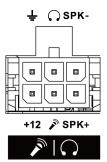




Name	Function
+5	USB +5V (upper line)
+5	USB +5V (upper line)
-	LISP data, and LISP data, that connect to LISP part
+	USB data- and USB data+ that connect to USB port.
IR	Remote control signal indicator. Receives signals from remote control.
+12	+12V/1A output.
÷	Ground
VO	AV video output
RX	PS 222 parial part conder and receiver that connects to PS 222 part
ТΧ	RS-232 serial port sender and receiver that connects to RS-232 port

#### 2.2.3.4 Voice talk port

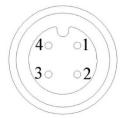
#### Figure 2-7 Voice talk port



Name	Function
+12	+12V output
÷	Ground
AND I WE	Mic In that can connect to microphone.
$\mathbf{O}$	Mic Out that can connect to earphone.
SPK+	Speak positive pole
SPK-	Speak negative pole

## 2.2.3.5 AV OUT port

#### Figure 2-8 AV OUT port



Name	Function
1	+12V/1A output
2	Ground line
3	Audio output
4	Video Output

#### 2.2.3.6 RS-232 interface

#### Figure 2-9 RS-232 interface

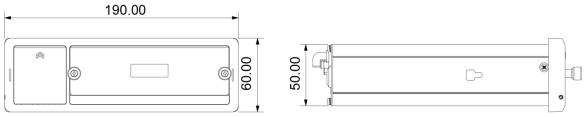


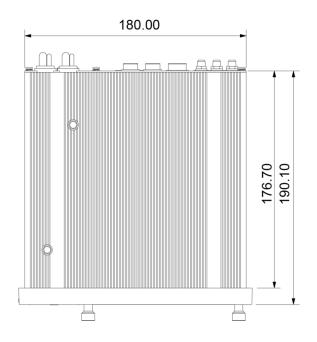
Name	Function
1	+12V/1A output
2	Ground line

Name	Function
3	RXD_232
4	TXD_232

# 2.2.4 Dimensional drawing

Figure 2-10 MNVR4104 structural and dimensional drawing (Unit: mm)





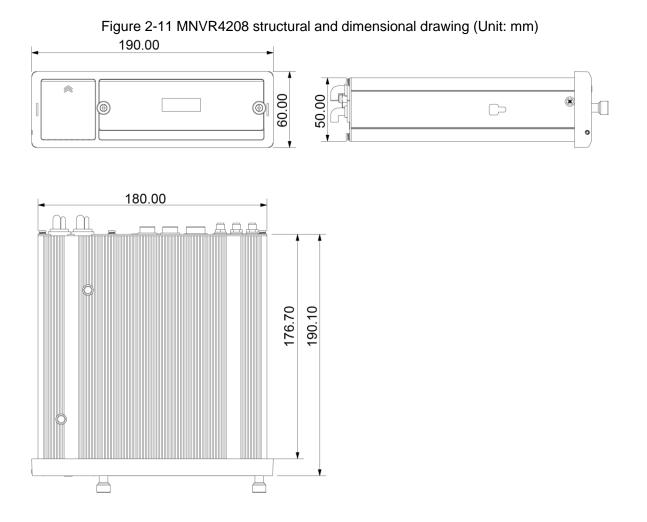
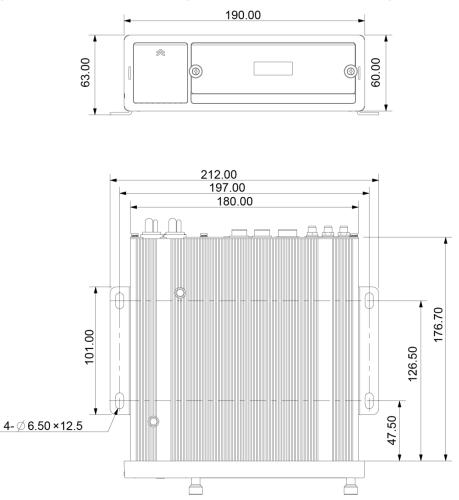


Figure 2-12 MNVR4104/4208 lug installation dimensional drawing (Unit: mm)



# 2.3 Installation

When you receive the Device, unpack the box to check the Device appearance and structures, and then install the SIM card, SD card, and HDD.

**WNOTE** 

- Before the installation is complete, make sure the Device is disconnected from power, and do not plug or unplug components when the power is connected.
- When installing and taking out HDD, the Device electronic lock must be in "unlocked" status. After the installation is complete, the Device electronic lock must be in "locked" status before powering on the Device.

# 2.3.1 Installing HDD

#### 2.3.1.1 MNVR4104 series

MNVR4104 series devices only support single HDD.

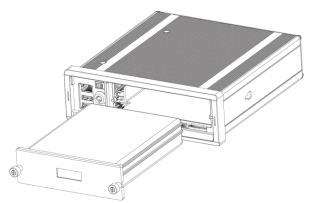
- <u>Step 1</u> Gently press the left front cover.
  - The left front cover automatically opens.
- <u>Step 2</u> Use a particular key to unlock the door.

Figure 2-13 Open door lock switch (single HDD).



<u>Step 3</u> Loosen the two screws at the front panel and take out the HDD carrier along the guide rail.

Figure 2-14 Take out the HDD carrier (single HDD).



<u>Step 4</u> Loosen two screws on the back panel of the HDD carrier, take out the rear carrier panel, and remove the HDD carrier enclosure.

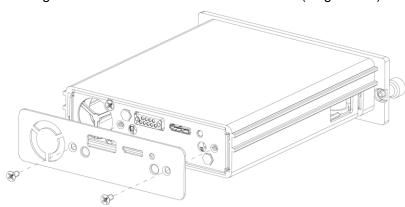
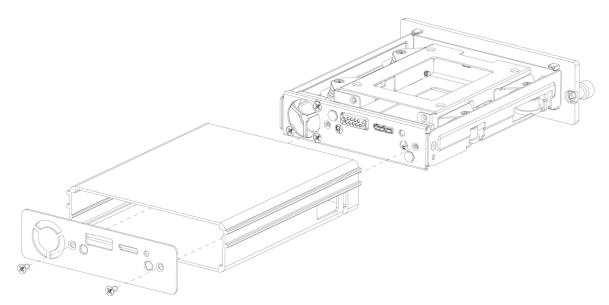
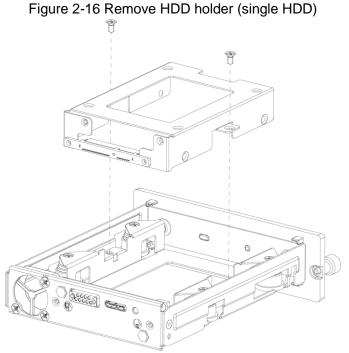


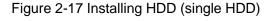
Figure 2-15 Remove the HDD carrier cover (single HDD)







<u>Step 6</u> Use four screws to fix the HDD and HDD holder, and install the HDD holder back to the Device.





- <u>Step 7</u> Install the HDD carrier enclosure in place along the rails, and then fix the HDD enclosure rear panel with two screws.
- Step 8 Place the HDD carrier back to the Device, tighten two screws and close the door lock.

#### 2.3.1.2 MNVR4208 series

MNVR4208 series devices support dual HDDs.

<u>Step 1</u> Gently press the left front cover.

The left front cover automatically opens.

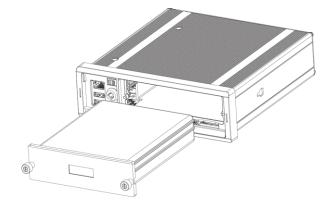
<u>Step 2</u> Use a particular key to unlock the door.

Figure 2-18 Open door lock switch (dual HDDs).



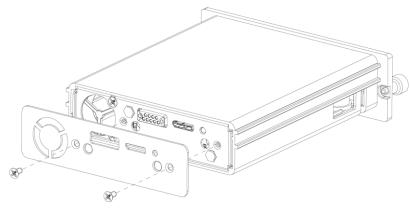
<u>Step 3</u> Loosen the two screws at the front panel and take out the HDD carrier along the guide rail.

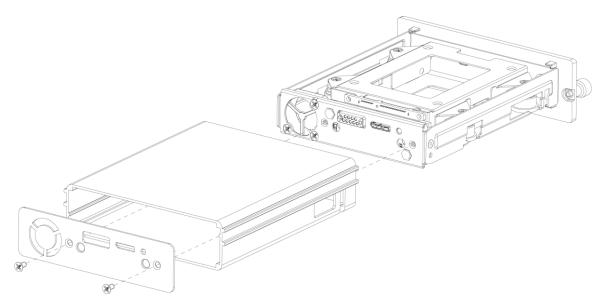
Figure 2-19 Take out the HDD carrier (dual HDDs).



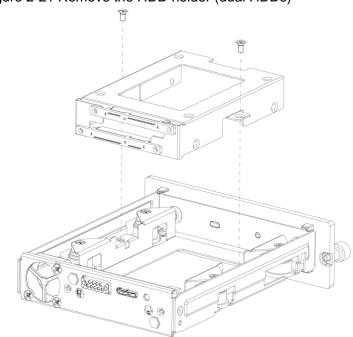
<u>Step 4</u> Loosen two screws on the back panel of the HDD carrier, take out the rear carrier panel, and remove the HDD carrier enclosure.

Figure 2-20 Remove the HDD carrier (dual HDDs)









<u>Step 6</u> Use four screws to fix each HDD and the HDD holder, and install the HDD holder back to the Device.

Fix the upper HDD to the top of the HDD holder, and the lower HDD to the side of the HDD holder.

Figure 2-22 Installing HDD (dual HDDs)



<u>Step 7</u> Install the HDD carrier enclosure in place along the rails, and then fix the HDD enclosure rear panel with two screws.

# 2.3.2 Installing SIM Card and SD Card

By default, the Device is delivered without the SIM card and SD card. Install them as you need.

• To connect the Device to Internet through dial-up connection, you need to purchase and install a SIM card.

#### NOTE

Only supports normal SIM card.

• To store recording data, you need to purchase and install an SD card.

#### Preconditions

Make sure the power supply is disconnected. If it is not, the Device automatically shuts down when the door lock switch is opened.

#### Steps

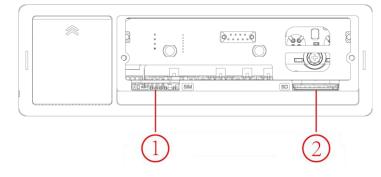
The SIM card slot and SD card slot are inside the Device.

- <u>Step 1</u> Gently press the left front cover.
  - The left front cover automatically opens.
- Step 2 Use a particular key to unlock the door.
- <u>Step 3</u> Loosen the two screws at the front panel and take out the HDD carrier along the guide rail.

Positions of the SIM card slot and SD card slot are shown in Figure 2-23.

<u>Step 4</u> Insert the SD card and SIM card into the card slot with corresponding marks.

Figure 2-23 Installing SIM Card and SD Card



 $\square$ 

In Figure 2-23, 1 is the SIM card slot and 2 is the SD card slot.

Step 5 Place the HDD carrier back to the Device, tighten two screws and close the door lock.

# 2.3.3 Installing antenna

The device antenna is installed to connect the device to the network and to locate the position of the vehicle.

## 2.3.3.1 Installation of Mobile Network Antenna



When installing sticking antenna, make sure there is no metal material below the sticking spot.

For installation of mobile network antenna, seeFigure 2-24. The flat antenna is recommended to be vertically attached to near the wind shield (such as on the instrument panel, or under the wind shield), or concealed inside the instrument panel.

Figure 2-24 Inside installationof Mobile Network Antenna



#### 2.3.3.2 Installation of GPS Antenna

Positioning methods include the currently mainstream GPS positioning, Beidou positioning, with corresponding GPS antenna and Beidou antenna.

In this document, GPS antenna is used as an example to illustrate the installation steps of locating antennas. The installation process of other locating antenna is identical.

#### 2.3.3.2.1 Outside Installation

Step 1 Place the GPS antenna on the left front of the roof. See Figure 2-25.

The antenna is magnetically attached to the roof of the vehicle. Glue can be applied to four sides of the antenna to fix more reliably.

#### **NOTE**

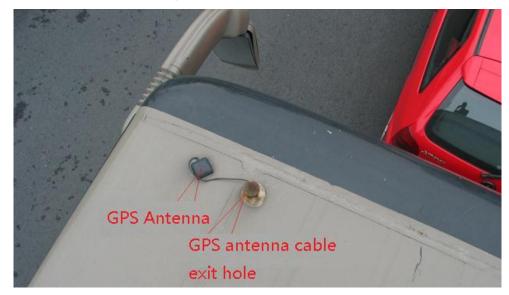
To make the sensitivity and accuracy of positioning free of interference, ensure that there is no high-power electrical or electronic interference source (such as a fan or AC compressor) or obstacles within 1 meter around the GPS antenna.

<u>Step 2</u> Insert the GPS antenna lead wire into the antenna lead hole on the roof of the vehicle and connect to the GPS antenna port inside the vehicle.

The requirements of the GPS antenna lead hole are as follows.

- The inner radius is at least 10mm.
- It must be waterproof.
- Easy to replace and maintain the antenna.

Figure 2-25 Outside Installation



#### 2.3.3.2.2 Inside Installation

When limited by waterproof and wiring requirements, the antenna can be installed inside the vehicle.

To select the installation place, it is recommended to place the antenna horizontally on the dashboard close to the windshield, and make the GPS cable facing upward to enhance the signal, as shown in Figure 2-26.



Figure 2-26 Inside Installation

# 2.3.4 Fixing the Device



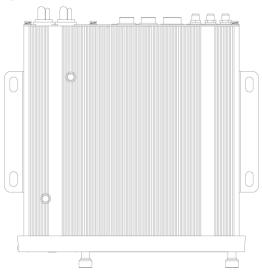
- Install the Device on the vehicle where it cannot be seen from outside. Avoid places with high temperature or near the air conditioning system. High temperature shortens the life of the Device. If going into the Device, the condensing water from the air conditioner can short circuit or burn the Device.
- Power on the Device only after all external devices are connected correctly to the Device.
- <u>Step 1</u> Install lugs onto the Device.
  - 1) Place washers onto the fixing screw.
  - 2) Use fixing screws with washers, mount lugs to the bottom of the Device respectively, and tighten the lugs.

Figure 2-27 Install the lugs onto the Device.



- <u>Step 2</u> Fix the device onto the vehicle.
  - 1) Punch holes on the vehicle according to the installation dimensional drawing.
  - 2) Use screws to fix the Device onto the vehicle.

Figure 2-28 Fix the Device onto the vehicle.



- <u>Step 3</u> Connect cables to the Device.
  - Check the voltage of the accumulator. The working voltage of this Device ranges from 6V to 36V. To make sure the Device works stably, directly get power supply from the accumulator.
  - When installing the basic wires, do not use excessive force to pull the control wires.

# 2.3.5 Connecting to Power Cables



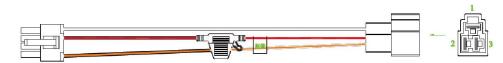
- Before connecting the power cable, confirm whether the input voltage is between 6V DC and 36V DC. If it is out of the range, it will damage the device.
- Please make sure that the positive and negative poles of the power are connected correctly. If not, the device may be damaged.
- The diameter of the power cable should be more than 1.0 mm<sup>2</sup>. Use power cables recommended by our company.
- When connecting the cables to the device, make sure that the main power switch of the vehicle is turned off and the key of the vehicle is placed in the off state.

#### 2.3.5.1 Introduction of Power Cable

For the power cable of the device, see Figure 2-29.

Connect one end of the power cable to the power port of the device (the left port in the figure) or directly use the power cable from the device. Connect the other end to the vehicle battery (the right port in the figure). The red one with fuse is positive pole of the power (normal live). The black one is the grounding cable. The orange one is the ACC signal (Key live).

Figure 2-29 Power cable



#### 2.3.5.2 Obtain Connection Modes of the Main Power Switch

In order to ensure correct cable connection, it is necessary to obtain the connection mode of the main power switch through three methods (is the main power switch connected to the positive or negative pole of the battery?).

- Ask the vehicle manufacture the connection modes of the main power switch of the vehicle.
- Measure with a multimeter: disconnect the main switch, then measure the voltage between the vehicle body and the positive pole of the vehicle battery. If the voltage is 12V or 24V, it means that the main switch disconnects the positive pole. If the voltage is 0V, then the main switch disconnects the negative pole.
- Visual inspection: whether the switch cable near the vehicle battery is connected to the positive pole or the negative pole.

## 2.3.5.3 Connecting Operation

The driving recorder must be connected to the ground wire. ACC signal, and constant electricity.

<u>Step 1</u> Enable the main power switch on the vehicle, place the key in the OFF state, and then measure the normal live electricity of the vehicle.

Use a multimeter to measure the voltage on the fuse by switching to the DC voltage range. When the multimeter detects voltage, it measures the normal live electricity on the vehicle. Generally, the voltage is 24V DC for large vehicles and 12V DC for small vehicles. However, this is subject to actual data.

<u>Step 2</u> When the vehicle key is placed at the ACC state or the ON state, the ACC signal of the vehicle is measured.

Use a multimeter to measure the voltage on the fuse by switching to the DC voltage range. When the multimeter detects voltage, remove the car key. If the voltage changes to 0V, it means that the measured signal is ACC on the car.

- Step 3 Turn off the main power switch on the vehicle, and place the key in the OFF state.
- <u>Step 4</u> Connect the power cable according to the main power switch installation mode. See Figure 2-30 and Figure 2-31.



- Before connecting with power cord, select proper fuse. 7.5A fuse is recommended.
- The positive and negative poles of the battery must be equipped with protective devices such as fuses.
- For vehicles where the master power switch is installed at the cathode of the accumulator, isolation installation is needed.

Figure 2-30 Vehicle main power switch installed on the positive pole of the vehicle battery

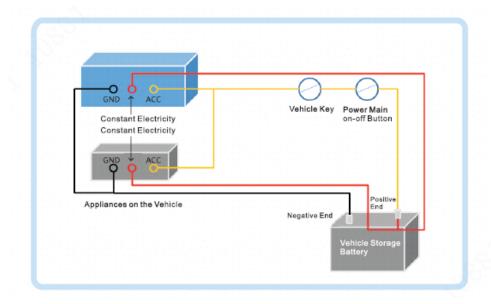
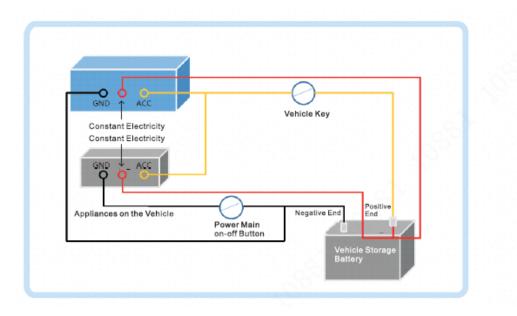


Figure 2-31 Vehicle main switch installed on the negative pole of the vehicle battery



# 2.4 Audio and Video Input and Output Connection

This section helps you understand the connection of audio and video input and output when you need to use this function.

# 2.4.1 About audio and video input

The video and audio data is input through RJ45 network port. When connecting cable, the waterproof connector needs to be installed.

<u>Step 5</u> Take out the waterproof connector from the accessory box, and connect the gasket toward the arrow direction onto the waterproof connector. See Figure 2-32. Figure 2-32 Gasket installation



<u>Step 6</u> Put the network cable (without Ethernet port) through the main part of waterproof connector, gasket and encap, and then make the Ethernet plug. See Figure 2-33. Figure 2-33 Cabling and Ethernet plug making



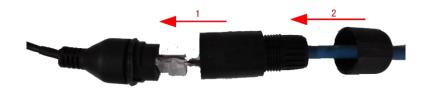
Step 7 Connect the rubber gasket to the Ethernet port. See Figure 2-34.

Figure 2-34 Rubber gasket installation



<u>Step 8</u> Inset the Ethernet plug into the Ethernet port, and then tighten the waterproof connector. See Figure 2-35.

Figure 2-35 Waterproof connector fastening



See Figure 2-36 for the connected waterproof connector.

Figure 2-36 Connection completed



# 2.4.2 About audio and video output

#### Video Output

The Device is provided with one CVBS (PAL/NTSC  $1.0V_{P-P}$ ,  $75\Omega$ ) port and VGA port, and supports the simultaneous output from these two ports.

Read the following contents carefully before using the computer instead of monitor.

- For VGA output, you need to prepare a VGA adapter cable to connect to computer.
- To extend the Device life, do not keep the Device running for a long time.
- Regular demagnetizing helps keep the monitor working properly.
- Stay away from devices with strong electromagnetic interference.

#### Audio output

The audio output signal parameter is larger than 200mv 1K $\Omega$ . The audio output port can directly connect to the display with audio function on the vehicle or active speaker, and the port can also drive other sound output devices through amplifier.

# 2.5 Alarm Input and Output Connection

Before using the alarm function, learn about the connections method of alarm input and output port.

#### Alarm Input

- The alarm input port supports alarm signal from ground and device of 12V-24V voltage.
- If the alarm device is connected to the Device and other devices, use relay for isolation.

#### Alarm Output

The alarm output port cannot be connected to high-power load (less than 1A). When constructing the output circuit, the excessive current should be prevented from causing damage to the relay. Use the contactor for isolation when applying high-power loads.

#### PTZ Decoder Connection

- The common-ground must be prepared for PTZ decoder and the Device; otherwise the common-mode voltage might not be able to control the PTZ. It is recommended to use shielded twisted pair, and the shielding layer can be used for common ground.
- Prevent interference from high-voltage power, make reasonable wiring, and take measures for lighting protection.
- Parallel connect 120Ω resistance to reduce reflection and ensure high signal quality.
- The Device RS-458 A line and B line cannot connect to other RS-485 output device in parallel.
- The voltage between the A line and B line must be less than 5V.

#### Front-end Device Grounding

The bad grounding might result in chip damage.

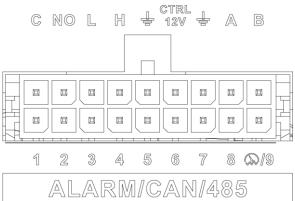
#### No restriction for types of alarm input

The alarm input can be Always On or Always Closed.

# 2.5.1 Alarm Input Type

Describes alarm input and output ports.

#### Figure 2-37 Alarm input/output port



Name	Function
	Alarm input 1~9, where 1~8 are local alarm input, 9 is a combination of
1–9	impulse and alarm (but only one function, impulse or alarm, can be
	used)
	Outputs alarm signal to alarm device.
C, NO	<ul> <li>"NO" represents normally open type.</li> </ul>
	C: Common alarm output port.
L, H	CAN port
÷	Ground line
CTRL 12V	12V/0.75A output with switch control
А, В	RS-485 port that connects to speed dome with PTZ function.

# 2.5.2 Alarm Input Port

- Both NO and NC are supported.
- The GND of alarm detector is in parallel connection with COM (the power supply of alarm detector should be from external power source). See Figure 2-38.
- The GND of alarm detector is in parallel connection with GND of Device.
- Connect the NC port of alarm detector to the alarm input port (ALARM).
- When supplying power from external power source to the alarm device, the alarm device should be common-grounded with the Device.

-12V	GND	сом	PC	Alarm device
0	0	0	<b>9</b> . 1	connection terminal
			-	@ ALARM
1				GND

#### Figure 2-38 Always Closed alarm input illustration

# **Boot up the Device**

# 

- Before booting up the Device, check if input voltage matches rated voltage of the Device.
- Refer to international standard to offer the power input (power input that is with stable power value and less interference) to ensure the Device works stably and prolong its service life.
- In the first power-on, the Device needs connection to the ACC to work as intended.

Rotate the Device key to and rotate the vehicle key to ACC position. The power indicator is on, and the Device is ready for work.

For the first boot up or after restoring to the default factory settings, the initialization interface is displayed on the screen. Follow on-screen instructions to initialize your Device prior to use.



The Device supports access and operation through the local interface. The local interface supports functions such as real-time preview, recording search, alarm setting, system setting, PTZ control interface, and monitoring window.

# 4.1 Initializing Device

Step 1 Plug the device's power line into a socket.

After the Device is turned on, the initialization interface is displayed. See Figure 4-1. Figure 4-1 Device Initialization

Device Initialization		
1. Enter Pas ⊣	▶ 2. Unlock Pa →	3. Password
User Password	admin	It is 8 to 32-digit
Confirm Password Prompt Question		containing letter(s), number(s),symbol(s). It contains at least two types.
		Next

<u>Step 2</u> Enter the password, confirm the password and the password hint, and then click **Next.** 

The unlock pattern setting interface is displayed. See Figure 4-2.

- To security your account, it is recommended to keep the password properly and change it regularly.
- The password hint can help you recall the password.

Figure 4-2 Unlock Pattern

Device Initialization		
1. Enter Pas	$\rightarrow$ 2. Unlock Pa $\rightarrow$	3. Password
	000	
	000	
	$\mathbf{O}$	
	Please draw the unlock pattern	
	[	Back Skip

<u>Step 3</u> Draw and confirm an unlock pattern. If you do not want to configure the unlock pattern, click Skip.

The password protection interface is displayed. See Figure 4-3.

Figure 4-3 Password protection

Device Initialization	
1. Enter Pas	→ 2. Unlock Pa → 3. Password
Email Address Security Question	To reset password, please input properly or update in time
Question 1	What is your favorite children's book? 🔹
Answer	
Question 2	What was the first name of your first b 🔻
Answer	
Question 3	What is the name of your favorite fruit? 🔹
Answer	
	Save

- <u>Step 4</u> Configure the protection method for password. If you do not want to set the protection, clear both the Reserved Phone Number check box and the Security Question check box.
  - Select Reserved Phone Number and enter the phone number. The phone number must be 11-digit number and can be normally communicated.
  - Select the Security Question check box, select the question and enter the corresponding answer.

Step 5 Click OK.

# 4.2 Logging into the Device

Step 1 Boot up the Device.

The main interface is displayed. See Figure 4-4. Figure 4-4 Homepage



<u>Step 2</u> Right-click on the live view screen, the shortcut menu is displayed. Then select **Main Menu**.

The SYSTEM LOGIN interface is displayed. See Figure 4-5.

Figure 4-5 Logging in System

SYSTEM LOGIN	
Username admin 🔹 Password	E.
OK Cancel	

## 

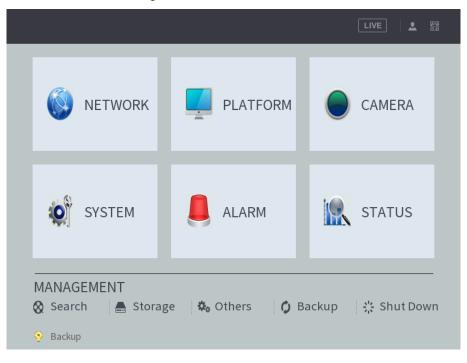
- If the unlock pattern was set during initializing, the unlock pattern login interface is displayed. Then use the unlock pattern to login.
- Click 
   Is to view the password hint to help you recall the password.
- If the password is lost, click R and you can retrieve the password through

security questions or reserved phone number.

- <u>Step 3</u> Select the **admin** user, and enter the corresponding password that was set during initialization.
- Step 4 Click OK.

The Main Menu interface is displayed. See Figure 4-6.

### Figure 4-6 Main menu



# 4.3 Quick Configuration

After initialization, to ensure normal operation, quickly and conveniently configure basic information, network connection, remote device adding, and recording schedule on the Device.

# 4.3.1 Configure IP address

According to the network planning, configure the IP address of the Device and make sure the Device can connect to other devices in the network.

Connect the Device to the network and make sure the Device can communicate with other devices in the network diagram.

### Preconditions

Make sure the Device is connected to the network properly.

### Steps

<u>Step 1</u> Select **Network Settings > TCP/IP** under the main menu. The system displays the **TCP/IP** interface, as shown in Figure 4-7.

Local Configurations 30

Figure 4-7 TCP/IP						
IP Version	IPv4 •					
MAC Address	50:65:F3:1D:29:84					
DHCP						
IP Address	192 . 168 . 20 . 18					
Subnet Mask	255 . 255 . 0 . 0					
Gateway	192 . 168 . 0 . 1					
Preferred DNS	223 . 5 . 5 . 5					
Alternate DNS	223 . 6 . 6 . 6					
Test	Apply	Back				

<u>Step 2</u> Configure TCP/IP parameters. For details, see Table 4-1.

Name	Description		
	Select IPv4 or IPv6. Both versions are supported		
IP Version	For IPv6 version, in the IP address box, Default Gateway box,		
	Preferred DNS box, and Alternate DNS box, enter 128 bits and		
	cannot be blank		
MAC address	Host's MAC address, cannot be modified		
	When the DHCP function is enabled, the system can		
	automatically obtain the IP functions, while IP Address, Subnet		
DHCP	Mask and Gateway cannot be configured.		
	You can check the current IP address whether the DHCP takes		
	effect or not		
IP address	According to your network plan, enter the modified IP address,		
Subnet Mask	gateway and subnet mask		
Default gateway	<b>NOTE</b>		
Delauli galeway	IP address and gateway must be in the same network segment		
Preferred DNS	IP address of the preferred DNS		
Alternate DNS	IP address of the alternate DNS		

Step 3 Click Apply.

Click **Test** to test network status of IP address and gateway after IP is configured.

# **4.3.2 Configuring General Settings**

To facilitate the application of user, configure basic information of the Device as needed for the first time.

### 4.3.2.1 General

Configure Language, Auto Logout Time, IPC Time Sync, License No. of the vehicle and other information.

# <u>Step 1</u> Select System Management > General Setup> Local Settings under the main menu.

The General interface is displayed, see Figure 4-8.

Figure 4-8 General

🗳 SYSTEM				
> GENERAL	General	Date&Time		
DISPLAY	Language		ENGL	ISH 🔻
ACCOUNT	Video Stan	dard	PAL	<b>*</b>
SECURITY	Auto Logo IPC Time S		10	Monitor Chann
SYSTEM	IPC Time S	ync P	24	Hours
IMP/EXP	License No			
DEFAULT				
UPGRADE				
				Apply Back

<u>Step 2</u> Configure TCP/IP parameters. For details, see Table 4-2.

Name	Description
Language	Select a language for the Device system
Video standard	Displays the video encode standard
	Enter the time period for automatic logout if there are no
	operations during this period. In this case, you need to login
Auto Logout (minute)	again
	The value ranges from 0 minutes through 60 minutes. 0
	indicates there is not standby time for the Device
IPC Time Sync	The system enables IPC time by default. You can set the interval
IPC Time Sync Cycle	for IPC sync with the Device based on your needs.
	Enter the license plate number of vehicle where the Device is
License No.	located

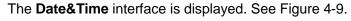
Table 4-2 General settings	parameters description
----------------------------	------------------------

Step 3 Click Apply.

## 4.3.2.2 Date and time settings

Inconsistent system time among devices in a same network might cause failure of query, recording playback and other problems.

<u>Step 4</u> Select System Management > General Setup> Date&Time under the main menu.



System Time	2019 -02	-26   14	1:53:	33				
System Zone	(GMT+08	(GMT+08:00)Beijing,Urumqi,Singapore 🔻						
Date Format	YYY •	Time Fo	rmat	24-HC	DUR 🔻 D	ST		
Date Sep	- •	DST	Гуре	V	Veek 🔿	Date		
Start Time	Jan 🔻	Last	•	Su 🔻	00:00	0		
End Time	Jan 🔻	Last	•	Su	00:00	D		
Timing Mode	DSS 🔻							
				Apply	/ E	Back		

Figure 4-9 Date and time settings

Step 5 Configure TCP/IP parameters. For details, see Table 4-3.

Name	Description		
System Time	Displays the current system date and time		
	In the Timing Mode list, if GPS or NTP is selected, configure		
System Time Zone	this parameter		
	Configure the Time zone that the device is at		
Date format	Select a date format		
Time format	Select a time format		
Separator	Separator style used for date.		
DST	The DST is applied in some countries or regions. Select the DST		
DST type	check box if it is applied where the Device is located		
Begin time	1. Select the <b>DST</b> check box		
End time	2. According to the local regulations, configure the type, begin		
	time and end time for the DST		
	Select a timing mode, including DSS, GPS, and NTP. The		
	default selection is NTP		
Timing Mode	DSS: The system time syncs with DSS platform		
	GPS: The system time syncs with satellite		
	• NTP: The system time syncs with NTP server that you		
	configured		

Name	Description				
Server	In the <b>Timing Mode</b> list, if <b>NTP</b> is selected, configure this parameter				
	<ul> <li>After configuring NTP server, the Device syncs time with NTP</li> </ul>				
Synchronize	server				
Port	<ol> <li>In the Timing Mode list, select NTP to enable the NTP timing function</li> <li>Configure parameters</li> </ol>				
Update Period (minute)	<ul> <li>Server: Enter IP address of NTP server</li> <li>Synchronize: Click Synchronize to sync the Device time with NTP server</li> <li>Port: The system supports TCP protocol only and the default setting is 123</li> <li>Interval: Enter the interval that you want the Device to sync time with the NTP server. The maximum value is 65535 minutes</li> </ul>				

Step 6 Click Apply.

# 4.3.3 Configuring Remote Devices

Remote devices refer to IPC, dome, and other equipment that can be connected to the Device through network. The system supports initialization, remote device adding, etc.

## 4.3.3.1 Initializing the Remote Device

Initializing the remote device includes configuration of login password and IP address for the remote device. Add and operate a remote device after initialization of the remote device.



- The Device automatically initializes the IPC and the system uses the device password and phone information by default after IPC is connected to the Device through a PoE port.
- The Device initialization might fail after IPC is connected to the Device with an upgraded system version through a PoE port. Initialize the IPC on the **Remote Device** interface.

Step 1 Right-click Remote Device on the main interface.

The **Remote** interface is displayed. See Figure 4-10.

### Figure 4-10 Remote device

CAMERA REGIST	RATION					
Uninitializec		Initia	lize			
0	Edit	S	TATUS	IP A	ddress	
4						
Device Searc				Ad	d Ma	inual Add
Added Devic Cha	e Edit	Delete	Status	IP Address	Port	Device I
				_		

Step 2 Click Device Search.

The searched devices are displayed.

<u>Step 3</u> Enable **Uninitialized** function.

The uninitialized devices are displayed.

 $\underline{Step \ 4} \quad Select \ the \ check \ box \ the \ uninitialized \ device, \ and \ then \ click \ Initialize.$ 

The **Password Setting** interface is displayed.

- <u>Step 5</u> Configure the password by either of the following two ways.
  - Using current device password and phone info. Select the Using current device password and phone info check box, and the remote device uses the password and phone info of the Device.
  - Manually configure password for remote devices.
  - Clear the Using current device password and phone info check box. The password setting interface is displayed.
  - In the New Password box, enter the new password and enter it again in the Confirm Password box. Click Next.

The **Password Protection** interface is displayed.

- 3) Set up password protection.
  - Select the Phone No. check box, and then enter the phone number. Click Next.
  - Click Skip if you do not want to set up password protection.
  - The Network interface is displayed.
- <u>Step 6</u> Configuring network information.
  - Set up the network information of the remote device according to your network plan, and click **Next**.
    - Select Static, and manually set up the IP address, subnet mask, and gateway of the remote device. If selecting multiple devices, you can set up the IP address to increase in turn.
    - When there is a DHCP server in the network, select **DHCP**, and the Device obtains IP addresses from the DHCP server automatically.

• Directly click **Skip** if you do not want to set up the network information or correct network information already exists.

The device initialization begins. After initialization, click **OK**.

## 4.3.3.2 Adding a Remote Device

After a remote device is added, you can view video images transferred by the remote device and modify configuration of the remote device directly on the Device. You can add a remote device manually or by search. Different models of the Device support different number of remote devices to be added. Add remote devices as needed.

<u>Step 1</u> Right-click **Remote Device** on the main interface.

The **REMOTE** interface is displayed.

- <u>Step 2</u> Adding a remote device.
  - Search and Add
    - 1. Click **Device Search**, the searched devices are displayed.
    - 2. Double-click on an IP address or select the check box of a device, and then click **Add**.

The device displays in the added device area.

- Manual Add
  - 1. Click Manual Add.

The **Manual Add** interface is displayed. See Figure 4-11. Figure 4-11 Manual Add

Manual Add		
Channel	1 🔹	
Manufacturer	Private 🔻	
IP Address	192.168.0.0	
TCP Port	37777	
Username	admin	
Password		
Remote Channel	1	
Decoder Buffer	200	
	ОК	Back

2. Configure TCP/IP parameters. For details, see Table 4-4.

# 

The parameters might be different depending on the model you purchased.

Table 4-4 Manual Add Parameter Descriptions				
Name	Description			
Channel	The channel number of the remotely connected device. You			
	can only select a channel that has not added remote devices			
	Select a manufacturer according to the actual situation.			
Manufacturers	Parameters might vary by manufacture. Follow specific			
	parameters on the interface			
IP address	Enter the IP address of remote device			
TCP Port	TCP service port. The default setting is 37777. You can			
	configure this parameter according to your actual situation			
	Enter RTSP Port number of remote device. The default setting			
RTSP Port	is 554			
	Configure this parameter when the encryption function is			
	disabled.			
HTTP Port	Enter HTTP Port number of remote device. The default setting			
	is 80			
	Configure this parameter when the encryption function is			
	enabled.			
HTTPS port	Enter HTTPs Port number of remote device. The default			
	setting is 430			
Username	Enter the user name and password to login to the remote			
Password	device			
Remote Channel	Select the channel number that you want to connect			
	This parameter must be configured when you select <b>Onvif</b> as			
Frommtion	the Manufacturer.			
Encryption	Enable HTTPs or not. Configure HTTPs Port number when			
	enabled.			
Danada kuffan	Enter the size of decode buffer. The unit is millisecond and you			
Decode buffer	can select from 80 through 480			
	This must be set up when you select <b>Onvif</b> or <b>Custom</b> as the			
Orm inc. true	Manufacturer			
Service type	When selecting different manufacturers, the service types are			
	different. Select the service type based on your needs			

#### Table 4-4 Manual Add Parameter Descriptions

### 3. Click OK.

The device displays in the added device area.

- indicates connection is successful;
   indicates connection failed.
- To delete the remote device, click  $\overline{m}$ ; to modify the information of an

added device, click 💉 or double-click the added device.

# 4.3.4 Configuring Record Settings

When recording and snapshot functions are enabled, the Device can start recording and snapshot according to the configured recording and snapshot schedule. Recording types include automatic recording and manual recording. You can select recording type according to different stream types.

- Auto: The recording starts automatically according to the record type and recording time as configured in the recording schedule.
- Manual: Keep general recording for 24 hours for the selected channel.



Manual recording operation requires the user have the permission to access **STORAGE** settings.

<u>Step 1</u> Right-click **Manual > Record** on the homepage.

The Record interface is displayed, see Figure 4-12.

RECORD	
Main Stream	All
Auto	
Manual	
Stop	
Snapshot	
Enable	
Disable	
	Apply Back

Figure 4-12 Record

Step 2 Configure TCP/IP parameters. For details, see Table 4-5.

Name	Name Description			
Channel	The channel that connects to the remote device is displayed.			
	You can select one or several channels or select All			
	Indicates the recording status of corresponding channels. The			
	choices include Auto, Manual, Enable, and Stop			
Status	Selected			
	Not selected			

Table 4-5 Record control parameter description

Name	Description			
Auto/Manual/Stop	<ul> <li>Select the recording mode, including Manual, Auto, and Stop</li> <li>Manual: Top priority. When the Manual check box is selected, the system keeps general recording for 24 hours for the corresponding channel</li> <li>Auto: The system starts recording according to the record type (such as general alarm, motion detect, and system alarm) and recording time</li> <li>Stop: Do not record</li> </ul>			
Enable/Disable	Enable or disable the scheduled snapshot for the corresponding channels			

Step 3 Click Apply.

# 4.3.5 Set up the storage plan

Configure recording schedule and snapshot storage according to the actual application scenarios. The Device starts corresponding types of recording and snapshot within a period of configured time.

# 4.3.5.1 Configuring Recording Schedule

The default recording setting is 24 hours general recording for all channels. You can configure conducting various recording types in any recording time.

<u>Step 1</u> Select **Storage > Schedule > Record** under the main menu.

The **Record** interface is displayed. See Figure 4-13.

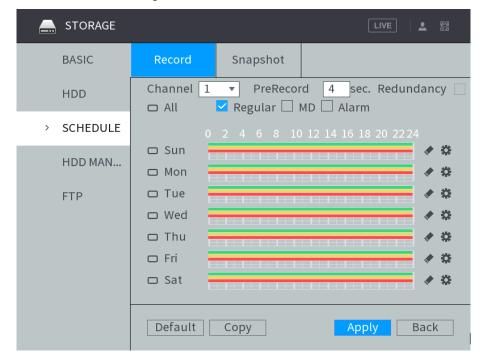


Figure 4-13 Record Plan

<u>Step 2</u> Configure TCP/IP parameters. For details, see Table 4-6.

#### Table 4-6 Record schedule parameters description

Name Description
------------------

Name	Description	
Channel	Select a channel to configure the corresponding recording schedule. To	
Channel	configure the same setting for all channels, select All	
	Start recording for 0 seconds to 30 seconds before the alarm event occurs. If	
Pre-record	you enter 0 seconds, there will be no pre-recording	
Step 3 Configure the recording time period.		

1) Click 🗱 corresponding to the week.

The **Time Period** interface is displayed. See Figure 4-14.

Figure 4-14 Time Period

Time Period
Current Date: Sun
Period 1 00:00 - 24:00 🔽 Regular 🔽 MD 🔽 Alarm
Period 2 00:00 - 24:00
Period 3 00:00 - 24:00 Regular MD Alarm
Period 4 00:00 - 24:00
Period 5 00:00 - 24:00 Regular MD Alarm
Period 6 00:00 - 24:00 Regular MD Alarm
Сору
🖂 Sun 🗌 Mon 📄 Tue 📄 Wed 📄 Thu 📄 Fri 📄 Sat
OK Cancel

- 2) Select the record type and weekday, and enter the recording period.
- 3) Click OK.

The recording schedule appears on the **Record** interface to view the configured recording schedule directly.

### Step 4 Click Apply.

INOTE

Click **Copy** to copy the settings to other channels.

## 4.3.5.2 Configure snapshot schedule

After snapshot schedule is configured, the Device starts corresponding types of snapshot according to the configured snapshot schedule.

<u>Step 5</u> Select **Storage > Schedule > Snapshot** under the main menu.

The Snapshot interface is displayed. See Figure 4-15.

Figure 4-15 Snapshot

E STORAGE			LIVE	
BASIC	Record	Snapshot		
HDD	Channel 1	▼ ▼ Regular □	MD 🗌 Alarm	
> SCHEDULE		Ŭ		
HDD MAN	- Mon			<b>*</b> 6
FTP	Tue Wed			* 0
	Thu			<b>*</b> 6
	🗆 Fri 🗧			- 🔹 🗧
	🗆 Sat 🗕			• •
	Default	Сору	Apply	Back

<u>Step 6</u> Configuring time period for taking snapshots.

1) Click Corresponding to the week.

The **Time Period** interface is displayed. See Figure 4-16. Figure 4-16 Time Period

Time Period					
Current Date: Sun					
Period 1 00:00 - 24:00 🗸 Regular 🔽 MD 🔽 Alarm					
Period 2 00:00 - 24:00					
Period 3 00:00 - 24:00					
Period 4 00:00 - 24:00					
Period 5 00:00 - 24:00					
Period 6 00:00 - 24:00					
Сору					
All					
🖂 Sun 🗌 Mon 🗌 Tue 🗌 Wed 🗌 Thu 📄 Fri 📄 Sat					
OK Cancel					

- 2) Select the snapshot type and weekday, and enter the period for taking snapshot.
- Click OK.
   Snapshot schedule appears on the Snapshot interface to view the configured snapshot schedule directly.

Step 7 Click OK.

# 4.4 Common Operations

# 4.4.1 Live View

### 4.4.1.1 Previewing real-time pictures

After the Device is turned on, the multi-channel preview interface is displayed. See Figure 4-17. For icon descriptions, see Table 4-7.

- See .On the live view interface, the added remote device can be dragged to other channel if needed.
- You can view the information such as time, channel name, GPS, and recording and alarm status in the channel view.
- When you move the pointer to a channel window, the live view control bar is displayed.

Click to display the channel window upside down with left and right side reversed.

The preview mode by default is general. When the face detection is enabled, right-click
 Preview Mode > Face on the preview interface. The face detected is displayed at the bottom of the preview interface.

Figure 4-17 Preview Figure 4-17 Preview 2 3 4 5 6 7 8

0.0km/h

- 11.6v/8.2v

2018-09-26

16:47:20

uida (🔬 🔬 🚮

Status Description Displays the ACC status of the vehicles Vehicle ACC status means ACC ON: means ACC OFF Displays the accumulator voltage of the vehicle and the voltage of the UPS carried by the Device. The voltage value on the left is the accumulator voltage. The voltage value on the right is the Voltage status UPS voltage. means ACC ON; means ACC OFF Displays the vehicle speed. When the speed increases or decreases, the icon status changes accordingly Vehicle speed means the vehicle is still; means it has achieved the maximum speed Displays the 3G/4G connection status of the SIM card and signal strength. The more the bars, the stronger the signals ul 3G/4G connection status means no SIM card or no connection with a mobile network. means the SIM card is installed and reflects signal strength Displays the Wi-Fi and hotspot connection status. The more the bars, the stronger the signals means Wi-Fi is available but not connected; means the Wi-Fi module does not exist; indicates Wireless network status Wi-Fi is connected and the strength of network signals means the hotspot is enabled but no terminal connections: means the hotspot is enabled and there are terminal connections Displays the satellite positioning status and signal strength. The more the bars, the stronger the signal Satellite positioning status means satellite positioning failed; means successful satellite positioning and signal strength. Displays the status of the Device registered to the platform means not registered to the platform; 🛯 means

Platform registration status

connection.

Table 4-7 Information Bar

registered to the DSS platform; registered to the DSS platform

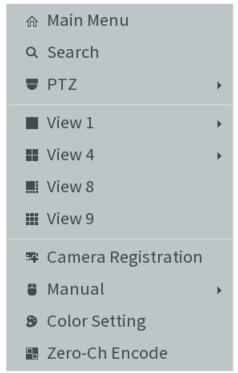
## 4.4.1.2 Shortcut menu

Shortcut Menu

Right-click on the live view screen, the shortcut menu is displayed. See Figure 4-18.

The parameters might be different depending on the model you purchased.

Figure 4-18 Right-click menu



View layout:

- Main Menu: Open Main Menu interface.
- Image splitting: Select View 1, View 4, View 8, and View 9 for image splitting mode. Different model supports different view layout mode.
- Search: Open the playback interface where you can search and play back record files or pictures.
- PTZ: **PTZ Setting** interface is displayed.
- Remote Device: Search and add a remote device.
- Manual: **Record or Alarm Output** interface is displayed.
- Color Setting: Color Setting interface is displayed.
- Zero-Ch Encode: Zero-Ch Encode interface is displayed.

### NOTE

After entering the main menu interface, right-clicking on the screen can return to the previous interface.

## 4.4.1.3 PTZ Operations

### 4.4.1.3.1 Controls the PTZ

Right-click on the live view screen and then select PTZ. The PTZ control panel is displayed. See Figure 4-19.

- PTZ support rotating device toward eight directions, up, down, left, right, left up, right up, left down, right down.
- Speed function controls the movement speed. For example, the rotation with the step length at 8 is faster than the rotation with the step length at 1.
- Click . to display or hide the PTZ functions.

Figure 4-19 PTZ Control



### 4.4.1.3.2 Configuring PTZ Fn

<u>Step 1</u> On the preview interface, right-click **PTZ > PTZ Fn** on the channel of the video image enabled in the single-window screen.

**PTZ Fn** interface is displayed. See Figure 4-20.

PTZ Fn		
Image De-jitter	Disable	
Defog	Disable	
Image NR		
-	50	] +
Joystick lock Enable		
Default		Save Cancel

Figure 4-20 PTZ Fn

Step 2 Configure parameters

- Click **Disable** for **Image De-Jitter** to enable the image de-jitter function. When enabled, electronic image stabilization can be realized.
- Click **Disable** for **Defog** to enable the defog function. The system can automatically remove fog in video images to clearly display images in foggy and haze days.
- Check **Image NR** and configure the level of noise removal. The system can reduce the image noise according to the configured level.
- Check **Joystick Lock Enable** to enable the joystick lock function. The joystick of the external keyboard will be locked when enabled. Then the PTZ cannot be operated by using the joystick.

Step 3 Click Save.

#### 4.4.1.3.3 Configuring PTZ Shutter

<u>Step 1</u> On the preview interface, right-click **PTZ > PTZ Shutter** on the channel of the video image enabled in the single-window screen.

The PTZ Shutter interface is displayed. See Figure 4-21.

Figure 4-21 PTZ Shutter

PTZ Shutter	
PTZ Shutter Disable	
Default	Save Cancel

<u>Step 2</u> Click **Disable** to enable the PTZ shutter.

Step 3 Click Save.

### 4.4.1.3.4 Configuring PTZ Functions

Click . The PTZ function interface is displayed. See Figure 4-22. See Table 4-8 for functions description.

#### Figure 4-22 PTZ Functions





Function Description
----------------------

Function	Description
	You can quickly move the PTZ camera to the configured presets after
	configuration. In the PTZ Setup list, select Preset, and then move the camera to
	the direction that you want to monitor
	100
	1. Click to select <b>Preset</b> .
	The <b>Preset</b> interface is displayed.
Preset	2. Through the control panel of PTZ, move the camera to the surveillance
point	direction that you need.
	3. In the Preset box, enter the preset value
	Value ranges from 1 $\sim$ 255 for preset.
	4. Click Set to complete adding preset.
	Return to the PTZ function interface, enter the preset value, and then click
	the camera moves to the location of preset.
	The PTZ camera repeats performing tours among the configured presets after
	configuration
	1. Click to select <b>Tour</b> .
	<ol> <li>The <b>Tour</b> interface is displayed.</li> <li>Set up the value of the tour.</li> </ol>
	The value ranges from $1 \sim 255$ .
Calling	3. Enter the preset value.
Tours	<ol> <li>Click Add Preset or Del Preset to add or delete the presets from the tour.</li> </ol>
	You can do this repeatedly to <b>Add Preset</b> or <b>Del Preset</b> from the tour.
	Return to the PTZ function interface, enter the tour value, and then click
	The camera starts rotating according to the configured tour. Click <b>Del</b> to delete
	the tour.
	The PTZ camera repeats movement according to the configured patterns. The
	operation records include the information such as the manual operations and
	focus adjustment
Touring pattern	<b>101</b>
	1. Click to select <b>Pattern</b> .
	The <b>Pattern</b> interface is displayed.
	2. Set the pattern value.
	The value ranges from 1 $\sim$ 255 for pattern.
	3. Click <b>Start Rec</b> . Then operate the PTZ control panel to adjust the camera
	with regard to the parameters such as monitoring direction, zoom, and focus
	4. Click <b>Complete</b> to complete setting.
	Return to the PTZ function interface, enter the pattern value, and then click
	The camera moves according to the configured patterns
	. The camera moves according to the configured patterns.

Function	Description
Scan	<ul> <li>After setting up scan, the camera automatically scans the configured left border and right border</li> <li>1. Click to select Border. The Border interface is displayed.</li> <li>2. Through the PTZ control panel, move the camera to the left border that you want and click Set the left border; move the camera to the right border that you want and click Set the right border. Configuration finished</li> <li>Return to the PTZ function interface. Click to enable scan.</li> </ul>
Pan	Click
AUX	Controls the screen wiper of external device through RS-485 command. To use this function, make sure it is supported on the external device Click To enable and disable light, wiper or defogging. Use the auxiliary command to enable power-on setting or power-off reset PTZ.
PTZ menu	Click To enable the PTZ menu. Operate and configure the camera through the PTZ menu.
Flip	Click to flip display the video image.
Reset	Click to reset the PTZ.

# 4.4.1.4 Configuring Image settings

<u>Step 1</u> Right-click **Image Color** on the digital channel of the enabled video image. The **IPC Config** interface is displayed. See Figure 4-23.

IPC Config				
Alarm Channel	1 •	Config File	Switch By Period 🔻	
Sunrise Time	00:00:00	Sunset Time	23: 59: 59	
Iris		Saturation	<b>+</b> 50	
Mirror		Brightness	<b>+</b> 50	
Flip		Contrast	<b>+</b> 50	
Light	Close 🔻	sharpness	<b>+</b> 50	
3D Denoise		3D Denoise	<b>+</b> 50	
Scene Mode	Auto 🔻			
Red Gain	- <b>O</b> + 0	Blue Gain	<b>- O+</b> 0	
Default Refresh Apply Back				

Figure 4-23 IPC Config

<u>Step 2</u> Configure TCP/IP parameters. For details, see Table 4-9. Parameters in gray cannot be configured.

Name	Description			
Time Period	Select the time period to enable the effective time, and then enter the time in			
Effective	the box.			
Time	the box.			
Brightness	Adjusts the image brightness. The bigger the value is, the brighter the image			
Blightness	will become			
Contrast	Adjusts the contrast of the images. The bigger the value is, the more obvious			
Contrast	the contrast between the light area and dark area will become			
Saturation	Adjusts the color darkness. Adjust the saturation according to the actual			
Saturation	situation. The bigger the value, the lighter the color will become			
Hue	Adjusts the image brightness. Adjust the saturation according to the actual			
Tiue	situation. The bigger the value, the brighter the image will become			
Sharppoor	Adjusts the edge sharpness of images. The bigger the value is, the more			
Sharpness	obvious the image edge will become			
Color mode	Select a color mode for the image that you want to view.			
Color mode	Click <b>Custom</b> to customize the color mode.			
Image	Adjusts the image gains. The bigger the value is, the more obvious the			
Position	contrast will become and the noises are also greater.			

Step 3 Click Apply.

# 4.4.1.5 Configuring Alarm Output Settings

<u>Step 1</u> Right-click **Manual > Alarm Out** on the preview interface.

The Alarm Out interface is displayed. See Figure 4-24.

### Figure 4-24 Alarm Output

Alarm Out		
General Alarm		
Alarm Type	All 1 2	
Auto	$\bigcirc$ $\bigcirc$ $\bigcirc$	
Manual	$\circ \circ \circ$	
Stop	$\circ \circ \circ$	
Status		
		Apply Back

<u>Step 2</u> Select alarm output mode.

- Manual: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port keeps generating alarm.
- Auto: After the alarm linkage is configured, when an alarm event occurs, the corresponding alarm output port generates alarm.
- Stop: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port never generate alarm.

#### Step 3 Click Apply.

View status of all alarm output ports under Status.

### 4.4.1.6 Multi-channel preview

<u>Step 1</u> Right-click **Zero-Ch Encode** on the preview interface. The **Zero-Ch Encode** interface is displayed. See Figure 4-25.

Fiaure	4-25	Zero-Ch	Encode
90.0	0	2010 011	Encodo

Zero-Ch Encode	9				
Enable					
Compressio	n	H.264H	Ŧ		
Resolution		704x576(D1)	•		
Frame Rate	(FPS)	25	•		
Bit Rate(Kb/	(S)	1024	•		
				Apply	Back
Click	to enabl	e zero-ch enc	ode.	mean	s enabled.

Step 3 Configure TCP/IP parameters. For details, see Table 4-10.

Name Description	
Encode Mode Encode Mode of video	
Resolution The higher the video resolution, the better the image quality	
FPS	Configure the frames per seconds for video. The larger the
	value is, the smoother and more vivid the image will be.
Bit Stream Select a value for bit rate of video	

Step 4 Click Apply.

The zero-ch encode icon is displayed on the **Preview** interface of the WEB screen.

# 4.4.2 Video Search

Step 2

Right-click **Video Search** on the preview interface. The video playback interface is displayed. See Figure 4-26. See detailed description in Table 4-11.

Figure 4-26 Video playback

					From	n R/W	HDD	)	•
					RECO	ORD			•
					< F	eb 🖣	20	019	>
							0 21	22	
						5 <mark>26</mark> 2			
						M NAI	ИF		
					√ D1			М	
		<u> </u>							
0 1 2 3 4	5 6 7 8	9 10 11 12 13 14 15 16 17	7 18 19 20 21 1	22 23 24				_	-
								E	
Stop	All	General	MD 🕒	24hr 🛛 🕒	2hr	© 1ŀ	nr (	D 30	min

Table 4-11 Play Control Bar

Icon	Function	Description
	Play	When this icon displays, it means the video is paused or not being played, click this icon to play video
	Stop	Click this icon to stop playback
	Play Backward.	Click this icon to rewind.
	Slow Playback.	Click this icon to reduce play speed. Click lostart slow play.
	Speed-up Play	Click this icon to increase play speed. Click by to start fast play.
	Audio	Drag the slider to adjust the volume. Click 10 to enable mute mode.
•	Snapshot	Click this icon to take a snapshot.

## 4.4.2.2 Playing Back Recorded Video Files

You can play back recorded video by time or file list.

During playing back, you can zoom in an area of image to view the details. To zoom in an area of image, do either of the following:

- Hold down the left mouse button to select the area that you want to enlarge. The area is enlarged after the left mouse button is released. Right-click on the screen to exit zoomed in status.
- Point to the center of the area that you want to enlarge, move the wheel button to zoom

in the area.

After entering the zoomed in status, you can drag the enlarged area to move to any directions to view details of other parts of image. Right-click on the enlarged image to return to the original status.

### 4.4.2.2.1 Playing Back by Date

- <u>Step 1</u> The search sources include From R/W HDD and redundancy HDD.
  - The search sources include From R/W HDD and redundancy HDD. The redundancy HDD is supported only when there is a redundancy HDD on the Device. For details about redundancy HDD operations, see "4.6.4.2Managing Storage Device."
    - From R/W HDD: Play back recorded videos from local HDD of the Device.
    - From redundancy HDD: Play back recorded videos from redundancy HDD of the Device if it is supported.
- <u>Step 2</u> Select the month, year, and channel number that you want to search.
- <u>Step 3</u> Select date and record type.



Step 4 Click to start playing back recorded video.

### 4.4.2.2.2 Playing Back by File List

- <u>Step 1</u> The search sources include From R/W HDD and redundancy HDD. The search sources include From R/W HDD and redundancy HDD. The redundancy HDD is supported only when there is a redundancy HDD on the Device. For details about redundancy HDD operations, see "4.6.4.2Managing Storage Device."
  - From R/W HDD: Play back recorded videos from local HDD of the Device.
  - From redundancy HDD: Play back recorded videos from redundancy HDD of the Device if it is supported.
- <u>Step 2</u> Select the month, year, and channel number that you want to search.
- Step 3 Select a date.

Step 4 Click



The recorded videos are displayed in list. See Figure 4-28.

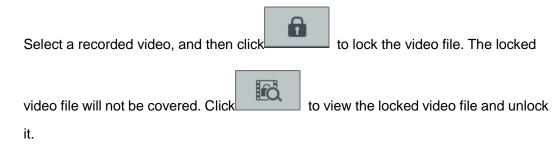
Figure 4-28 File list

				00:00:00	2
				1	
				StartTime	
					1
					1
				Start Time	
				End Time	
	) —••			Size(KB)	-
	7 8 9 10 11 12 13 14 1		21 22 23 24		4
		_			
Stop 🔽 A	ll 🛛 🔽 General 🔽 Al	larm <mark>∨</mark> MD	() 24hr ()	) 2hr 🛛 🕒 1hr 🕛 30m	in

<u>Step 5</u> Set up the start time of the queried file list, and then click . The queried recording files are displayed.

Record type: R indicates regular record; A indicates alarm; M indicates motion detection.

<u>Step 6</u> Double-click the recorded video file to start playing back recorded video.



### 4.4.2.3 Playing Back Snapshots

You can play back snapshots by time or file list.

### 4.4.2.3.1 Playing Back Snapshots by Time

<u>Step 1</u> In the search type list, select PIC. Select where you want to search the snapshots, and enter the interval time.

The search sources include From R/W HDD and redundancy HDD. The redundancy HDD is supported only when there is a redundancy HDD on the Device. For details about redundancy HDD operations, see "4.6.4.2Managing Storage Device."

- From R/W HDD: Play back snapshots from local HDD of the Device.
- From redundancy HDD: Play back snapshots from redundancy HDD of the Device if it is supported.
- <u>Step 2</u> Select the month, year, and channel number that you want to search.
- Step 3 Select a date.



The system is playing back snapshots according to the configured interval.

### 4.4.2.3.2 In the search type list, select PIC.

- <u>Step 1</u> Select where you want to search the snapshots, and enter the interval time. The search sources include From R/W HDD and redundancy HDD. The redundancy HDD is supported only when there is a redundancy HDD on the Device. For details about redundancy HDD operations, see "4.6.4.2Managing Storage Device."
  - From R/W HDD: Play back snapshots from local HDD of the Device.
  - From redundancy HDD: Play back snapshots from redundancy HDD of the Device if it is supported.
- <u>Step 2</u> Select the month, year, and channel number that you want to search.
- Step 3 Select a date.

Step 4 Click



The snapshots are displayed in list. See Figure 4-29. Figure 4-29 File list

	00:	00:00	Q
	1		
	Sta	rtTime .	
			_
			_
	_		
		ages #	
	Start	Time	
	End	Time	_
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Size(	KB)	
		Ŕ	¢
• 24hr	D 2hr	lhr 🕓	© 30min

Step 5 Set the start time, and then click Q, the searched snapshots are displayed.

<u>Step 6</u> Double-click the snapshots folder or click .

The system is playing back snapshots according to the configured interval.

### 4.4.2.4 Recorded files backup

You can back up the recorded video file into the external storage device.

### Preconditions

Make sure the external storage device such as USB flash disk is connected to the Device.

### Steps

### Step 1 Select Main Menu > BACKUP.

The **BACKUP** interface is displayed. See Figure 4-30. The detected external storage devices are displayed with the corresponding space information and status.

- Select the external storage device, and then click **Format** to clear the data in the external storage device.
- Select the external storage device, and then click Switch To R/W to transfer the
  external storage device to the record storage HDD. The system automatically
  saves the recorded videos to the external storage device.

	•	
BACKUP		
Device ID sdb(USB USB)	▼ Format 6.92 GB/15.62 GB(Free	
Path /	Browse	
Recor 1	▼ Type All Records	•
Start 2019-02-26 00:00:00	End Time 2019-02-26   14:06	: 39
File F DAV	▼ Search	Clear
0 C Type Start Ti	ne End Time	Size(KB)
0.00 KB(Space Needed)	Switch To R/W	Backup
		Back

During backup, click **Stop** to stop backing up. Figure 4-30 Files backup

- <u>Step 2</u> Click **Browse** to select the storage path of recorded videos in an external storage device.
- <u>Step 3</u> Search recorded video.
  - 1) Select path, record channel, type, start time, end time and file format.
  - 2) Click Search.

The list of satisfied recorded video files is displayed. See Figure 4-31.

### NOTE

Click Clear to delete the searched recorded files.

BACKUP	þ						
Device ID	sdb(U	JSB USE	3) -	Format	6.92 GB/15.62 G	GB(Free/Total)	
Path	/NVR/	/Remote	ConfBackup/	Browse	]		
Recor	1		•	Туре	All Records	•	
Start	2017-	01-26	00:00:00	End Time	2019-02-26	14:06:39	
File F	DAV		•		Search	Clear	
657	√C	Туре	Start Time	E	ind Time	Size(KB)	
1 .	$\sqrt{1}$	R	17-12-12 19:5	52:58 1	7-12-12 19:57:2	5 122171 ≡	
2	$\sqrt{1}$	R	17-12-12 20:0	)9:41 1	7-12-12 21:00:0	0 1547402	
3,	$\sqrt{1}$	R	17-12-12 21:0	00:00 1	.7-12-12 22:00:0	0 1847387	
4 ,	$\sqrt{1}$	R	17-12-12 22:0	0:00 1	.7-12-12 23:00:0	0 1847439	
5,	$\sqrt{1}$	R	17-12-12 23:0	00:00 1	7-12-13 00:00:0	0 1847546	
	B(Spac	e Neede	ed)		Switch To R/\	N Backup	]
						Back	]

Figure 4-31 List of recorded video files

Step 4Select the file that you want to download, and then click Backup.The progress and remaining time are displayed by a progress bar during backup.Click OK to complete backup. You can view the backup files on PC.Image: Image: Ima

You can view the backup files on PC. The file format is "Channel number\_Record Type\_Time.dav." The format for time is "year/month/date/hour/minute/second."

# 4.5 Alarm Configuration

# 4.5.1 Alarm

After the arming and disarming period and the alarm linkage action are configured, the system will start the corresponding linkage in the arming and disarming period.



Take the configuration of dynamic alarm linkage detection as an example. The alarm linkage might be different depending on the alarm. The actual interface shall prevail.

<u>Step 1</u> In the main menu, select **Alarm > Video Detection > Motion Detect**.

The Motion detection interface is displayed, see Figure 4-32.

### Figure 4-32 Motion detection

💄 ALARM					
ALARM INFO	Motion Detect	Tampering			
ALARM IN	Channel 1	<b>v</b>	Region	Setup	
ALARM OUT	Enable		Delay Motior		
> DETECT	Alarm Out Se		Anti-dither 10 sec. [	5 s Show Messag	ec. e
ABNORM	☐ Log ✓ Record Ch ☐ Snapshot ☐ Buzzer F		Delay Apr	10 sec.	
			_		

- Step 2 Select the channel number, and click to enable the motion detection for the channel.
- Step 3 Configure jitter removal time and enable delay motion detection.
  - If there are multiple alarms during this period, the system records only one alarm event.
  - After the delay motion detection is enabled, motion detection begins after a period of time.

#### Step 4 Set detecting area

1) Next to **Region**, click **Setup**.

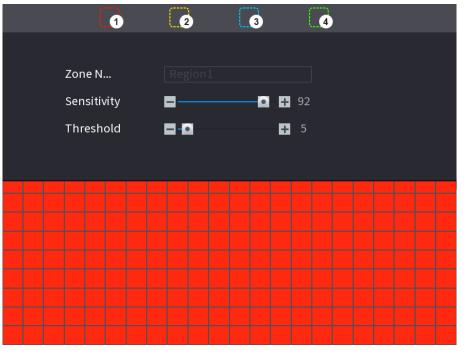
The Area interface is displayed, see Figure 4-33.

1	$\cap$		J	
¢	-	~	5	

The monitoring image is divided to 22×18(PAL) or 22×15(NTSC) blocks.

- PAL (Phase Alteration Line) applies to the countries and regions including China and Europe.
- NTSC (Nation Television Standards Committee) applies to the countries and regions including America and Japan.

Figure 4-33 Area interface



 Select a region and set up the region name. The higher the sensitivity value is, the easier the motion detection is triggered; the lower the threshold is, the easier the motion detection is triggered. By default, the entire video images are covered by dynamic detection.

### NOTE

Each color represents a certain region, you can set different motion detection areas for each region.

 Drag the left button of the mouse, and select the area of the image to be detected, and set up its sensitivity and threshold value.

### NOTE

Channel alarm events: As long as any one of the four regions triggers alarm, the channel that houses the region will give alarm.

4) Right-click on the screen.

The **DETECT** interface is displayed.

<u>Step 5</u> Configure the alarm linkage. See Table 4-12 for details.

	Linkage	Description	Reference chapters
Video Recording		When an alarm is triggered, the system starts recording by linking the record channel. After an alarm ends, the system stops recording after an extended time period according to the configured <b>Delay</b> .	See4.5.1.2Recording for details.

### Table 4-12 Description of Alarm Linkage

Linkage	Description	Reference chapters
Alarm Output	When an alarm is triggered, the system starts recording by linking the alarm output device. After an alarm ends, the alarm output stops after an extended time period according to the configured <b>Alarm Delay</b> .	See4.5.1.3Output for details.
Snapshot	When an alarm is triggered, the system starts snapshot by linking the channel.	See4.5.1.4Snapshot for details.
Tour	When an alarm is triggered, a tour of the selected channels is displayed on the local interface of the Device.	See4.5.1.5Tour for details.
Show Message	When an alarm is triggered, alarm message is displayed on the local interface.	See4.5.1.6Show for details.
Send Email	When an alarm is triggered, the system sends an alarm email to a designated recipient.	See4.5.1.7Sending for details.
Buzzer	When an alarm is triggered, the alarm buzzer beeps.	See4.5.1.8Buzzer for details.
System log	When an alarm is triggered, alarm message is recorded in the system log.	See4.5.1.9Log for details.

Step 6 Click Save.

### 4.5.1.2 Linking Recording

After recording is linked, the system starts recording by linking with the record channel when an alarm is triggered. After an alarm ends, the system stops recording after an extended time period according to the configured **Delay**.

### 4.5.1.2.1 Configuring Recording Schedule

After motion detection on the recording channel or alarm recording plan is enabled, the recording channel starts alarm linking with video recording.

<u>Step 1</u> Select **Storage > Schedule > Record** under the main menu.

The **Record** interface is displayed. See Figure 4-34.

#### Figure 4-34 Record Plan

STORAGE				LIVE		
BASIC	Record	Snapshot				
HDD	Channel 1	▼ PreRecor ✓ Regular □ M		. Redui	ndan	су 🗌
> SCHEDULE	0	Ū				
HDD MAN FTP	□ Mon □ Tue □ Wed □ Thu □ Fri				* * *	0 0 0 0 0 0
	Default	Сору	App		Back	<b>‡</b>

<u>Step 2</u> Select the channel number for linking recording.

<u>Step 3</u> Configure the recording time period and the recording type.

1) Click Corresponding to the week.

The **Time Period** interface is displayed. See Figure 4-35. Figure 4-35 Time Period

Time Period						
Current Date: Sun						
Period 1 00:00 - 24:00 🔽 Regular 🔽 MD 🔽 Alarm						
Period 2 00:00 - 24:00						
Period 3 00:00 - 24:00						
Period 4 00:00 - 24:00 Regular MD Alarm						
Period 5 00:00 - 24:00 Regular MD Alarm						
Period 6 00:00 - 24:00 Regular MD Alarm						
Сору						
🗋 All						
Sun Mon Tue Wed Thu Fri Sat						
OK Cancel						

- Select the record type and weekday, and enter the recording period.
   Configure the alarm type as needed, and select Motion Detection or Alarm.
  - To configure video detection linking with alarm recording (such as motion detection), select Motion Detection.
  - To configure other types of alarm linking with recording (such as local alarm), select Alarm.

3) Click OK.

The recording schedule appears on the **Record** interface to view the configured recording schedule directly.

Step 4 Click Apply.

#### 4.5.1.2.2 Enabling Automatic Recording

After automatic recording on the recording channel is enabled, the recording channel starts alarm linking with recording.

<u>Step 5</u> Right-click **Manual > Record** on the homepage.

The **Record** interface is displayed.

<u>Step 6</u> Enable automatic recording on the recording channel. See Figure 4-36.

#### Figure 4-36 Record

RECORD			
Main Stream	All	1	
Auto	$\bigcirc$		
Manual	$\bigcirc$	$\bigcirc$	
Stop	$\bigcirc$	$\bigcirc$	
Snapshot			
Enable	$\bigcirc$	$\bigcirc$	
Disable	$\bigcirc$		
			Apply Back

Step 7 Click Apply.

#### 4.5.1.2.3 Configuring Recording Linkage

In the alarm configuration interface, configure alarm linking with recording and delay.

<u>Step 1</u> Enter the alarm configuration interface, and select **Record Channel**. See Figure 4-37.

### Figure 4-37 Record Channel

💄 ALARM				LIVE	
ALARM INFO	Motion Detect	Tampering			
ALARM IN	Channel 1	Ŧ	Region		Setup
ALARM OUT	Enable		Delay Motior	ו 🗆	
> DETECT	Alarm Out Se		Anti-dither 10_sec.	5 Show	sec. Message
ABNORM	☐ Log ✓ Record Ch ☐ Snapshot ☐ Buzzer		Delay	10	sec.
			Арр	oly	Back

- <u>Step 2</u> Select the record channel. Support multi-selection. One highlighted in blue means it is selected.
- Step 3 Configure Delay.

### 4.5.1.2.4 Result Verification

Take the configuration of motion detection on alarm linking with video recording as an example.

When an alarm is triggered, click or click the record time period on the time shaft to play back alarm video after type, time, channel number, and record type are configured on the **Playback** interface.

## 4.5.1.3 Linking Alarm Output

After alarm output is linked, the system gives an alarm by linking with the alarm output device when an alarm is triggered. After an alarm ends, the alarm stops after an extended time period according to the configured **Alarm Delay**.

### Preconditions

The Device has been connected to the alarm output device, such as beeper, audible and visual alarm, etc.

### Steps

<u>Step 1</u> Enter the alarm configuration interface, click **Setting** of **Alarm Output**. The Settings interface is displayed. See Figure 4-38.

	Figure 4-38 Settings
	Setup
	General Alarm Alarm Out 1 2
	OK Back
<u>Step 2</u>	Click to enable the alarm output.
<u>Step 3</u>	Select a port for alarm output, and click <b>OK</b> .
	Support multi-selection. One highlighted in blue means it is selected.

## **Result Verification**

When an alarm is triggered, the alarm output device gives an alarm, such as beep, light flashing, etc.

## 4.5.1.4 Linking Snapshot

Step 4 Configure alarm output delay.

After snapshot is linked, the system starts snapshot by linking the channel when an alarm is triggered.

### 4.5.1.4.1 Configure snapshot schedule

After motion detection on channel or alarm snapshot plan is enabled, the channel starts alarm linking with snapshot.

<u>Step 1</u> Select **Storage > Schedule > Snapshot** under the main menu.

The Snapshot interface is displayed. See Figure 4-39.

Figure 4-39 Snapshot

STORAGE			LIVE	
BASIC	Record	Snapshot		
HDD	Channel 1	▼ ▲ Regular □ M	D 🗌 Alarm	
> SCHEDULE	0	-	) 12 14 16 18 20 22	
HDD MAN FTP	□ Mon □ Tue □ Wed □ Thu □ Fri □ Sat			<ul> <li>0</li> <li>0&lt;</li></ul>
	Default	Сору	Apply	Back

- <u>Step 2</u> Select the channel number for linking snapshot.
- Step 3 Configure time period and type for snapshot.
  - 1) Click .corresponding to the week.

The **Time Period** interface is displayed. See Figure 4-40. Figure 4-40 Time Period

Time Period
Current Date: Sun
Period 1 00:00 - 24:00 🔽 Regular 🔽 MD 🔽 Alarm
Period 2 00:00 - 24:00
Period 3 00:00 - 24:00
Period 4 00:00 - 24:00
Period 5 00:00 - 24:00
Period 6 00:00 - 24:00
Сору
All
🖂 Sun 🗌 Mon 🗌 Tue 🗌 Wed 🗌 Thu 📄 Fri 📄 Sat
OK Cancel

- 2) Select the snapshot type and weekday, and enter the period for taking snapshot. Configure the alarm type as needed, and select **Motion Detection** or **Alarm**.
  - To configure video detection linking with alarm video recording (such as motion detection), select Motion Detection.
  - To configure other types of alarm linking with video recording (such as local alarm), select Alarm.

3) Click OK.

Snapshot schedule appears on the **Snapshot** interface to view the configured snapshot schedule directly.

Step 4 Click Apply.

#### 4.5.1.4.2 Enabling Automatic Snapshot

After automatic snapshot on channel is enabled, the channel starts alarm linking with snapshot.

<u>Step 1</u> Right-click **Manual > Record** on the homepage.

The **Record** interface is displayed.

Step 2 Enable the automatic snapshot on channel. See Figure 4-41.

### Figure 4-41 Record

RECORD			
Main Stream	All	1	
Auto	$\bigcirc$	$\bigcirc$	
Manual	$\bigcirc$	$\bigcirc$	
Stop	$\bigcirc$	$\bigcirc$	
Snapshot			
Enable	$\bigcirc$	$\bigcirc$	
Disable	$\bigcirc$	$\bigcirc$	
			Apply Back

Step 3 Click Apply.

### 4.5.1.4.3 Configuring Snapshot Linkage

Step 1 Enter the alarm configuration interface, and select **Snapshot**. See Figure 4-42.

Figure 4-42 Snapshot

💄 ALARM			
ALARM INFO	Motion Detect	Tampering	
ALARM IN	Channel 1	•	Region Setup
ALARM OUT	Enable		Delay Motion
> DETECT	Alarm Out S		Anti-dither   5     10   sec.   Show Message
ABNORM	□ Log ✓ Record Cf □ Snapshot □ Buzzer F	1	Delay <u>10</u> sec.
			Apply Back

<u>Step 2</u> Select the snapshot channel. Support multi-selection. One highlighted in blue means it is selected.

### 4.5.1.4.4 Result Verification

When an alarm is triggered, enter the local **Video Search** interface. After search condition is configured, click the snapshot time period on the time shaft to play alarm snapshots back.

## 4.5.1.5 Linking Tour

After tour is linked, a tour of the selected channels is displayed on the local interface of the Device when an alarm is triggered.

### Steps

Step 1 Enter the alarm configuration interface, and select **Tour**. See Figure 4-43.

Figure 4-43 Tour

💄 ALARM				LIVE	
ALARM INFO	Local	IPC Offline			
> ALARM IN	Alarm In 1	<ul> <li>Alarm Nam</li> </ul>	ne a		Overlay 🗸
ALARM OUT	Enable	Device Typ	e Norma	l 🔻	
DETECT	Trigger H Alarm Out S	igh 🝷 Anti-dit etup Latch	her 5	sec.	v Message
ABNORM	🔽 Log	🗌 Send Email	Delay	10	sec.
	🔽 Record Cl	nannel <mark>1</mark>			
	Snapshot	: 1			
	🗌 Tour	1			
	🗌 Buzzer				
	Default	Сору	Ар	ply [	Back

### <u>Step 2</u> Select the channel for tour.

Support multi-selection. One highlighted in blue means it is selected.

### **Result Verification**

When an alarm is triggered, a tour of the selected channels is displayed on the local interface in a form of single-window. After an alarm ends, the local interface returns to the window before alarm.

## 4.5.1.6 Linking Message Show

When an alarm is triggered, alarm message is displayed on the local interface after message display is linked.

### Steps

Enter the alarm configuration interface, and select Message Show. See Figure 4-44.

### Figure 4-44 Show Message

💄 ALARM				
ALARM INFO	Motion Detect	Tampering		
ALARM IN	Channel 1	Ŧ	Region	Setup
ALARM OUT	Enable		Delay Motio	
> DETECT	Alarm Out Se		Anti-dither 10 sec. [	5 sec.
ABNORM	☐ Log ✓ Record Ch ☐ Snapshot ☐ Buzzer <b>F</b>	1	Delay	10 sec.
			Ар	ply Back

## **Result Verification**

Take the configuration of motion detection on alarm linking with screen output as an example. When an alarm is triggered, the **Alarm Status** interface is displayed on the local interface of the Device.

## 4.5.1.7 Linking Email Sending

After Email sending is linked, the system sends an alarm email to a designated recipient when an alarm is triggered.

### 4.5.1.7.1 Configuring Email Settings

The alarm linking with mail sending is effective only when the email address, recipient and other information are configured.

### Step 1 Select NETWORK > EMAIL.

The **EMAIL** interface is displayed. See Figure 4-45.

S NETWORK			[	
3G/4G	Enable			
WIFI	SMTP Server	MailServer	Port	25
TCP/IP	Username		Password	
SWITCH	Receiver	Receiver1 -	Email	none
CONNEC	Sender		Subject	MXVR ALERT
> EMAIL				
	Encrypt Type	TLS 🔻	Interval	120 sec.
	Health Enable		Interval	60 min.
	Test		Appl	y Back

Figure 4-45 Email

Step 2 Click to enable email function.

<u>Step 3</u> Configure TCP/IP parameters. For details, see Table 4-13.

Table 4-13 Email setting parameters description
---

Name	Description			
SMTP Server	Configure the address of SMTP (Simple Mail Transfer Protocol) server.			
Port	Enter the port value of SMTP server.			
Username	Enter the user name and password of SMTD server			
Password	Enter the user name and password of SMTP server.			
Receiver	Receiver's mail address You can enter up to three email addresses			
Candar	separated by colons			
Sender	Select sender, and configure email address.			
Email				
Title	You can enter no more than 63 characters in Chinese, English, and Arabic			
Theo	numerals			
Encrypt	In the Encrypt list, select an encryption type from NONE, SSL, and TLS.			
	This is the interval that the system sends an email for the same type of			
	alarm event, which means, the system does not send an email upon any			
	alarm event			
	The interval ranges from 0 to 3600 seconds. 0 means that there is no			
Interval	interval			
	<b>NOTE</b>			
	This setting helps to avoid the large amount of emails caused by frequent			
	alarm events			

Name	Description
	The system sends test mail to check if the connection is successfully set
	up
Health Enable	Select the Health Enable check box, and then enter the interval. The
	system can send a test email to check the connection after the specified
	interval
	INOTE
	The value ranges from 30 minutes to 1440 minutes

Step 4 Click Apply.

Click **Test** to test if emails can be sent out and received as intended after configuration. If the configuration is correct, you would receive test email.

### 4.5.1.7.2 Configuring Email Linkage

Enter the alarm configuration interface, and select **Send Email**. See Figure 4-46. Figure 4-46 Mail sending

alarm				LIVE	<b>.</b>	
ALARM INFO	Motion Detect	Tampering				
ALARM IN	Channel 1	T	Region		Setup	
ALARM OUT	Enable		Delay Motior			
> DETECT	Alarm Out S		Anti-dither 10 sec. [	5 Show	Messa	sec. age
ABNORM	☐ Log ✓ Record Cl ☐ Snapshot ☐ Buzzer ■		Delay	10	se	۲C.
			Арј	oly	Back	<

### 4.5.1.7.3 Result Verification

When an alarm is triggered, the system sends an alarm email to a designated recipient.

## 4.5.1.8 Linking Buzzer

After a buzzer is linked, the alarm buzzer beeps when an alarm is triggered.

Steps

Enter the alarm configuration interface, and select **Buzzer**. See Figure 4-47.

Figure 4-47 Buzzer

💄 ALARM			
ALARM INFO	Motion Detect	Tampering	
ALARM IN	Channel 1	•	Region Setup
ALARM OUT	Enable		Delay Motion
> DETECT	Alarm Out Se		Anti-dither <u>5</u> sec. 10 sec. Show Message
ABNORM	☐ Log ✓ Record Ch ☐ Snapshot ☐ Buzzer <b>F</b>	1	Delay <u>10</u> sec.
			Apply Back

## **Result Verification**

When an alarm is triggered, the Device beeps.

# 4.5.1.9 Linking Log

After log is linked, alarm message is recorded in the system log when an alarm is triggered.

## Steps

Enter the alarm configuration interface, and select **System Log**. See Figure 4-48.

Figure 4-48 System log

💄 ALARM				LIVE	<b>L</b> F	
ALARM INFO	Motion Detect	Tampering				
ALARM IN	Channel 1	•	Region	S	etup	
ALARM OUT	Enable		Delay Motior			
> DETECT	Alarm Out Se		Anti-dither 10 sec. [	5 Show N		sec. ge
ABNORM	□ Log ✓ Record Ch □ Snapshot □ Buzzer F	1	Delay	10	sec	•
			Ар	oly	Back	

## **Result Verification**

When an alarm is triggered, select **Alarm > Alarm Information**, and configure type, start time, end time, and researchable alarm log information. See Figure 4-49.

Figure 4-49 Alarm Log

💄 ALARM	
> ALARM INFO	Type All 🔻
ALARM IN	Start T 2019-02-26 00:00:00
ALARM OUT	End Time         2019-02-27         00:00:00         Search           100         Log Time         Event
DETECT	1         2019-02-26 16:41:01         Face Detection : 1>          =            2         2019-02-26 16:40:59         Face Detection : 1>
ABNORM	3         2019-02-26 16:40:53 <face 1="" :="" detection="">           4         2019-02-26 16:40:50         <face 1="" :="" detection=""></face></face>
	5 2019-02-26 16:40:50 <face 1="" :="" detection=""> 6 2019-02-26 16:40:47 <face 1="" :="" detection=""></face></face>
	7 2019-02-26 16:40:47 <face 1="" :="" detection=""> 8 2019-02-26 16:40:44 <face 1="" :="" detection=""></face></face>
	9 2019-02-26 16:40:23 <face 1="" :="" detection=""></face>
	Details Backup

# **4.5.2 Configuring Video Detection Settings**

Check whether any change with a certain level occurs or not by analyzing video images. If a change with a certain level occurs in an image (such as object moving, fuzzy image, etc.), the system starts alarm linkage.

## 4.5.2.1 Video Detection

After the motion detection is configured, the system starts alarm linkage when a mobile object occurs in the monitoring screen and the moving speed reaches the preset sensitivity. See4.5.1Alarmfor details.

# 4.5.2.2 Configuring Tampering

After tampering is configured, the system starts alarm linkage when the monitoring screen is blocked by an object, causing the monitoring screen outputting single-color images.

<u>Step 1</u> In the main menu, select Alarm > Detection > Tampering.

The **Tampering** interface is displayed. See Figure 4-50.

Figure 4-50 Video tampering

💄 ALARM				LIVE	<b>.</b>	99 0,8
ALARM INFO	Motion Detect	Tampering				
ALARM IN	Channel 1	<b>•</b>				
ALARM OUT	Enable	Sensitivity	3	*		
> DETECT	Alarm Out S	etup Latch	10 sec.	]Show N	lessa	age
ABNORM	Snapshot	Send Email	Delay	10 Ny	Back	
			_			

- Step 2 Select the channel number, and click to enable the tampering for the channel.
- <u>Step 3</u> Configure the sensitivity. The higher the sensitivity value is, the easier the mobile object detection is triggered. The possibility of false alarm also increases.
- Step 4 Configure the alarm linkage action. See4.5.1Alarmfor details.
- Step 5 Click Apply.

# 4.5.3 Configuring Alarm Events Settings

Configure the alarm event detection. When the preset alarm rule is triggered, the system starts alarm linkage. Alarm event types include local alarm and IPC offline alarm depending on different alarm input.

• Local alarm: When the alarm input port of the Device is connected to the alarm device, and when the alarm signal is transferred to the Device through the alarm input port, the

system starts alarm linkage after the local alarm is configured.

- IPC offline alarm: When network connecting the Device with IPC is off, the system starts alarm linkage.
- <u>Step 1</u> In the main menu, select **Alarm > Alarm Input**.

The Alarm Input interface is displayed. See Figure 4-51.

#### Figure 4-51 Alarm Input

💄 ALARM			LIVE	
ALARM INFO	Local	IPC Offline		
> ALARM IN	Alarm In 1	<ul> <li>Alarm Nam</li> </ul>	ne a	Overlay <mark>-</mark>
ALARM OUT	Enable	Device Typ	e Normal 🔻	
DETECT	Trigger H Alarm Out Se	igh 🔻 Anti-dit etup Latch		w Message
ABNORM	🔽 Log	🗌 Send Email	Delay 10	sec.
	🔽 Record Ch	nannel <mark>1</mark>		
	Snapshot	1		
	Tour	1		
	🗌 Buzzer			
	Default	Сору	Apply	Back

<u>Step 2</u> Click each alarm event tab, and enable the alarm input or channel.

- Local alarm: The local alarm is enabled by default. Select alarm input, and configure the alarm name.
- IPC offline alarm: The IPC offline alarm is enabled by default. Select channel number, and configure the alarm name.

<u>Step 3</u> Configure alarm event parameters

When the local alarm and the IPC offline alarm are enabled, configure **Anti-dither** and **Device Type**.

- Anti-dither: After the anti-dither time is configured, the system records only one alarm event during this period.
- Device type: Select the device type of the external alarm device, normally open and normally closed.
- <u>Step 4</u> Configure the alarm linkage action. See4.5.1Alarmfor details.
- Step 5 Click Apply.

## 4.5.4 Abnormality

Configure abnormal event alarm detection. When there is any abnormality occurs in hard disk or network, the system starts alarm linkage.

<u>Step 1</u> In the main menu, select **Alarm > Abnormal**.

The **ABNORMAL** interface is displayed. See Figure 4-52.

### Figure 4-52 Abnormality

💄 ALARM			LIV	/E 👤 🛱
ALARM INFO	HardDisk	User	Device	
ALARM IN	Event N	o HDD 🔻		
ALARM OUT	Enable			
DETECT	Alarm Out Se	etup Latch	10 sec. 🔽 Sł	now Message
> ABNORM	✓ Log ✓ Restart Sy	🗌 Send Email /stem		
	✓ Buzzer			
			Apply	Back

Step 2 Click each abnormal event bar, and select Event Type.

- Hard Disk: Configure abnormal event alarm detection for hard disk, including No HDD, HDD Error, HDD No Space.
- User: Configure abnormal event alarm detection for illegal login.
- Device: Configure abnormal event alarm detection for device, including low battery, temperature too high, rollover, collision, over speed and low speed.

<u>Step 3</u> Enable abnormal event alarm detection.

- Abnormal event alarm detection for hard disk and user is enabled by default. Keep the default.
- For abnormal event alarm detection for device, click **balance** to enable abnormal event alarm detection.

<u>Step 4</u> Configure abnormality parameters. For the detailed description, see Table 4-14.

Name	Description
	If <b>Illegal Login</b> is selected, configure this parameter.
Attompt(c)	In the Attempt(s) box, enter the maximum number of allowed password
Attempt(s)	input errors If the number of password input errors reaches this value,
	the user account will be locked
	If <b>Illegal Login</b> is selected, configure this parameter.
Lock Time	Set up the lock time for the locked user account when the number of
	password input errors reaches this value
Ceiling	If Temperature Too High is selected, configure this parameter
Ũ	Enter the upper limit of device temperature. The alarm is triggered when
temperature	the device temperature exceeds this value
Less Than	If Battery Low Voltage is selected, configure this parameter

Table 4-14 Abnormal event setting parameters description

Name	Description
	In the Battery Voltage boxes, enter the minimum percentage of supply
Accumulator	voltage and supply voltage to the device from the vehicle. When the
voltage	vehicle is in ACC Off, the voltage supplied to the device is lower than the
	preset minimum percentage, the system generates an alarm
	If Over Speed is selected, configure this parameter
Max Speed	The upper limit of vehicle speed. When the vehicle speed exceeds this
	value, the system generates an alarm
	If Low Speed is selected, configure this parameter
Min Speed	The lower limit of vehicle speed. When the vehicle speed is lower than
	this value, the system generates an alarm
Stop 5 Configure t	he alarm linkage action. See4.5.1 Alarmfor details

<u>Step 5</u> Configure the alarm linkage action. See4.5.1Alarmfor details.
 When **Restart System** is enabled, the system detects no HDD and restarts after 3 minutes.

Step 6 Click Apply.

# 4.5.5 Configuring Alarm Output Settings

Configure the alarm port output type of the Device, including auto, manual, and stop. When the alarm output port is connected to the alarm device, and alarm is linked with alarm output function, configure the alarm type as **Auto**. Then the system starts alarm linkage.

### <u>Step 1</u> In the main menu, select **Alarm > Alarm Output**.

The Alarm Out interface is displayed. See Figure 4-53.

🔔 ALARM		
ALARM INFO	General Alarm	
ALARM IN	Alarm Type Auto	All 1 2
> ALARM OUT	Manual Stop	0 00
DETECT	Status	
ABNORM		
-		
		Apply Back

Figure 4-53 Alarm Output

<u>Step 2</u> Select alarm output mode.

- Manual: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port keeps generating alarm.
- Auto: After the alarm linkage is configured, when an alarm event occurs, the corresponding alarm output port generates alarm.

- Stop: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port never generate alarm.
- Step 3 Click Apply.

View status of all alarm output ports under Status.

# 4.5.6 Searching Alarm Log

Search alarm log within a time period.

- <u>Step 1</u> In the main menu, select **Alarm > Alarm Information**. The Alarm Information interface is displayed.
- <u>Step 2</u> Configure type, start time and end time.
- Step 3 Click Search.

The alarm information satisfying the searching conditions are displayed. See Figure 4-54.

- To view detailed alarm information, select it and click **Details**.
- After the Device is connected to an external storage device, click **Backup** to backup alarm information to the external storage device.

#### Figure 4-54 Alarm information

🔔 ALARM	
> ALARM INFO	Type All 🔻
ALARM IN	Start T 2019-02-26 00:00:00
	End Time 2019-02-27 00:00:00 Search
ALARM OUT	100 Log Time Event
DETECT	2 2019-02-26 16:45:21 <face 1="" :="" detection=""></face>
ABNORM	3         2019-02-26 16:44:23         Face Detection: 1>            4         2019-02-26 16:44:21         Face Detection: 1>
	5 2019-02-26 16:43:29 <face 1="" :="" detection=""> 6 2019-02-26 16:43:26 <face 1="" :="" detection=""></face></face>
	7 2019-02-26 16:43:26 <face 1="" detection:=""></face>
	8 2019-02-26 16:43:21 <face 1="" detection:=""> 9 2019-02-26 16:42:28 <face 1="" detection:=""></face></face>
	< 1/4 > Go To 1
	Details Backup

# 4.6 System config

# 4.6.1 Configuring Camera



The interface might be different depending on the model you purchased.

# 4.6.1.1 Configuring Encode Parameters

### 4.6.1.1.1 Configuring Video Streaming

You can set up some video stream parameters, including Stream Type, Encode Mode, Resolution, and more depending on the actual network bandwidth.

<u>Step 1</u> In the main menu, select **Camera > Encode Setting > Encode**.

The Video Stream screen appears. See Figure 4-55.

Figure 4-55 Video Stream

CAMERA				IVE 👤 🔡
> ENCODE	Encode	Snapshot		
OVERLAY	Channel	1 •	Smart Code	
PTZ	Туре	Regular 🔻	Туре	Sub Stre 🔻
	Compres	H.264H <b>•</b>	Compres	H.264H <b>•</b>
PoE	Resolution	1920x10 •	Resolution	704x576 ▼
	Frame Ra	25 🔻	Frame Ra	25 🔻
	Quality	4 •	Quality	4 •
	Bit Rate	CBR 🔻	Bit Rate	CBR 🔻
	Bit Rate(	4096 🔻	Bit Rate(	512 🔻
		More	Refresh Ap	ply Back

<u>Step 2</u> Select channel, and configure parameters. For details, see Table 4-15.

Name	Description
	The record type is permanently fixed as general and cannot be
Record Type	changed. For general record, motion detection and alarm,
	general stream is configured for recording.
Encode Mode	Encode Mode of video
	After the smart code is enabled, reduce the bit rate value.
Smart Code	Only some models support Smart Code.
	• After the smart code is modified, restart IPC. Some IPC
	functions (such as smart analysis, ROI, SVC, corridor
	pattern, and more) will be invalid. Proceed with caution.
Resolution	The higher the video resolution, the better the image quality
Fromo Doto (EDS)	Configure the frames per seconds for video. The higher the
Frame Rate (FPS)	value, the smoother and more vivid the image

Table 4-15 Encode setting parameters description

Name	Description					
Stream Ctrl	<ul> <li>You can select bit rate type</li> <li>CBR: Constant Bit Rate, which changes around the configured value</li> <li>VBR: Variable Bit Rate, which changes along with environment</li> <li>NOTE</li> <li>It is recommended to select CBR when there might be only small changes in the monitoring environment, and select VBR when there might be big changes in the monitoring environment</li> </ul>					
Bit Rate	<ul> <li>Configure the encode value for main stream and sub stream</li> <li>When CBR is selected, select the bit rate according to the reference bit rate, and the bit rate changes along the configured value</li> <li>When VBR is selected, select the upper limit value of bit rate according to the reference bit rate, and the bit rate changes along with the monitoring environment. But the maximum bit rate value changes around the configured value</li> <li>Select Customized, and you can configure bit rate value manually</li> </ul>					
Quality	This parameter can be set only when <b>Stream Ctrl</b> is set to <b>BRC_VBR</b> . Select the image quality level. The higher the value, the better the image will become					
Bit Stream	The system recommends the optimal bit rate range according to the resolution and frame rate settings					
More	Click <b>More</b> to enable audio encode and select audio format. Audio formats include G711a, PCM, G711u and AAC					

Step 3 Click Apply.

### 4.6.1.1.2 Configuring Snapshot Streaming

Configure parameters for different types of snapshots, including quality, frequency, etc.

<u>Step 1</u> In the main menu, select **Camera > Encode Setting > Snapshot**.

The **Snapshot Stream** screen appears. See Figure 4-56.

### Figure 4-56 Snapshot Stream

CAMERA					
> ENCODE	Encode	Snapshot			
OVERLAY					
PTZ	Channel	1	•		
PoE	Mode	Regula	r 🔻		
	Image Si	ze 1920x1	080(1080P) 🔻		
	Image Q	uality 5	•		
	Interval	1 S	•		
	Refrest	١	Apply	Back	

<u>Step 2</u> Configure TCP/IP parameters. For details, see Table 4-16.

### Table 4-16 Snapshot setting parameters description

Name	Description		
Channel	Select the corresponding channel number.		
	Includes timing and events		
Snap	Timing: Take a snapshot within the configured period		
Mode	• Event: Take a snapshot when there is an alarm triggered, such as local alarm,		
	video detection and abnormality.		
	Select a resolution for the captured image.		
Size	• If analog channel is selected, select according to actual condition.		
SIZE	• If digital channel is selected, the resolution is the same with the main stream		
	and cannot be modified.		
Quality	Configures the image quality by 6 levels		
	Interval of taking snapshots		
la ta mual	Select Customized to configure the snapshot interval for manually capturing		
Interval	snapshots. The maximum value you can set is 3600 seconds as an interval		
	between two snapshots		

Step 3 Click Apply.

# 4.6.1.2 Configuring Video Overlay

Configure the time overlay and channel overlay on the monitoring screen.

<u>Step 1</u> In the main menu, select **Camera > Overlay**.

The Superposition Coding interface is displayed. See Figure 4-57.

### Figure 4-57 Superposition Coding

CAMERA				LIVE	]   🚨	
ENCODE	Superpositi	Preview Overlay				
> OVERLAY	Channel	1	•			
PTZ PoE	IPC	2019-02-26 16:50 Refresh	23 Tuesday		Chanr	isplay se No.

- Step 2 Select Superposition Coding or Preview Overlay according to overlay information.
  - In the Superposition Coding interface, select channel to overlay the time display, channel display, GPS display and license no. display in video images. You can customize the channel display.
  - In the **Preview Overlay** interface, overlay channel display and GPS display.

Step 3 Click Apply.

## 4.6.1.3 Configuring PoE

Review the connection status of the PoE port and reset the camera.

Select Camera > PoE in the main menu. The PoE interface is displayed. See Figure 5-46.

Click to turn on PoE reset function, and click **Apply** to reset the camera with power but offline so that the camera can be online. If the camera is still offline after reset for 3 times, the system will not reset again.

When the total power of the cameras accessed through PoE exceeds the maximum power of the device, the device will force the camera connected to the maximum port number to go offline until the total power of the camera accessed through PoE does not exceed the maximum power of the device.

CAMERA			LIVE	
ENCODE	PoE Reset			
OVERLAY	Conne 0/8	Actual/Total	0.0/64.0	
PTZ	Port 1	Power(W)		
> PoE	• 2	-		
	• 4 • 5	-		
	• 6 • 7	-		
	• 8	-		
		A	oply	Back

Figure 4-58 PoE

# 4.6.2 Network Parameters Configuration

# 4.6.2.1 Connection Setting

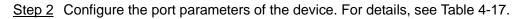
Set the port for simultaneous access to the device through Clients (including WEB clients, platform clients, mobile phone clients, etc.).

### Step 1 Select Main Menu > NETWORK > CONNECTION SETTING.

The **Connection Setting** interface is displayed. See Figure 4-59.

Figure 4-59 Port

S NETWORK		LIVE	
3G/4G	TCP Port	37777 ( 1025 - 65535 )	
WIFI	UDP Port	37778 (1025 - 65535)	
TCP/IP	HTTP Port	80 (1-65535)	
	RTSP Port	554 (1-65535)	
SWITCH	HTTPS Enable		
> CONNEC	HTTPS Port	443 (1-65535)	
EMAIL			I
		Apply Bac	K



# 

### The revised settings take effect after reboot. Proceed with caution.

	Table 4-17 Connection setting parameters description
Name	Description
TCP Port	Transmission Control Protocol port, the value is 37777 by default
UDP Port	User Datagram Protocol. The default value setting is 37778. You can enter the value according to your needs
HTTP Port	Hyper Text Transfer Protocol port. The default setting is 80. You can enter the value according to your actual situation, and in this case, add the modified value after the address when logging the Device on the browser
HTTP S Port	Hyper Text Transfer Protocol over Secure Socket Layer port. Click, and then enter the value according to your actual situation. The default setting is 443.
RSTP Port	<ul> <li>Real Time Streaming Protocol port, leave it if the value is 554 by default. If you use Apple browser QuickTime or VLC to play the real-time monitoring screen, the following formats can be used: This function is also available for Blackberry</li> <li>When the URL format requiring RTSP, you need to specify channel number and bit stream type in the URL, and also user name and password if needed</li> <li>When playing live view with Blackberry smart phone, you need to turn off the audio, and then set the code mode to H.264B and resolution to CIF</li> <li>URL format example</li> <li>Rtsp://cuser name&gt;:<password>@<ip< li=""> <li>address&gt;:<port>/cam/realmonitor?channel=1&amp;subtype=0</port></li> <li>Username, such as admin</li> <li>Password: For example, 192.168.1.16</li> <li>Port: The default setting is 554. If the default setting is displayed, you do not need to configure this parameter</li> <li>Channel: Refers to the Channel number, starting from 1 For example, if it is channel 2, then enter channel=2</li> <li>Subtype refers to Bit stream type; 0 means main stream (Subtype=0) and 1 means sub stream (Subtype=1)</li> <li>So, if you require the sub stream of channel 2 from a certain device, then the URL should be</li> <li>rtsp://admin:admin_123@192.168.1.16:554/cam/realmonitor?channel=2&amp;subtype=0</li> </ip<></password></li></ul>

Table 4-17 Connection setting parameters description

Step 3 Click Apply.

## 4.6.2.2 Configuring Wireless Network

You can connect the Device to the Internet through Wi-Fi. Make sure the Device can communicate with other devices in the network diagram. The Device itself can also act as a hot spot to share flows with other terminals.

### NOTE

If both 3G/4G and Wi-Fi are available, the Device connects to Wi-Fi and disconnected from 3G/4G.

### 4.6.2.2.1 Switching Mode

### <u>Step 1</u> Select Main Menu > NETWORK > WIFI > Mode Switch.

The Mode Switch interface is displayed. See Figure 4-60.

S NETWORK			LIV	/E 👤 🖳
3G/4G	Mode Switch	WLAN	Hotspot	
> WIFI	Working Mod			
TCP/IP	○ Stop WIFI Working	○ WLAN	<ul> <li>Hotspo</li> </ul>	ot
SWITCH	Module State	Connected		
CONNEC	0	IP Address	MAC Add	ress
EMAIL				
			Apply	Back

Figure 4-60 Mode switch

<u>Step 2</u> Select the working mode.

- When the device needs to be connected to Wi-Fi, select WLAN as the working mode.
- When the device needs to be used as a hotspot for other terminals, select **Hotspot** as the working mode.

Step 3 Click Apply.

### 4.6.2.2.2 Configuring Wi-Fi Network

You can connect the Device to network through Wi-Fi.

NOTE

This function is supported on the Device with the Wi-Fi module only. Follow on-device information.

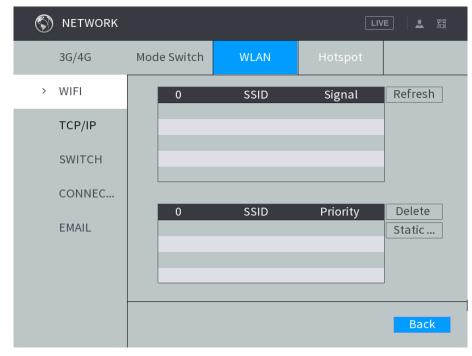
## Preconditions

Make sure the Device is connected to a Wi-Fi module.

### Step 1 Select Main Menu > NETWORK > WIFI > WLAN.

The WLAN interface is displayed, see Figure 4-61.

Figure 4-61 WLAN



Step 2 Connect to Wi-Fi.

- Auto search
  - 1. Auto search Click Refresh.
    - Displays all available SSID names and signal strength.
  - 2. Double-click the Wi-Fi you want to connect, enter the password, and then click Apply.
- Add Wi-Fi manually.
  - 1. Click Static Setting.

The Static Settings interface is displayed.

- Enter SSID and password, select priority level and verification type, set IP address, subnet mask, and gateway.
   If you select the DHCP check box, after successful connection, the system automatically obtains the IP address, subnet mask, and gateway.
- 3. Click Apply.

### **Result verification**

After successful connection, you can view the mode status, connection status, IP address, subnet mask, and gateway in the **WIFI Working Information** area in the **Mode Switch** interface.

### 4.6.2.2.3 Configuring Wi-Fi Hotspot

The Device can work as a hotspot to share the network connection to other terminals. The terminals connected to the hotspot can login to the Device through IP address (192.168.2.108). After login, you can preview videos on the Device.

<u>Step 1</u> Select Main Menu > NETWORK > WIFI > Hotspot.

The Hotspot interface is displayed. See Figure 4-62.

S NETWORK				[	LIVE	
3G/4G	Mode Switch	WLAN		Hotspot		
> WIFI	Hotspot na	ame	A	P_0		]
TCP/IP	Work Band			4G	•	]
SWITCH		Verification Connection Password		WPA2-PSK •		
CONNEC	Server IP		19	2.168.2.108		-
EMAIL						
	Default	]		Appl	у [	Back

### Figure 4-62 Portable Hotspot

- <u>Step 2</u> Enter the name of the **Hotspot**, select work band and verification type, and then enter the connection password.
  - The work band can be 2.4G/5G.
  - Select the Connection Password check box, the clear text password is displayed. The default password is 12345678.
- Step 3 Click Apply.

## 4.6.2.3 Configuring 3G/4G Settings

After setting 3G/4G parameters, network status and data usage can be viewed.

### 4.6.2.3.1 Setting 3G/4G Parameters

### Preconditions

- Make sure the Device is equipped with 3G/4G module and inserted with SIM card from the Communication Operator.
- The dial number, user name, and password have been obtained from the Communication Operator.

### Steps

Step 1 Select Main Menu > NETWORK > 3G/4G > 3G/4G.

The **3G/4G** interface is displayed. See Figure 4-63. Figure 4-63 3G/4G

🕥 NETWORK			LIN	/E 💄 👯
> 3G/4G	3G/4G	Status	3G Flow	
WIFI	3G Network	ppp5 🔻	Enable	
TCP/IP	Network Typ	e Auto 🔻	NetAccess	
SWITCH	APN	uninet 🔻		
CONNEC	AUTH	NO_A 🔻		
EMAIL	Dial Number	*99#		
	Default		Apply	Back

- Step 2 Select **3G Network**, click to enable the network. This function is enabled by default.
- Step 3 Configure TCP/IP parameters. For details, see Table 4-18.

Name	Description	
	When the Device is accessed to private network, click	
NetAccess	NetAccess check box, enter APN name and select authentication mode.	
	If PAP or CHAP is selected for AUTH, enter user name and password,	
	then the Device is automatically accessed to private network	
Network Type	When enabled, the network type is displayed, which is used to distinguish	
Network Type	the 3G/4G modules among Communication Operators, such as TD-LTE	
APN	Displays access point of Communication Operator.	
	To manually set up APN, select Customized	
AUTH	Includes PAP, CHAP, and NO_AUTH protocols. The system automatically	
AUTT	recognizes and displays the enabled protocol	
Dial Number	Enter the dial number provided from the Communication Operator	
Username	This parameter needs to be set up when the authentication mode is PAP	
Password	or CHAP	
	The system automatically recognizes the username and password	

Step 4 Click Apply.

After access is succeeded, the obtained IP address is displayed.

### 4.6.2.3.2 View Mobile Network Status

Check the mobile network status, including module state, SIM state, dialing state, working mode, etc.

In the main menu, select **NETWORK > 3G/4G > Status**. The **Status** interface is displayed. See Figure 4-64.

🕥 NETWORK			LI	VE L Pg
> 3G/4G	3G/4G	Status	3G Flow	
WIFI	3G Networ	k ppp5	•	
TCP/IP	Nosignal			
SWITCH	Module St SIM State	ateWorking N/A	IP Address Subnet Mas	
CONNEC	PPP State		Gateway	
EMAIL	Working Mode-		Module Typ	beUC20 UC
				Back

Figure 4-64 Status

#### 4.6.2.3.3 Review data usage

You can review 3G/4G data usage.

In the main menu, select **NETWORK > 3G/4G > 3G Flow**. The **3G Flow** interface is displayed. See Figure 4-65.

The system displays data usage for the last 7 days and the total data usage of the month up to date. The total data is zeroed out and accumulates again after a calendar month ends and a new one begins.

- Click **Refresh** to obtain the latest updated flow information, which is updated every 5 minutes.
- Click Zero Out to clear all information of the current data usage count.

### Figure 4-65 Data usage

S NETWORK			LIV	/E 🚨 🖁	
> 3G/4G	3G/4G	Status	3G Flow		
WIFI	4	otal flow(Month)	:0.0MB		
TCP/IP	2 Se	end flow:0.0MB eceive flow:0.0ME			
SWITCH	4 Ti	me:2019-02-26 1	4:06:44		
CONNEC					
EMAIL					
	Refresh	Clear			
				Back	

## 4.6.2.4 Configuring Switch Settings

After setting up the SWITCH, the device automatically allocates IP addresses to the IPC directly connected to the PoE port of the device.



- By default, the Switch Settings check box is enabled. The network segment is 10.1.1.1. It is recommended to keep the default setting.
- If the IP camera is from the third party, it must support the Onvif protocol and has enabled DHCP.

<u>Step 1</u> In the main menu, select **SYSTEM SETUP > NETWORK > SWITCH**.

The Switch interface is displayed. See Figure 4-66.

### Figure 4-66 Switch settings

S NETWORK			LIVE	99 80	
3G/4G					
WIFI	IP Address	10.1.1.1			
TCP/IP	Subnet Mask	255 .255 .255 . 0			
	Default Gateway	10.1.1.1			
> SWITCH	Poe Port/Static IP				
CONNEC	1/10.1.1.65	5/10.1.1.69			
EMAIL	2/10.1.1.66	6/10.1.1.70			
	3/10.1.1.67	7/10.1.1.71			
	4/10.1.1.68	8/10.1.1.72			
	Default	Ар	ply	Cancel	

Step 2 Enter the IP address, subnet mask, and gateway.

The IP address of Switch cannot be in the same network segment with the IP address of Device. It is recommended to use the default IP address.

Step 3 Click Apply.

### Instructions for PoE Connection

For the PoE connection instructions, see Table 4-19.

OperationDescriptionThe device automatically connects to the IPC managed through the PoE portAfter connecting, the Device configures an IP address to the IP camera. This IP address is from the network segment where the Switch is located Try to configure the IP address by arp ping. If the DHCP function is enabled, use DHCP to configure the IP address•After the IP address is configured, a broadcast will be sent from Switch. If there is any response received, the connection has been established. Then you can login and find the IP camera. You can find the corresponding digital channel has been occupied with a small PoE icon in the top left•You can view the PoE channel information in the Added Device area in the REMOTE interface. You can Click Search Device to display or update the status	_	Table 4-19 PoE instructions
<ul> <li>The device automatically connects to the IPC managed through the PoE port</li> <li>IP address is from the network segment where the Switch is located Try to configure the IP address by arp ping. If the DHCP function is enabled, use DHCP to configure the IP address</li> <li>After the IP address is configured, a broadcast will be sent from Switch. If there is any response received, the connection has been established. Then you can login and find the IP camera. You can find the corresponding digital channel has been occupied with a small PoE icon in the top left</li> <li>You can view the PoE channel information in the Added Device area in the REMOTE interface. You can Click Search Device to display or</li> </ul>	Operation	Description
	automatically connects to the IPC managed through the	<ul> <li>IP address is from the network segment where the Switch is located Try to configure the IP address by arp ping. If the DHCP function is enabled, use DHCP to configure the IP address</li> <li>After the IP address is configured, a broadcast will be sent from Switch. If there is any response received, the connection has been established. Then you can login and find the IP camera. You can find the corresponding digital channel has been occupied with a small PoE icon in the top left</li> <li>You can view the PoE channel information in the Added Device area in</li> </ul>

### NOTE

If all channels are occupied, when IPC connects to the device through the interface, it will automatically preempt the connected channels and go online, and the remote channels will be overwritten.

# 4.6.2.5 Configuring Network Testing Settings

You can test the network status and load.

### 4.6.2.5.1 Testing Network Status

You can test the network status and view the average delay and packet loss rate. Step 1 In the main menu, select Info > Network > Net Test

The **NET TEST** interface is displayed. See Figure 4-67.

Figure 4-67 Net test

ᠺ STATUS				LIVE	
DEVICE S	Online User	Network Load	Network Tes	st	
LOG	Destinatio	n IP		Test	
SATELLIT					
ALARM	Network S	niffer Packet Ba	ckup		
> NETWORK	Device ID	sdb(USB	USB) •	Refresh	]
BPS	Address	/		Browse	
VERSION	Name wlan0 1	IP Snif 92.168.2 	fer Pack S 0KB	iniffer Packet	

<u>Step 2</u> In the **Destination IP** box, enter the IP address, and then click **Test**. After testing is completed, the test result is displayed. You can view the evaluation for average delay, packet loss rate, and network status.

### 4.6.2.5.2 Testing Network Load

You can view all the network information of the device, such as MAC address, connection status, IP address, data receiving speed and sending speed.

Step 3 In the main menu, select Info > Network > Net Load

The **NET LOAD** interface is displayed. See Figure 4-68.

😡 STATUS DEVICE S... Online User Network Test LOG Name MAC Address **IP Address** Status Τv wlan0 40:9f:38:44... Failed 192.168.2... WL SATELLIT... 172.12.20.27 Ethe eth0 50:65:F3:1.. Failed ALARM 8 Mb/S NETWORK > BPS VERSION 0 eth0 Send Speed 3.94 Mb/S Receive Speed 4.91 Mb/S

Figure 4-68 Net load

<u>Step 4</u> Click the network that you want to view. The data receiving speed and sending speed information are displayed.

**NOTE** 

- By default, the network load of eht0 is displayed.
- The green line represents data sending speed, and the red line represents data receiving speed.

# 4.6.3 Configuring platform

# 4.6.3.1 Setting up auto registration

After successfully auto registered, when the device is connected into the Internet, it will report the current location to the specified server to make it easier for the Client software to access the Device, and to preview and monitor it.

### Step 1 Select PLATFORM > REGISTER

The Auto Registration interface is displayed. See Figure 4-69.

### Figure 4-69 Auto Registration

PLATFORM		
> REGISTER	Enable	
P2P	Status	Disable
	No.	1 •
	Server IP	0.0.0.0
	Port	9500
	ID	0
	Platform authent	ication
	Username	admin 🔻
	Password	admin
		Apply Back

Step 2 Click to enable automatic registration.

Step 3 Configure TCP/IP parameters. For details, see Table 4-20.

Table 4-20 Auto Registration descriptions
---

Name	Description
No.	Number automatically registered
Address	In the Server IP box, enter the IP address or domain name of the server to
Address	register
Port	The port for auto-registration
Sub-device ID	Unique ID for identifying the device. When different devices register to the
Sub-device ID	same server, the sub-device IDs should be different
Username	User name and password used for authentication when registering to the
Password	platform.

Step 4 Click Apply.

# 4.6.3.2 Configuring P2P Settings

P2P is a private network penetration technology. With this technology, you do not need to apply for dynamic domain name, set port mapping, or deploy transit server. You can add devices for management by either of the following two ways.

- Download an app to your mobile phone by scanning the QR code on the interface by using mobile phone client, and sign up an account. See "Client Operation Examples."
- Loginwww.gotop2p.complatform to register, and then add devices by device serial number. For details, see P2P Operation Manual.



Before using P2P, make sure the device is connected to the Internet.

## Preconditions

- The device is connected to the Internet.
- DMSS Client is downloaded and installed on you mobile phone.

## Steps

### Step 1 Select PLATFORM > P2P

The P2P interface is displayed, see Figure 4-70.

Figure 4-70 P2P



- Step 2 Click to enable P2P function.
- Step 3 Use DMSS Client to scan the QR code under Device SN to add the device to DMSS Client.



Scan the QR code on the actual interface of Device.

Step 4 Click OK.

After configuration is complete, the Status box shows **Online**, meaning the P2P registration is successful.

## Adding Device into Mobile Phone Client

To use this function, take adding device into mobile phone client as an example.

- Step 1 On your mobile phone, download the application.
- <u>Step 2</u> After the installation, run the client, select **Remote Monitoring** and go to the main menu.
- <u>Step 3</u> Add the device to the mobile client.

- Click and then select Device Manager. The **Device Manager** interface is displayed.
- Click , initialize the device as needed and follow on-screen instructions to connect the device. To do so, you can scan the device label or the serial number QR code of the device on the device page.
   After scanning, the device is added. The serial number of the device is displayed in Serial Number section.

<u>Step 4</u> To review the monitoring image of the device, click **Start Preview**.

# 4.6.4 Setting Device Storage

## 4.6.4.1 Setting basic parameters

<u>Step 1</u> In the main menu, select **Storage Management > Basic Configuration**. The **Basic Configuration** interface is displayed. See Figure 4-71.

Figure 4-71 Basic configuration

STORAGE			
> BASIC	HDD Full	Overwrite 🔻	
HDD	Pack Mode	Time Length 🔻	60 min.
SCHEDULE	Auto Delete Ol	Never 🔻	
HDD MAN			
FTP			
		Ар	ply Back

<u>Step 2</u> Configure basic information.

- Select either to stop recording or overlap earlier recordings when HDD is full.
- Set up the length for packaging recordings.
- After configuring auto deleting old files, when the Device is working, it deletes the old files that occurred before the set schedule.

Step 3 Click Apply.

## 4.6.4.2 Managing Storage Device

Select **Main Menu > STORAGE > HDD Management**. The **HDD Management** interface is displayed. See Figure 4-72.

You can set up the HDD as the read/write disk and redundancy HDD in the Type column.

- Read/Write: Read HDD data and save data to HDD.
- Redundancy HDD: If more than two HDDs are connected to the device or SD card, one HDD can be set to the redundancy HDD for recording backup.

Select the HDD and click **Formatting** to clear all data from the HDD. Proceed with caution. Figure 4-72 Disk management

STORAGE		
BASIC	1* 🗖 Device ID Physical Po	۲ype ۶
HDD	All 1* sda USB-1	- Read/Write ▼
SCHEDULE		
> HDD MAN		
FTP		
	Refresh Format A	pply Back

## 4.6.4.3 Setting FTP storage

Back up recorded videos and images to the preset FTP (File Transfer Protocol) server for storage.

### Preconditions

Make sure you have purchased or download a FTP server and installed it on your PC.

For the created FTP user, you need to set the write permission; otherwise the upload of recorded videos and snapshots will be failed.

### Steps

<u>Step 1</u> In the main menu, select **STORAGE > FTP**. The FTP interface is displayed, see Figure 4-73.

Figure 4-73 FTP

🔜 STORAGE	
BASIC	Enable
HDD	Server IP 0.0.0.0 Port 22
	Username Password
SCHEDULE	Anonymous
HDD MAN	Remot Channel 1
> FTP	File Length(M) 0
	Image Upload 2
	week Tue 🔻 Alarm MD Regular
	Period 1 00:00 - 24:00
	Period 2 00:00 - 24:00
	Default Test Apply Back

- <u>Step 2</u> Select **Enable** to enable FTP upload.
- <u>Step 3</u> The system selects **SFTP** by default. It is recommended to keep this default setting. When selecting **FTP**, the system gives a risk prompt. Select **OK** or **Cancel** based on your needs.
- <u>Step 4</u> Configure TCP/IP parameters. For details, see Table 4-21.

Table 4-21 FTP parame	eter description
-----------------------	------------------

Name	Description	
Server IP	The IP address of the PC that is installed with the FTP/SFTP server	
Port	The default value is 21	
Username	The username and password used to access the server	
Password		
Anonymous	Select Anonymous if you want to login to the server anonymously	
Remote Directory	<ul> <li>Create folder on FTP server</li> <li>If you do not enter the name of remote directory, the system automatically creates the folders according to the IP, time, and channel</li> <li>If you enter the name of remote directory, the system creates the folder with the entered name under the FTP/SFTP root directory first, and then automatically creates the folders according to the IP, time, and channel</li> </ul>	
File Length	<ul> <li>Enter the length of the uploaded recorded video</li> <li>If the entered length is less than the recorded video length, only a section of the recorded video can be uploaded</li> <li>If the entered length is more than the recorded video length, the whole recorded video can be uploaded</li> <li>If the entered length is 0, the whole recorded video will be uploaded</li> </ul>	

Name	Description
Image Upload Interval	<ul> <li>When the Snap Mode is Regular, the image upload method should be determined according to the upload interval and snapshot interval.</li> <li>If this interval is longer than snapshot interval, the system uploads the most recent snapshot. For example, if the upload interval is 5 seconds, and snapshot interval is 2 seconds per snapshot, then an upload command is issued every 5 seconds to upload the following picture captured.</li> <li>If this interval is shorter than snapshot interval, the system uploads the snapshot per the snapshot interval. For example, if the interval is 5 seconds, and snapshot interval. For example, if the interval is 5 seconds, and snapshot interval. For example, if the interval is 5 seconds, and snapshot interval is 10 seconds per snapshot, the system uploads the snapshot every 10 seconds</li> <li>When the Snap Mode is Event, the system uploads captured pictures according to snapshot interval.</li> <li>MOTE</li> <li>You can configure the Interval and Snap Mode. For details, see "4.6.1.1.2Configuring Snapshot Streaming".</li> </ul>
Channel	Select the channel that you want to apply the FTP settings
Weekday	Select the week day and set the time period that you want to upload the recorded files. You can set two periods for each week
Time Period	Select the record type (Alarm, MD, and General) that you want to upload. After checking the corresponding recording type next to the corresponding period, the selected recording type will be uploaded during the configured period at to test if the FTP/SFTP server is successfully configured.

<u>Step 5</u> Click **Test** to test if the FTP/SFTP server is successfully configured.

- If successful, the system will pop up a message to indicate successful connection.
- If failed, the system will pop up a message to indicate failed connection. Check the network connection or configurations.

Step 6 Click Apply.

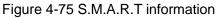
## 4.6.4.4 Viewing HDD Information

Select **Main Menu > STORAGE > HDD**. The **HDD** interface is displayed. The following operations can be performed in this interface.

- Click the **HDD** to view the list of video recordings in it, as shown in Figure 4-74.
- Double-click the **HDD** to view the S.M.A.R.T information of the **HDD**, as shown in Figure 4-75.

#### Figure 4-74 List of video recordings

STORAGE				LIVE	.   🛓	
BASIC	1* D	evi Phys	Туре	Tota	Free	1
> HDD	All		- Read	1.81 TB	707.2	
SCHEDULE						
HDD MAN						
FTP	0 Re	c Time	_			ļ
	<				•	



S.M	.A.R.T INFO				
	Port	1			
	Model	ST2000LV0002G2174			
	No.	WDZA5FK7			
	Status	ОК			
	Describe:				
	Smart ID	Attribute	Threshold	Value	Worst
	1	Read Error Rate	6	83	61 =
	3	Spin Up Time	0	98	98
	4	Start/Stop Count	20	99	99
	5	Reallocated Sector Count	10	100	100 👻
	5	Reallocated Sector Count	10	100	100 <
	5	Reallocated Sector Count	10	100	100
	5	Reallocated Sector Count	10	100	100
	5	Reallocated Sector Count	10	100	100 >
	5	Reallocated Sector Count	10	100	100 >

## 4.6.5 Setting user info

User management of the device adopts two levels: user and user group. You can manage the basic information of users and user groups. To manage account easily, it is recommended to give lower authority to the common user account than the advanced user account Authority

 $\square$ 

 In order to ensure the safety of the device, operations in the ACCOUNT interface (such as adding users, deleting users, etc.) can only be performed after the user's login password is correctly entered.  When operating in the ACCOUNT interface, if the ACCOUNT interface is not closed after the login password is correctly entered once, other operations can be directly performed. If you re-enter the ACCOUNT interface after closing it, you need to enter the login password again. Follow the interface prompts.

#### 4.6.5.1 Setting up user group

In the actual use scenario, users accessing the device may have different permissions. You can group users of different levels to facilitate maintenance and management of user information.

- Up to 64 user groups can be created in the system and the maximum length of user group names is 64 characters.
- Admin and Onvif user groups are default in the system, which cannot be deleted.
- New user group can only be created under the root node.

#### Steps

#### Step 1 Select Main Menu > SYSTEM > ACCOUNT > Group Setup.

The Group Setup interface is displayed, see Figure 4-76. Figure 4-76 Group name

対 SYSTEM				
GENERAL	User Setup	Group Setup		
DISPLAY	2 Name	Edit	Delete	Memo
> ACCOUNT	1 admir 2 user	1 /* /*	亩	administrator group user group
SECURITY				
SYSTEM				
IMP/EXP				
DEFAULT	Add Croup			
UPGRADE	Add Group			

Step 2 Click Add Group.

The Add Group interface is displayed. See Figure 4-77.

Figure 4-77 Add group

Add Group	
Name	
Memo	
Authority	
System Playback Monitor	
<ul> <li>All</li> <li>ACCOUNT SYSTEM SYSTE</li> <li>STORAGE EVENT NETW</li> <li>SECURITY File</li> </ul>	<ul> <li>MANU</li> <li>CAMERA</li> </ul>
	OK Back

<u>Step 3</u> Configure TCP/IP parameters. For details, see Table 4-22.

Table 4-22 Description of group parameters

Name	Description
	Setting up group name
Group name	The group name can be set to a maximum of 64 characters and may
	contain letters, numbers and special symbols (including "_", "@", ".").
Remarks	Setting up note info.

<u>Step 4</u> Click the **System**, **Playback** or **Monitor** tabs respectively to set user group permissions.

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Select All to select all permissions under this category.

Step 5 Click OK.

#### **Related Operations**

After adding user groups, user group information can be edited and user groups can be deleted. Refer to Table 4-23 for details.

Table 4-23 Related Operations
-------------------------------

Function	Operation
Edit user group	
info	Click 🖉 to edit group info.

Function	Operation
	Click to delete the group.
Delete group	
	• You can delete a group only if there is no user under the group.
	<ul> <li>The groups of Admin and User cannot be deleted.</li> </ul>

#### 4.6.5.2 Setting up system user

The system user is used to access and manage the device, and the system default administrator is admin. When adding different users, ensure that users can only access resources within their own permissions.

#### Steps

#### <u>Step 1</u> Select Main Menu > SYSTEM > ACCOUNT > User Setup.

The **User Setup** interface is displayed, see Figure 4-78.

🍏 SYSTEM GENERAL DISPLAY Username Name Edit Delete STATL 1 admin admin Login N 1 亩 j ACCOUNT > SECURITY SYSTEM ... IMP/EXP DEFAULT Add User UPGRADE

Figure 4-78 User

#### Step 2 Click Add User.

The system displays the Add User interface. See Figure 4-79.

Figure 4-79 Add User.

Add User	
Username	
Password	Confirm Pa
Memo	User MAC
Group	admin •
STORA	Playback       Monitor         INT       ✓ SYSTEM       ✓ SYSTE       ✓ MANU         GE       ✓ EVENT       ✓ NETW       ✓ CAMERA         ITY       ✓ File       ✓ DEVIC
	OK Back
	Back

Step 3 Configure TCP/IP parameters. For details, see Table 4-24.

Table 4-24 Description	of user parameters
------------------------	--------------------

Name	Description
	Setting up user name.
Username	The user name can be set to a maximum of 64 characters and may contain
	letters, numbers and special symbols (including "_", "@", ".").
Password	Setting up user password and confirming it.
Fassword	The new password can be set from 8 characters through 32 characters and
	may contain two or more types from number, letter and special characters
Confirm Pwd	(excluding ' " ; : &).Enter a strong password according to the security level
	indication.
Remarks	Enter a description of the user
User MAC	Binding the MAC address of the user PC accessing the device.
Group name	Selecting the group to which users belong.

<u>Step 4</u> Click the **System**, **Playback** or **Real-time Monitoring** tabs respectively to set user permissions.

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Select All to select all permissions under this category.

Step 5 Click OK.

#### **Related Operations**

After adding users, user information can be edited and users can be deleted. Refer to Table 4-25 for details.

Table 4-25 Related Operations

Function	Operation

Function	Operation
Editing user info	Click to modify information such as group, user password and reserved mobile phone. <b>NOTE</b> Modification of reserved mobile phones is only available for admin account.
Delete User	<ul> <li>Click to delete the user.</li> <li>NOTE</li> <li>The admin account cannot be deleted.</li> <li>To delete online users, you need to log into the local interface to block online users first.</li> </ul>

#### 4.6.5.3 Online User

Select Main Menu > STATUS > NETWORK > Online User, the Online User interface is displayed. See Figure 4-80.

Set the blocking time and click  $\boxed{100}$  to block online users.

ᠺ STATUS			LIV	/E 👤 📴
DEVICE S	Online User	Network Load	Network Test	
LOG	Username	IP	User Login Tir	ne Block for
SATELLIT	admin admin	10.00 mil."	<b>2019-02-26</b> 1. 2019-02-26 1.	🔊
ALARM				
> NETWORK				
BPS				
VERSION	Block for 60	sec.		

Figure 4-80 Online User

## 4.6.6 Set up system services

The device supports setting up the startup and shutdown of various internal service functions of the system.

#### <u>Step 1</u> Select Main Menu > SYSTEM > SECURITY > System Service.

The System Service interface is displayed. See Figure 4-81.

#### Figure 4-81 System service

対 SYSTEM				LIVE	<b>.</b>	
GENERAL	System Service					
DISPLAY	Password	Reset				
ACCOUNT	Mobile Ph	one Push				
> SECURITY	CGI					
SYSTEM	Audio () (id	o Tronomio				
IMP/EXP		eo Transmis sponding devic	e or software	shall		
DEFAULT		deo decryptior				
UPGRADE						
	Default	]	Ар	ply	Back	(

Step 2 Configure TCP/IP parameters. For details, see Table 4-26.

Name	Description
	After this function is enabled, you can reset a new login password of the
	admin account if the old one is lost. The system enables this function by
Reset Password	default.
1 4350014	When the Password Reset function is disabled, the password can only be
	reset through the password protection question in the local interface.
	Make sure that the password protection question is set.
Mobile phone	When this function is enabled, the device can push the triggered alarm
push	snapshot to the mobile phone. The system enables this function by
push	default.
CGI	When enabled, the device can interface with other devices through CGI
001	protocol. The system enables this function by default.
Audio and	When enabled, the transmitted audio and video can be encrypted.
Video	
Transmission	
Encryption	Video decryption should be provided by supporting device or software.

Table 4-26 Description of system service parameters

Step 3 Click Apply.

# 4.6.7 Configuring display output

Configure display output parameters, including resolution, tour settings, TV adjustment, and video mirror.

## 4.6.7.1 Configuring resolution

<u>Step 1</u> In the main menu, select **System Management > Display Output > Display Output**.

The **Display Output** interface is displayed. See Figure 4-82. Figure 4-82 Display output

SYSTEM			LIV	'E <b>L</b> P9
GENERAL	Display	Tour	TV Adjust	Video Mirror
> DISPLAY	Resolutior	a 800x600	▼	
ACCOUNT				
SECURITY				
SYSTEM				
IMP/EXP				
DEFAULT				
UPGRADE				
			Apply	Back

- Step 2 Select resolution.
- Step 3 Click Apply.

#### 4.6.7.2 Configuring tour parameters

<u>Step 1</u> In the main menu, select **System Management > Display Output > Tour**. The **Tour** interface is displayed, see Figure 4-83.

Figure 4-83 Tour

🗳 SYSTEM			LIV	/E 👤 👳
GENERAL	Display	Tour	TV Adjust	Video Mirror
> DISPLAY	Enable			
ACCOUNT	Interval(se		ndow Split View	w 1 🔻
SECURITY		Cha 1 2	annel Group	
SYSTEM	3 🗸			
IMP/EXP	5 🗸	5		
DEFAULT		7 8		
UPGRADE	Add	Modify De	lete Up	Down
	Default	]	Apply	Back

- Step 2 Click and enable the tour function.
- <u>Step 3</u> Set up the interval time.

<u>Step 4</u> Select image split and then the touring channel accordingly.

- Click Add to customize the touring sequence.
- Select the channel combination; click **Modify** to modify the touring channels and touring sequence.
- Select the check box of any channel group, and then click **Delete** to delete the channel group.
- Select the check box of any channel group, and then click **Up** or **Down** to adjust the position of the channel group.
- Step 5 Click Apply.

#### 4.6.7.3 Adjust TV parameters

<u>Step 1</u> In the main menu, select **System Management > Display Output > TV** Adjustment.

The **TV Adjustment** interface is displayed. See Figure 4-84.

#### Figure 4-84 TV adjustment

🗳 SYSTEM			LIV	'E 🚨 👦
GENERAL	Display	Tour	TV Adjust	Video Mirror
> DISPLAY	Top Margi	n <b>–</b> –•		<b>- +</b> 16
ACCOUNT	Bottom Ma	argin – – • –		- + 10
SECURITY	Left Margi Right Marg		•	-+ 26 -+ 26
SYSTEM	Brightness	s <b>–</b> —		- + 128
IMP/EXP				
DEFAULT				
UPGRADE				
	Default	]	Apply	Back

<u>Step 2</u> Drag the slider to adjust the TV brightness and the upper, lower, left and right margin. <u>Step 3</u> Click **Apply.** 

## 4.6.7.4 Configuring Video Mirror settings

<u>Step 1</u> In the main menu, select **System Management > Display Output > Video Mirror**. The **Video Mirror** interface is displayed. See Figure 4-85.

🗳 SYSTEM				/E 🖳 🖳 ஜ
GENERAL	Display	Tour	TV Adjust	Video Mirror
> DISPLAY	Channel	1	▼	
ACCOUNT	Vertical [			
SECURITY	Horizonta	l 🗌		
SYSTEM				
IMP/EXP				
DEFAULT				
UPGRADE				
	Default	]	Apply	Back

Figure 4-85 Video Mirror

- <u>Step 2</u> Select the channel and set up the mirror mode. You can select left/right mirror and up/down mirror.
- Step 3 Click Apply.

## 4.6.8 Configuring RS-232 port function

After the RS-232 function is set, the device can be connected to other devices through the serial port for tuning and operation.

#### <u>Step 1</u> Select Main Menu > OTHERS > RS232.

The RS232 settings interface is displayed, see Figure 4-86.

Figure 4-86 RS232 settings

🎝 OTHERS					LIVE		99 DD
> RS232	MainCom	Extended se	è				
VEHICLE	Function Baud Rate Data Bits Stop Bits Parity		11 8 1	5200 500 one	▼ ▼ ▼		
	Default	]		Ар	ply	Back	<

- <u>Step 2</u> Select the **MainCom** or **Extended Serial Port** tab according to the serial port function.
  - Select the **MainCom** tab when using a normal serial port or connecting a car lamp box.
  - When RS485 is used, select the Extended Serial Port tab.

Step 3 Configure TCP/IP parameters. For details, see Table 4-27.

Description		
Select the corresponding protocol		
• Console: Upgrades programs and debug by suing the serial interface and		
mini terminal software		
• Vehicle lamp box: An external vehicle lamp box can be connected.		
• RS485: External RS485 peripherals can be connected.		
The times of signal changes on the transmission line in time unit		
• For a console and RS485, the default baud rate is 115200.		
• The default baud rate of the vehicle lamp box is 9600.		
Select a data bit. The options include 5,6, 7, and 8		
Select a stop bit. The options includes 1, 1.5, and 2		
Select a parity mode from None, Odd, Even, Mark, and Null		

Step 4 Click Apply.

## 4.6.9 Configuring Vehicle Settings

## 4.6.9.1 Configuring Speed

#### Step 1 Select Main Menu > OTHERS > VEHICLE > SPEED.

```
The SPEED interface is displayed. See Figure 4-87.
```

Figure 4-87 Speed

🗱 OTHERS				VE 👤 📲
RS232	SPEED	Gyro	Position Report	t
> VEHICLE	Speed Ratio Start Mileage Mileage(KM) Speed s Pulse	e 0.0 K 23.4 [ Pulse&Position	Speed(KM/H) C M Mileage C. Clear on I ▼ Hz	
	Default		Apply	Back

Step 2 Sets up DBHA parameters. See Table 4-28 for details.

Table 4-28 S	peed	parameters	description

Name	Description				
Speed Ratio	The parameter for converting speed				
Mileage	Select the vehicle mileage sumulation made				
Cumulation	Select the vehicle mileage cumulation mode				
Mileage	Displays the total mileage				
Start Mileage	Enter the initial mileage of the vehicle				
	Select where the speed is obtained, including Pulse, Positioning Info, and				
Speed source	Pulse&Positioning Info				
	Pulse 1: Get the speed information from vehicle pulse system				
	Positioning Info: Get the speed information from positioning system				
	• Pulse&Positioning Info: Get the speed data from both the pulse system				
	and positioning system. Data from the impulse system is used first				

Step 3 Click Apply.

## 4.6.9.2 Configuring Gyro

Used to detect the rollover, collision, sharp turn, rapid acceleration or deceleration of the vehicle.

The default values displayed on the interface can deviate from the actual installation position. Without correction, the vehicle running as intended can also trigger an alarm.

Step 1 Select Main Menu > OTHERS > VEHICLE > Gyro.

The **Gyro** interface is displayed, see Figure 4-88. On this interface, you can view the acceleration, angular velocity and temperature of the vehicle where the device is located.

Click **Reset** to correct the acceleration and angular velocity of the vehicle.

🔅 OTHERS					
RS232	SPEED	Gyro	Position Repo	rt	
> VEHICLE	Acceleratio	on:	Gyro:		
	X: 00058		X: -0004		
	Y: -0018		Y: 00010		
	Z: -2053		Z: -0004		
	Temperature		46 °C		
	Reset Vehicle Head Side S Tilt Angle of Slope (		Undetermined	•	
	Default		Apply	/ Cancel	

Figure 4-88 Gyro

Step 2 Sets up DBHA parameters. See Table 4-29 for details.

Table 4-29 Description of Gyro parameters
---

Name	Description
Type of vehicle head	Select the type of vehicle head side axle coordinates and the tilt
side axle	angle of the slope
	Vehicle head side axles include X/Y/Z axles
Inclination angle of	Only when the Vehicle Head Side Shaft is not Undetermined can
slope (Unit: °)	the system detect the rapid acceleration and deceleration events of
	the vehicle.

Step 3 Click Apply.

## 4.6.9.3 Configuring Position Report

You can configure the position report strategy to be device auto report or report per platform schedule.

## <u>Step 1</u> Select Main Menu > OTHERS > VEHICLE > Position Report.

The **Position Report** interface is displayed.

- <u>Step 2</u> Configure the report strategy.
  - Auto report.
    - 1. In the **Report Strategy** list, select **Device Auto**.

The **Device Auto** setting interface is displayed. See Figure 4-89.

Figure 4-89 Position report (device auto)

🔅 OTHERS					٧E	•	<b>.</b>
RS232	SPEED	Gyro		Position Report			
> VEHICLE	STATUS II	erval Distance Ingle erva pload after nactivated	30 100    30    60 r Offli	e Auto Second Meter(m) Degree(s) Second ine_ A FORMAT	•		
	Details to	) , 0 in all		Apply		Back	<

2. Configure TCP/IP parameters. For details, see Table 4-30.

Name	Description
Report Interval	When the vehicle ACC status is on, the system report the position
Report by Distance	to platform according to the configured report interval, report
	distance, and inflexion angle
Inflexion Angle	The system reports vehicle position to platform only if one of
	conditions is satisfied
Report Interval When	When the vehicle ACC status is off, the system report the position
ACC off	to platform according to the configured report interval

#### Table 4-30 Device auto report parameters description

• Platform schedule.

In the **Report Strategy** list, select **Platform Schedule**. The **Platform Schedule** setting interface is displayed. See Figure 4-90.

The platform obtains the device position by the configured schedule. The schedule is configured at the Platform. See the User's Manual of the platform.

Figure 4-90 Position report (platform schedule)

🔅 others				VE L Pg
RS232	SPEED	Gyro	Position Repor	
> VEHICLE	Report Str	ategy Plat	form Schedule	•
	Posumo II	pload after Off	line	
			TAFORMAT	
	Details to	,0inall		
	Default	]	Apply	Back

Step 3 Click Apply.

In the **Resume Upload after Offline** area, you can view the resumed upload status after offline and resumed upload details. Click **DATA FORMAT** to clear the resumed upload record.

# 4.7 System Update

## 4.7.1 Viewing system version

Check the device model, software version and other information.

Select **Main Menu > STATUS > VERSION.** The **VERSION** interface is displayed. See Figure 4-91.

#### Figure 4-91 Version details

status		
DEVICE S	Device Model	MNVR4208
LOG	Mcu Version	2019-01-16 V1
SATELLIT	System Version	4.002.0000000.0
0,11 22211	Build Date	2019-01-18
ALARM	Web	3.2.7.109052
NETWORK	SN	0
BPS	Onvif Client Version	2.4.1
	Security Version	V1.3
> VERSION		

## 4.7.2 Upgrading System

Upgrade the system version by importing \*.bin files.

#### Preconditions

- The correct version of the upgrade file has been obtained.
- An external storage device (USB flash drive etc.) with upgrade files has been inserted into the device.

## Steps

<u>Step 1</u> Select **Main Menu > SYSTEM > UPGRADE**. The Upgrade interface is displayed. See Figure 4-92.

#### Figure 4-92 System update (1)

🗳 SYSTEM		LIVE	•	
GENERAL	System Upgrade			
DISPLAY	If you need to upgrade system now,please insert USB,then press			
ACCOUNT	the start button to start			
SECURITY	upgrade.Don't shut down the power during upgrade!			
SYSTEM	System Upgrade			
IMP/EXP	MCU Update			
DEFAULT				
> UPGRADE				

<u>Step 2</u> Select an upgrade type to start upgrade.

- Click System Upgrade to update the system.
- Click **MCU Update** to update the MCU.

The Upgrade interface is displayed. See Figure 4-93.

Figure 4-93 System update (2)

System Upgrade	2				
Device ID	sdb(USB USB)	▼ Refresh			
Total Space	15.62 GB				
Free Space	6.89 GB				
Address	/				
Name		Size	Туре	Delete	-
🗀 LOST.D	IR		Folder	亩	
📄 Screens	hots		Folder	亩	
🗀 NVR			Folder	Ē	
📄 批注			Folder	<u>ش</u>	*
Update File					
			Start	Back	]

<u>Step 3</u> Select the upgrade file, and then click **Start**. The system starts upgrading.

# 4.8 System Maintenance

## 4.8.1 Requirement for Maintenance

For the system's good and safe running, it's recommended to manage and maintain the system, backup files in the following methods.

- Check surveillance images regularly.
- Clear not frequently-used user and user group regularly.
- Modify your password every 3 months.
- Check your system log regularly. Handle problems asap.
- Backup your configuration of system regularly.
- Reboot this device regularly.
- Upgrade firmwares regularly.

## 4.8.2 Maintaining password

#### 4.8.2.1 Change Password

It is recommended that users modify their passwords regularly to improve the security of the device.

#### Step 1 Select Main Menu > SYSTEM > ACCOUNT > User Setup.

The User Setup interface is displayed, see Figure 4-94.

SYSTEM GENERAL **User Setup** Group Setup DISPLAY Username Name Edit Delete STATI admir admir Login ACCOUNT > SECURITY SYSTEM ... IMP/EXP DEFAULT Add User UPGRADE

Figure 4-94 User Settings

Step 2 Click .

The Modify User interface appears. See Figure 4-95.

#### Figure 4-95 Modify User

Modify User			
Username	admin 🔻	User MAC	
Modify Pass		Email Address	2***@qq.com
Old Password		Group	admin 🔻
New Password		Memo	admin 's account
Confirm Pass		Unlock Pattern	<b>E</b>
Prompt Ques	ty	Security Que	estion
Authority			
System F	Playback Moni	tor	
<ul> <li>✓ All</li> <li>✓ ACCOUN</li> <li>✓ STORAG</li> <li>✓ SECURIT</li> </ul>	e 🔽 event	<ul><li>✓ SYSTE</li><li>✓ NETW</li><li>✓ DEVIC</li></ul>	✓ MANU ✓ CAMERA
			OK Back

- Step 3 Click after Modify Password to enable the function of modifying the password.
- <u>Step 4</u> Type old password, new password. Then type your new password again to confirm it.

- The new password can be set from 8 characters through 32 characters and contains at least two types from number, letter and special characters (excluding ' "; : Please set a high security password according to the prompt of password strength.
- The user with **Accout** authority can also modiy the password of other users.

<u>Step 5</u> (Optional) Set up a reserved mobile phone. Setting up a reserved phone number lets you reset the login password of the admin account if it was lost. See4.8.2.2Reset Password.

Step 6 Click OK.

#### 4.8.2.2 Reset Password

You can reset the password through the reserved phone number when the password for the admin account is lost.

#### Preconditions

The password reset function has been enabled and the reserved mobile phone has been set.

When the password reset function is disabled, the password can be reset through the password protection question in the local interface. If the password protection question is not set, all you can do is to have the default setting restored through the hardware reset function.

#### Step 1 Enter the login interface.

- If you configured unlock pattern, the unlock pattern interface is displayed. Click Forgot Unlock Pattern, the password login interface is displayed. See Figure 4-96.
- If you did not configure unlock pattern, the password login interface is displayed. See Figure 4-96.

#### MOTE

On the unlock pattern login interface, click **Switch User** to login; or on the password login interface, in the **User Name** list, select another user to login. Figure 4-96 Login

• •		
SYSTEM LOGIN		
Username	admin 🔻	•
Password		2
	OK Cancel	

Step 2 Click 💵.

The Message interface appears. See Figure 4-97.

#### Figure 4-97 Message

D	
Prompt	
e a c v t	n order to provide a secure password reset environment, we need to collect your e-mail address, device MAC address, device SN, etc. All collected info is used only for the purposes of rerifying device validity and sending a security code to you. Do you agree and want to continue the operation?
	OK Cancel



#### Steps

- If the reserved phone number was set, the interface is displayed.
- If no reserved phone number was set, set the reserved phone number according to system instructions. Then click Next.

<u>Step 4</u> Reset the login password.

• Reset by QR code

In the Reset Type list, select QR Code, and then follow the onscreen instructions to get the security code in your reserved email address.



- ♦ Scan the QR code on the actual interface of Device.
- You can get the security code twice by scanning the same QR code. If you need to get the security code once again, please refresh the interface.
- $\diamond$  The security code is valid for 24 hours.
- Security Questions

In the Reset Type list, select Security Question, the security question interface is displayed. In the **Answer** boxes, enter the correct answers.

The password can only be reset through the security question after the security question has been set.

#### Step 5 Click Next.

The Reset the password interface is displayed.

Step 6 Reset and confirm the password.

The new password can be set from 8 characters through 32 characters and contains at least two types from number, letter and special characters (excluding ', ", ;, :, &). Enter a strong password according to the security level indication.

Step 7 Click OK.

## 4.8.3 Querying log

You can search, view, and back up the system logs to an external storage device.

#### Preconditions

Make sure the external storage device such as USB flash disk is connected to the Device.

#### Steps

Step 1 Select STATUS > LOG.

The **LOG** interface is displayed.

- <u>Step 2</u> Set up **Start Time**, **End Time**, and **Types**.
- Step 3 Click Search.

The searched logs are displayed. See Figure 4-98.

- After the external storage device is connected to the device, click **Backup** and select the save path to back up the log to the external storage device.
- Select log records and click **Details** to view log details.

ᠺ status	
DEVICE S	Type All 🔻
> LOG	Start T         2019-02-26         00:00:00           End Time         2019-02-27         00:00:00         Search
SATELLIT	50         Log Time         Event           1         2019-02-26 16:16:00         User logged in<172
ALARM	2 2019-02-26 16:15:26 SEARCH[2019-02-2 3 2019-02-26 16:15:25 User logged in <ad< th=""></ad<>
NETWORK	4 2019-02-26 16:12:33 User logged out <a 5 2019-02-26 16:02:24 User logged out<a< th=""></a<></a 
BPS	6 2019-02-26 15:49:24 SEARCH[2019-02-2 7 2019-02-26 15:49:12 SEARCH[2019-02-2
VERSION	8         2019-02-26 15:44:20         User logged in <ad< th="">           9         2019-02-26 15:41:46         User logged out<a< td=""></a<></ad<>
	< 1/1 > Go To 1
	Details Backup Clear

Figure 4-98 Log List

## 4.8.4 Review status information

## 4.8.4.1 Review running status

You can review the running status of the device.

Select **Information > Running Status**. The system displays the ACC status, voltage, temperature, and more. See Figure 4-99.

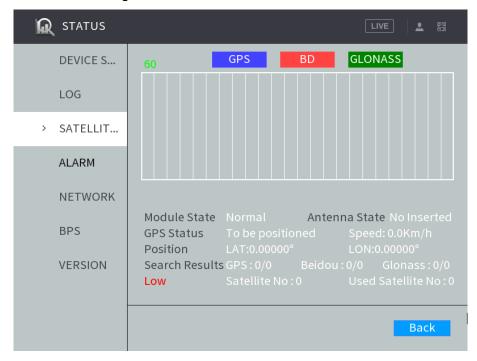
Figure 4-99 Running status

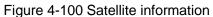
ᠺ status		[	LIVE
> DEVICE S	ACC Status		
LOG	Voltage		
SATELLIT	Temperature		
	Record State	1 2 3 4 5 6 7 8	
ALARM		o x x x x x x x x	
NETWORK	HDD Status	sda:Warning	
BPS			
VERSION			
			Back

## 4.8.4.2 Viewing Satellite Info

You can view the satellite positioning information such as module state, positioning status, antenna status, latitude and longitude, and search results.

Select Main Menu > Status Information > SATELLITE INFO. The SATELLITE INFO interface is displayed. See Figure 4-100.





#### 4.8.4.3 Viewing alarm status

You can view the alarm status. The alarms of each channel are displayed in the alarm interface.

Select **Main Menu > STATUS > ALARM**. The **ALARM** interface is displayed. See Figure 4-101.

Figure 4-101 Alarm

ᠺ status		
DEVICE S	Alarm Type	Alarm Status
LOG	Motion Detect Net Disconnect	1 Net Disconnect
SATELLIT		
> ALARM		
NETWORK		
BPS		
VERSION		
	Refresh	

#### 4.8.4.4 Viewing Data Rate Information

You can view the real-time data stream rate and diagram of data rate changes.

Select **Main Menu > STATUS > BPS.** The **BPS** interface is displayed. See Figure 4-102. Figure 4-102 Viewing Data Rate Information

ᠺ STATUS		
DEVICE S	ChannelKb/S Resolution Wave	
LOG	1 4295 1920*1080	
	2 0	
SATELLIT	3 0	
ALARM	4 0	
	5 0	
NETWORK	6 0	
> BPS	7 0	
5. 0	8 0	
VERSION		

## 4.8.5 Auto Maintain

You can configure the automatic maintenance settings such as auto reboot, auto booting up or shutdown, and delay for auto shutdown.

#### 4.8.5.1 Reboot system

After configuring auto reboot, when the Device is working, it reboots according to the schedule.

#### Step 1 Select Main Menu > SYSTEM > SYSTEM MAINTENANCE.

The **SYSTEM MAINTENANCE** interface is displayed, see Figure 4-103.

Figure 4-103 Auto Maintain

対 SYSTEM	
GENERAL	Auto Reboot
DISPLAY	Never •
ACCOUNT	ACC Delay min.
SECURITY	Auto Boot up
> SYSTEM	Never •
IMP/EXP	Auto Shutdown System
DEFAULT	
UPGRADE	
	Default Apply Back

- <u>Step 2</u> By default, the system never reboots automatically. Select the auto reboot time according to your need.
- Step 3 Click OK.

The system auto reboots at the specified time.

#### 4.8.5.2 Auto Delay for Shutdown

After configuring auto delay for shutdown, when ACC is disconnected, the Device shuts down according to the settings of auto delay for shutdown.

- If you enter the delay value that is not 0, the Device automatically shuts down after the preset delay.
- If you enter 0, the Device shuts down according to the auto shutdown settings without delay.

<u>Step 1</u> Select Main Menu > SYSTEM > SYSTEM MAINTENANCE. The SYSTEM MAINTENANCE interface is displayed.

- <u>Step 2</u> Configure the auto delay for shutdown. The value ranges from 0 through 65535. The default value is 5 minutes.
- Step 3 Click OK.

#### 4.8.5.3 Configuring auto boot up

After configuring auto boot up, the Device boots up automatically at the scheduled time. If the vehicle key is turned to the ACC before the preset auto boot up schedule, the device boots up

immediately. When the ACC of the vehicle is off after booting up, the device will be shut down according to the preset automatic shutdown delay time.

<u>Step 4</u> Select Main Menu > SYSTEM > SYSTEM MAINTENANCE.

The **SYSTEM MAINTENANCE** interface is displayed.

- <u>Step 5</u> In the Auto Boot up area, select Valid, and then enter the specific time.
- Step 6 Click OK.

#### 4.8.5.4 Configuring auto shutdown system

After configuring auto shutdown, the Device automatically shuts down according to the ACC power off time and auto boot up setting.

- If you have set the time for auto boot up, there are two situations when the ACC is powered off: If the system time is between the auto boot up and auto shutdown, the Device is turned off at the configured time. If the system time is before the auto boot up or after the auto shutdown, the Device is turned off immediately.
- If the auto boot up is not set, when the ACC is disconnected, the Device shuts down at the scheduled time.
- <u>Step 1</u> Select Main Menu > SYSTEM > SYSTEM MAINTENANCE. The SYSTEM MAINTENANCE interface is displayed.
- <u>Step 2</u> In Auto Shutdown System, select Everyday, and then enter the specific time.
- Step 3 Click OK.

## 4.8.6 Backing Up and Restoring

## 4.8.6.1 Backing up Configurations

You can back up all configuration information.

#### Preconditions

Make sure the external storage device such as USB flash disk is connected to the Device.

#### Steps

#### Step 1 Select Main Menu > SYSTEM > CONFIGURE BACKUP.

The **CONFIGURE BACKUP** interface is displayed. If the external storage device is connected before the interface is entered, the system will automatically identify the information of the external storage device, see Figure 4-104. If the external storage device is connected after the interface is entered, click

Refresh and the system will recognize the connected external storage device.

Figure 4-104 IMP/EXP

🗳 SYSTEM		
GENERAL	Device ID sdb(USB U	ISB) 🔻 Refresh Format
DISPLAY	Total Space 15.62 GB	
ACCOUNT	Free Space 6.83 GB	
SECURITY	Address /	
SYSTEM	Name 2018090604.png	Size Type Delete 251 File 💼
> IMP/EXP	<ul><li>20180906041.png</li><li>20180906042.png</li></ul>	214 File 💼 🗮
DEFAULT	<ul> <li>2018090606.png</li> <li>2018090607.png</li> </ul>	252 File <b>亩</b> 175 File <b>亩</b>
UPGRADE		
	New Folder	Import Export

<u>Step 2</u> Select the backup path and click **Export**.

The system will pop up a message in case of success. Click **OK** to complete backup.

## 4.8.6.2 Restoring Configurations

#### Step 1 Select Main Menu > SYSTEM > CONFIGURE BACKUP.

The **CONFIGURE BACKUP** interface is displayed. If the external storage device is connected before the interface is entered, the system will automatically identify the information of the external storage device, as shown in Figure 4-105. If the external storage device is connected after the interface is entered, click **Refresh** and the system will recognize the connected external storage device. Figure 4-105 IMP/EXP

対 SYSTEM			LIVE	P9 02
GENERAL				
	Device ID sdb(USB U	JSB) 🔻	Refresh	Format
DISPLAY	Total Space 15.62 GB			
ACCOUNT	Free Space 6.83 GB			
SECURITY	Address /			
OVETEM	Name	Size	Type De	elete 🔺
SYSTEM	2018090604.png	251	File	ά i
> IMP/FXP	∎ 20180906041.png	214	File	<u></u>
> IMP/EXP	∎ 20180906042.png	213	File	<b>a</b>
	2018090606.png	252	File	<b>a</b>
DEFAULT	2018090607.png	175	File	<b>亩</b> 🔼
UPGRADE				
	New Folder		mport	Export

Step 2Select a file and click Import.After the import is completed, the system prompts that the settings will take effect<br/>after reboot. Click OK.<br/>The system starts rebooting.

## 4.8.7 Restored to the Default Settings

You can restore the system to default configurations or the factory default. Only the user with the default&upgrade authorities can do this.

# 

The corresponding functions will be restored to the factory settings, and your current configurations will be lost. Proceed with caution.

#### Step 1 Select SYSTEM > DEFAULT.

The **DEFAULT** interface is displayed. See Figure 4-106.

Figure 4-106 Restored to the Default Settings

対 SYSTEM	
GENERAL	Please select setting entries that you want to default.
DISPLAY	Set Default
ACCOUNT	
SECURITY	Restore the factory settings
SYSTEM	
IMP/EXP	
> DEFAULT	
UPGRADE	
	Back

Step 2 Select the check box of the options that you want to restore to the factory default.

- Default: Select the options, and then click **Default**. In the pop-up message, click **OK**. The selected options will be restored to the factory default settings.
- Restore the factory settings: Click **Restore the factory settings**. In the pop-up message, click **OK**. The system starts rebooting. After the device is rebooted, the system will return to the default settings and needs to be initialized again. Proceed with caution.

When there is a user operating on the local interface, the factory default settings cannot be performed until the local user log out.

## 4.8.8 Network packet capturing

You can back up the network packet to the external storage device. These data can be provided to the developers or engineers to analyze the network usage status.

#### Preconditions

Make sure the external storage device such as USB flash disk is connected to the Device.

#### Steps

- Step 1 Select Main Menu > INFO > NETWORK > NET TEST. Test **NET TEST** interface is displayed.
- Step 2 Connect the external storage device to the USB port of the Device, and then click Refresh.

The system detects the external storage device which displays in the Device Name list.

- Step 3 Select the packet.
  - 1) Click **Browse**. The Browse interface is displayed.
  - 2) Select the packet.

- Click Refresh to refresh the total space, free space, and device file list.
- When the capacity is insufficient, click K to delete the unnecessary • files to release the capacity.
- Click New Folder to create a new folder in the external storage device.
- 3) Click OK.

Test **NET TEST** interface is displayed.

Step 4 Click 🕑 to start backing up packet.

#### NOTE

- The packet of only one network port can be captured each time.
- When the backing up is started, you can exit the NET TEST interface to take other operations, such as web login and monitoring.

Step 5 Click U to stop backing up.

The packet is stored under the name of "Network card name-time.pcap" in the selected path. You can also back up the packet by Wireshark (a kind of software) on PC.

## 4.8.9 Shutdown

Click Main Menu >SHUTDOWN. The SHUTDOWN interface is displayed. See Figure 4-107.

- Click Manual Reboot and the device is rebooted immediately.
- Click Logout User to log out the currently logged-in user.

Figure 4-107 Shutdown



# 5

# **Web Operations**

You can access and operate the Device from web interface on PC client. The web interface comes with the functions such as real-time preview, recording query, settings alarm, configuring system, PTZ control and monitoring screen.

NOTE

Several browsers are supported, including Chrome, Firefox, and IE.

# 5.1 Initializing Device

When you are opening the device for the first time or you have allowed your system to be restored the factory settings, you need to initialize the device. Only after that can you operate and configure your device.

#### Preconditions

Please make sure the correct network connection between PC and the Device.

#### Steps

<u>Step 1</u> Open the browser, enter the Device IP address (the default IP address is 192.168.1.108), and then press Enter.

The password setting interface is displayed. See Figure 5-1.

Figure 5-1 Password setting

Device Initialization	
1 Enter Password 2 Pa	assword Protection 3 Successful
Username	admin
New Password	
	Weak Moderate Strong
combination of letter(s)	as 8 to 32 characters, it can be a ), number(s) and symbol(s) with at n.(please do not use special symbols
Confirm Password	
	Next

<u>Step 2</u> In the **New Password** box, enter the new password and enter it again in the **Confirm Password** box. Click **Next**.

The password protection interface is displayed. See Figure 5-2.

Figure 5-2 Password protection

Device Initialization		
1 Enter Pa	assword 2 Password Protection 3 Successful	
Z Email Address		
Security Questions		
Question 1	What is your favorite children's book?	
Answer		
Question 2	What was the first name of your first boss?	
Answer		
Question 3	What is the name of your favorite fruit?	
Answer		
	Next	

- <u>Step 3</u> Select the reset type based on your needs. It is recommended to enable the two types as follows.
  - Check the Phone No. box, and then enter the phone number in the box.
  - Check the Security Question box, select the question and enter the corresponding answer.

#### Step 4 Click Next.

The completion interface is displayed. See Figure 5-3.

Figure 5-3 Complete

Device Initialization
1 Enter Password 2 Password Protection 3 Successful
Successfully initialized the device!
Ok

Step 5 Click Save.

# 5.2 Logging into the Device

You can login to and then configure the device.

<u>Step 1</u> Open the browser, enter the Device IP address, and then press Enter. The Login interface is displayed. See Figure 5-4.

#### Figure 5-4 Web login interface

WEB SER	VICE	
Username: Password:	admin	Forgot password
	Login Cancel	

Step 2Enter Username and Password and click Login.The PREVIEW interface is displayed. See Figure 5-5.Clicking Exit can log out.NOTE

- Install the plugin as prompted by the system for initial login.
- In the upper left corner, the main stream and substream are differentiated by the tab.
- For admin account, if you forget password, click Forgot Password to find back the password. For details, see 5.5.5.3.3Reset Password.
   Figure 5-5 Preview interface

Image SetL. Alarr         Q.4.014 ×         Q.4.014 ×         Q.4.014 ×         Q.4.014 ×	WEB SERVICE	PREVIEW PLAYBACK ALARM SETUP	INFO Logout	
Start Talk	Channel 2			C C C C C C C C C C C C C C C C C C C
	A Instant Record	6		0 = 1 = 9 =

# 5.3 Quick configuring

## 5.3.1 Configure IP address

Connect the Device to the network and make sure the Device can communicate with other devices in the network diagram.

## Preconditions

Make sure the Device is connected to the network properly.

## Steps

#### <u>Step 1</u> Select Setup > Network > TCP/IP.

The system displays the **TCP/IP** interface, as shown in Figure 5-6.

Figure 5-6 TCP/IP

TCP/IP	
ICF/IF	
IP Version	IPv4
MAC Address	
Mode	Static      DHCP
IP Address	
Subnet Mask	255 255 0 0
Default Gateway	
Preferred DNS	223 5 5 5
Alternate DNS	223 6 6 6
MTU	1500
	Save Refresh Default

Step 2 Configure TCP/IP parameters. For details, see Table 5-1.

Name	Description	
IP Version	Select IPv4 or IPv6. Both versions are supported	
II VEISIOIT	For IPv6 version, in the IP address box, Default Gateway box, Preferred	
	DNS box, and Alternate DNS box, enter 128 bits and cannot be blank	
MAC address	Host's MAC address, cannot be modified	
Mode	<ul> <li>Static         You need to manually configure IP Address, Subnet Mask and Default Gateway     </li> <li>DHCP         Obtains IP address automatically With DHCP enabled, IP Address, Subnet Mask and Default Gateway cannot be configured You can check the current IP address whether the DHCP takes effect or not     </li> </ul>	
IP address	According to your network plan, enter the modified IP address, gateway and	
Subnet Mask	subnet mask	

Name	Description	
Default	<b>NOTE</b>	
gateway	IP address and gateway must be in the same network segment	
Preferred	IP address of the preferred DNS	
DNS		
Alternate DNS	IP address of the alternate DNS	
MTU	Displays the MTU value of the Ethernet card. The default setting is 1500	
	bytes and cannot be changed	

Step 3 Click Save.

## **5.3.2 Configuring General Settings**

You can configure the basic settings, including time and date settings.

## 5.3.2.1 Setting General Information

Set up the general information of the Device, including video recording strategy when the HDD is full, recording length, menu standby duration, license plate, and more.

<u>Step 1</u> Select SETUP > SYSTEM > GENERAL > General.

The General interface is displayed, see Figure 5-7.

Figure 5-7 General

General	Date&Time		
Language	ENGLISH	•	
Video Standard	PAL	•	
HDD Full	Overwrite	•	
Pack Mode	Time Length	▼ 60	min.
Auto Logout	10	min. (0-60)	
Startup Wizard			
License No.			
IPC Time Sync	24	Hours	
	Save	Refresh Defa	ult

Step 2 Configure TCP/IP parameters. For details, see Table 5-2.

Name	Description	
Language	Select a language for the Device system	
Video standard	Displays the video encode standard	

Table 5-2 General settings parameters description

Name	Description
	Configure the settings for the situation when HDD is full, including stop and
	overlap
Disk full	• Stop: When the HDD is full and there is no extra free disk, the recording
DISKTUI	stops
	• Overlap: When the HDD is full and there is no extra free disk, the new
	recorded video overlaps the old videos
Packaging	Enter the length of time for packaging each video file. The maximum length is
manner	120 minutes
	Enter the time period for automatic logout if there are no operations during this
	period. In this case, you need to login again
Auto Logout	The value ranges from 0 minutes through 60 minutes. 0 indicates there is not
	standby time for the Device
Startup	Set whether to open the software license agreement
Wizard	Set whether to open the software license agreement.
License No.	Enter the license plate number of vehicle where the Device is located
IPC Time	You can select the IPC Time Sync check box and enter the interval for IPC
Sync	sync with the Device

Step 3 Click Save.

## 5.3.2.2 Date and Time Settings

You can configure settings such as date format, time format, and timing mode.

### <u>Step 1</u> Select SETUP > SYSTEM > GENERAL > Date&Time.

The **Date&Time** interface is displayed. See Figure 5-8.

Figure 5-8 Date and time settings

General	Date&Time
Date Format	YYYY MM DD
Time Format	24-HOUR 🔻
System Time	2019 - 01 - 04 14 : 25 : 45 Sync PC
DST	
DST Type	O Date
Begin Time	Jan 💌 Last Week 💌 Sunday 💌 00 : 00
End Time	Jan 💌 Last Week 💌 Sunday 💌 00 : 00
Timing Mode	DSS
	Save Refresh Default

Step 2 Configure TCP/IP parameters. For details, see Table 5-3.

Table 5-3 Date and time settings parameters description

Name	Description
Date format	Select a date format
Time format	Select a time format

Name	Description
Time zone	In the <b>Timing Mode</b> list, if <b>GPS</b> or <b>NTP</b> is selected, configure this parameter Configure the Time zone that the device is at
System Time	Displays the current system date and time
Sync PC	Click Sync PC to sync the system time with the PC from where you login the web interface
DST	The DST is applied in some countries or regions. Select the DST check box if it
DST type	is applied where the Device is located
Begin time	1. Select the <b>DST</b> check box
End time	<ol> <li>According to the local regulations, configure the type, begin time and end time for the DST</li> </ol>
Timing Mode	<ul> <li>Select a timing mode, including DSS, GPS, and NTP. The default selection is NTP</li> <li>DSS: The system time syncs with DSS platform</li> <li>GPS: The system time syncs with satellite</li> <li>NTP: The system time syncs with NTP server that you configured</li> </ul>
Server	In the <b>Timing Mode</b> list, if <b>NTP</b> is selected, configure this parameter After configuring NTP server, the Device syncs time with NTP server
Synchronize	<ol> <li>In the <b>Timing Mode</b> list, select <b>NTP</b> to enable the NTP timing function</li> <li>Configure parameters</li> <li>Server: Enter IP address of NTP server</li> </ol>
Port	Synchronize: Click Synchronize to sync the Device time with NTP server
	$\diamond$ Port: The system supports TCP protocol only and the default setting is
Update	123
period	<ul> <li>Interval: Enter the interval that you want the Device to sync time with the NTP server. The maximum value is 65535 minutes</li> </ul>

Step 3 Click Save.

## **5.3.3 Configuring Remote Devices**

This section describes how to add cameras to channels. Connect the IPC to the Ethernet port on the rear panel of the Device. You can use a holder or tie strap to fix the port.

## 5.3.3.1 Initializing the Remote Device

Only the initialized remote device can be added. If the remote device that you want to add has been initialized, ignore this section.

### Preconditions

Make sure the remote device supports initialization.

### Steps

### <u>Step 1</u> Select **Setup > CAMERA > REMOTE**.

The **Remote** interface is displayed. See Figure 5-9.

Figure 5-9 Remote device

Remote							
						Uninitialized	d Initialize
	STATUS	IP Address	Port	Device Name	Manufacturer	Types	MAC Address
evice Search	Add	Manual	Add				
Channe	el Modify Delete	Status II	<sup>o</sup> Address	Port Device Name	Remote Manufacturer	Channel Name IPC WEB	Types
		_	_		Channel		

#### Step 2 Click Device Search.

The searched devices are displayed.

- <u>Step 3</u> Select the **Uninitialized** check box. The uninitialized devices are displayed.
- <u>Step 4</u> Select the check box the uninitialized device, and then click **Initialize**.

The password setting interface is displayed. See Figure 5-10.

Figure 5-10 Password setting

Remote									
							Uninitialized	Initialize	
	STATUS	IP Address	Port	Device Name	Manufacturer	Types	_	MAC Address	_
	314103	Il Address	Fon	Device Name	Manufacturer	Types		MAC Address	^
									~
Device Search	Add	Manual Add							
_	_	_	_	_	Remote	_	_	_	
Channel	Modify Delete	Status IP Add	ress F	Port Device Name	Channel Manufacturer	Channel Name	IPC WEB	Types	
									^
Dalata	Defect	7							Ŧ
Delete	Refresh								

<u>Step 5</u> Configure the password by either of the following two ways.

- Using current device password and phone info. Select the **Using current device password and phone info** check box, and the remote device uses the password and phone info of the Device.
- Manually configure password for remote devices.

1) Clear the Using current device password and phone info check box.

The password setting interface is displayed. See Figure 5-11.

Figure 5-11 Set a password.

Enter Password	×
Using current de	vice password and email info.
Username New Password	admin Weak Moderate Strong
Confirm Passwo	It is 8 to 32-digit containing letter(s), number(s),symbol(s). It contains at least two types.
	Next

2) In the **New Password** box, enter the new password and enter it again in the **Confirm Password** box. Click **Next**.

The password protection interface is displayed. See Figure 5-12.

Password Protection		
Email Address	To reset password, please input properly or update in time	
Back	Next Skip	

Figure 5-12 Password protection

- 3) Set up password protection.
  - Select the Phone No. check box, and then enter the phone number. Click Next.
  - ♦ Click **Skip** if you do not want to set up password protection.

### The Device starts initializing Device. After initialization is completed, see Figure 5-13. Figure 5-13 Initialization completed

Device Ini	itialization		
Finish			
SN	IP Address	Results	
1	192.168.0.10	Initialize:Succeed	*
			Ŧ
		Save	è

Step 6 Click Save.

## 5.3.3.2 Adding a Remote Device

You can add a remote device manually or by search.

### <u>Step 1</u> Select **Setup > CAMERA > REMOTE**.

The **REMOTE** interface is displayed.

- Step 2 Adding a remote device.
  - Search and Add
    - 1. Click **Device Search**, the searched devices are displayed.
    - 2. Double-click on an IP address or select the check box of a device, and then click **Add**.

The device displays in the added device area.

- Manual Add
  - 1. Click Manual Add.

The Manual Add interface is displayed. See Figure 5-14.

Manual Add		×
Manufacturer	Private 💌	
IP Address		
TCP Port	37777 (1~65535)	
Username	admin	
Password		
Remote Channel	1	
Channel	5	
Decode Buffer	280	
	Save Cancel	

Figure 5-14 Manual Add

2. Configure TCP/IP parameters. For details, see Table 5-4.

The parameters might be different depending on the model you purchased.

Name	Description
Manufacturer	Select a manufacturer according to the actual situation. Parameters might
Manufacturer	vary by manufacture. Follow specific parameters on the interface
IP address	Enter the IP address of remote device
TCP Port	TCP service port. The default setting is 37777. You can configure this
TCP POIL	parameter according to your actual situation
RTSP Port	Enter RTSP Port number of remote device. The default setting is 554
HTTP Port	Enter HTTP Port number of remote device. The default setting is 80
Username	Enter the upper parts and possible in the the remate device
Password	Enter the user name and password to login to the remote device
Remote	
Channel	Select the channel number that you want to connect
Channel	The channel number of the remotely connected device. You can only select a
Channel	channel that has not added remote devices
Decode	Enter the size of decode buffer. The unit is millisecond and you can select
buffer	from 80 through 480
	This must be set up when you select <b>Onvif</b> or <b>Custom</b> as the <b>Manufacturer</b>
Service type	When selecting different manufacturers, the service types are different.
	Select the service type based on your needs

Table 5-4 Manual add parameters description

### 3. Click Save.

•

The device displays in the added device area.

## 

indicates connection is successful; 🔤 indicates connection

failed.

• To delete an added device, select it, and then click Delete; to modify the

information of an added device, click 🖆 or double-click the device.

## 5.3.4 Configuring Record Settings

The record mode is consisted of manual mode and auto mode. You can also enable or disable the snapshot function.

- Auto: The recording starts automatically according to the record type and recording time as configured in the recording schedule.
- Manual: Keep general recording for 24 hours for the selected channel.

# 

Manual recording operation requires the user have the permission to access **STORAGE** settings. Check to ensure the HDD installed in the Device has been formatted properly.

### <u>Step 1</u> Select Setup > Storage > Record.

The Record interface is displayed, see Figure 5-15.

Record								
Main Stream	All	1	2	3	4	5		
Auto	۲	۲	۲	۲	۲	۲		
Manual	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$		
Stop	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$		
Snapshot								
Enable	$\odot$	$\bigcirc$	$\odot$	$\bigcirc$	$\bigcirc$	$\odot$		
Stop	۲	۲	۲	۲	۲	۲		
		_	Sav	/e	_		Refresh	

Figure 5-15 Record

Step 2 Configure TCP/IP parameters. For details, see Table 5-5.

Table 5-5 Record control parameter description

Name	Description			
Channel	Displays the channel number			
Channel	You can select one or several channels or select All			
	Indicates the recording status of corresponding channels. The choices			
Status	include Auto, Manual, Enable, and Stop			
Status	Selected			
	Not selected			

Name	Description
Auto/Manual/Stop	<ul> <li>Select the recording mode, including Manual, Auto, and Stop</li> <li>Manual: Top priority. When the Manual check box is selected, the system keeps general recording for 24 hours for the corresponding channel</li> <li>Auto: The system starts recording according to the record type (such as general alarm, motion detect, and system alarm) and recording time</li> <li>Stop: Do not record</li> </ul>
Enable/Stop Enable or disable the scheduled snapshot for the correspondi channels	

Step 3 Click Save.

## 5.3.5 Set up the storage plan

## 5.3.5.1 Configuring Recording Schedule

The default recording setting is 24 hours recording for all channels. You can configure the record type and recording time according to your actual situation.

### Preconditions

The auto recording is enabled for the corresponding channel. For details, see "5.3.4 Configuring Record Settings."

### Steps

<u>Step 1</u> Select Setup > Storage Management > Storage Plan > Record. The Record interface is displayed. See Figure 5-16.



Figure 5-16 Record Plan

Step 2 Configure TCP/IP parameters. For details, see Table 5-6.

Name	Description
Channel	Select a channel to configure the corresponding recording schedule. To
	configure the same setting for all channels, select All
Pre-record	Start recording for 0 seconds to 30 seconds before the alarm event occurs. If
	you enter 0 seconds, there will be no pre-recording

<u>Step 3</u> Configure the recording time period.

- 1) Click **Setup** corresponding to the week.
  - The Settings interface is displayed. See Figure 5-17.

### Figure 5-17 Settings

ime Period1	00	: 00		24	: 00	Regular	MD	Alarm
ime Period2	00	: 00	_	24	: 00	Regular	MD	Alarm
ime Period3	00	: 00	_	24	: 00	Regular	MD	Alarm
ime Period4	00	: 00	_	24	: 00	Regular	MD	Alarm
ime Period5	00	: 00	_	24	: 00	Regular	MD	Alarm
ime Period6	00	: 00	_	24	: 00	Regular	MD	Alarm
All 🔽	Sun	day 🛛	Mo	nday	🔳 Tue	sday 🔲 Wedn	esday 🔲 TI	hursday 🔲 Friday 🔲 Saturday
				[	ş	Save	Cancel	

Select the record type and weekday, and enter the recording period.
 **NOTE**

If the **MD** check box and the **Alarm** check box are selected, the corresponding alarm linkage should be enabled. For details, see 5.5.3Set alarm information. For

example, if the alarm type is MD, select Enable Channel, and select the recording channel.

- Click Save. 3) The recording schedule appears on the **Record** interface to view the configured recording schedule directly.
- Step 4 Click Save.

Click Copy to and you can copy the settings to other channels.

### 5.3.5.2 Configure snapshot schedule

You can configure the storage schedule for taking the snapshot.

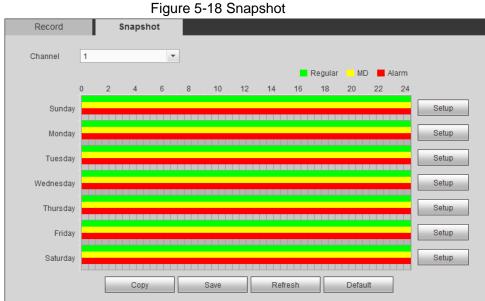
### Preconditions

The Snapshot is enabled for the corresponding channel. For details, see "5.3.4 Configuring Record Settings."

### Steps

#### <u>Step 1</u> Select Setup > Storage Management > Storage Plan > Snapshot.

The Snapshot interface is displayed. See Figure 5-18.



Step 2 Configuring time period for taking snapshots.

1) Click Setup.

The Settings interface is displayed. See Figure 5-19.

Figure 5-19 Settings

ime Period1	00	: 00	]_	24 : 00	🛛 Regular	MD	Alarm
ime Period2	00	: 00	]_	24 : 00	Regular	MD	Alarm
ime Period3	00	: 00	]_	24 : 00	Regular	MD	Alarm
ime Period4	00	: 00	]—	24 : 00	Regular	MD	Alarm
ime Period5	00	: 00	]—	24 : 00	Regular	MD	Alarm
ime Period6	00	: 00	]_	24 : 00	Regular	MD	Alarm
Ali 🗸	Sun	iday 🔳	Мо	nday 🔲 Tu	esday 🔲 Wedn	esday 🔲 T	hursday 🔲 Friday 🔲 Saturday

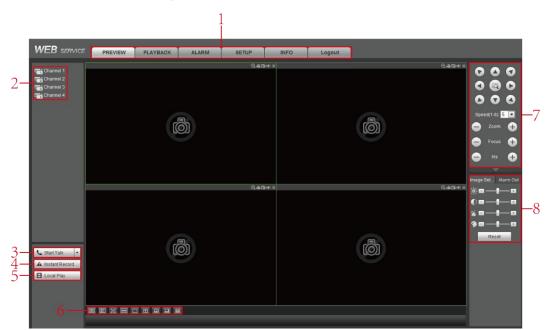
- 2) Select the snapshot type and weekday, and enter the period for taking snapshot.
- Click Save.
   Snapshot schedule appears on the Snapshot interface to view the configured snapshot schedule directly.

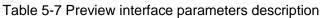
Step 3 Click Save.

## 5.4 Common operations

## 5.4.1 Live View

After you logged in the web interface, the **PREVIEW** interface is displayed. See Figure 5-20. Figure 5-20 Preview interface

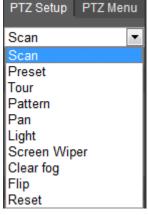




e	Description
em u	Includes PREVIEW, PLAYBACK, ALARM, SETUP, INFO, and LOGOUT

е	Description						
-time							
itoring	See "5.4.1.1Real-time Monitoring Channels" for specific steps.						
inels							
talk	See "5.4.1.2Voice intercom" for specific steps.						
	Click Instant Record and the recording type switches to Manual, when the icon turns to						
int	A Instant Record ; click Instant Record again to switch the record type back to Auto						
ord	<b>W</b> NOTE						
	This function is only supported by main stream.						
	Plays back the video file (.dav) stored on the PC.						
	Click Local Playback, select the video file in the pop-up dialog box, and then click Open to start playing						
back	back the video file						
	• Configure the image quality, playback fluency, full screen, vertical sync, and window split mode.						
wo	• For real-time monitoring, you can select the fluency or real-time to be the priority according to your						
tion	actual requirement.						
ations	Select     D						

Des	scription
See	e "5.4.1.3PTZ Console
	<ul> <li>You can perform the operations through PTZ control panel, such as PTZ directions, speed, zoom, focus, iris, preset, tour, pattern, scan, horizontal rotate, auxiliary functions, light, wiper, and defrost.</li> <li>PTZ support rotating device toward eight directions, up, down. Left, right, left up, right up, left down, right down.</li> <li>Speed function controls the movement speed. For example, the rotation with the step lengt at 8 is faster than the rotation with the step length at 1.</li> <li>Click  to display or hide the PTZ settings and PTZ menu functions. Figure 5-21 PTZ Console</li> </ul>
	Tz Setup   PTZ Setup PTZ Menu Scan
5.4.	Start       Setup         Start       Setup         Start       Setup         Start       Setup         Start       Setup         PTZ Setup       PTZ Menu

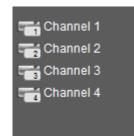


e	Description
je	
ng/Alarm	See "5.4.1.4Image and Alarm out Settings" for specific steps.
ut	

## 5.4.1.1 Real-time Monitoring Channels

Displays the list of monitoring channels.

Figure 5-24 Monitoring channels



## Operations in monitoring channels

Click any monitoring channel to display its live video on the screen. See Figure 5-25. Figure 5-25 Video monitoring screen



Table 5-11 Video mo	nitoring window	parameters	description
---------------------	-----------------	------------	-------------

No.	Parameter	Description
1-4	Device	Displays the IP address, channel number, bit stream, and stream type (M represents main stream, S represents sub
	information	stream)
5		Click this icon and then hold down the left mouse button to
	Area zoom in	select the area you want to enlarge. The area is enlarged.
		Click this icon again or right-click on the window to exit

No.	Parameter	Description
6	Local Record	Click this icon to start recording; click it again to stop recording <b>NOTE</b>
		The recorded files default storage path is C:\RecordDownload.
		You can modify this path if needed. For details, see
		"5.5.1.2.4 <b>Path</b> ."
7	Snapshot	Click this icon to start taking snapshot.
		The snapshots default storage path is C:\PictureDownload.
		You can modify this path if needed. For details, see
		"5.5.1.2.4 <b>Path</b> ."
8	Audio	Turns on/off audio. If audio function is not enabled in the
		encode settings, the monitoring does not give sound
9	Close	Close the live view in the window.

### Bit rate

The system supports switching between main stream and sub stream in real-time monitoring window. See Figure 5-26. For details about stream settings, see 5.5.1.2Configuring encode parameters.

Figure 5-26 Bit rate

Channel 1 M
<ul> <li>Main Stream</li> </ul>
Sub Stream

## 5.4.1.2 Voice intercom

You can do the two-way voice talk between the Device and Client. Figure 5-27 Voice intercom

📞 Start Talk	-
DEFAULT	
PCM	
G711a	- 1
G711u	

- Click Start Talk to enable the voice talk between the Device and Client.
- Click the drop-down list to select the voice talk mode. Available options include: DEFAULT, PCM, G711a, and G711u.
- After enabling voice talk, the **Start Talk** icon turns to **End Talk**. Click **Stop Talk** if you want to end the talk.

## 5.4.1.3 PTZ Console

You can perform the operations through PTZ control panel, such as PTZ directions, speed, zoom, focus, iris, preset, tour, pattern, scan, horizontal rotate, auxiliary functions, light, wiper, and defrost.

- PTZ support rotating device toward eight directions, up, down. Left, right, left up, right up, left down, right down.
- Speed function controls the movement speed. For example, the rotation with the step length at 8 is faster than the rotation with the step length at 1.
- Click to display or hide the PTZ settings and PTZ menu functions.



Figure 5-28 PTZ Console

### 5.4.1.3.2 PTZ

You can configure scan, preset, tour, pattern, and auxiliary functions.

Figure 5-29 PTZ

PTZ Setup PTZ Menu
Scan 💌
Scan
Preset
Tour
Pattern
Pan
Light
Screen Wiper
Clear fog
Flip
Reset

Parameter	Description
	After setting up scan, the camera automatically scans the configured left
	border and right border
	6. In the <b>PTZ Setup</b> list, select <b>Scan</b> , and then click <b>Setup</b> .
	Two buttons of Set the left border and Set the right border are
Scan	displayed.
	7. Through the PTZ control panel, move the camera to the left border that
	you want and click Set the left border; move the camera to the right border
	that you want and click Set the right border. Configuration finished.
	8. Click Start to start scanning; click Stop if you want to end scanning
	You can quickly move the PTZ camera to the configured presets after
	configuration. In the PTZ Setup list, select Preset, and then move the camera
	to the direction that you want to monitor
Preset	9. Click <b>Preset</b> , and control the PTZ console to turn the camera to the target
point	monitoring direction
point	10. In the Preset box, enter the preset value.
	11. Click <b>Add</b> to complete adding preset.
	12. In the Preset box, enter the preset value, and then click <b>Go to</b> , the camera
	moves to the location of preset. Click <b>Del</b> to delete the preset.
	The PTZ camera repeats performing tours among the configured presets after
	configuration.
	13. Click <b>Tour</b> and set up the value of the tour
Calling Tours	14. Click <b>Add</b> , and then enter the preset value
	<ol> <li>Click Add Preset or Del Preset to add or delete the presets</li> <li>NOTE</li> </ol>
	You can do this repeatedly to add presets to delete presets from the tour
	16. Enter the tour value, and then click Start. The camera starts rotating
	according to the configured tour. Click <b>Del</b> to delete the tour.

Parameter	Description
	The PTZ camera repeats movement according to the configured patterns. The operation records include the information such as the manual operations and focus adjustment
	17. Click <b>Pattern</b> and enter the pattern value
	18. Click Add.
Touring	Two buttons of <b>Start Rec</b> and <b>Stop Rec</b> are displayed.
pattern	19. Click <b>Start Rec</b> . Then operate the PTZ control panel to adjust the camera
	with regard to the parameters such as monitoring direction, zoom, and
	focus.
	20. Click Stop Rec to complete the touring pattern setting.
	21. Enter the pattern value, and then click Start. The camera moves
	according to the configured patterns. Click <b>Stop</b> to stop the pattern.
Pan	In the PTZ Setup list, Click Pan, and then click Start. The camera keeps
	rotating with 360° horizontally. Click <b>Stop</b> to stop rotating.
	Controls the light of external device through RS-485 command. To use this
Light	function, make sure it is supported on the external device
Light	In the <b>PTZ Setup</b> list, Click <b>Light</b> . Click <b>On</b> to turn on the light, and click <b>Off</b> to
	turn off the light.
	Controls the screen wiper of external device through RS-485 command. To use
Wiper	this function, make sure it is supported on the external device.
mpor	In the PTZ Setup list, Click Screen Wiper. Click On to turn on the screen
	wiper, and click <b>Off</b> to turn off the screen wiper.
	Controls the warming-up module of external device through RS-485 command.
Clear fog	To use this function, make sure it is supported on the external device
5	In the PTZ Setup list, Click Clear fog. Click On to turn on the warming-up
	module, and click <b>Off</b> to turn off the warming-up module.
Using Flip	Select and click <b>Flip</b> if you want to flip display the video image
function	
Reset	Click <b>Reset</b> to reset the PTZ

### 5.4.1.3.3 PTZ menu

After the PTZ menu is turned on, it displays on the monitoring window. You can configure the settings for the options such as camera, PTZ, and system, and apply the settings through arrow buttons and **Save** button.

NOTE

This function is supported only on the camera with PTZ menu function.

<u>Step 5</u> Turn on the camera monitoring screen.

<u>Step 6</u> On the PTZ control interface, click the **PTZ Menu** tab.

The **PTZ Menu** is displayed.

### Figure 5-30 PTZ menu



Table 5-13 PTZ me	enu parameters description

Parameter	Description
<b>▲</b> ,▼	Up and down buttons: Select the item that is pointed
◀/►	Left and right buttons: When the item is pointed, perform configurations to the item
Open	Click <b>On</b> to turn on the <b>PTZ menu</b> that is displayed on the monitoring window
Off	Click Off to turn off the PTZ menu
	The Save button provides the following functions
	• If there is sub-menu for an item, click <b>Save</b> to enter the sub-menu
Save	• Move the pointer to <b>Return</b> , and then click <b>Save</b> to return to the
	higher level menu
	• Move the pointer to <b>Exit</b> , and then click <b>Save</b> to exit the menu

Step 7 Click On.

The OSD menu is displayed on the monitoring screen.

#### Table 5-14 OSD menu parameters description

Parameter	Description
Camera	Move the pointer to Camera, and then click Save to enter the sub-menu of
	Camera
	You can configure the camera parameters such as image, exposure, backlight,
	white balance, day & night, zoom, and focus.
	Move the pointer to PTZ Setup, and then click Save to enter the sub-menu of
PTZ	PTZ Setup
FIZ	You can configure the PTZ parameters such as preset, tour, scan, pattern, pan,
	and reboot
	Move the pointer to System, and then click Save to enter the sub-menu of
System	System.
Manager	You can configure the settings such setting analog PTZ, restoring factory
	default, and viewing camera version and PTZ version.
Back	Move the pointer to Return, and then click Save to return to the higher level
	menu
Exit	Move the pointer to Exit, and then click Save to exit the menu

<u>Step 8</u> Click **Off** to turn off the PTZ menu.

## 5.4.1.4 Image and Alarm out Settings

For each channel, you can configure the image settings such as adjusting brightness and contrast, and enable or disable the alarm out.

### 5.4.1.4.1 Configuring Image settings

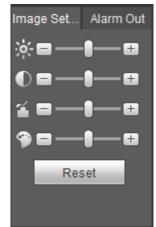
You can adjust the video image color effect such as brightness, contrast, saturation, and hue by clicking on the channel.

<u>Step 1</u> Click on a live view channel window to select it.

Step 2 Click the Image Setup tab.

The Image Setup interface is displayed. See Figure 5-31.

Figure 5-31 Image setup



<u>Step 3</u> Configure TCP/IP parameters. For details, see Table 5-15.

Table 5-15 Image setting parameters description

Name	Description
Prightnoop	Adjusts the image brightness. The bigger the value is, the brighter the
Brightness	image will become
Contrast	Adjusts the contrast of the images. The bigger the value is, the more
Contrast	obvious the contrast between the light area and dark area will become
Saturation	Adjusts the color darkness. Adjust the saturation according to the actual
Saturation	situation. The bigger the value, the lighter the color will become
Hue	Adjusts the image brightness. Adjust the saturation according to the actual
nue	situation. The bigger the value, the brighter the image will become
Reset	Click Reset to clear the existing image settings

#### 5.4.1.4.2 Configuring Alarm Output Settings

Turn on or off the alarm signal of corresponding channel.

- Step 1 Click on a live view channel window to select it.
- Step 2 Click the Alarm Out tab.

The Alarm Out interface is displayed. See Figure 5-32.

### Figure 5-32 Alarm Output



<u>Step 3</u> Click the number to select the alarm signal for the corresponding channel.

After the alarm signal is enabled, the icon turns orange like	
NOTE	

Click 🙆 to refresh the list.

## 5.4.1.5 Multi-channel preview

After the multi-channel preview is enabled, the output image is compressed to combine multiple channels in the local interface to one channel. Then you can view multiple channels from remote access, and save much of the network transmission bandwidth.

Select a channel, and then select the split mode from . . Then you can view the multiple channel views in one channel. See Figure 5-33.



## 5.4.2 Video playback

On the PLAYBACK interface, you can play back and download recorded video files.

### Click **Playback** tab, and the **Playback** interface is displayed. See Figure 5-34. Figure 5-34 Playback

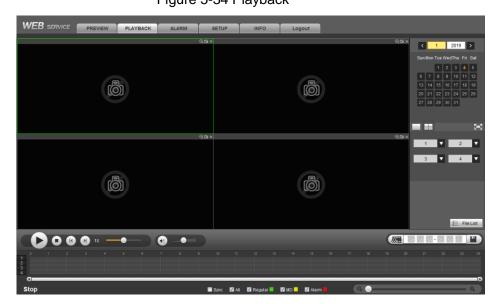


Table 5-16 Function bar description

1       Playback Controls Bar       For detailed information about control buttons, see "5.4.2.1Playback Controls Bar"         2       Progress Bar       Displays the video type and the time period         2       Progress Bar       Click any point in the colored area, and the playback starts from this moment         3       Volume adjustment       Each color matches with a certain video type, see the matching relationship in the video type selection list         3       Volume adjustment       Controls playback volume, there are two states         4       Sync       Means mute state         5       Sync       If the playback time of other channels is before the time of the selected channel, then other channels will pause to wait til sync with the selected channel.         6       Time bar       Move the slider or click Regular, MD, and Alarm. Select the alarm type that you want to view         6       Time bar       Move the slider or click Regular, MD, and Alarm. Select the alarm type that you want to yiew	No.	No. Function Description								
1Controls Bar"5.4.2.1Playback Controls Bar"2Progress BarDisplays the video type and the time period3Progress BarClick any point in the colored area, and the playback starts from this moment3Volume adjustmentEach color matches with a certain video type, see the matching relationship in the video type selection list3Volume adjustmentControls playback volume, there are two states4SyncIf the playback time of other channels is before the time of the selected channel, then other channels will speed up playback till synce with the selected channel.4SyncIf the playback time of other channels is after the time of the selected channel, then other channels will pause to wait till synce with the selected channel5Video type selectionThe alarm type includes Regular, MD, and Alarm. Select the alarm type that you want to view6Time barMove the slider or click Image to adjust the time bar7Select dateClick the date on which you want to play back the recorded video. Yellow indicates current system date; blue indicates there are	NU.									
2Progress BarDisplays the video type and the time period • Click any point in the colored area, and the playback starts from this moment • Each color matches with a certain video type, see the matching relationship in the video type selection list3Volume adjustmentControls playback volume, there are two states • • • • • • • • • • • • • • • • • • •	1	-								
<ul> <li>Progress Bar</li> <li>Click any point in the colored area, and the playback starts from this moment</li> <li>Each color matches with a certain video type, see the matching relationship in the video type selection list</li> <li>Controls playback volume, there are two states</li> <li>Controls playback volume, there are two states</li> <li>Controls playback time of other channels is before the time of the selected channel, then other channels will speed up playback till sync with the selected channel.</li> <li>If the playback time of other channels is after the time of the selected channel, then other channels is after the time of the selected channel.</li> <li>If the playback time of other channels is after the time of the selected channel, then other channels will pause to wait till synced with the selected channel</li> <li>If the playback time of other channels is after the time of the selected channel, then other channels will pause to wait till synced with the selected channel</li> <li>If the playback time of other channels will pause to wait till synced with the selected channel</li> <li>If the playback time of other channels is after the time of the selected channel</li> <li>If the playback time of other channels will pause to wait till synced with the selected channel</li> <li>If the playback time of other channels will pause to wait till synced with the selected channel</li> <li>If the playback time of other channels will pause to wait till synced with the selected channel</li> <li>If the alarm type includes Regular, MD, and Alarm. Select the alarm type that you want to view</li> <li>Time bar</li> <li>Move the slider or click log is to adjust the time bar</li> <li>Click the date on which you want to play back the recorded video. Yellow indicates current system date; blue indicates there are</li> </ul>		Controls Bar	"5.4.2.1Playback Controls Bar"							
2       Progress Bar       from this moment         3       For this moment       Each color matches with a certain video type, see the matching relationship in the video type selection list         3       Volume adjustment       Controls playback volume, there are two states         4       Sync       If the playback time of other channels is before the time of the selected channel, then other channels will speed up playback till sync with the selected channel.         4       Sync       If the playback time of other channels is after the time of the selected channel.         5       Video type selection       If the playback time of other channels will pause to wait til synced with the selected channel         5       Video type selection       The alarm type includes Regular, MD, and Alarm. Select the alarm type that you want to view         6       Time bar       Move the slider or click Alare to view the time bar         7       Select date       Click the date on which you want to play back the recorded video. Yellow indicates current system date; blue indicates there are			Displays the video type and the time period							
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6       Time bar       Move the slider or click        Image: Click the date on which you want to play back the recorded video.         7       Select date       Yellow indicates current system date; blue indicates there are	5	51								
7       Select date         Click the date on which you want to play back the recorded video.         Yellow indicates current system date; blue indicates there are										
7 Select date Yellow indicates current system date; blue indicates there are	6	Time bar	Move the slider or click 🔍 🔍 to adjust the time bar							
			Click the date on which you want to play back the recorded video.							
	7	Select date	Yellow indicates current system date; blue indicates there are							
recorded videos on this date			recorded videos on this date							

No.	Function	Description					
	Screen split	• Select the screen split layout and enter the corresponding channel number					
8	layout for playback	Click to display in full screen. Press ESC to exit full screen					
		You can download recorded video by file type or time, and verify					
9	File list	the completeness					
10	Video editing	Capture and save certain video section See "5.4.2.3Clipping" for					
10		specific steps.					

## 5.4.2.1 Playback Controls Bar

See detailed description in Table 5-17.

Icon	Function	Description
	Play	When this icon displays, it means the video is paused or not being played, click this icon to play video
0	Stop	Click this icon to stop playback
K	Previous frame	Click this icon to jump to the previous frame <b>NOTE</b> You need to pause the playback before using play by frame
	Next frame	Click this icon to play the next frame <b>NOTE</b> You need to pause the playback before using play by frame
1X	Fast playback and slow playback	Move the slider to adjust the playback speed

Table 5-17 Play Control Bar

## 5.4.2.2 Playing Back Recorded Video Files

You can play back recorded video by time or file type. During playback, the following operations are supported.

- On the channel window, click 🖾 then hold down the left mouse button to select the area you want to enlarge. The area is enlarged. Click this icon again or right-click on the window to exit.
- Click 📧 to take a snapshot.
- Click I to close playback.

#### 5.4.2.2.1 Playing Back Recorded Video by date

- <u>Step 1</u> Select the month and year that you want to search, and then select the screen split layout and enter the corresponding channel number.
- <u>Step 2</u> Select a date with recorded video files, click on the window channel to select a playback channel, and then select the record type.

Figure 5-35 Record Type

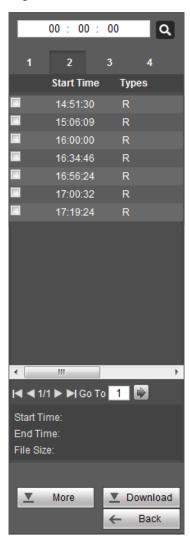


#### 5.4.2.2.2 Playing Back Recorded Video by File List

- <u>Step 1</u> Select the month and year that you want to search, and then select the screen split layout and enter the corresponding channel number.
- <u>Step 2</u> Select a date with recorded video files, click on the window channel to select a playback channel.
- Step 3 Click File List.

The recorded videos are displayed in list. See Figure 5-36.

Figure 5-36 File list



- <u>Step 4</u> Set up the start time of the queried file list, and then click . The queried recording files are displayed.
- <u>Step 5</u> Double-click the recorded video file to start playing back recorded video.
  - Select the video files, and then click **Download**. The recorded files default storage path is C:\RecordDownload. You can modify this path if needed.
  - Click More to search and download more recorded video files by file type or time. You can also verify whether the watermark is falsified. See "5.4.2.4Downloading Recorded Files" for specific steps.

## 5.4.2.3 Clipping Recorded Video

You can clip sections of recorded video and save to the PC.

<u>Step 1</u> Search the recorded video that you want to clip by using the calendar and time axle.

- Step 2 Select the channel number.
- <u>Step 3</u> Clip the recorded video by either of the following ways.
  - Click , and the and sliders appear at the two ends of the time

axle. Move the sliders to the proper location, and then click to clip and save the section between the sliders.

• In the clip box, enter the start time and end time, and then click is to clip and save the section in this period.

Figure 5-37 Clip and save



The system displays the download progress bar. After downloading, the clipped video files are saved in the Record Download folder. You can also change the save path if needed.

NOTE

Click to stop the video download.

## 5.4.2.4 Downloading Recorded Files

Click **More** and you can search and download the recorded video files by file type or time, and verify whether the file is falsified.

### 5.4.2.4.1 Download by file

You can download the recorded files by type.

<u>Step 1</u> Click the **Download by File** tab.

The **Download by File** interface is displayed. See Figure 5-38.

Figure 5-38 Download by file

Download by File	Download by Time	Watermark					
Channel Types Bit Stream Type	All  All  All Records  Main Stream	Start Time End Time	2019 - 01 - 04 2019 - 01 - 04	00 : 00 : 00 23 : 59 : 59	Search		
	No.	Size(KB)	Start Time	End Time	File Type	Bit Stream Type	Channel
Download to Local						ł	🔍 🗆 1 / 1 🕨 🍽 Go To 🚹 🖗
Back							

<u>Step 2</u> Select channel, type, start time, and end time. Then click **Search**. The searched files are displayed in the table.

The system supports searching the recorded files through the record type (general, motion detect, or alarm), and supports searching the snapshots.

- <u>Step 3</u> Select the file that you want to download, and then click **Download to Local**. The **Download to Local** interface is displayed.
- <u>Step 4</u> Select the record type and save path.

Downloaded video formats supported by the system include DVA and MP4. Choose according to the actual situation.

Step 5 Click Save.

The system indicates the downloading progress and pops up a message after completed.

### 5.4.2.4.2 Download by time

You can download the recorded video by time.

Step 1 Click the **Download by Time** tab.

The **Download by Time** interface is displayed. See Figure 5-39.

Figure 5-39 Download by time

Download by File	Download by Time	Wate	rmark					
Channel	1	Start	lime .	2019 -	01 - 04	00 ;	00 : 0	0
Bit Stream Type	Main Stream 💌	End 1	ime	2019 -	01 - 04	23 ;	59 : 5	9
Download to Local	1							
Download to Local	]							
Back								

<u>Step 2</u> Select channel, bit stream type, start time, and end time.

Step 3 Click Download to Local.

The Download to Local interface is displayed. See 错误!未找到引用源。.

<u>Step 4</u> Select the **Record Format** and **Path**.

Downloaded video formats supported by the system include DVA and MP4. Choose according to the actual situation.

Step 5 Click Save.

The system indicates the downloading progress and pops up a message after completed.

#### 5.4.2.4.3 Watermark

You can also verify whether the watermark is falsified.

Step 1 Click the Watermark tab.

The Watermark interface is displayed. See Figure 5-40.

	Figure	e 5-40 Watermark	
Download by File Download by File	wnload by Time Watermark		
Local File			
		Verify	
Watermark Info			
Watermark Revised Info			
No.	Malfunction type	Watermark Time	
Back			

<u>Step 2</u> Click **Local File** and select a file that you want to verify.

### Step 3 Click Verify.

The system indicates the verifying progress and result after completed. See Figure 5-41.

Figure 5-41 Watermark

Download by File	Download by Time Waterr	mark		
D:\Group1_ch1_mair	n_20160615134153_20160615134218.d	lav	Verify	
Watermark Info	265dfhsuSDFHAS			
Watermark Revised Inf	0			
No.	Malfunction type	W	/atermark Time	
1	Normal			^
				Ŧ
Back				

## **5.4.3 Configuring Alarm Events Settings**

You can select alarm type as needed, when the selected alarms are triggered, the system would record detailed alarm information at the right side of the interface.

NOTE

Function of different devices might vary, and the actual product shall prevail.

## 5.4.3.1 Alarm types

For the alarm types and conditions that can trigger the alarm events, see Table 5-18.

Alarm type	Description	Preconditions
Motion detection	The alarm is triggered when moving objects are detected	You have enabled motion detection. For detailed operation, see "5.5.3.1.1Video Detection"
External alarm	The alarm is triggered by the alarm signal that is detected by the alarm input port on the Device	The local alarm function is enabled. For details, see "5.5.3.2 Configuring alarm events settings"
Video tampering	The alarm is triggered when the camera lens is covered	The tampering function is enabled. For details, see "5.5.3.1.2 Configuring Tampering Settings"
Disk error	The alarm is triggered when the HDD has failures or malfunctions	The HDD error detect function is enabled. For details, see "5.5.3.3 Abnormality"
Video loss	The alarm is triggered when video loss occurs	-
Disk full	The alarm is triggered when the free space is less than the set value	The HDD No Space function is enabled. For details, see "5.5.3.3 Abnormality"
Temperature Too High	The alarm is triggered when the Device temperature is too high	The temperature detect function is enabled. For details, see "5.5.3.3 Abnormality"
Low Battery	The alarm is triggered when battery is low	The low battery detection function is enabled. For details, see "5.5.3.3 Abnormality"

Table 5-18 Alarm type description
-----------------------------------

## 5.4.3.2 Alarm Event Settings

Enable alarm prompt based on your needs. You can also define alarm sound according to your preference.

Step 1 Click Alarm.

The Alarm interface is displayed, see Figure 5-42.

Figure 5-42 Alarm

		序号	时间	报警类型	通道号
tentily six and					
报警类型 动态检测	□ 外部振響				
□ 视频遮挡	<ul> <li>可用品格</li> <li>一 硬盘故障</li> </ul>				
□ 视频丢失	□ 硬盘已满				
📄 温度过高	📃 电瓶电量不足				
操作					
2 提示					
报警声音					
□ 播放报警提示音					
声音路径	选择				

Step 2 Select alarm type.

- Step 3 Select prompt, and the system prompts and records alarm information as needed.
  - If you are not at the **Alarm** interface when the selected alarm is triggered, there will

be a displayed on the Alarm tab and the alarm information will be recorded. Click the Alarm tab, and the sign disappears.

- If you are at the **Alarm** interface when the selected alarm is triggered, there will be detailed alarm information displayed at the right side of the interface.
- <u>Step 4</u> (Optional) Set the alarm sound as needed and the preset alarm sound will be played when an alarm is triggered.
  - 1) Select the Play Alarm Sound.
  - 2) Click **Select** to select the alarm sound file.

## 5.5 System Settings

### NOTE

In this section, when you have configured the settings for a channel, click **Copy** to apply the configurations to other channels. Click **Refresh** to display the latest configuration. Click Default to restore to factory default settings.

## 5.5.1 Configuring lens parameter

Configure the image property, encoding parameter, and corresponding channel name of the remote device.

## 5.5.1.1 Configuring Image Properties

Set up the image property parameters of the channel.

Different cameras correspond to different image parameters. Follow actual parameters.

<u>Step 1</u> Select **SETUP > CAMERA > Camera**.

The **Conditions** interface is displayed.

Step 2 Select a channel.

### The **Conditions** interface is displayed. See Figure 5-43. Figure 5-43 Image settings

Conditions								
			Channel	1		Ŧ		
			Iris		Enable	Disable	Saturation 🖆 🖯	0
			Mirror		Enable	Disable	Brightness 🔆 🛛	0
							Contrast 00	0
							sharpness 🔎 🗌	0
			3D Denoise		Enable	Disable	3D Denoise	0
			Flip			•		
			Light			•		
			Scene Mode			•		
			Day & Night			T		
Default	0.511	Defeat						
Default	Save	Refresh						

<u>Step 3</u> Set up parameters. See Table 5-19. Click **Save**.

Name	Description
Configuration	Select the configuration files for the images. You can select Day, Night,
files	Common, and Switch By Period
lies	When you select Switch By Period, set up the sunrise time and sunset time
Auto iris	If Enable is selected, the iris size changes automatically according to the
Automs	ambient lighting, and the image brightness changes accordingly
Mirror	Select Enable and the image will flip left and right.
Saturation	Adjusts the color darkness. Adjust the saturation according to the actual
Saturation	situation. The bigger the value, the lighter the color will become
Brightness	Adjusts the image brightness through linear mode. The bigger the value is,
Digniness	the brighter the image will become
Contrast	Adjusts the contrast of the images. The bigger the value is, the more
Contrast	obvious the contrast between the light area and dark area will become
Sharpness	Adjusts the edge sharpness of images. The bigger the value is, the more
Sharphess	obvious the image edge will become
	Reduces the noises of multiple-frame (at least two frames) images by using
3D NR	inter-frame information between two adjacent frames in a video.
50 NR	If <b>Enable</b> is selected, 3D noise reduction takes effect. Set up the reduction
	value as needed. The higher the value, the better the noise reduction effect
Auto focus	Select Enable to automatically adjust the image resolution
Flip	Defines how the images flip. Available options include No Flip, 180°,
, iib	Clockwise 90°, Anticlockwise 90°
Backlight	You can enable backlight correction in backlight scenarios. The system
Correction	adjusts exposure according to ambient lighting automatically to ensure that
Concolori	images of the darkest area are clearly visible

	Table 5-19 Ima	age setting pa	arameters de	scription
--	----------------	----------------	--------------	-----------

Name	Description
Scene Mode	<ul> <li>In this mode, you can make an white object displaying itself clearly on the video image in all environments. You can select Auto, Sunny Day, Night, and Custom</li> <li>Auto: The system makes color temperature correction according to different light conditions to ensure color precision</li> <li>Sunny Day: The system makes color temperature correction according to different light conditions to ensure color precision</li> <li>Night: The system makes color temperature correction according to different road light conditions to ensure color precision</li> <li>Custom: You can set up the red gains and blue gains manually for the system to correct different color temperatures in the environment accordingly</li> </ul>
Day & Night	<ul> <li>You can select device display mode from color or black-and-white mode.</li> <li>You can select Auto, Black-and-White, and Colored</li> <li><b>NOTE</b></li> <li>Day &amp; Night configuration is independent from profile management</li> <li>configuration</li> <li>Colored: The camera displays colored images.</li> <li>Auto: The system switches between color and black-and-white display according to the actual condition</li> <li>Black&amp;White: The camera displays black&amp;white images.</li> </ul>

## 5.5.1.2 Configuring encode parameters

Includes setting up video stream, image stream, video overlay, and storage path.

### 5.5.1.2.1 Configuring Video Streaming

You can configure the encode settings for main stream and sub stream.

### <u>Step 1</u> Select **SETUP > CAMERA > ENCODE > Video Stream**.

The Video Stream screen appears. See Figure 5-44.

Video stream parameters might be different by device, and the actual product shall prevail.

Figure	5-44	Video	Stream
iguie	J-77	viuco	ouean

Encode	Snapshot	Overlay	Path		
Channel	1	*			
Main Stream			Sub Stream		
Code-Stream Type	Regular	Y	Video Enable		
Compression	H.265	•	Compression	H.265	•
Smart Code	ON	•			
Resolution	1920*1080(1080P)	•	Resolution	352*288(CIF)	•
Frame Rate(FPS)	25	-	Frame Rate(FPS)	25	-
Bit Rate Type	VBR	-	Bit Rate Type	VBR	-
Image Quality	4	•	Image Quality	4	•
Bit Rate	2048	▼ Kb/S	Bit Rate	256	▼ Kb/S
Reference Bit Rate	32-6144Kb/S		Reference Bit Rate	32-1024Kb/S	
Audio Enable			Audio Enable		
Audio Format	G711a	•			
Audio Source	HDCVI Camera	•			
Watermark Enable			Watermark String		
	Сору	Save	Refresh	Default	

Step 2 Select a channel.

Step 3 Configure TCP/IP parameters. For details, see Table 5-20.

Name	Description
Hame	
о, т	The stream type is permanently fixed as common and cannot be changed
Stream Type	The record types of general, motion detect, and alarm all adopt common bit
	stream configuration in recording.
Encode	Encode Mode of video
Mode	
Smart Code	Turning on Smart Code helps compress the images more and reduce the
Smart Code	storage space.
Resolution	The higher the video resolution, the better the image quality
Frame Rate	Configure the frames per seconds for video. The higher the value, the
(FPS)	smoother and more vivid the image
	You can select bit rate type
	• CBR: Constant Bit Rate, which changes around the configured value
	VBR: Variable Bit Rate, which changes along with environment
Stream Ctrl	<b>NOTE</b>
	It is recommended to select CBR when there might be only small changes in
	the monitoring environment, and select VBR when there might be big
	changes in the monitoring environment
	Configure the encode value for main stream and sub stream
	• When CBR is selected, select the bit rate according to the reference bit
	rate, and the bit rate changes along the configured value
	• When VBR is selected, select the upper limit value of bit rate according
Bit Rate	to the reference bit rate, and the bit rate changes along with the
	monitoring environment. But the maximum bit rate value changes around
	the configured value
	• Select <b>Customized</b> , and you can configure bit rate value manually

Table 5-20 Encode setting parameters description

Name	Description
Image	This parameter can be set only when <b>Stream Ctrl</b> is set to <b>BRC_VBR</b> .
Quality	Select the image quality level. The higher the value, the better the image will
Quality	become
Ref Stream	The system recommends the optimal bit rate range according to the
Rei Stream	resolution and frame rate settings
Audio	If the Audio Enable check box is selected, the recorded video files are
Enable	composite audio and video stream
	Select an audio encode format
Audio	<b>NOTE</b>
encoding	The parameters might be different depending on the model you purchased,
	and the actual product shall prevail
Watermark	Select the Watermark Enable check box to verify whether the recorded video
Enable	is falsified
Watermark	Enter the strings for verifying watermark. The default string is DigitalCCTV
	The watermark string can only consist of number, letter, underline (_), and
String	strikethrough (-), and maximum length contains 127 characters

Step 4 Click Save.

### 5.5.1.2.2 Configuring Snapshot Settings

You can configure the snapshot settings such as snapshot type, image size, quality, and interval.

### <u>Step 1</u> Select SETUP > CAMERA > ENCODE > Image Stream.

The **Snapshot Stream** screen appears. See Figure 5-45.

Figure 5-45 Snapshot Stream

Encode	Snapshot	Overlay	Path
Channel	1	-	
Mode	Regular	•	
Image Size	960*576(960H)	•	
Quality	4	•	
Interval	Customized	▼ 60	S (8~3600)
	Сору	Save	Refresh Default

<u>Step 2</u> Select a channel.

<u>Step 3</u> Sets up DBHA parameters. See Table 5-21 for details.

Ta	able 5-21	Snapshot	setting	parameters	description	

Name	Description
	Includes timing and events
Snap	Timing: Take a snapshot within the configured period
Mode	• Event: Take a snapshot when there is an alarm event triggered, such as for
	local alarm, video detection and abnormality

Name	Description
Size	Image resolution of snapshots. It is the same as the resolution of the main
Size	stream and cannot be changed
Quality	Configures the image quality by 6 levels
	Interval of taking snapshots
Interval	Select <b>Customized</b> to configure the snapshot interval for manually capturing
	snapshots. The maximum value you can set is 3600 seconds as an interval
	between two snapshots

Step 4 Click Save.

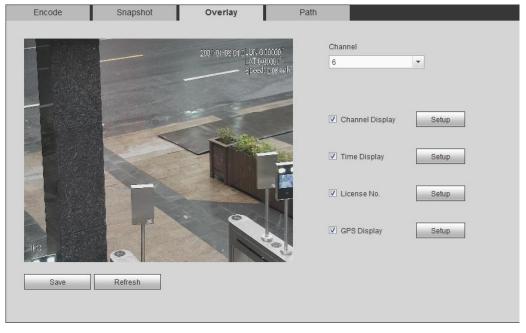
### 5.5.1.2.3 Configuring Video Overlay

You can configure the title of video image overlay.

### Step 1 Select SETUP > CAMERA > ENCODE > Video Overlay.

The **Overlay** interface is displayed. See Figure 5-46.

Figure 5-46 Overlay



Step 2 Select a channel.

Step 3 Sets up DBHA parameters. See Table 5-22 for details.

Table 5-22 Overlay settings p	parameters description
-------------------------------	------------------------

Name	Description
Period Title	Select the <b>Time Display</b> check box, the <b>Setup</b> button is displayed. Then click <b>Setup</b> , the time is displayed on the channel window, and then drag it to a proper location
Channel Title	Select the <b>Channel Display</b> check box, the <b>Setup</b> button is displayed. Then click <b>Setup</b> , the channel display frame is displayed on the channel window, and then drag it to a proper location
License No.	Select the License No. check box, the Setup button is displayed. Then click Setup, the license number is displayed on the channel window, and then drag it to a proper location

Name	Description
GPS	Select the <b>GPS Display</b> check box, the <b>Setup</b> button is displayed. Then click
Display	Setup, the GPS display frame is displayed on the channel window, and then
	drag it to a proper location

Step 4 Click Save.

### 5.5.1.2.4 Path

You can configure the storage path of captured snapshots and recorded videos.

#### Step 1 Select SETUP > CAMERA > ENCODE > Storage Path.

The **Path** interface is displayed, see Figure 5-47.

Figure 5-47 Path				
Encode	Snapshot	Overlay	Path	
Snapshot Path	C:\PictureDownloa	ıd\	Browse	
Record Path	C:\RecordDownload\		Browse	
	Save	Default		

- Step 2
   Click Browse to select the save path for snapshots and records.

   On the PREVIEW interface, images
   and recordings taken by snapshot and recording

   are saved in the following paths by default: Default paths:
   C:\PictureDownload and C:\RecordDownload
- Step 3 Click Save.

## 5.5.1.3 Configuring Channel Name

You can configure the channel name for the corresponding device.

<u>Step 1</u> Select **SETUP > CAMERA > CHANNEL NAME**.

```
The CHANNEL NAME interface is displayed. See Figure 5-48.
```

#### Figure 5-48 Channel Name

owse	Browse	/k	C:\PictureDownload	Snapshot Path
owse	Browse	/k	Record Path	
		Default	Save	
		J\	C:\PictureDownload C:\RecordDownload Save	Snapshot Path Record Path

Step 2 Configuring Channel Name

Step 3 Click Save.

## 5.5.1.4 Configuring PoE

Review the connection status of the PoE port and reset the camera.

Select Setup > Camera > PoE. The PoE Management interface is displayed. See Figure 5-49.

Select **PoE Reset**, and click **Apply** to reset the camera with power but offline so that the camera can be online. If the camera is still offline after reset for 3 times, the system will not reset again.

When the total power of the cameras accessed through PoE exceeds the maximum power of the device, the device will force the camera connected to the maximum port number to go offline until the total power of the camera accessed through PoE does not exceed the maximum power of the device.

ected/Total PoE Ports 0/8 Actual/To	tal Power(W) 0.0/64.0	
Port	Status	Power(W)
1	stans	0.0
2	5	0.0
3	5	0.0
4	5	0.0
5	5	0.0
6	5	0.0
7	5	0.0
8	16	0.0

Figure 5-49 PoE management

## **5.5.2 Network Parameters Configuration**

Set up the network parameters of the device as needed. This includes setting up the port, Wi-Fi parameters, 3G/4G parameters, Email, FTP, active registration, P2P, and SWITCH.

## 5.5.2.1 Connection Setting

Configure the maximum port numbers and values.

<u>Step 1</u> Select Setup > Network > Connection Setting.

The **Connection Setting** interface is displayed. See Figure 5-50.

Figure 5-50 Port

Connection Setting		
		_
TCP Port	37777	(1025~65535)
UDP Port	37778	(1025~65535)
HTTP Port	80	(1~65535)
HTTPS Port	443	(1~65535) 🔲 Enable
RTSP Port	554	(1~65535)
RTSP Format	rtsp:// <username>:<passwe< th=""><th>ord&gt;@<ip address="">:<port>/cam/realmonitor?channel=1&amp;subtype=0</port></ip></th></passwe<></username>	ord>@ <ip address="">:<port>/cam/realmonitor?channel=1&amp;subtype=0</port></ip>
	channel: Channel, 1-8; subt	ype: Code-Stream Type, Main Stream 0, Sub Stream 1.
	Save Re	fresh Default

<u>Step 2</u> Configure the port parameters of the device. For details, see Table 5-23.

The revised settings take effect after reboot. Proceed with caution.

Table 5-23 Connection setting parameters description

Name	Description
TCP	Transmission Control Brotocol part, the value is 27777 by default
Port	Transmission Control Protocol port, the value is 37777 by default

Name	Description			
UDP	User Datagram Protocol. The default value setting is 37778. You can enter the value			
Port	according to your needs			
HTTP	Hyper Text Transfer Protocol port. The default setting is 80. You can enter the value			
Port	according to your actual situation, and in this case, add the modified value after the			
POIL	address when logging the Device on the browser			
HTTP	Hyper Text Transfer Protocol over Secure Socket Layer port. Select the Enable			
S Port	check box, and then enter the value according to your actual situation. The default			
SPOIL	setting is 443			
	• Real Time Streaming Protocol port, leave it if the value is 554 by default. If you			
	use Apple browser QuickTime or VLC to play the real-time monitoring screen,			
	the following formats can be used: This function is also available for Blackberry			
	• When the URL format requiring RTSP, you need to specify channel number and			
	bit stream type in the URL, and also user name and password if needed			
	• When playing live view with Blackberry smart phone, you need to turn off the			
	audio, and then set the code mode to H.264B and resolution to CIF			
	URL format example			
	Rtsp:// <user name="">:<password>@<ip< td=""></ip<></password></user>			
	address>: <port>/cam/realmonitor?channel=1&amp;subtype=0</port>			
	Username, such as admin			
	<ul> <li>Password: For example, admin_123</li> </ul>			
RSTP	IP address: For example, 192.168.1.16			
Port	• Port: The default setting is 554. If the default setting is displayed, you do not			
	need to configure this parameter			
	• Channel: Refers to the Channel number, starting from 1 For example, if it is			
	channel 2, then enter channel=2			
	• Subtype refers to Bit stream type; 0 means main stream (Subtype=0) and 1			
	means sub stream (Subtype=1)			
	So, if you require the sub stream of channel 2 from a certain device, then the URL			
	should be			
	rtsp://admin:admin_123@192.168.1.16:554/cam/realmonitor?channel=2&subtype=			
	1			
	If certification is not required, there's no need to specify the username and			
	password. Use the following format			
Step 3 C	rtsp:// <ip address="">: <port>/cam/realmonitor?channel=1&amp;subtype=0</port></ip>			

Step 3 Click Save.

# 5.5.2.2 Configuring Wireless Network

You can connect the Device to the Internet through Wi-Fi. Make sure the Device can communicate with other devices in the network diagram. The Device itself can also act as a hot spot to share flows with other terminals.

NOTE

If both 3G/4G and Wi-Fi are available, the Device connects to Wi-Fi and disconnected from 3G/4G.

#### 5.5.2.2.1 Configuring Wi-Fi Network

You can connect the Device to network through Wi-Fi. Then connect the PC to the same network. You can login to the web interface using the PC and operate the Device.

This function is supported on the Device with the Wi-Fi module only. Follow on-device information.

## Preconditions

Make sure the Device is connected to a Wi-Fi module.

## Steps

<u>Step 1</u> Select Setup > Network> WIFI.

The WIFI interface is displayed.

<u>Step 2</u> Select Wifi as the working mode. The WIFI configuration interface is displayed. See Figure 5-51.

Figure 5-51 Wi-Fi

作模式选择 SSID列表	Wifi	▲ 确定 刷新		无线网络SSII
/jac	SSID	安全类型	加密类型	信号强度
	nnin			
静态配置	删除 SSID	安全类型	加密类型	优先级
	SSID	安全坐刑	加密类型	
	0015	X±X±	77H Last 2 To also	1/675992
	000	XIXE		VG7G9X
		XIXI	1999 kad provalas	U <sub>47</sub> 03X
		ALLAR	770 kir 2 valia	UL/Cax
		ALAB	for las of value	UL/DAX
	000	ALAB	701 M 2 VAR	UL/DAX
		ALAB	90 B. 9 C. B.	purtax:
	000	ALAB	//mid/ka	UL/GAX
	000	ALAB	//mid/ka	μυ ποιοι
		ALAE	, mad J kan	puntaar
		ALAB		UU7GAX
//i-Fi工作信息		ALAB		UL7G8K
		~£ <b>~</b> #		00/088
当前热点				0U703X
MI-Fi <b>工作信息</b> 当前抢点 P地址 子对掩码		ALME		исток 

Step 3 Connect to Wi-Fi.

- Auto search
  - 1. Click Search SSID.

In the SSID list, all the available Wi-Fi networks are listed, including the information such as network name, connect mode, authorize mode, and signal intensity.

- 2. Double-click the Wi-Fi you want to connect, enter the password, and then click Save.
- Add Wi-Fi manually.
  - 1. Click Static Setting.

The WIFI interface is displayed. See Figure 5-52.

Figure 5-52 WIFI

WIFI		×
SSID		
Connection Status	No Connection	
Priority	1 💌	
Verification	WPA2-PSK	
Encrypt Type	AES	
Input Password		
IP Address	0 . 0 . 0 . 0 DHCP	
Subnet Mask	0.0.0.0	
Default Gateway	0.0.0.0	
	Save Cancel	

2. Enter SSID and password, select priority level and verification type, set IP address, subnet mask, and gateway.

If you select the DHCP check box, after successful connection, the system automatically obtains the IP address, subnet mask, and gateway.

3. Click Save.

## Step 4 Click Save.

 $\label{eq:click} \mbox{Refresh} \mbox{ to refresh the connection status}.$ 

After successful connection, you can view the current hotspot, IP address, subnet mask, and gateway in **WIFI Working Info**.

## 5.5.2.2.2 Configuring Wi-Fi Hotspot

The Device can work as a hotspot to share the network connection to other terminals. The terminals connected to the hotspot can login to the Device through IP address (192.168.2.108). After login, you can preview videos on the Device.

#### <u>Step 1</u> Select Setup > Network> WIFI.

The WIFI interface is displayed.

<u>Step 2</u> Select **Ap** as the working mode.

The Ap Configuration interface is displayed. See Figure 5-53.

## Figure 5-53 Ap configurations

	WiFi							
	Working Mode Selection	Ар	-	Save	Refresh	Default		
	SSID	AP_0						
	Work Band	2.4G	•					
	Verification	WPA2-PSK	•					
	Connection Password	•••••						
	Server IP	192.168.2.108						
					10		MAC Address	
	No.				IP		MAG Address	
	N0.		_		IP		 MAC ADDRESS	*
	N0.		_		Ч		 NIAC Addless	*
	N0.				LP LP			*
	Nô.				P		MAC AUDIESS	*
I	<u>N0.</u>				P		IIAC AUGUESS	^
	Nô.				P		IINC AUGIESS	Î
	No.				Ľ		IINC AUGIESS	^
	Nō.				P.		IINC AUGUESS	~
	Nō.						IIIAC AUGUESS	

<u>Step 3</u> Enter SSID information, select work band and verification type, and then enter the connection password.

- The work band can only be 2.4G.
- Select the Connection Password check box, the clear text password is displayed. The default password is 12345678.

Step 4 Click Save.

# 5.5.2.3 Configuring 3G/4G Settings

## Preconditions

- Make sure the Device is equipped with 3G/4G module and inserted with SIM card from the Communication Operator.
- The dial number, user name, and password have been obtained from the Communication Operator.

## Steps

 Step 1
 Select Setup > Network > 3G.

 The CDMA/GPRS Setup interface is displayed.

 Image: Note

 After 3G/4G module is connected, the module information and wireless signal are

 displayed; if not, click Search to search for wireless signal.

 Step 2
 Select 3G Network and Enable to open the network. This function is enabled by

- default.
- Step 3 Configure TCP/IP parameters. For details, see Table 5-24.

Name	Description
NetAccess	When the Device is accessed to private network, select the NetAccess
	check box, enter APN name and select authentication mode. If PAP or
	CHAP is selected for authentication mode, enter user name and
	password, then the Device is automatically accessed to private network

Table 5-24 3G/4G setting parameters description

Name	Description
Wireless	When enabled, the network type is displayed, which is used to distinguish
Network Type	the 3G/4G modules among Communication Operators, such as TD-LTE
APN	Displays access point of Communication Operator.
APN	To manually set up APN, select Customized
AUTH	Includes PAP, CHAP, and NO_AUTH protocols. The system automatically
AUTH	recognizes and displays the enabled protocol
Dial Number	Enter the dial number provided from the Communication Operator
Username	This parameter needs to be set up when the authentication mode is PAP
Decoword	or CHAP
Password	The system automatically recognizes the username and password
	After successful dial-up, all relevant information is displayed without any
Wireless	setup needed. Such information includes module status, SIM status,
network status	dial-up status, working mode, IMSI, IMEI, IP address, subnet mask,
	gateway, and module number
Wireless Signal	Click Search to search for wireless signals

Step 4 Click Save.

After access is succeeded, the obtained IP address is displayed.

# 5.5.2.4 Configuring Email Settings

You can configure the email settings to enable the system to send the email as a notification when there is an alarm event occurs, such as video detection and system events.

### <u>Step 1</u> Select SETUP > NETWORK > EMAIL.

The **EMAIL** interface is displayed. See Figure 5-54.

Email	
Enable	
Enable	
SMTP Server	MailServer
Port	25 (0~65500)
Username	
Password	
Sender	
E	
Encrypt Type	TLS 💌
Subject	MXVR ALERT
Receiver	+
Interval	120 sec. (0~3600)
Health Enable	60 min. (30~1440)
	Email Test
	Save Refresh Default

Figure 5-54 Email

<u>Step 2</u> Select **Enable** to enable email.

Step 3 Configure TCP/IP parameters. For details, see Table 5-25.

Table 5-25 Email setting	naramotore	doscription
Table 5-25 Email setting	parameters	description

Name	Description
SMTP Server	Configure the address of SMTP (Simple Mail Transfer Protocol) server.
Port	Enter the port value of SMTP server.
Username	Enter the upper name and necessary of SMTD conver
Password	Enter the user name and password of SMTP server.
Sender	Sender's email address
Encryption type	In the Encrypt list, select an encryption type from NONE, SSL, and TLS.
Title	You can enter no more than 63 characters in Chinese, English, and Arabic
The	numerals
Attachment	Select Attachment. When an alarm takes place, the system can send
Allachment	alarm linkage and take snapshots
Receiver	Receiver's mail address You can enter up to three email addresses
Receivel	separated by colons

Name	Description
	This is the interval that the system sends an email for the same type of
	alarm event, which means, the system does not send an email upon any
	alarm event
laten vel	The interval ranges from 0 to 3600 seconds. 0 means that there is no
Interval	interval
	<b>NOTE</b>
	This setting helps to avoid the large amount of emails caused by frequent
	alarm events
	The system sends test mail to check if the connection is successfully set
	up
	Select the Health Enable check box, and then enter the interval. The
Health Enable	system can send a test email to check the connection after the specified
	interval
	<b>NOTE</b>
	The value ranges from 30 minutes to 1440 minutes
	Click Email Test to test if emails can be sent out and received as
Email Test	intended. If the configuration is correct, you would receive test email.
	Before testing, click <b>Save</b> to save the email settings

Step 4 Click Save.

# 5.5.2.5 Configuring FTP Settings

Back up recorded videos and images to the preset FTP (File Transfer Protocol) server for storage.

## Preconditions

Make sure you have purchased or download a FTP server and installed it on your PC.

For the created FTP user, you need to set the write permission; otherwise the upload of recorded videos and snapshots will be failed.

## Steps

<u>Step 1</u> Select Setup > Network > FTP.

The **FTP** interface is displayed. See Figure 5-55.

FTP	
Enable	FTP I SFTP (Recommended)
Server IP	0.0.0.*
Port	22 *(1~65535)
Username	
Password	Anonymous
Remote Directory	
File Length	0 M
Image Upload Interval	2 sec.
Channel	1
Weekday	Friday
Time Period1	00 : 00 - 24 : 00 Alarm MD Regular
Time Period2	00 : 00 - 24 : 00 Alarm MD Regular
	Test
	Save Refresh Default

Figure 5-55 FTP setting

<u>Step 2</u> Select **Enable** to enable FTP upload.

- <u>Step 3</u> The system selects **SFTP** by default. It is recommended to keep this default setting. When selecting **FTP**, the system gives a risk prompt. Select **Save** or **Cancel** based on your needs.
- <u>Step 4</u> Configure TCP/IP parameters. For details, see Table 5-26.

Name	Description
Server IP	The IP address of the PC that is installed with the FTP/SFTP server
Port	The default value is 21
Username	The upproves and personner dupped to person the permitter
Password	The username and password used to access the server
Anonymous	Select Anonymous if you want to login to the server anonymously
Remote Directory	<ul> <li>Create folder on FTP server</li> <li>If you do not enter the name of remote directory, the system automatically creates the folders according to the IP, time, and channel</li> <li>If you enter the name of remote directory, the system creates the folder with the entered name under the FTP/SFTP root directory first, and then automatically creates the folders according to the IP, time, and channel</li> </ul>

Table 5-26 FTP parameter description

Name	Description	
File Length	<ul> <li>Enter the length of the uploaded recorded video</li> <li>If the entered length is less than the recorded video length, only a section of the recorded video can be uploaded</li> <li>If the entered length is more than the recorded video length, the whole recorded video can be uploaded</li> <li>If the entered length is 0, the whole recorded video will be uploaded</li> </ul>	
Image Upload Interval	<ul> <li>When the Snap Mode is Regular, the image upload method should be determined according to the upload interval and snapshot interval.</li> <li>If this interval is longer than snapshot interval, the system uploads the most recent snapshot. For example, if the upload interval is 5 seconds, and snapshot interval is 2 seconds per snapshot, then an upload command is issued every 5 seconds to upload the following picture captured.</li> <li>If this interval is shorter than snapshot interval, the system uploads the snapshot per the snapshot interval. For example, if the interval is 5 seconds, and snapshot interval. For example, if the interval is 5 seconds, and snapshot interval. For example, if the interval is 5 seconds, and snapshot interval. For example, if the interval is 5 seconds, and snapshot interval is 10 seconds per snapshot, the system uploads the snapshot every 10 seconds</li> <li>When the Snap Mode is Event, the system uploads captured pictures according to snapshot interval.</li> <li>MOTE</li> <li>You can configure the Snap Interval and Snap Mode. For details, see "5.5.1.2.2Configuring Snapshot Settings".</li> </ul>	
Channel	Select the channel that you want to apply the FTP settings	
Weekday	Select the week day and set the time period that you want to upload the recorded files. You can set two periods for each week	
Time Period	Select the record type (Alarm, MD, and General) that you want to upload. After checking the corresponding recording type next to the corresponding period, the selected recording type will be uploaded during the configured period	

<u>Step 5</u> Click **Test** to test if the FTP/SFTP server is successfully configured.

- The system pops up a message to indicate success or failure.
  - If failed, check the network connection or configurations.

Step 6 Click Save.

# 5.5.2.6 Setting up auto registration

After successfully auto registered, when the device is connected into the Internet, it will report the current location to the specified server to make it easier for the Client software to access the Device, and to preview and monitor it.

## <u>Step 1</u> Select **Setup > Network > Register**.

The Auto Registration interface is displayed. See Figure 5-56.

## Figure 5-56 Auto Registration

REGISTER			
Enable			
Server IP	0.0.0.0		
Port	9500	(1~65535	i)
Sub-device ID	0		
	Save	Refresh	Default
	Save	Reliesh	Delault

Step 2 Select the Enable check box .(Selected by default)

<u>Step 3</u> Configure TCP/IP parameters. For details, see Table 5-27.

Table 5-27 Auto Registration descriptions
---

Name	Description	
Server IP	In the Server IP box, enter the IP address or domain name of the server to	
	register	
Port	The port for auto-registration	
Sub-device ID	Unique ID for identifying the device. When different devices register to the	
	same server, the sub-device IDs should be different	

Step 4 Click Save.

# 5.5.2.7 Configuring P2P Settings

P2P is a private network penetration technology. With this technology, you do not need to apply for dynamic domain name, set port mapping, or deploy transit server. You can add devices for management by either of the following two ways.

- Download an app to your mobile phone by scanning the QR code on the interface by using mobile phone client, and sign up an account, see "Client Operation Examples."
- Loginwww.gotop2p.complatform to register, and then add devices by device serial number. For details, see P2P Operation Manual.

# 

Before using P2P, make sure the device is connected to the Internet.

## Preconditions

- The device is connected to the Internet.
- DMSS Client is downloaded and installed on you mobile phone.

## Steps

Step 1 Select SETUP > NETWORK > P2P.

The P2P interface is displayed, see Figure 5-57.

P2P	
F 2F	
Enable	To assist you in remotely managing your device, the P2P will be enabled. After enabling P2
	P and connecting to Internet, we need to collect IP address, MAC address, device name, dev
	ice SN, etc. All collected info is used only for the purpose of remote access. If you don't agre
	e to enable P2P function, please deselect the check box.
STATUS (	Offline
Mob	ile phone client Device SN
Scar	n QR to Download 0
	Save Refresh

Figure 5-57 P2P

- Step 2 Select Enable to enable P2P.
- Step 3 Use DMSS Client to scan the QR code under Device SN to add the device to DMSS Client.



Scan the QR code on the actual interface of Device.

Step 4 Click Save.

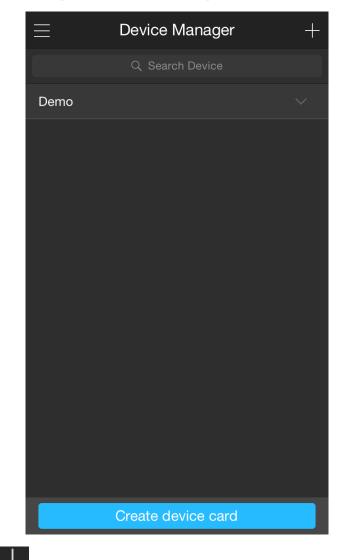
After configuration is complete, the Status box shows **Online**, meaning the P2P registration is successful.

## Adding Device into Mobile Phone Client

To use this function, take adding device into mobile phone client as an example.

- <u>Step 1</u> On your mobile phone, download the application.
- <u>Step 2</u> After the installation, run the client, select **Remote Monitoring** and go to the main menu.
- <u>Step 3</u> Add the device to the mobile client.
  - Click and then select Device Manager.
     The **Device Manager** interface is displayed. See Figure 5-58.

#### Figure 5-58 Device management



2) Click , initialize the device as needed and follow on-screen instructions to connect the device. To do so, you can scan the device label or the serial number QR code of the device on the device page.

After scanning, the device is added. The serial number of the device is displayed in **Serial Number** section.

<u>Step 4</u> To review the monitoring image of the device, click **Start Preview**.

# 5.5.3 Set alarm information

You can configure the alarm settings such as video detection, alarm events, abnormality, and alarm output.

## 5.5.3.1 Configuring Video Detection Settings

Video detection includes motion detect and tampering. This function detects abnormal video images.

#### 5.5.3.1.1 Video Detection

When the moving object appears and moves fast enough to achieve the preset sensitivity value, the system triggers an alarm and alarm linkage.

#### <u>Step 1</u> Select Setup > Event Handling > Video Detection > Motion Detect.

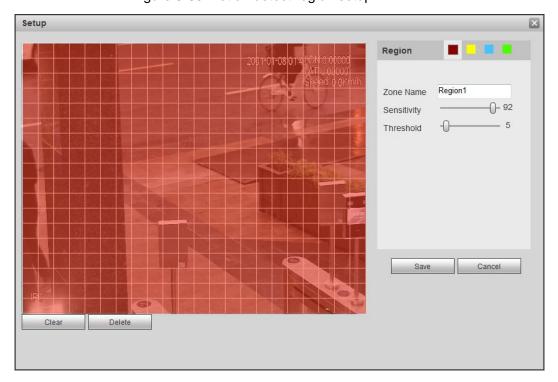
The Motion detection interface is displayed, see Figure 5-59.

	Figure 5-59 Motion detection		
Motion Detect	Tampering		
Enable	1		
Anti-dither	sec. (1-600)	Sensitivity	1 💌
Region	Setup	Delay Motion	
Record Channel	Setup		
Delay	sec. (10-300)		
Alarm Out	1 2		
Latch	sec. (0~300)		
Snapshot	Setup		
Show Message	🗌 Send Email 🔲 Buzzer 🔲 Log		
	Save Refresh		

<u>Step 2</u> Select **Enable** and select target channels for dynamic detection.

- Step 3 Region configuration
  - Click Setup after Region
     The Setup interface pops up. See Figure 5-60.

     Figure 5-60 Motion detect region setup



2) Select a region and set up the region name.

The higher the sensitivity value is, the easier the motion detection is triggered; the lower the threshold is, the easier the motion detection is triggered. By default, the entire video images are covered by dynamic detection.

## NOTE

Each color represents a certain region, you can set different motion detection areas for each region.

3) Drag the left button of the mouse, and select the area of the image to be detected, and set up its sensitivity and threshold value.

## NOTE

Channel alarm events: As long as any one of the four regions triggers alarm, the channel that houses the region will give alarm.

- 4) Click **Save** to finish configuration.
- <u>Step 4</u> Sets up DBHA parameters. See Table 5-28 for details.

Name	Description
Anti-dither	The system records only one event during this period
Sensitivity	Sensitivity for detecting alarm events
Delay	Select the <b>Delay Motion</b> check box, and then the system detects motion events
Motion	after the delay time
	Select the <b>Record Channel</b> check box and select a record channel(s), when an
	alarm event occurs, the corresponding channel starts recording automatically
Decord	NOTE
Record Channel	Two more conditions must be satisfied before alarm recording function works:
Channel	• Motion detection recording is enabled. See 5.3.5.1Configuring Recording
	Schedule
	<ul> <li>Auto recording is enabled. See 5.3.4Configuring Record Settings</li> </ul>
Recording	After an alarm finishes, the alarm recording is extended for a period of time and
delay	stops.
Alarm	Connect the alarm device such as light and siren to the alarm output port. Select
Output	the check box of Alarm Outto enable the alarm linkage. When an alarm event
Output	occurs, the system links the alarm device to activate alarm
Latch	Set a length of time during which the device continues alarm output after the
Laton	alarm ends
	Select the Snapshot check box and select a snapshot channel(s). When an
	alarm event occurs, the corresponding channel starts capturing automatically
Snapshot	NOTE
	You can also configure the frequency, size, and quality of snapshot. For details,
	see "5.5.1.2.2Configuring Snapshot Settings"
Show	Select the Show Message check box to enable a pop-up message in your local
Message	host PC when an alarm event occurs
Buzzor	Select the Buzzer check box to activate a buzzer noise at the device when an
Buzzer	alarm event occurs

Table 5-28 Motion detect parameter description

Name	Description
Send Email	Select <b>Send email</b> , and when alarm is triggered, the system sends email to the specified mailbox
Lina	Set your e-mail first before enabling this function. See 5.5.2.4 Configuring Email
	Settings for detailed operations
System	Select the System Log check box to enable the device to record a local alarm
log	log when an alarm event occurs

Step 5 Click Save.

## 5.5.3.1.2 Configuring Tampering Settings

When the camera lens is covered, or the video is displayed in a single color because of the causes such as sunlight status, the monitoring cannot be continued normally, and in this case, the system activates alarm and links the configured actions.

## Step 1 Select SETUP > EVENT HANDLING > VIDEO DETECTION > TAMPERING.

The **Tampering** interface is displayed. See Figure 5-61.

Figure 5-61 Video tampering

Motion Detect	Tampering
Enable	1
Sensitivity	1
Record Channel	Setup
Delay	sec. (10-300)
Alarm Out	1 2
Latch	sec. (0~300)
Snapshot	Setup
Show Message	🔲 Send Email 🔲 Buzzer 🔲 Log
	Save Refresh

<u>Step 2</u> Select **Enable Channel** and the target channel for video tampering detection.

<u>Step 3</u> Sets up DBHA parameters. See Table 5-28 for details.

Step 4 Click Save.

## 5.5.3.2 Configuring alarm events settings

Select different types of input according to different source of alarms and set up alarm output manners.

<u>Step 1</u> Select **SETUP > EVENT HANDLING > ALARM > LOCAL ALARM**.

The LOCAL ALARM interface is displayed. See Figure 5-62.

#### Figure 5-62 Alarm settings

Local Alarm	IPC Disconnect
Enable	1 Alarm Name Overlay 🗸
Anti-dither	5 sec. (1-600) Type Normal Open 💌 Trigger High Level 💌
Record Channel	Setup
Delay	10 sec. (10~300)
Alarm Out	1 2
Latch	10 sec. (0~300)
🔲 Tour	Setup
Snapshot	Setup
Show Message	🗌 Send Email 🔲 Buzzer 🔽 Log
	Copy Save Refresh Default

Step 2 Click Local Alarm or IPC Disconnect tab respectively based on your needs.

- Local Alarm: The alarm signal detected by the alarm input port on the Device.
- IPC Disconnect: The alarm signal is generated when the IP camera is disconnected.
- Step 3 Select the Enable check box and the target alarming channel number.
- <u>Step 4</u> Sets up DBHA parameters. See Table 5-29 for details.

Name	Description	
Alarm Name	Enter a customized alarm name	
Overlay	Select the Overlay check box to overlay alarm names onto channel images	
Anti-dithe r	The system records only one alarm event during this period	
	If selecting Local Alarm as the Event Type, configure this parameter	
Device type	<ul> <li>Normal Open: The alarm signal is disconnected normally. The alarm is activated when alarm signal is connected</li> </ul>	
	• Normal Close: The alarm signal is disconnected normally. The alarm is canceled when alarm signal is disconnected	
	If selecting Local Alarm as the Event Type, configure this parameter	
Trigger	If the alarm signal is 12V/24V voltage, select <b>High</b> as the triggering mode; if the	
	alarm signal is ground voltage, select Low as the triggering mode	
	Select the Record Channel check box and select a record channel(s), when an	
Record	alarm event occurs, the corresponding channel starts recording automatically <b>NOTE</b>	
Channel	Two more conditions must be satisfied before alarm recording function works:	
	Alarm recording is enabled. See 5.3.5.1Configuring Recording Schedule	
	<ul> <li>Auto recording is enabled. See 5.3.4Configuring Record Settings</li> </ul>	
Recordin	After an alarm finishes, the alarm recording is extended for a period of time and	
g delay	stops.	

Table 5-29 Parameter description of relay-out

Name	Description	
Alarm Output	Connect the alarm device such as light and siren to the alarm output port. Select the check box of Alarm Out to enable the alarm linkage. When an alarm event	
	occurs, the system links the alarm device to activate alarm	
Latch	Set a length of time during which the device continues alarm output after the alarm ends	
Tour	Select the Tour check box and the channels. When an alarm event occurs, a tour of the selected channels is displayed on the Device local interface <b>NOTE</b> After tour is completed, the live view screen returns to the window split mode before tour.	
Snapshot	Select the Snapshot check box and select a snapshot channel(s).When an alarm event occurs, the corresponding channel starts capturing automatically	
	You can also configure the frequency, size, and quality of snapshot. For details, see "5.5.1.2.2Configuring Snapshot Settings"	
Show Message	Select the Show Message check box to enable a pop-up message in your local host PC when an alarm event occurs	
Buzzer	Select the Buzzer check box to activate a buzzer noise at the device when an alarm event occurs	
Send Email	Select <b>Send email</b> , and when alarm is triggered, the system sends email to the specified mailbox <b>NOTE</b> Set your e-mail first before enabling this function. See 5.5.2.4 Configuring Email Settings for detailed operations	
System log	Select the System Log check box to enable the device to record a local alarm log when an alarm event occurs	

Step 5 Click Save.

## 5.5.3.3 Abnormality

Configure the ways to handle the device when errors occur.

<u>Step 1</u> Select SETUP > EVENT HANDLING > ABNORMALITY HANDLING.

The HardDisk interface is displayed. See Figure 5-63.

## Figure 5-63 Abnormality

HardDisk	User	Device	
Event Type	No HDD	•	
Enable			
Alarm Out	1 2		
Latch	10 sec.	(0~300)	
Show Message	🔲 Send Email 🔲	Buzzer 🔽 Log	
Auto-Reboot System			
	Save	Refresh	

<u>Step 2</u> Select **Enable** to enable the handling of corresponding abnormal events. <u>Step 3</u> Sets up DBHA parameters. See Table 5-30 for details.

Name	Description
Event type	<ul> <li>You can configure the corresponding abnormal events on following three tabs</li> <li>HardDisk: Includes No HDD, HDD Error, HDD No Space</li> <li>User: Includes illegal login</li> <li>Device: Includes Temperature Too High, Low Battery, Over Speed, Low Speed, Collision, and Rollover</li> </ul>
	The event type might be different depending on the model you purchased, and the actual interface shall prevail
Attempt(s)	If <b>Illegal Login</b> is selected, configure this parameter. In the Attempt(s) box, enter the maximum number of allowed password input errors If the number of password input errors reaches this value, the user account will be locked
Lock Time	If <b>Illegal Login</b> is selected, configure this parameter. Set up the lock time for the locked user account when the number of password input errors reaches this value
Ceiling temperature	If <b>Temperature Too High</b> is selected, configure this parameter Enter the upper limit of device temperature. The alarm is triggered when the device temperature exceeds this value
Less Than	If Battery Low Voltage is selected, configure this parameter
Accumulator voltage	In the Battery Voltage boxes, enter the minimum percentage of supply voltage and supply voltage to the device from the vehicle. When the vehicle is in ACC Off, the voltage supplied to the device is lower than the preset minimum percentage, the system generates an alarm

Table 5-30 Abnormal event setting parameters description

Name	Description
	If Over Speed is selected, configure this parameter
Max Speed	The upper limit of vehicle speed. When the vehicle speed exceeds this value,
	the system generates an alarm
	If Low Speed is selected, configure this parameter
Min Speed	The lower limit of vehicle speed. When the vehicle speed is lower than this
	value, the system generates an alarm
	Connect the alarm device such as light and siren to the alarm output port.
Alarm Output	Select the check box of Alarm Outto enable the alarm linkage. When an
	alarm event occurs, the system links the alarm device to activate alarm
Latch	Set a length of time during which the device continues alarm output after the
Laton	alarm ends
Show	Select the Show Message check box to enable a pop-up message in your
Message	local host PC when an alarm event occurs
	Select Send email, and when alarm is triggered, the system sends email to
	the specified mailbox
Send Email	NOTE
	Set your e-mail first before enabling this function. See 5.5.2.4 Configuring
	Email Settings for detailed operations
6	Select the Buzzer check box to activate a buzzer noise at the device when an
Buzzer	alarm event occurs
Overtere le r	Select the System Log check box to enable the device to record a local alarm
System log	log when an alarm event occurs
A	Select the Auto Reboot check box. If No HDD alarm occurs, the system
Auto reboot	restarts within three minutes

Step 4 Click Save.

# 5.5.3.4 Configuring Alarm Output Settings

Configuring Alarm Output Mode

<u>Step 1</u> Select Setup > Event Handling > Alarm Output.

The Alarm Out interface is displayed. See Figure 5-64.

Figure 5-64 Alarm Output

Alarm Out					
Alarm Type	All	1	2		
Auto	۲	۲	۲		
Manual	$\odot$	$\odot$	$\odot$		
Stop	$\odot$	$\bigcirc$	$\odot$		
STATUS					
		Save		Refresh	

- <u>Step 2</u> Select alarm output mode.
  - Manual: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port keeps generating alarm.
  - Auto: After the alarm linkage is configured, when an alarm event occurs, the corresponding alarm output port generates alarm.
  - Stop: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port never generate alarm.

## Step 3 Click Save.

Status: Indicates the status of each alarm output port. Indicates there is an alarm output, and indicates there is not.

# 5.5.4 Managing storage device

Configure HDD storage, package basic information, manage HDD, and review HDD information.

## 5.5.4.1 HDD Management

Set up the read/write properties of HDD and review HDD capacity.

Select **Setup > Storage Management > HDD Management**. The **HDD Management** interface is displayed. See Figure 5-65.

You can set up the HDD as the read/write disk and redundancy HDD on the HDD Operation column.

- Read/Write: Read HDD data and save data to HDD.
- Redundancy HDD: If more than two HDDs are connected to the device or SD card, one HDD can be set to the redundancy HDD for recording backup.

Select the HDD and click **Formatting** to clear all data from the HDD. Proceed with caution. Figure 5-65 Storage Device

Storage				
Device Name	Dhusiaal Daailiaa		STATUS	Free Operation Field Operation
Device Name	Physical Position	HDD Operation	STATUS	Free Space/Total Space
				· · · · · · · · · · · · · · · · · · ·
Save Refr	esh			HDD Number : 0

# 5.5.4.2 Viewing HDD Information

You can view the HDD information, time period of recording files, and Smart information.

Select **INFO > INFO > HDD.** The **HDD** interface is displayed. See Figure 5-66.

- Double-click the HDD. The **SMART** interface is displayed. See Figure 5-67. On this interface, you can find the name, model, serial number, healthy status, and details about the HDD.
- Click the **HDD Time** to view the record information in the HDD.

Figure 5-66 HDD information

HDD					
No.	Device Name	Physical Position	STATUS	Free Space/Total Space	S.M.A.R.T
140.	Device Marine	Thysical Fosition	014100	The opacerrola opace	
					-
HDD Time	]				
Refresh	7				
Refesti					

Figure 5-67 Smart Info

art Info						
Name	sda					
Modle	ST1000LV000-2G31	72				
Serial No.	WDENJR12					
Status	OK					
Describe:						
Smart ID	Attribute	Threshold	Value	Worst	Status	
1	Read Error Rate	6	57	55	ОК	-
3	Spin Up Time	0	99	99	ОК	E
4	Start/Stop Count	20	99	99	ОК	-
5	Reallocated Sector Count	10	100	100	ОК	
7	Seek Error Rate	45	64	57	ОК	
9	Power On Hours Count	0	100	100	ОК	
10	Spin-up Retry Count	97	100	100	ОК	
12	Power On/Off Count	20	99	99	ОК	

# 5.5.5 Configuring system settings

Set up system information, including the output mode, serial port parameters, and user account management.

# 5.5.5.1 Configuring Zero-Ch Encode Settings

You can configure the parameters such as compression mode, resolution, and frame rate for Zero-Channel view.

<u>Step 1</u> Select Setup > System > Display Output.

The **Zero-Ch Encode** interface is displayed. See Figure 5-68.

Fiaure	5-68	Zero-Ch	Encode
	0.00	2010 011	<b>E</b> 1100000

Zero-Ch Encode			
Enable			
Compression	H.264	•	
Resolution	704*576(D1)	•	
Frame Rate	25	•	
Bit Rate	1024	▼ Kb/S	
	Save	Refresh	Default

<u>Step 2</u> Select the **Enable** check box to enable this function. It is enabled by default. <u>Step 3</u> Sets up DBHA parameters. See Table 5-31 for details.

Name	Description			
Encode	Encode Mode of video Only H.264 encoding is available in this device			
Mode				
Resolution	The higher the video resolution, the better the image quality			
FPS	Configure the frames per seconds for video. The larger the value is, the			
FP5	smoother and more vivid the image will be.			
Bit Rate	Select a value for bit rate of video			

Table 5-31 Multi-channel encode parameters description

Step 4 Click Save.

The zero-ch encode icon is displayed on the PREVIEW interface. For details, see "5.4.1.5Multi-channel preview."

## 5.5.5.2 Configuring RS-232 Port Parameters

You can configure the RS-232 serial port parameters such as baud rate, date bits, stop bits, and parity.

#### Step 1 Select SETUP > SYSTEM MANAGEMENT > RS232

The RS232 settings interface is displayed, see Figure 5-69.

### Figure 5-69 RS232 settings

R\$232			
Function	Console	•	
Baud Rate	115200	•	
Data Bit	8	•	
Stop Bit	1	•	
Parity	None	•	
Parity	None	•	
	Save	Refresh	De
	Save	Refresh	Default

<u>Step 2</u> Sets up DBHA parameters. See Table 5-32 for details.

#### Table 5-32 Serial port parameter description

Name	Description		
	Select the corresponding protocol		
Function	<ul> <li>Console: Upgrades programs and debug by suing the serial interface and mini terminal software</li> </ul>		
	• Vehicle lamp box: An external vehicle lamp box can be connected.		
	The times of signal changes on the transmission line in time unit		
Baud rate	• For a console, the default baud rate is 115200		
	• The default baud rate of the vehicle lamp box is 9600.		
Data bit	Select a data bit. The options include 5,6, 7, and 8		
Stop bit	Select a stop bit. The options includes 1, 1.5, and 2		
Parity	Select a parity mode from None, Odd, Even, Mark, and Null		
01			

Step 3 Click Save.

## 5.5.5.3 Managing User Account

You can add, modify and delete user accounts and groups, and configure security questions for admin account.

## The Default User and Authority

The default user account is admin.

- The admin account is defined as the high privileged user by default.
- To manage the user account easily, when defining the user account authority, it is recommended to give lower authority to the common user account than the advanced user account.

## About User and User Group

You can manage the account by user and user group, and the name cannot be repeated.

- You can set maximum 64 users and 20 groups.
- The default group name by "User" and "Admin" cannot be deleted.
- Select the authorities to the user of a group. However, the authorities of the admin account cannot be randomly specified.
- Every user must belong to only one group. When selecting a group for a user, the authority that the user can be given should be no higher than the group authority.
- Both the username and group support 1–31 characters and can only consist of letter, number, underline (\_), and hyphen (-).

### 5.5.5.3.1 User Management

You can add, delete, or modify user, and set the authorities for the user of a group.

## Add User

## <u>Step 1</u> Select Setting > System > Account > User.

The system displays the User interface. See Figure 5-70.

## Figure 5-70 User

SN	User	Group Name	User MAC	Memo	Modify	Delete
1	admin	admin		admin 's account	2	•

#### Step 2 Click Add User.

The Add User interface is displayed. See Figure 5-71.

#### Figure 5-71 Add User

Croup Name User MAC Memo Modify Delete admin admin 's account 之 🗢
admin 🤹 🗢

Step 3 Sets up DBHA parameters. See Table 5-33 for details.

Table 5-33 Parameters description for adding user	
Description	

Name	Description
Username	
Password	Enter the user name and password, and conform the password
Confirm Pwd	
Reusable	Select the check box, user name can also be used to login the web
Group name	Select a group for the user

Name	Description
User MAC	Enter user MAC address that is allowed to login the Device
Remarks	Enter a description of the user
	Select the authorities to the user of a group.
	<b>NOTE</b>
Authority	The authorities of the admin account cannot be changed
Autionity	• To manage account easily, when defining the user account authority, it is
	recommended to give lower authority to the common user account than
	the advanced user account Authority
Step 4 Click Sa	ve.
	Έ
Click 🙎	to modify user information; click 🤤 to delete the user.

**Change Password** 

Step 1 On the User interface, click 🧖.

The Modify User interface appears. See Figure 5-72.

Figure 5-72 Change Password

Modify User				×
User	admin	•		
Reuseable				
Group	admin	-		
Memo	admin 's account			
User MAC				
Modify Password				
Email Address	181****7573			
Authority				
System	Playback	Monitor		
✓ACCOUNT ✓BACKUP		SYSTEM INFO	MANUAL CONTROL	
Encode		Auto Maintain		
	Save	Cancel		

- Step 2 Select the Modify Password check box, and then enter old password, new password, and confirm password in the corresponding box.
- Step 3 (Optional) Set up the reserved phone number.

Set up the reserved phone number. The system pops up a message to ask you whether sync to the remote devices that are accessed through the default protocol.

- If you select **Cancel**, the system does not sync to your phone and does not find the remote device connected through the default protocol.
- If you select **Save**, the system syncs to your phone to find the remote device connected through the default protocol.

## **MOTE**

Setting up a reserved phone number lets you reset the login password of the admin account if it was lost. See 5.5.5.3.3Reset Password.

## Step 4 Click Save.

- The new password can be set from 8 characters through 32 characters and contains at least two types from number, letter and special characters (excluding ' "; :Please enter a strong password according to the password strength indication.
- A user authorized to manage user accounts can modify its own password and the passwords of other users.

## 5.5.5.3.2 Group Management

You can perform the operations to manage the group account, such as adding a group, deleting a group, and modifying a group.

## <u>Step 1</u> Select Setup > System > User > User Group.

The Group name interface is displayed, see Figure 5-73.

Figure 5-73 Group name

User	Group			
SN	Group Name	Memo	Modify	Delete
1	admin	administrator group	2	•
2	user	user group	1	•
Add Group				

Step 2 Click Add Group.

The Add Group interface is displayed. See Figure 5-74.

	Figure 5-	74 Add group		
Add Group				×
Group Name Memo Authority				
System	Playback	Monitor		
AII ACCOUNT STORAGE Security Auth		SYSTEM INFO NETWORK Auto Maintain	MANUAL CONTROL	
	Savi	e Canc	el	

#### <u>Step 3</u> Enter **User Group** and **Memo**.

- Step 4 Select authority control, including system, playback, and monitor.
- Step 5 Click Save.

Click 🖄 to modify the corresponding group information; click 🤤 to delete the group.

#### 5.5.5.3.3 Reset Password

You can reset the password through the reserved phone number when the password for the admin account is lost.

- <u>Step 1</u> Open a browser and login the web interface of Device. The login interface is displayed.
- <u>Step 2</u> Enter the username admin.

The password setting information is displayed. See Figure 5-75.

Figure 5-75 Login Interface

Username:	admin	
Password:		Forgot password
Password.	Login Can	

## Step 3 Click Forgot password?

The **Reset** dialog box is displayed.

- Step 4 Click Save.
  - The Reset the password is displayed. See Figure 5-76

Figure 5-76 Reset password (2)

2/3 SN: *	*******7A76A	
		Note(For admin only): Please use an APP to scan the left QR code to get special strings. And then send the strings to support_gpwd@htmicrochip.com.
The se	curity code will be delivered to 2***@qq.com.	
Please input security code	9:	
	Cancel	Next

<u>Step 5</u> Follow the on-screen instructions to scan the QR code and get the security code.

# 

- Scan the QR code on the actual interface of Device.
- You can get the security code twice by scanning the same QR code. If you need to get the security code once again, please refresh the interface.
- The security code is valid for 24 hours.
- Wrong security code entrance up to five times will cause the admin account locked for five minutes.

<u>Step 6</u> In the security code box, enter the security code received in your reserved email box. <u>Step 7</u> Click **Next**.

The Reset the password interface is displayed. See Figure 5-77.

#### Figure 5-77 New password setting

Reset the password2/	2
Username	admin
New Password	
	Weak Moderate Strong
a combination of letter	as 8 to 32 characters, it can be (s), number(s) and symbol(s) of them.(please do not use '; : &)
Confirm Password	
C	Cancel Save

<u>Step 8</u> In the New Password box, enter the **New Password** and enter it again in the **Confirm Password** box.

The new password can be set from 8 characters through 32 characters and contains at least two types from number, letter and special characters (excluding ' "; : Please set a high security password according to the prompt of password strength.

Step 9 Click Save.

The system prompts successful operation. You can use the new password to login to the device.

#### 5.5.5.3.4 Online User

Review online user information.

Select INFO > INFO > ONLINEUSES, the Online User interface is displayed. See Figure 5-78. Figure 5-78 Online User

	Username	Group Name	IP Address	User Login Time	
1	admin	admin	10.00.001400	2019-01-04 19:02:59	
Refresh					

# 5.5.6 Safety

## 5.5.6.1 Set up system services

<u>Step 1</u> Select **SETUP > SECURITY MANAGEMENT > SYSTEM SERVICE**. The **System Service** interface is displayed. See Figure 5-79.

#### Figure 5-79 System service

System Service	
Password Reset	
Mobile Phone Push	
CGI	
Audio/Video	The corresponding device or software shall support
Transmission	video decryption function.
Encryption	
Save	Refresh Default

- Step 2 Select whether to enable password reset, CGI, or audio/video transmission encryption.
  - After password reset is enabled, you can reset the password of the device by using your reserved phone number or through QR code when necessary.
  - The P2P client can receive the alarm push information only after the mobile phone push is enabled and the P2P client subscribes to the alarm.
  - After enabling CGI, the third-party platform can connect to this device through the CGI protocol.
  - When enabled, this function encrypts audio/video transmission. Related devices or software shall support video decryption.

Step 3 Click Save.

## 5.5.6.2 HTTPS Settings

Through creating server certificate or downloading root certificate, and setting port number, the PC can login the Device by HTTPS to ensure the security of communication data and guard the users information and device security with stable technology measure.

## Preconditions

On the **Connection Setting** interface, select the **Enable** check box for HTTPS Port. Then you can start creating server certificate or downloading root certificate. For details, see "5.5.2.1Connection Setting."

#### 5.5.6.2.1 Create server certificate

For the first time to use this function or after changing the Device IP address, you need to create server certificate.

#### Step 1 Select SETUP > SECURITY MANAGEMENT > HTTPS.

The HTTPS interface is displayed. See Figure 5-80.

#### Figure 5-80 HTTPS

HTTPS	
Create Server Certificate	Download Root Certificate

<u>Step 2</u> Click Create Server Certificate.

The **Create Server Certificate** interface is displayed. See Figure 5-81. Figure 5-81 Create server certificate

Create Server Certi	Create Server Certificate	
Country	CN	
State		
Location		
Organization		
Organization Unit		
IP or Domain Name	192.168.20.13	
	Create Cancel	

Step 3 Enter the information for the parameters such as Country, State, and Location.

In IP or Domain Name box, enter the same IP or domain name of the Device.

Step 4 Click Create.

The system pops up a message after the creating is succeeded.

#### 5.5.6.2.2 Root certificate Installation

For the first time to use HTTPS after changing the PC, you need to download root certificate.

Step 1 Select SETUP > SECURITY MANAGEMENT > HTTPS.

The **HTTPS** interface is displayed. See Figure 5-80.

Step 2 Click Download Root Certificate.

The File Download interface is displayed. See Figure 5-82.

Figure 5-82 File Download

File Do	wnload - Security Warning 🛛 🛛 🔀
Do ya	want to open or save this file?
	Name: ca.crt Type: Security Certificate From: <b>10.10.6.238</b>
1	While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not open or save this software. <u>What's the risk?</u>

## Step 3 Click On.

The **Certificate** page is displayed. See Figure 5-83.

Figure 5-83 Certificate

Certificate ? 🔀
General Details Certification Path
Certificate Information This CA Root certificate is not trusted. To enable trust, install this certificate in the Trusted Root Certification
Authorities store.
Issued to: Product Root CA
Issued by: Product Root CA
<b>Valid from 2013-6-18 to 2023-6-16</b>
Install Certificate Issuer Statement
ОК

<u>Step 4</u> Click Install Certificate. The Certificate Import Wizard interface is displayed. See Figure 5-84.

#### Figure 5-84 Certificate import wizard

Certificate Import Wizard		×
	Welcome to the Certificate Import Wizard	
	This wizard helps you copy certificates, certificate trust lists, and certificate revocation lists from your disk to a certificate store.	
	A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.	
	To continue, click Next.	
	< Back Next > Cancel	

Step 5 Click Next.

The **Certificate Store** interface is displayed. See Figure 5-85.

Figure 5-85 Certificate store

ertificate Store	
Certificate stores are sys	stem areas where certificates are kept.
Windows can automatica	ally select a certificate store, or you can specify a location fo
<ul> <li>Automatically selection</li> </ul>	ct the certificate store based on the type of certificate
O <u>P</u> lace all certificate	es in the following store
Certificate store:	
	Browse

Step 6 Click Next.

The Completing the certificate import wizard interface is displayed. See Figure 5-86.

Figure 5-86 Completing the certificate import wizard certificate import wizard

Certificate Import Wizard		×
	Completing the Certificate Import Wizard	
	You have successfully completed the Certificate Import wizard.	
	You have specified the following settings:	
	Certificate Store Selected Automatically determined by t Content Certificate	
	< <u>B</u> ack Finish Cancel	

Step 7 Click Finish.

The Security Warning interface is displayed.

Step 8 Click Yes.

The **Import Completed** page is displayed. The certificate has been downloaded at this point.

#### 5.5.6.2.3 Set up HTTPS Port

After creating server certificate or downloading the root certificate, you need to set up the HTTPS port.

#### <u>Step 1</u> Select Setup > Network > Connection Setting.

The **Connection Setting** interface is displayed. See Figure 5-87.

Figure 5-87 HTTPS port settings

Connection Setting		
TCP Port	37777	(1025~65535)
UDP Port	37778	(1025~65535)
HTTP Port	80	(1~65535)
HTTPS Port	443	(1~65535) 🔽 Enable
RTSP Port	554	(1~65535)
RTSP Format	rtsp:// <username>:<passw< th=""><th>ord&gt;@<ip address="">:<port>/cam/realmonitor?channel=1&amp;subtype=0</port></ip></th></passw<></username>	ord>@ <ip address="">:<port>/cam/realmonitor?channel=1&amp;subtype=0</port></ip>
	channel: Channel, 1-8; subt	ype: Code-Stream Type, Main Stream 0, Sub Stream 1.
ſ	Save Re	fresh Default
l	Save	Deladit

<u>Step 2</u> Enter the HTTPS port number that can be modified as needed. The default setting is 443.

Add the port number if it was modified to login to the device with the HTTPS.

Step 3 Click Save.

#### 5.5.6.2.4 Logging through HTTPS

Use HTTPS to login to the WEB interface of the device.

Open the browser, enter https://xx.xx.xx:port, the login interface is displayed.

- xx.xx.xx.xx corresponds to your Device IP address or domain name.
- "Port" corresponds to your HTTPS port. If the default value is 443, do not enter ":Port". Just enter "https://xx.xx.xx" to visit.

# 5.5.7 Configuring Vehicle Settings

Set up the speed, mileage, sensor, and position report strategy of the vehicle.

# 5.5.7.1 Configuring Speed

## <u>Step 4</u> Select **SETUP > VEHICLE > SPEED**.

The **SPEED** interface is displayed. See Figure 5-88.

Figure 5-88 Speed

SPEED		
Speed Ratio	6400	
Mileage Cumulation	Always	-
Mileage(KM)	1572.4	
Start Mileage	0.0	KM(Such as 1.0KM)
Speed source	Pulse&Position Info	•
	Save Re	efresh Default

<u>Step 5</u> Sets up DBHA parameters. See Table 5-34 for details.

#### Table 5-34 Speed parameters description

Name	Description
Speed Ratio	The parameter for converting speed
Mileage Cumulation	Select the vehicle mileage cumulation mode
Mileage	Displays the total mileage
Start Mileage	Enter the initial mileage of the vehicle

Name	Description
	Select where the speed is obtained, including Pulse, Positioning Info, and
	Pulse&Positioning Info
Speed source	Pulse 1: Get the speed information from vehicle pulse system
	Positioning Info: Get the speed information from positioning system
	Pulse&Positioning Info: Get the speed data from both the pulse system
	and positioning system. Data from the impulse system is used first

Step 6 Click Save.

## 5.5.7.2 Sensor settings

Used to detect the rollover, collision, sharp turn, rapid acceleration or deceleration of the vehicle.

## Step 1 Select SETUP > VEHICLE> SENSOR SETTINGS.

The Sensor Settings interface is displayed. See Figure 5-89.

#### Figure 5-89 G-SENSOR

G-SENSOR		
Vahiela Lland Oida Oh	Undetermined	
Vehicle Head Side Sh	Undetermined	•
Tilt Angle of Slope (Un	10	
	Save	Refresh

<u>Step 2</u> Sets up DBHA parameters. See Table 5-35 for details.

Table 5-35 Sensor parameters
------------------------------

Name	Description
Type of vehicle head	Select the type of vehicle head side axle coordinates and the tilt
side axle	angle of the slope
	Vehicle head side axles include X/Y/Z axles
Inclination angle of	Only when the Vehicle Head Side Shaft is not Undetermined can
slope (Unit: °)	the system detect the rapid acceleration and deceleration events of
	the vehicle.

Step 3 Click Save.

## **Position Correction**

You can correct the device position on the Local interface.

The default values displayed on the interface can deviate from the actual installation position. Without correction, the vehicle running as intended can also trigger an alarm.

In the main menu, select **Other Settings > Vehicle> Gyro**. The **Gyro** interface is displayed. See Figure 5-90.

Click Correct Position to correct the vehicle position.

Figure 5-90 G-SENSOR

🎝 OTHERS			LIV	E Ba
RS232	SPEED	G-SENSOR	Position Report	
> VEHICLE	X(Horizo	ntal) 00000		
	Y(Latera	l) 00018		
	Z(Vertica	al) 00249		
	Res	set		
				Back

# 5.5.7.3 Configuring Position Report

You can configure the position report strategy to be device auto report or report per platform schedule.

<u>Step 1</u> Select SETUP > VEHICLE> Position Report.

The **Position Report** interface is displayed.

- <u>Step 2</u> Configure the report strategy.
  - Auto report.
    - 1. In the **Report Strategy** list, select **Device Auto**.

The **Device Auto** setting interface is displayed. See Figure 5-91.

#### Figure 5-91 Position report (device auto)

Position Report		
Report Strategy	Device Auto	1
Report Interval	30	sec. (1-300)
Report by Distance	100	Meter(m) (50-500)
Inflexion Angle	30	Degree(s) (30-120)
Report Interval When	60	sec. (1-600)
ACC off		
	Save Re	fresh Default

2. Configure TCP/IP parameters. For details, see Table 5-36.

Name	Description		
Report Interval	When the vehicle ACC status is on, the system report the position		
Report by Distance	to platform according to the configured report interval, report		
	distance, and inflexion angle		
Inflexion Angle	The system reports vehicle position to platform only if one of		
_	conditions is satisfied		
Report Interval When	When the vehicle ACC status is off, the system report the position		
ACC off	to platform according to the configured report interval		

Table 5-36 Device auto report parameters description

• Platform schedule.

In the **Report Strategy** list, select **Platform Schedule**. The **Platform Schedule** setting interface is displayed. See Figure 5-92.

The platform obtains the device position by the configured schedule. The schedule is configured at the Platform. See the User's Manual of the platform.

Figure 5-92 Position report (platform schedule)

Position Report		
Report Strategy	Platform Schedule	
	Save Refresh	Default



# 5.6 System Update

# 5.6.1 View system version

You can view the Device version information.

Select **INFO > INFO > VERSION INFO**. Device type, recording channel, system version and other information are displayed.

# 5.6.2 Upgrading System Firmwares

You can import the upgrading file to upgrade the system. The upgrade file should be a .bin file.



- During upgrading, do not disconnect from power and network, and reboot or shut down the Device.
- Upgrading the wrong file might result in the Device not working properly.

Step 1 Select Setting > System > System Upgrade.

The Upgrade interface is displayed. See Figure 5-93.

Figure 5-93 System Update

System Upgrade		
chiplist	main 💌	
Select Firmware File		Browse Upgrade

Step 2 Select the chip list that suits your actual needs.

- To upgrade system programs, select main chip for the chip list.
- To upgrade the MCU firmware programs, select MCU for the chip list.
- Step 3 Click Import and select the upgrade file you want to upgrade.

#### Step 4 Click Update.

The system starts upgrading. You should login to the web again after upgrading.

# 5.7 System Maintenance

# 5.7.1 Requirement for Maintenance

For the system's good and safe running, it's recommended to manage and maintain the system, backup files in the following methods.

- Check surveillance images regularly.
- Clear not frequently-used user and user group regularly.
- Modify your password every 3 months.

- Check your system log regularly. Handle problems asap.
- Backup your configuration of system regularly.
- Reboot this device regularly.
- Upgrade firmwares regularly.

# 5.7.2 System Information

Review the running status, version information, system log, and satellite info of the device.

## 5.7.2.1 Viewing System Log

You can search, view, and back up the system logs to PC.

#### <u>Step 1</u> Select **INFO > INFO > LOG**.

The Log interface is displayed. See Figure 5-94.

Figure 5-94 System log

LUg								
Start Time		2019 - 01 - 04	00 : 00 : 00	End Time	2019 - 01 - 05	00 : 00 : 00		
Types		All	<ul> <li>Search</li> </ul>					
	No.			Time			Event	
								^
								÷
System Log Info								5
System Log into								
							<b>4 1</b> /1 ► <b>H</b> Go To 1	
Backup								
Backup								

<u>Step 2</u> Set up **Start Time**, **End Time**, and **Types**.

#### Step 3 Click Search.

The searched logs are displayed.

NOTE

Select the log that you want to back up, and then click **Backup**. In the **Save as** dialog box, select the save path to save the log to PC.

## 5.7.2.2 Viewing Satellite Info

You can view the satellite positioning information such as module state, positioning status, latitude and longitude, and search results.

Select **INFO > INFO > SATELLITE INFO.** The **SATELLITE INFO** interface is displayed. See Figure 5-95.

Click **Refresh** and the latest satellite information is displayed.

 If the GPS module state indicates Normal and does not position within five minutes, the GPS module automatically resets and re-position. When the positioning information is obtained again, the GPS module reset times is up to 20, or the Device is rebooted, you can view the GPS module reset records in the log.

 When the GPS module is short-circuited for more than 10 seconds, the module status is abnormal and the GPS module is automatically powered off and no longer powered on. After the Device is rebooted, the GPS module will be powered on again.

SATELLITE INFO			
Module State:	Normal		
Antenna State:	No Inserted		
GPS Status:	To be positioned		
Speed:	Speed: 0.0Km/h		
Position:	LAT:0.00000°	LON:0.00000°	
Search Results:	GPS:0/0	Beidou:0/0	Glonass:0/0
Low	Satellite No:0	Used Satellite No:0	
F	Refresh		

# 5.7.3 Auto Maintain

You can configure the automatic maintenance settings such as auto reboot, auto deleting old files, auto booting up, auto shutdown, and delay for auto shutdown.

### 5.7.3.1 Reboot system

After configuring auto reboot, when the Device is working, it reboots according to the schedule. <u>Step 1</u> Select **Setting > System > Auto Maintain**.

The Auto Maintain interface is displayed, see Figure 5-96.

Figure 5-96 Auto Maintain				
Auto Maintain				
Auto Reboot	Never	• 00:00	<b>T</b>	
Auto Delete Old Files	Never	•		
Auto Boot up	Never	• 00:00	Y	
Auto Shutdown System	Never	• 00:00	Y	
ACC Delay	5	Minute		
	Manual Reboot			
	Save	Refresh		

Step 2 Reboot system.

- Auto reboot: Select the time when the system auto reboots, and click **SAVE**. The system auto reboots at the specified time.
- Manual reboot: Click Manual Reboot and the device is rebooted immediately.

## 5.7.3.2 Configuring auto deleting old files

After configuring auto deleting old files, when the Device is working, it deletes old recordings that occurred before the set schedule.

# 

The deleted recordings cannot be restored. Use this function with caution.

<u>Step 1</u> Select Setting > System > Auto Maintain.

The AUTO MAINTAIN interface is displayed.

- <u>Step 2</u> In the **Auto Delete Old Files** area, select **Customized**, and then enter the days. You can enter 1 day through 31 days.
- Step 3 Click Save.

# 5.7.3.3 Configuring auto boot up

After configuring auto boot up, the Device boots up automatically at the scheduled time. If the vehicle key is turned to the ACC before the preset auto boot up schedule, the device boots up immediately. When the ACC of the vehicle is off after booting up, the equipment will be shut down according to the preset automatic shutdown delay time.

<u>Step 1</u> Select Setting > System > Auto Maintain.

- The AUTO MAINTAIN interface is displayed.
- <u>Step 2</u> In the Auto Boot up area, select Valid, and then enter the specific time.
- Step 3 Click Save.

## 5.7.3.4 Configuring auto shutdown system

After configuring auto shutdown, the Device automatically shuts down according to the ACC power off time and auto boot up setting.

- If you have set the time for auto boot up, there are two situations when the ACC is powered
  off: If the system time is between the auto boot up and auto shutdown, the Device is turned
  off at the configured time. If the system time is before the auto boot up or after the auto
  shutdown, the Device is turned off immediately.
- If the auto boot up is not set, when the ACC is disconnected, the Device shuts down at the scheduled time.

<u>Step 1</u> Select **Setting > System > Auto Maintain**.

The AUTO MAINTAIN interface is displayed.

<u>Step 2</u> In Auto Shutdown System, select Everyday, and then enter the specific time.

Step 3 Click Save.

## 5.7.3.5 Auto Delay for Shutdown

After configuring auto delay for shutdown, when ACC is disconnected, the Device shuts down according to the settings of auto delay for shutdown.

- If you enter the delay value that is not 0, the Device automatically shuts down after the preset delay.
- If you enter 0, the Device shuts down according to the auto shutdown settings without delay.

<u>Step 1</u> Select Setting > System > Auto Maintain.

The AUTO MAINTAIN interface is displayed.

<u>Step 2</u> Configure the auto delay for shutdown.

The value ranges from 0 through 65535. The default value is 5 minutes.

Step 3 Click Save.

# 5.7.4 Backing Up and Restoring

You can back up or restore the web configurations and restore to default settings.

# 5.7.4.1 Backing up Configurations

You can back up all the configurations of web.

Step 1 Select SETUP > SYSTEM MANAGEMENT > CONFIGURE BACKUP.

The Import/Export interface is displayed, see Figure 5-97.

Figure 5-97 Import/Export

Import&Export	
Import Config File Config Export	Browse Config Import

Step 2 Click Config Export, and select the save path.

The system starts backing up configurations.

## 5.7.4.2 Restoring Configurations

You can use the backed up configurations to quickly configure the Device and restore the device configurations.

#### Step 1 Select SETUP > SYSTEM MANAGEMENT > CONFIGURE BACKUP.

The Import/Export interface is displayed, see Figure 5-98.

Figure 5-98 Import/Export

Import&Export	
Import Config File	Browse Config Import
Config Export	

Step 2 Click Browse, and then select the backup file you want to import.

#### Step 3 Click Config Import.

The system pops up the reboot message. Click **Save**, the system starts importing the configurations and reboot the device after importing is completed.

## 5.7.4.3 Restoring to Default

You can restore the system to default configurations or the factory default. Only the user with the default&upgrade authorities can do this.



The corresponding functions will be restored to the factory settings, and your current configurations will be lost. Proceed with caution.

#### Step 1 Select SETUP > SYSTEM MANAGEMENT > DEFAULT.

The **Default** setting interface is displayed. See Figure 5-99.

Figure 5-99 Factory default setting

Default		
_		
Select All		
CAMERA	VETWORK.	VENT
STORAGE	SYSTEM	
Default	Restore the factor	

<u>Step 2</u> Select the check box of the options that you want to restore to the factory default.

- Default: Select the options, and then click **Default**. In the pop-up message, click Save. The selected options will be restored to the factory default settings.
- Restore the factory settings: Click **Restore the factory settings**. In the pop-up message, click **Save**. The system starts rebooting. After the device is rebooted,

the system will return to the default settings and needs to be initialized again. Proceed with caution.

When there is a user operating on the local interface, the factory default settings cannot be performed until the local user log out.

# 5.7.5 Network packet capturing

The packet data can be provided to the developers or engineers to analyze the network usage status.

### Preconditions

The device for packet capturing is connected to an external backup device.

### Steps

### Step 1 Select INFO > INFO > NETWORK SNIFFER.

The **NETWORK SNIFFER** interface is displayed, see Figure 5-100. Figure 5-100 Network sniffer

NETWORK SNIFFE	R		
Ethernet Card	eth0 💌	IP Address	10.000
Path	•		
Target Filter			
	Start		

<u>Step 2</u> Select the Ethernet card and save path.

Step 3 Select the Target Filter check box, and then enter the IP address that you want to filter.

Step 4 Click Start.

The system indicates the start of capturing, and the packet data will be stored in the external backup device.

Step 5 Click Stop.

The system pops up a prompt.

Step 6 Click Download or Cancel to finish the packet capturing.

Click **Download** to download the packet data to the local, where you can view the file in the saved path. Click **Cancel** to not download the packet data.



Beside from web, you can also remotely login the Device from Digital Surveillance System (DSS).

For details, see the manual of DSS.



If your questions cannot be answer by the following contents, please contact your local service engineer or the service of our Headquarters for help. We can guide you to solve this problem.

#### 1) Q: Disconnect the constant electricity but the device is still working.

A: Possible causes:

- The default 5-minute shutdown delay is effective.
- The UPS setting provides constant power supply to the device when the lithium battery voltage is above 7V.
- ACC is connected.

#### 2) Q: The device gives squeal after start.

A: Possible causes:

- Connecting to the display and being too close to the camera.
- A single channel interface or a large-image multi-channel interface. The first route of sound comes from a local source.

#### 3) Q: The interface shows that no SIM card is detected.

A: Possible causes:

- SIM card not inserted.
- Micro SIM card reversely inserted with its notch facing outward. Follow instructions on the label to insert the SIM card.
- SIM card is damaged.

#### 4) Q: DVR cannot boot up properly.

A: Possible causes:

- The input power is not correct; the input voltage is too low or too high.
- Poor contact in the input power cable or incorrect wiring.
- HDD is damaged or poor contact between the HDD carrier and HDD.
- Main board is damaged.

#### 5) Q: DVR automatically reboots or frequently crashes.

A: There are the following possibilities

- Input voltage is not stable or too low.
- The Device is not properly installed, which result in poor contact between components.
- Poor heat dissipation and too many dusts result in poor working environment for the Device.
- Hardware malfunction.

#### 6) Q: HDD cannot be detected after rebooting.

A: Possible causes:

- HDD not installed.
- Poor contact between the HDD carrier and HDD.
- HDD is damaged.

#### 7) Q: Blank screen in a channel of the display

A: Possible causes:

- A camera is damaged. Replace the damaged camera.
- The connection wire is damaged. Replace the damaged connection wire.

#### 8) Q: No video output from single-channel, multiple-channel or all-channel.

A: Possible causes:

- Program is not compatible. Please upgrade to the correct version.
- Brightness value of all channel is 0. Please restore to default setting.
- No video input signal or the signal is too weak.
- Channel protection or screen protection is configured.
- Hardware malfunction.

#### 9) Q: Real-time video image is abnormal, such as color and brightness is distorted.

A: Possible causes:

- NTSC and PAL settings are not correct, and the image becomes black and white.
- Device and monitor resistance is not compatible.
- Video network transmission distance is too far or transmission line signal attenuation is too much.
- NVR color or brightness settings are not correct.

#### 10) Q: No recorded video can be found in local playback.

A: Possible causes:

- Poor contact between the HDD carrier and HDD.
- HDD is damaged.
- Upgraded program is not compatible.
- The recording file that you want to search has been overlapped.
- The recorded file is not opened.

#### 11) Q: Video is distorted in local search.

A: Possible causes:

- Video quality setting is too low.
- Program read error, bit data is too small, and there is full of mosaic in the screen. Please firstly try to restart the DVR to solve this problem.
- Disk error
- Hardware malfunction.

#### 12) Q: The monitor has no sound.

A: Possible causes:

- It is not an active speaker.
- Audio cable is damaged.
- Hardware malfunction.

#### 13) Q: There is audio under monitoring state but no audio under playback state.

A: Possible causes:

- Audio function is not enabled.
- The corresponding channel does not connect to the camera. Playback is not continuous when the screen is blue.

#### 14) Q: System time is not correct.

A: Possible causes:

- Setting is not correct.
- Poor battery contact or voltage is too low.
- Crystal oscillator is poor.

#### 15) Q: USB backup error.

A: Possible causes:

- Too much data which occupies CPU resources. Please stop recording first and then begin backup.
- Backup device is not compatible.
- Backup device is damaged.
- The backup device features high power and needs separate power supply.

#### 16) Q: Alarm function does not work.

A: Possible causes:

- Alarm setting is not correct.
- Alarm cable connection is not correct.
- Alarm input signal is not correct.
- There are two loops connected to one alarm device.

#### 17) Q: Messy channel display.

A: Possible causes:

- Incorrect selection of camera type. Auto switch is recommended.
- The camera is damaged.

#### 18) Q: Record storage time is not enough.

A: Possible causes:

- Low camera quality, dirty lens, camera installed against the light, or iris not properly adjusted caused large big rate.
- HDD capacity is not enough.

• The HDD is damaged.

#### 19) Q: No 3G/4G dial-up. No dial-up IP,

A: Possible causes:

- Check if the SIM card is normal.
- Check if the SIM card is not in service.
- Check if the 3G/4G antenna is connected as intended.
- Check if the 3G/4G signals are strong enough.
- Try out with another SIM card.

#### 20) Q: 3G/4G platform is not online.

A: Possible causes:

- Check if 3G/4G dial-up is normal.
- Check if local active registration is correctly set up.
- Check if the sever terminal is correctly set up.

#### 21) Q: No GPS data.

A: Possible causes:

- Check if the GPS antenna is connected as intended.
- Make sure the GPS antenna is in a place where signals are not blocked.

#### 22) Q: GPS drifting and produces speed for no reason.

A: Possible causes:

Weak GPS signal.

# Appendix 1 Mouse Operations

# 

The operations are based on the considerations for right-handed users.

Beside the operations from the front panel and remote control, you can also use mouse to operate menus. Insert the mouse to the USB port of the Device.

Operation	Function		
	If the user has not logged into the system, the password box is displayed		
	first. During real-time monitoring, click the left mouse button to go to the		
	main menu.		
	When you have selected one menu item, click it to view menu content.		
	Implement the operations indicated on the control.		
	Change the status of the check box		
	Click the combo box, the drop-down list is displayed.		
	In text box, click the corresponding button on the panel to enter a numeral,		
	punctuation, English character (small/capitalized), or Chinese. Left-click the		
	symbol on the panel to complete value input; ← represents backspace, and		
	represents space.		
	In English input mode: Click to enter a space, and click $\leftarrow$ to delete the		
	previous character.		
Click the left mouse button	A B C D E F G H I J K L M N O P Q R S T 山 U V W X Y Z ← u v w x y z ←		
	In numeral input mode: Click to delete all numbers, and click $\leftarrow$ to		
	delete the previous number.		
	1 2 3 4 5 6 7 8 9 0 ←		
	In special characters input mode: For the numbers and characters on the		
	soft panel, press the numbers on the front panel to enter the corresponding		
	characters, for example, press 1 means entering /. You can also directly use		
	the mouse to click to enter the characters.		
	1 / 2 : 3 . 4 ? 5 - 6 _ 7 @ 8 # 9 % 0 & _ ←		

Operation	Function
Double-click	The special operation to perform a specific action. For example,
	double-click the recorded video file to start playback.
the left mouse button	In multi-image, double-click a channel image to display it in full screen.
button	Double-click again to restore the previous multi-window screen.
	In the real-time monitoring screen, right-click on the screen, the shortcut
	menu is displayed. You can configure the settings including multi-image
	mode (related to the number of routes of the device), PTZ control, color
Right-click	setting, recording search, recording control, alarm output, and main menu.
ITIGHT-CIICK	To use PTZ control and color setting apply to the images corresponding to
	the pointer. If it was multi-image mode before settings, the system auto
	switches to the single images of corresponding channels first.
	Do not save the setting and exit the current menu.
	In numeral input box, rotate the wheel button to increase or decrease the
Wheel button	numeral value
Wheel bullon	Switch between items in the combo box
	Page up or page down
Move	Select and move a control of the current coordinates or one of its items
Drag	Box select an area and set up area overlap.

# Appendix 2 HDD Capacity Calculation

In the first installation of the HDD, check whether the HDD is already installed. To install IDE HDD, pay attention to the jumper of the HDD.

HDD capacity calculation formula:

Total capacity (M) = Channel number  $\times$  Demand time length (hour)  $\times$  HDD capacity occupied per hour (M/hour)

Recording time calculation formula:

Recording time (hour) =

HDD total capacity (M)

HDD capacity occupied per hour (M/hour) × Channel number

The Device adopts MPEG4/H.264 compression technology, which features a large dynamic range. Therefore, when calculating HDD capacity, you should accord to the bit rate to evaluate the file size generated per hour from each channel.

# **Appendix 3 Technical Parameters**

Model		MXVR4104-4 (4 identification routes)	MXVR4104-8 (8 identification routes)
	Main processor	High performance industrial embedded microcontroller	
	Operating system	Embedded Linux	
	System resources	Multiplex operations, including making multichannel recording, video play back, and network operations simultaneously	
SYSTEM	Operation interface	User-friendly graphic menu dialog interface	
	Input device	Mouse operations, remote control operations	
	Input method	Number, English letter, symbol, expandable Chinese input	
	Shortcut functions	<ul> <li>The same settings in the menu can be quickly copied and pasted</li> <li>Right-click the menu to list out frequently used functions such as image split</li> <li>Double-click to directly switch between images</li> </ul>	
Image           Compression         H.265, smart H.265, H.264			
standard	Audio compression	G711A, G711U, G726, PCM	
	Video input		8 routes of complex videos (NTSC/PAL), aviation interface ( $1.0V_{P-P}$ , $75\Omega$ ) that works with dual lenses and
	Video Output	IPC cameras (that is two routes of digital image connection). One route of PAL/NTSC, aviation interface $(1.0V_{P-P}, 75\Omega)$ , complex video signal output; allows simultaneous TV video signal output; supports VGA output	
Video	Video standard	Supports PAL/NTSC	
	Video recording device	Real-time mode, 1 fps~25 fps (adjustable) per route	
	Split screen	1 image, 4 images, 6 images	1 image, 4 images, 8 images, 9 images, 16 images
	Monitor tour	Provides alarm, timed auto control and other monitoring tour functions	

Model		MXVR4104-4 (4	MXVR4104-8 (8 identification
		identification routes)	routes)
	Image resolution		<ul> <li>Allows connecting with 8 video routes, up to 1080P resolution</li> <li>When connecting with the analog camera, the device supports up to four routes of 960H resolution but does not support audio</li> <li>When connecting with IPC, this video enables the connection of two routes of 1080P digital image</li> </ul>
	Image	D1 resolution and at the frame rate of 25 fps Image quality adjustable across six levels	
	quality		
	Image information	Channel information, time information, covered area for	
	TV	confidentiality	
	adjustment	Adjustable TV output area to adapt to TV monitor with severe image loss	
	Channel       The monitoring image of a route is displayed in black actual encoded images are still normal         Iock-up       The channel is locked to limit users without perm review the current channel, and thus making the safer		is displayed in black screen, the still normal t users without permissions to
	Channel status display	The channel image can display channel name, recording status, channel locking status, and video loss status Set up the hue, brightness, contrast ratio, saturation, and gains of the video input signals of each channel	
	Color settings		
Audio	Audio input	<ul> <li>Four routes of aviation head input: 200mV~2000mV 10kΩ</li> <li>Built-in pickup, bound to videos of the first channel</li> </ul>	<ul> <li>Eight routes of aviation head input: 200mV~2000mV 10kΩ</li> <li>Built-in pickup, bound to videos of the first channel</li> </ul>
	Audio output	<ul> <li>One route of voice talk of</li> <li>One route of built-in trun</li> </ul>	npet output
	TTS	Built-in trumpet provides TTS driving alert broadcasting	

Model		MXVR4104-4 (4	MXVR4104-8 (8 identification	
		identification routes)	routes)	
broadcast				
	Voice talk	In voice talk, the built-in trumpet and pickup can combine to		
		function as hand-free calls		
	Voice	Allows voice talk by offering special car-mounted MIC and		
	intercom	full-duplex talk terminals		
	128×64 resolution, supports displaying vehi		displaying vehicle status, speed,	
LCD	LCD	time, alarm information, loca	ting information, drive	
		information, and more		
	Hard disk	One 2.5-inch HDD		
Storage	SD	Two SD cards		
otorage	Cooling	Ruilt in fan cooling		
	manner	Built-in fan cooling		
	Record	Manual recording, timed rec	ording, alarm recording	
	Mode	Priority of recordings: Manua	al recording > alarm recording >	
	mode	timed recording		
	Recording	Recording file can be recorded from one minute to 120		
	time	minutes (adjustable, 60 minutes by default)		
	Recording			
	circulation	Supports HDD circulation to overlap recordings		
	manner			
	Video search	Query recordings by time, type, and channel number		
	Playback	Multiple slow playback, multiple fast playback, manual single-frame playback, reverse playback		
Recording	modes			
and playback		Allows switching to the previ	•	
	Multiple file	played file, or any other file in the play list Able to switch to any existing file of another channel at the same time of the current channel		
	switching			
	modes			
			usly. After such play, the device	
		continues playing the next file in the same channel		
	Playback	Supports single channel playback		
	Scaling	The playback image can free	ely switch between suitable	
		window size/full screen		
	Area zoom in		u can select to enlarge any local	
		area of the image	LUCD storage devices (such such	
Starses	Backup		I USB storage devices (such as	
Storage	method	U disk)	atwork and atorage	
CRS		Supports downloading via network and storage		
GPS	-	Works with built-in GPS Beidou dual-mode		
		Remotely access front-end monitoring image		
Network	Network	Access and set up system parameters through network client or browser		
function control		Upgrade program and realize remote maintenance through		
			•	
		the client or browser network		

Model		MXVR4104-4 (4	MXVR4104-8 (8 identification	
		identification routes)	routes)	
		Allows for reviewing external alarms and video loss alarms		
		through the network		
		Allows for downloading, storing, and playing back recording		
		files		
			modules that work with Telecom,	
		Mobile, and Unicom. Built-in Wi-Fi optional		
	Video loss	Able to link with external alarm output or pop up prompts		
	External	Able to link with recording, or link with external alarm output		
	alarm	or pop up prompts		
	Manual	Can enable or disable an ala	arm input channel	
Video loss	alarm	Able to simulate and genera	te alarm signals to be exported	
and alarm	control	to an alarm output channel		
	Alarm Input	10 routes of alarm input (you		
	-	enabling/disabling Always O	pen or Always Close)	
	Alarm	Four routes of controllable 1	2V alarm output	
	Output			
	USB	Two USB interfaces (one on the front panel, and one		
	interface	extended out of the rear panel through cable)		
	Network	RJ45 10M/100M self-adaptive Ethernet port (allows fixing		
	interface	cables)		
	RS485	1 Two CAN interfaces that require the support of custom		
Interfees	CAN		uire the support of custom	
Interface		Four RS232 interfaces: One front DB9 interface, one		
	RS232	a common serial port (debugging), two for service of		
		Supports (custom optional c		
	VGA	purpose-made car-mounted		
	Speed	One route of impulse speed input		
	Analog input	Two routes of analog input		
	HDD			
	information	Display HDD usage and relevant information		
	Viewing Data			
	Rate	Stream statistics and waveform display of each channel		
	Information			
Information	Finding log	Displays system log and allows for finding log information b time and type		
	System			
	status	Displays vehicle status, voltage, ACC status, system version and release date		
	information			
	Multi-level user management		t	
User	User	Multiple management modes that cover the collective		
Management	Management	management of local users,	serial port users, and network	
		users, and allows for setting up user permissions		

Model		MXVR4104-4 (4	MXVR4104-8 (8 identification
		identification routes)	routes)
		Allows for adding users and groups and modifying	
		permissions, without limiting	the number of users and groups
	Password	Allows for modifying passwo	rd. An authorized user can also
	security	set up passwords for other u	sers.
	protection	Supports gesture password	and retrieving phone password
Program upgra	ade	Through WEB, client, or upg	rade tools
		Login with password to ensu	re security
Log out or reboot		User-friendly menu dialog when closing the system menu: Provides the options of logging out or rebooting the system	
	Power supply	DC 6V-36V, built-in lithium battery, enables system protection in normal power cut-off and in under-voltage of vehicle accumulator	
	Power consumption	Bare unit (basic function) power consumption: ≤12W	
	Low power consumption	≤0.3W	
	Lithium battery	2600mAh 7.2V	
General parameter	Working temperature	-30℃~+70℃	
	Working humidity	10%~90%	
	Atmospheric pressure	86kPa~106kPa	
	Size	1DIN case Front panel: 189.3mm×60.2mm Frame: 179.6mm×159.8mm×50.0mm	
	Weight	Complete package: 2.3kg	
	Installation	Front installation, bracket installation	