MERIVA®
TECHNOLOGY
Streamax 锐明

MV3N User Manual

Catalog

Overview

1. Introduction

V3-h0404 is a cost-effective, good function scalability device which designed for police vehicle surveillance, remote surveillance. It uses a high-speed processor and embedded operating system, combined with the most advanced H.265 record compression/decompression technology in the Field of IT, 4G/3G network technology, GPS positioning technology, WIFI technology. It can realize 1080P, 720P, WD1, WHD1, WCIF, D1, HD1, CIF resolution record recording, car driving information recording and remote record uploading. Remote surveillance of alarm, intelligent vehicle scheduling management, playback and analysis based on center database can be realized by cooperating with police platform and police APP. The product has many advantage such as: strong vibration resistance, anti-electromagnetic interference, anti-radiation, simple appearance, flexible and convenient installation, comprehensive function, hard disk storage, SD card backup design, high reliability.

1.1. V3 spec

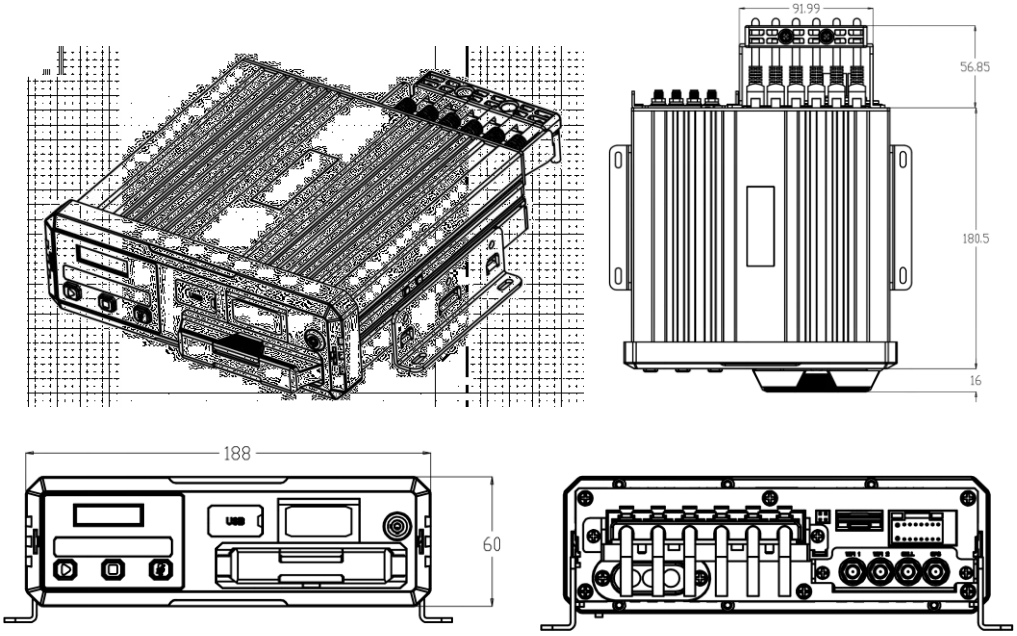
Technical items		**Technical indicators**	
Product model		V3-H0404	
Functions overview		Preview, record, playback, webcast, GPS	
system	The operating system	Linux	
	Control mode	CP4, mouse, Maintenance Tool, Network (3G/4G/WIFI)	
record	The input	4 AHD+4 IPC	
	The output	2 (CVBS + VGA)	
	The total resources	PAL: "4*1080P@15fps+4*1080P@30fps Or 4 * 720 p @ 25 FPS + 4 * 1080 p @ 30 FPS" NTSC: "4*1080P@15fps+4*1080P@30fps Or 4 * 720 p @ 30 FPS + 4 * 1080 p @ 30 FPS"	
	record signal standard	Level: 1Vpp Impedance: 75Ω NTSC/PAL standard optional	
audio	The input	8 (4 + 4 * * AHD IPC)	
	The output	One analog audio channel + 1 CVBS channel + 1 VGA output channel	
	Audio signal standard	Level: 2Vpp input impedance: 4.7kΩ	
According to	According to segmentation	1/4/9 interface display	
	interface display	Location information, alarm, license number, speed, time, etc	
	interface	Graphical user interface	
record	Audio and record compression format	record	H.264/H.265
		audio	ADPCM, g. 711 u

		Manual mute button	support
	Image resolution	PAL: 1080P(1920X1080) 720 p (1280 x720), WD1(928X576),WHD1(928X288), WCIF(464X288),D1(704X576), HD1(704x288),CIF(352x288); NTSC: 1080P(1920X1080) 720 p (1280 x720), WD1(928X480),WHD1(928X240), WCIF(464X240),D1(704x480), HD1(704x240),CIF(352x240); Numbers: 1080P(1920X1080),720P(1280X720);	
	Image quality	Level 1-8 adjustable (Level 1 is best)	
	record mode	Start/timer /alarm event recording	
	record alarm beforehand	5-10min	
	Alarm Recording delay	5-10min	
	Manual start and stop button	support	
The playback	Playback channel	Support local 1-channel playback; Support WEB 1/4/8 channel playback;	
	Browse mode	Time, channel, events	
network	3G/4G	Support: EC20, EC25-AF/WP7603.Remote wake up	
	WIFI	802.11 b/g/n/ac	
	bluetooth	Support Bluetooth 4.0, BLE	
	Ethernet (LAN)	RJ45 x 1 (10/1000m)	
	Ethernet (WAN)	RJ45 x 1 (10/100m)	
positioning	GPS	Location, speed detection, time synchronization	
The sensor	G-Sensor	Built-in six-axis inertia sensor	
	Sensor input -	8 (support IO wake up)	
	Sensor output -	2 (support IO wake up)	
Panel indicator	PWR	blu-ray	
	REC	Yellow and green	
	NET	Yellow and green	
	ALM	Red light	
	AUD	Red light	
	ERR	Red light	
storage	SSD	1 x2.5 "SSD Thickness compatible with 7mm	
	SD	The SDXC supports 32GB, 64GB, 128GB, or 256GB, hot-swappable. The front panel can be easily inserted and removed	

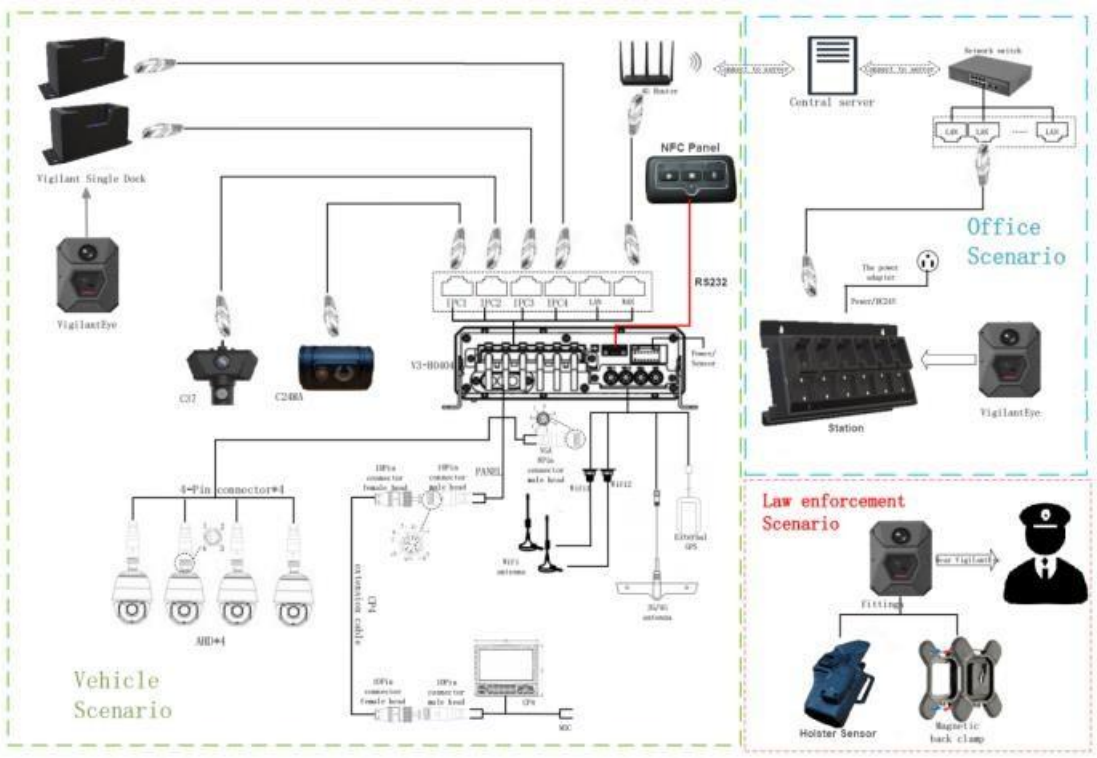
interface	USB	1 x USB2.0 (Type A)
	SD	1 x SD card slot
	SIM	1 X SIM card slot
	A serial port	2 x RS232, 1 x RS485
	CAN	1 x CAN
	Switch quantity	8 inputs and 2 outputs
	Pulse speed	1 channel, single end
	The control panel	CP4/CP5
	intercom	1 MIC interface (CP4)
The power supply	The input	DC 8~36V
	The output	5V@500mA,1A & 12V@500mA,1A
	Maximum typical power consumption	41W
	Standby power consumption	Material 0 w
Physical properties	Size (mm)	237.35 x 188 x 60 mm
	Weight (Kg)	2.1Kg (with hard disks)
The environment	Working temperature	- 40 ℃ ~ + 70 ℃
	Working humidity	90% (no condensation)
	Salt fog	Meet GB/T 2423.17 standard

1.2. V3 Size

(Unit: mm)



1.3. System diagram



2. Function Overview

2.1. Basic Function

Live View, Alarm recording, record playback, evidence uploading, GPS positioning, parameter setting.

- NFC matching BWC

The police use BWC to quickly match with the vehicle MDVR through NFC, so that the police can quickly find the vehicular record of the police car as auxiliary evidence.

- Record encryption

MDVR record adopts more advanced encryption mode(AES-256) to ensure high security of record data. Ordinary record player cannot play police vehicle-mounted record directly.

- Bluetooth linkage BWC recording

The MDVR has an urgent alarm button. It can generate alarm information and notify BWC linkage recording through Bluetooth. IO alarm/ Urgent Alram can be setted to linkage BWC recording as well.

- Pull gun link to the MDVR

When the police officer pull the gun, the gun holster sensor will be activated to send the pull gun signal, and alarm will be generated through the Bluetooth information, and MDVR and BWC within 10m will be linked to open recording.

3. Display panel

You can configure parameters, preview, play back, and export data on the CP4 control panel, maintenance tool, or IE UI.

The front panel of v3-H0404 provides an LCD display, NFC panel, status indicator, and three buttons (record recording on, record recording off, and mute).

The keys	instructions
Record button	Button Alarm to start recording.Turn on the green light.
Stop button	Close record, click to close button alarm and BT alarm. After clicking, 3S blue

	light will be on, and off with the record button.
Mute button	Turn on the mute button. After clicking the mute button during recording, mute will be power on and the button will turn red.
NFC zone	Supports NFC communication. BWC can be paired with V3 through NFC.
LCD screen	LCD display. Display time when no recording, display Recording when recording.
Status LED	Indicators include Power, Record, Network, Alarm, Audio, and Error.
PWR	When the status light is on, V3 is powered on / when it is off, V3 is powered off
REC	When the status light is on, V3 is recording / when it is off, V3 is not recording
NET	When the status light is on, V3 is connected to the network / when it is off, V3 is not connected to the network
ALM	When the status light is on, V3 is in alarm / when it is off, V3 does not alarm
AUD	When the camera is mute, the LED show turn on.
ERR	When the status light is on, there is an error in V3 operation / when it is off, V3 operates normally.

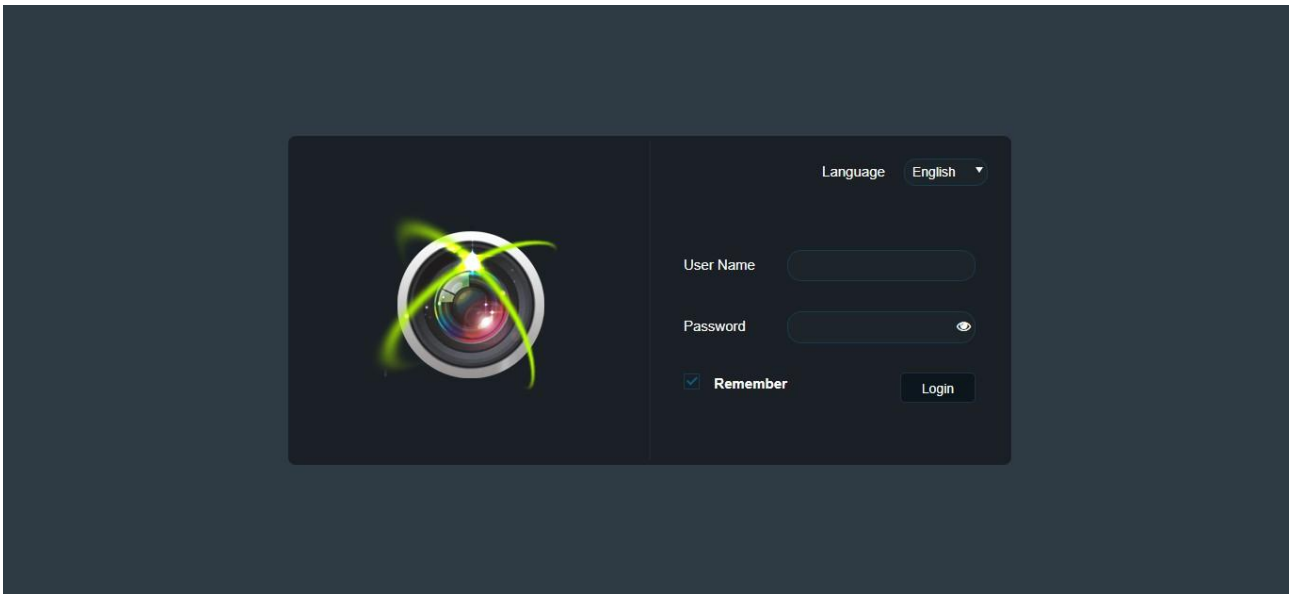
4. Login

First, connect the MDVR back-end WLAN port to the LAN through a network cable. You can obtain the IP address of the MDVR by viewing the network status through the router background, CP4, or maintenance tool. If MDVR has a static IP set, you can use the static IP set.

Note: V3 default IP address: 192.168.1.100

Open Internet Explorer or Edge on a PC and log in to the IP address of the MDVR. The login page is displayed.

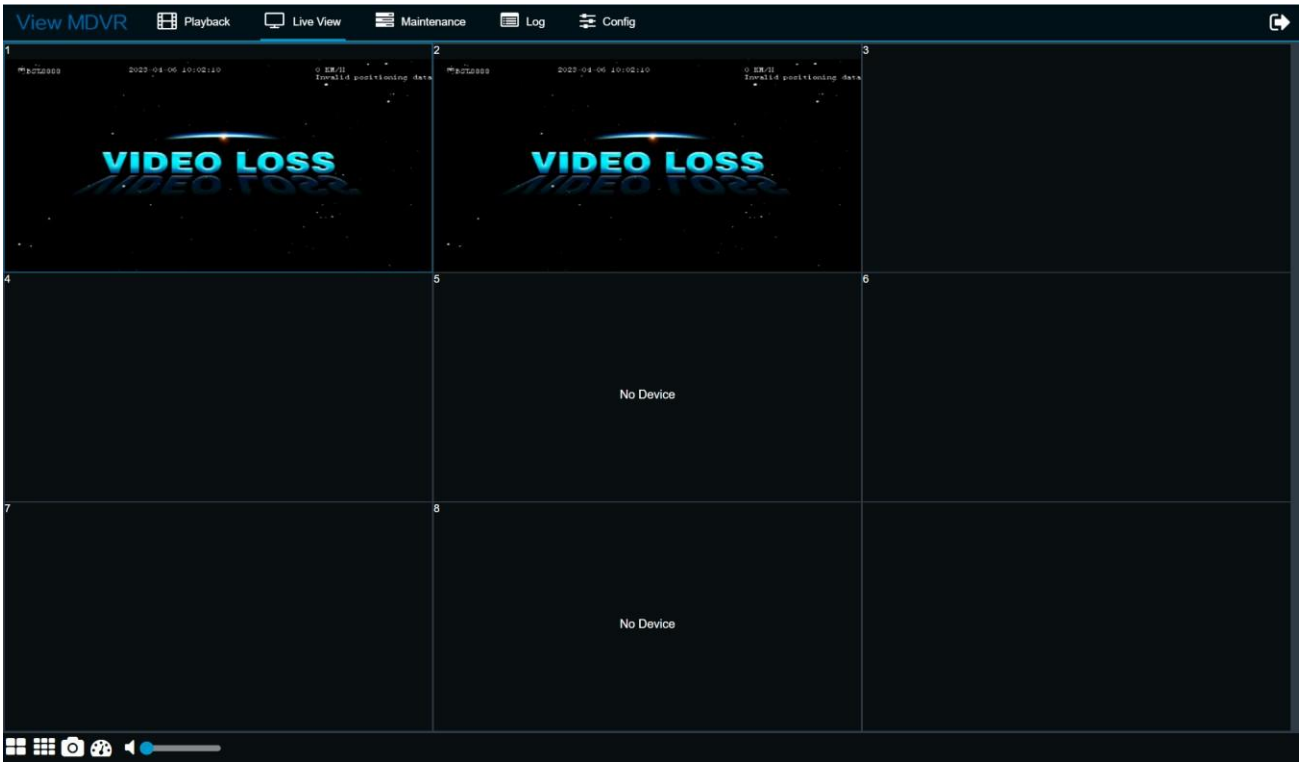
Enter the administrator account and password (the default account and password are admin with no password), and click Login. The administrator account can set the MDVR. You can also use police account password to log in.



Mdvr-v3 supports English and Chinese. The default language is English.

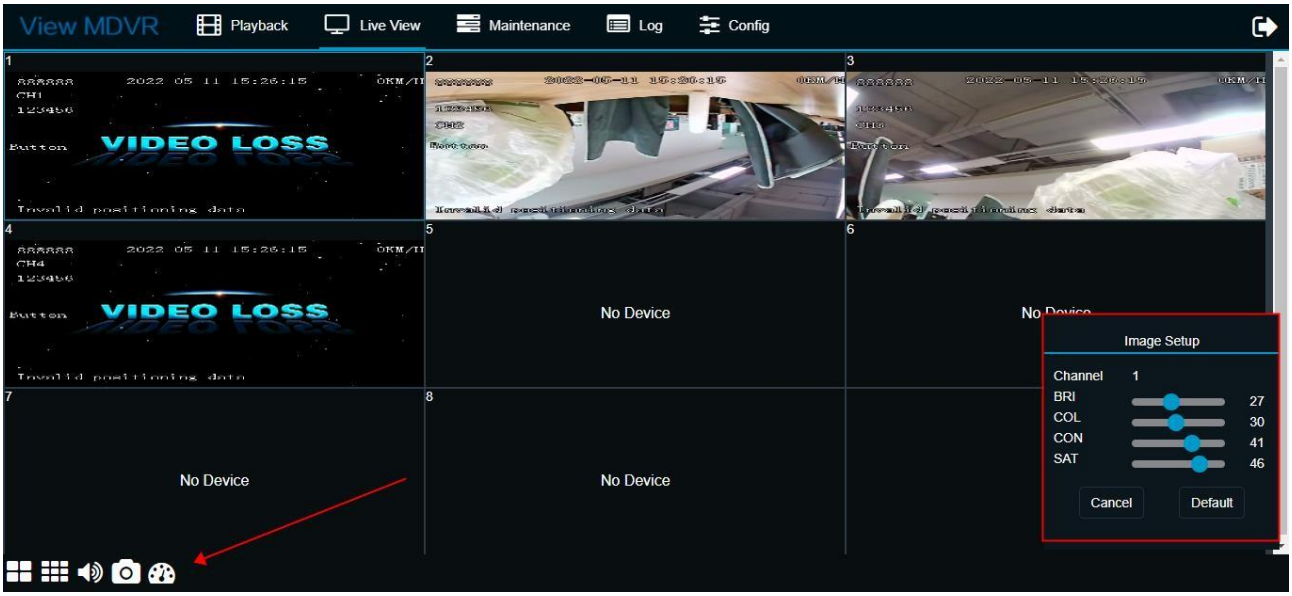
5. Live view

After a successful login, the Live View interface is entered by default, and the record can be displayed in real-time in the form of single interface, four interface, or nine interface, as shown in the following figure.



- **Single interface/Four interface/nine interface:** Click [Single interface] to switch the record channel, click [four interface] / nine interface] to switch the record channel;

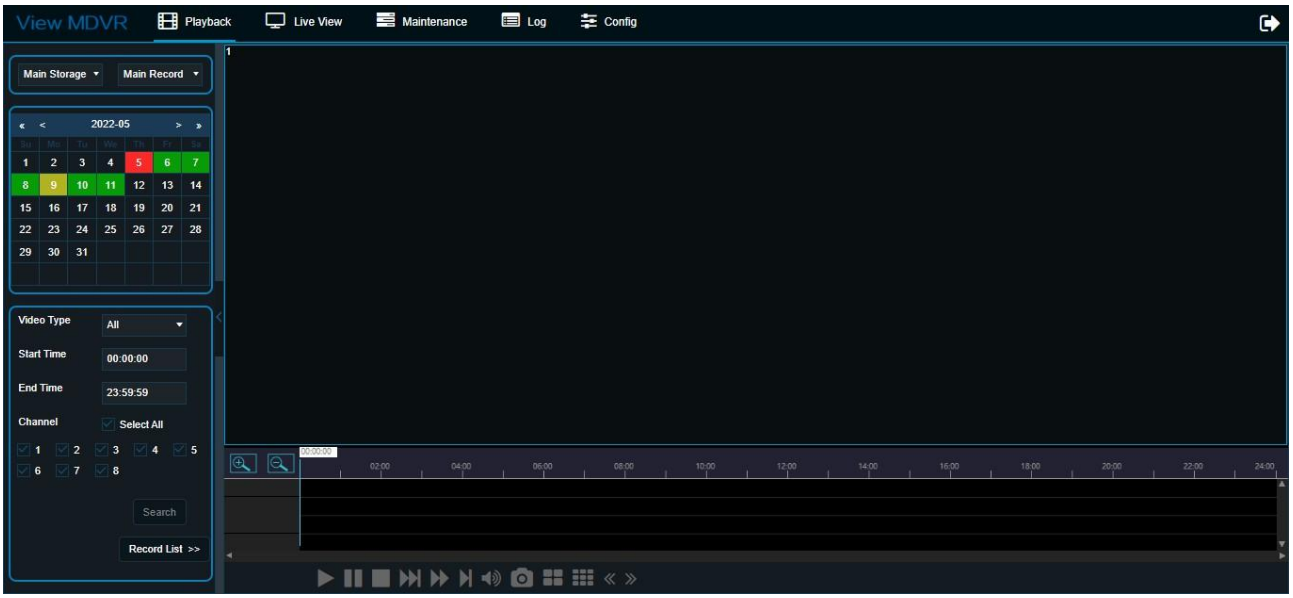
- Sound button: Can turn on or off the sound of live View;
- Capture button: you can capture the direct interface of the current channel.If there is multi-channel display, will fail to capture;
- interface adjustment: you can adjust the parameters of the live view interface;



- Live View interface can be OSD: time, speed, license plate, location information, alarm state, channel name, vehicle self-numbering, ACC information;See Chapter X for details on whether the overlay information is displayed in parameter setup.

6. Record Playback

Click "Playback" in interface to enter the record query and playback interface, as shown below:



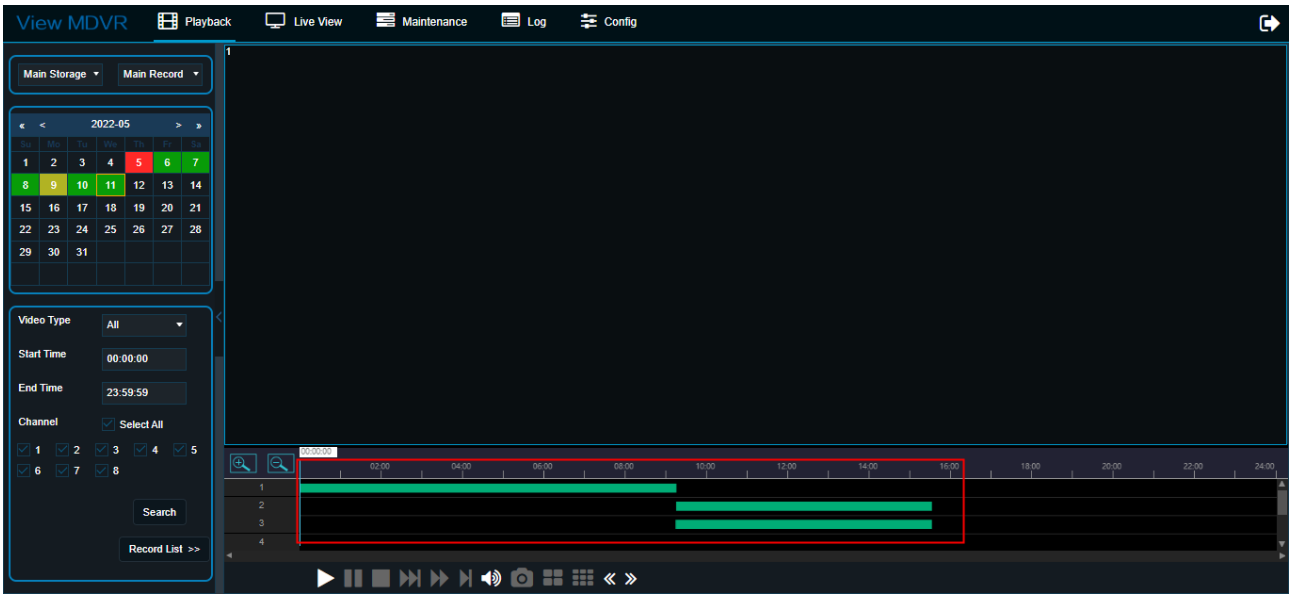
You can select record source: main Record, sub Record.Among them:

The main record	It means the recording of the main card
The sub record	It means sub stream

In the calendar, a color bar at the bottom of a date indicates the existence of a record record for that date.Among them:

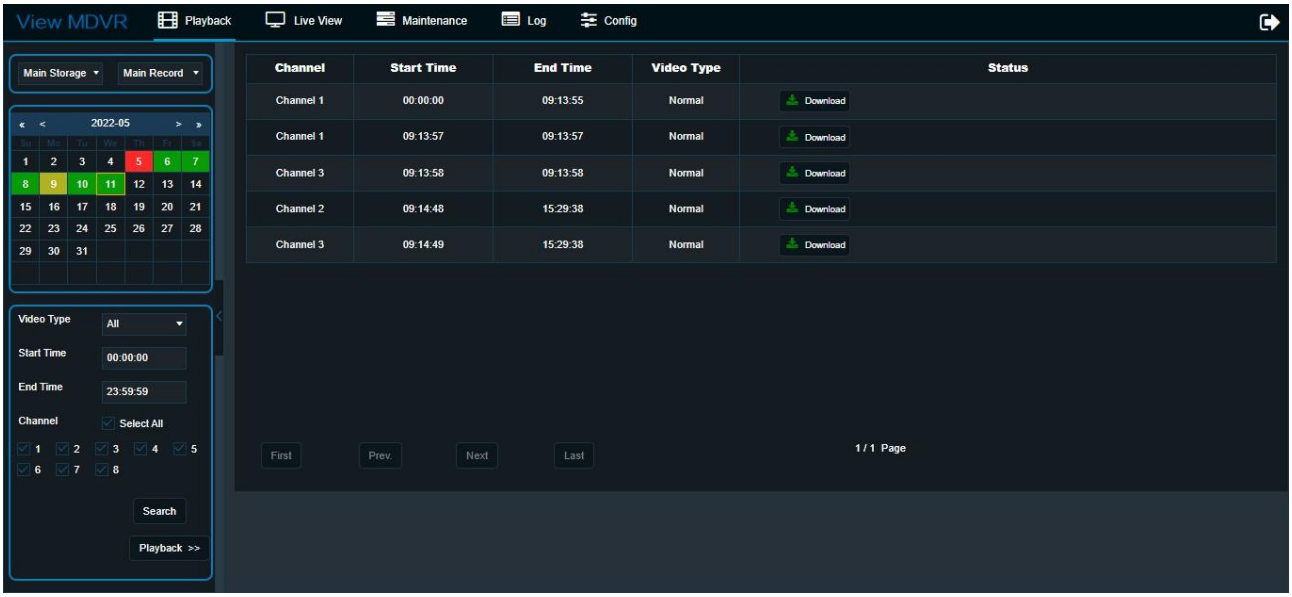
no color	It means there is no record on the day
green	It means there has ordinary record that day
red	It means there has alarm record that day
yellow	It means there has record and some files are automatically locked (lock recording)

You can query the main and sub stream record for a certain day as required.Select the date (year, month) to view the record in the upper left of the interface, select the date with record on that day, select the time period and channel to view, and then click Search and Record List, as shown below:

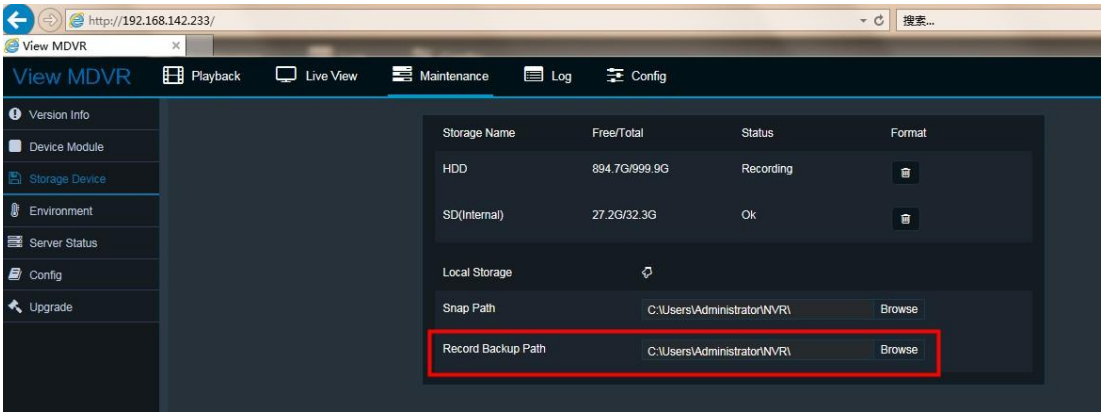


Export video. Click record list then click download.

Note: Please run the browser as administrator authority, otherwise will export fail.



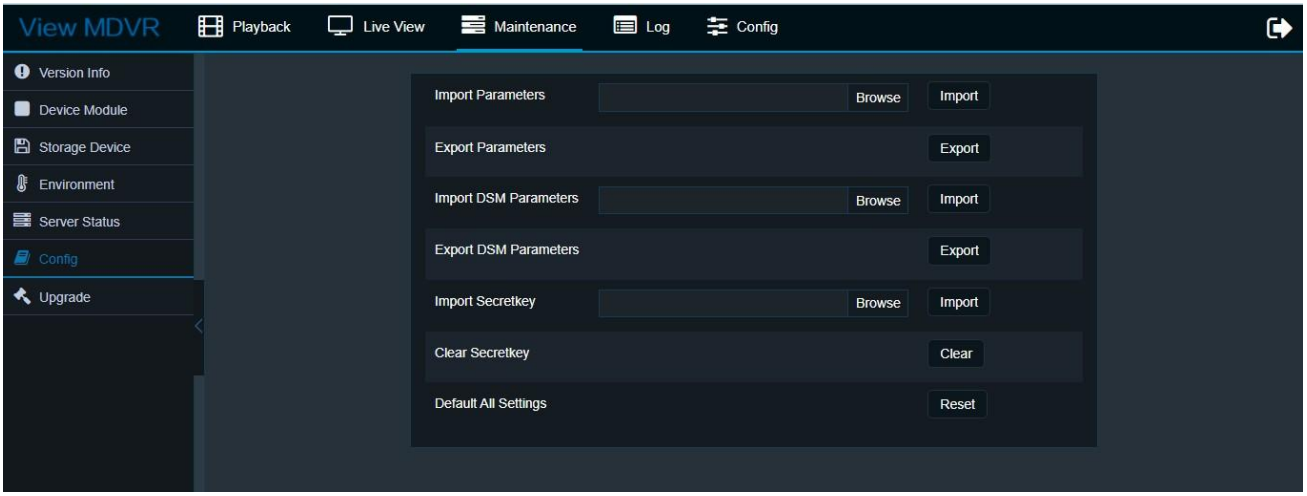
Here is the path to backup the video.



- Record type:
    1) Select all record, search the channels that meet the conditions;
    2) Select regular record, search record except alarm record;
    3) If alarm recording is selected, only alarm linkage recording is searched.
    4) Select lock record to search only alarm lock record.
- Channel select:
    1) If there has record in the channel on that day, it is optional and has the color mark of the record type;
    2) The channel without record on that day is gray and not optional;
    3) Depending on the type of record selected, there will be different associated prompts.

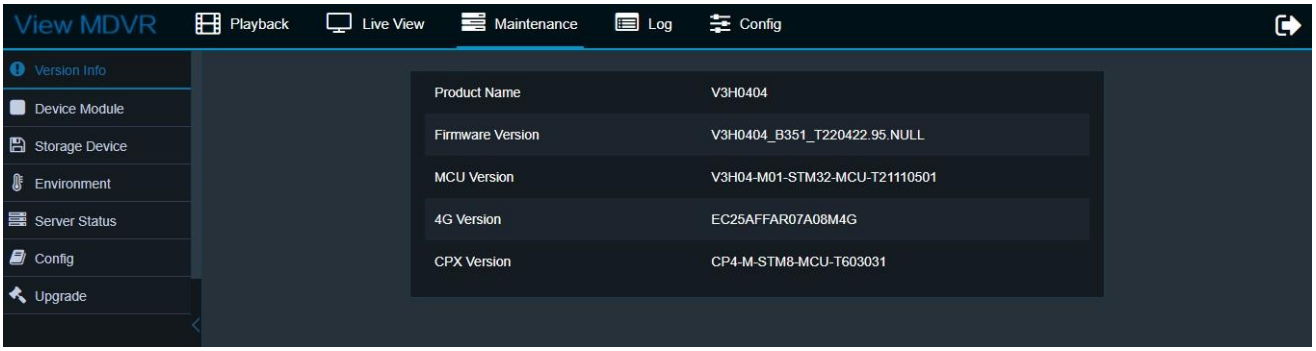
7. Maintenance

On the maintenance configuration page, you can view the version information, device module information, storage status, environment, server status, config, and upgrade.



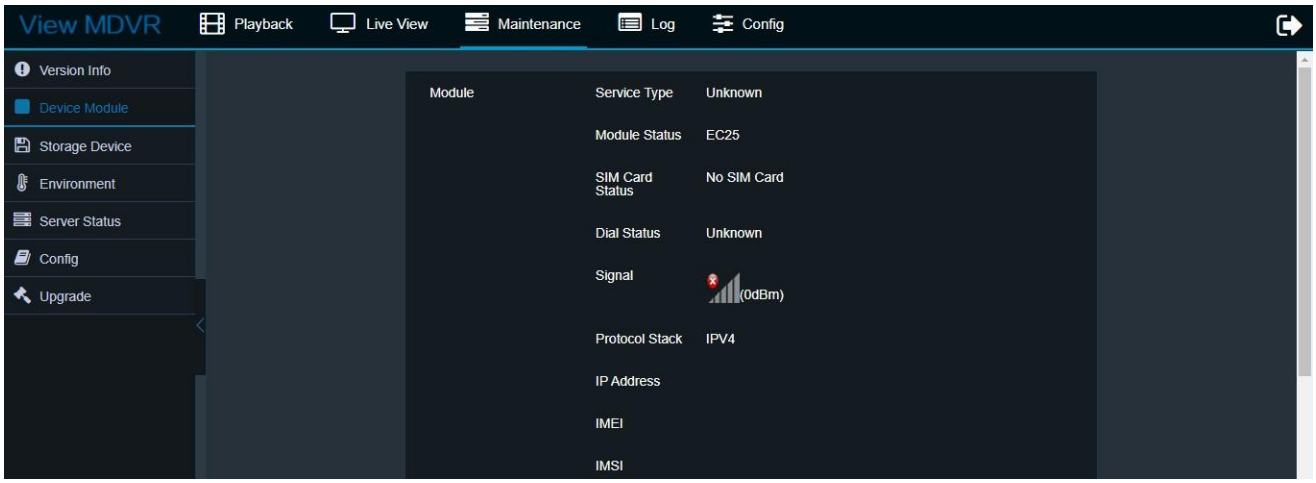
7.1. Version Info

[Device Version] : The interface displays the device name, device version, MCU version, 4g version, and CP4 version.



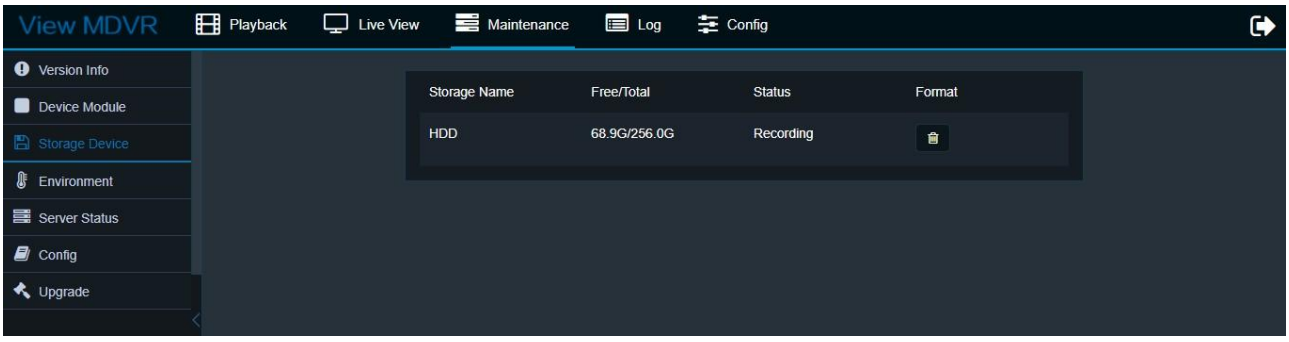
7.2. Device Module

[Module information] : On this interface, communication module information, WiFi module information, GPS module information can be displayed.



7.3. Storage Device

[Storage] : Displays the SD card storage status.

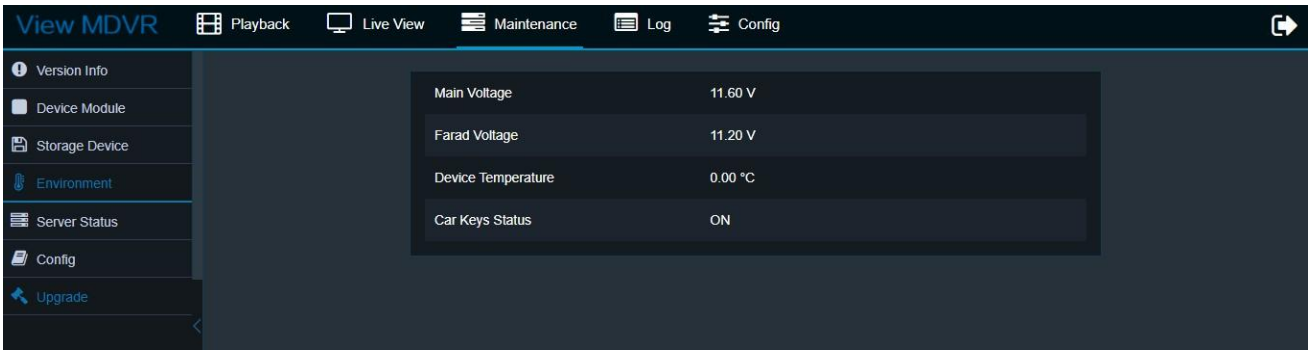


The following functions can be queried on this page:

- Memory type: Indicates the memory type being used by the device. Dual hard disks and dual SD cards are supported.
- [Status] : Indicates the current recording status.
- [Available / Total capacity]: indicates the current available capacity and total capacity of the packet.
- [Format] :
    1) Click "Format" to start formatting. After the formatting succeeds, the capacity information of the currently formatted disk will be refreshed.
    2) After success, you can record normally without restarting device.
    3) Format time, about 10 seconds.
- Note: The new hard disk and SD card must be formatted manually before being used for the first time.

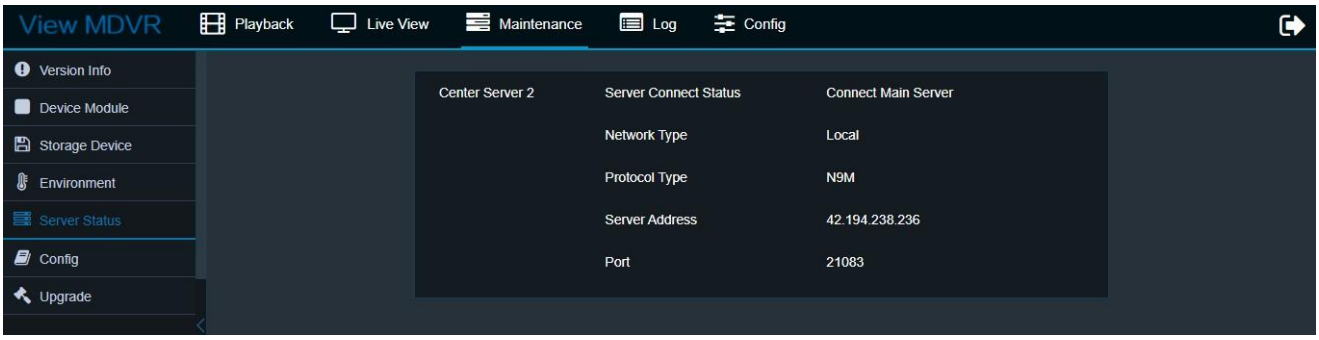
7.4. Envionment

[Environment information] : Displays the voltage value, temperature and other information of the device.



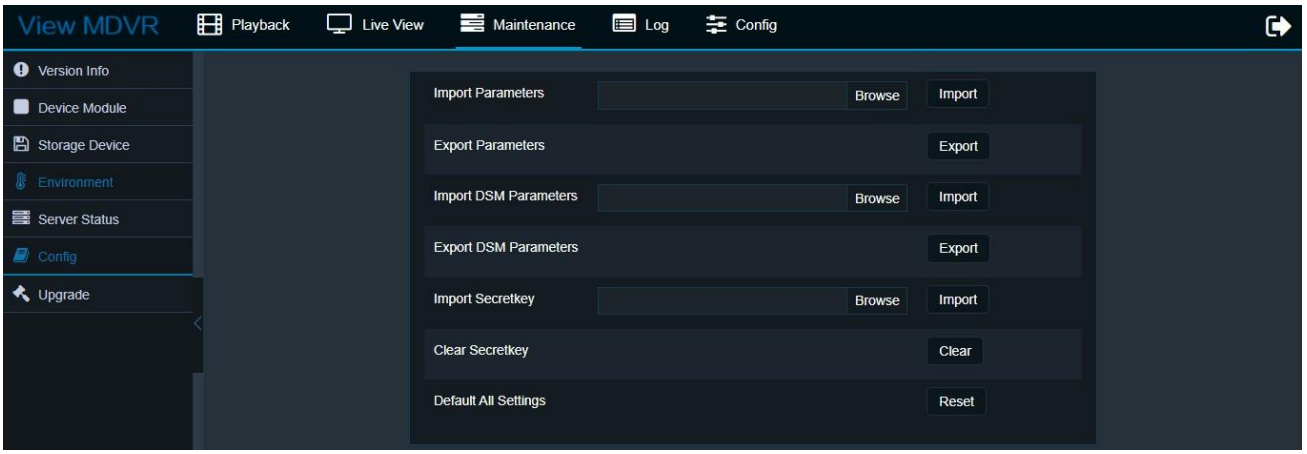
7.5. Server Status

[Server status] : Displays the connection status and server information of connected servers.If multiple servers are configured, you can view the connection status of each server.



7.6. Config

You can export and import V3 parameters, import and export DSM device parameters, and reset device:

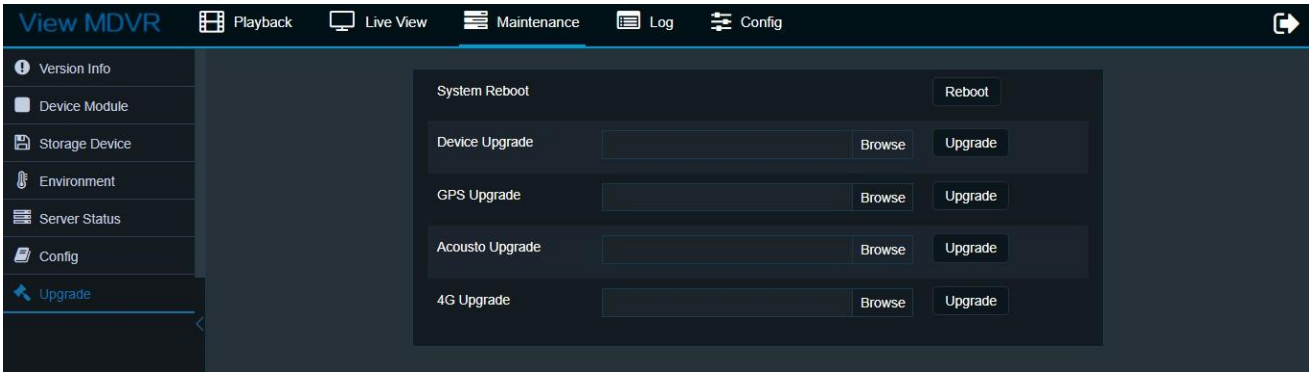


7.7. Upgrade

[Upgrade] On the upgrade interface, you can upgrade, restart, and upgrade the module of V3.

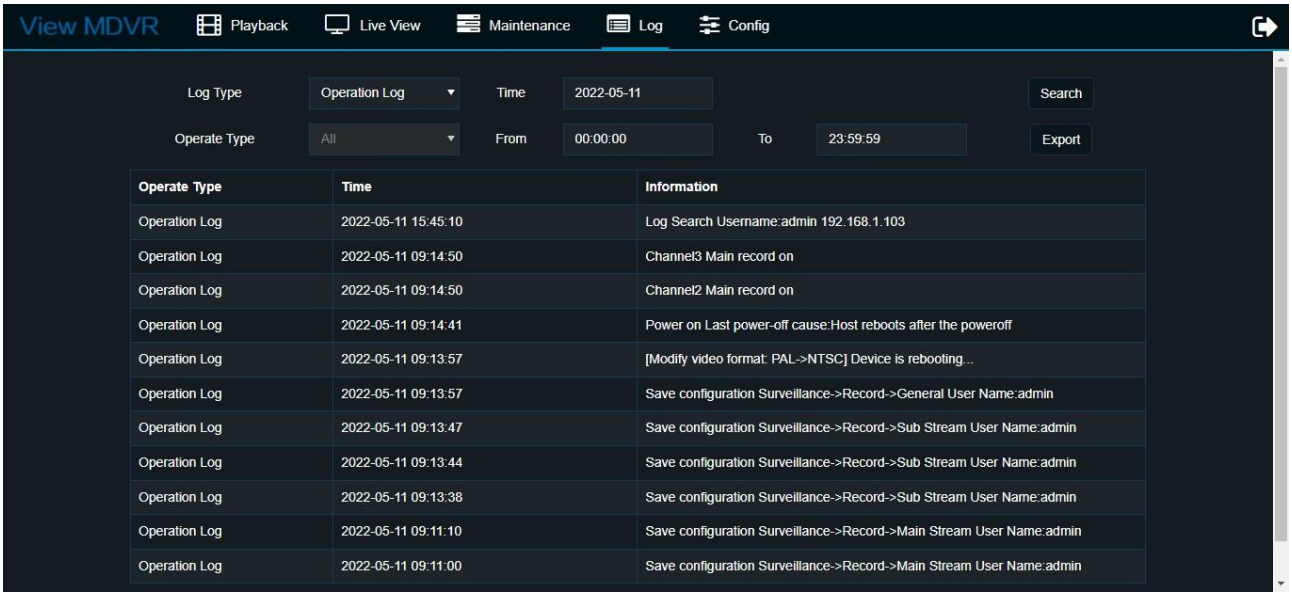
When the V3 device software is upgraded, the device automatically enter the upgrade page. After the upgrade is complete, the device automatically restarts and starts normally.The V3 does not restart when upgradeed by other software.

Note: 1) Do not power off during the upgrade. 2) (Usb flash disk upgrade)When upgrading software, do not store multiple upgrade files at the same folder. If multiple upgrade files are stored at the same time, one of them will be upgraded randomly.



8. Log Search

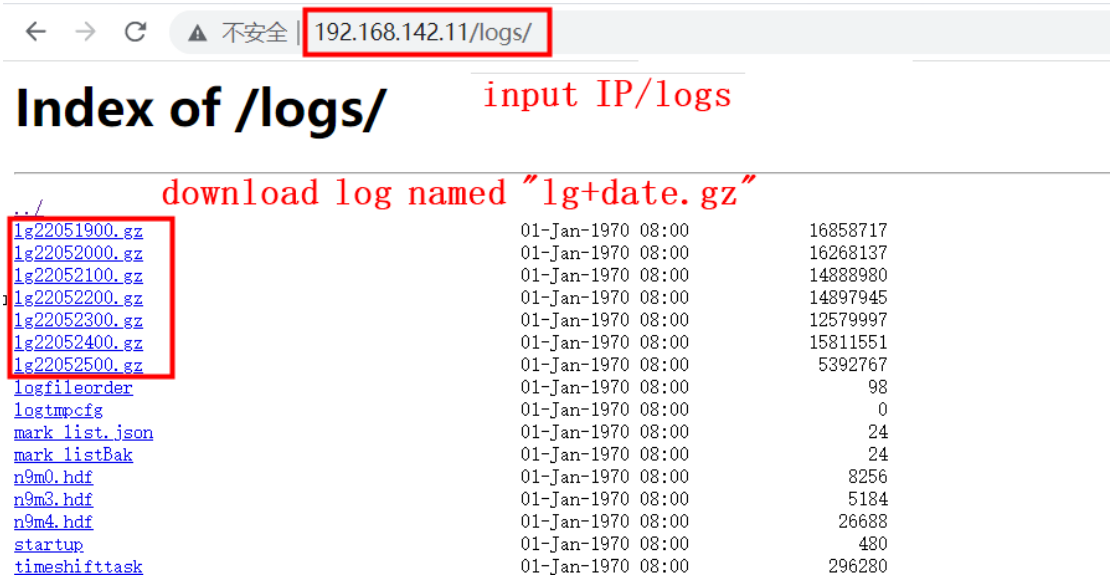
(1) The log query page records and displays logs about device all operations, alarm events, and locked logs. The alarm log is useful when you want to see when V3 generates an alarm



Description of the log query interface:

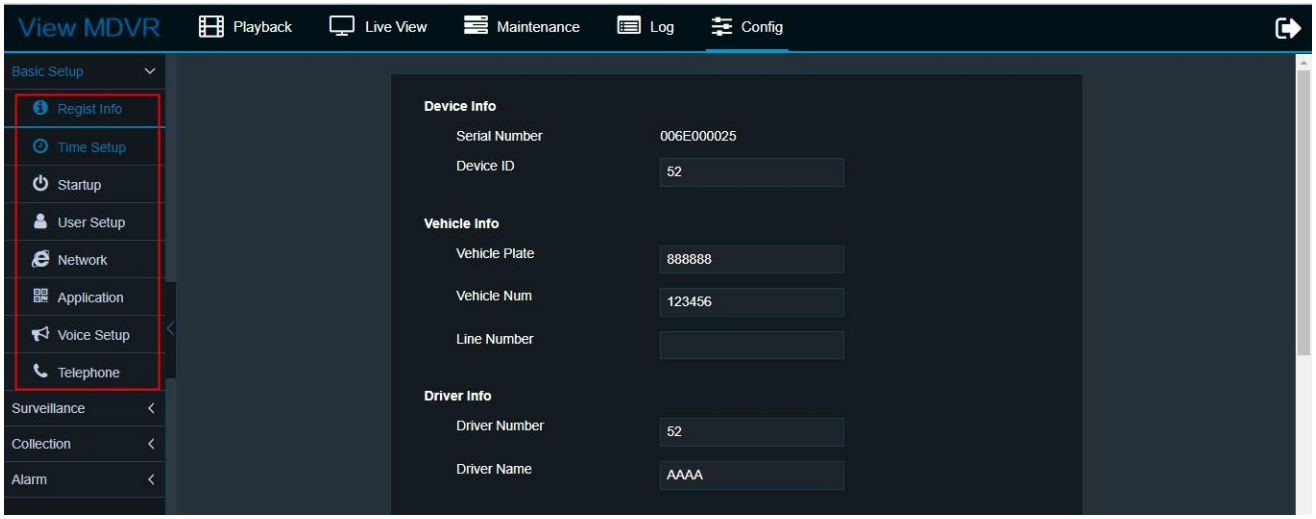
- Log types: Operation logs, alarm logs, and lock logs.
- Time: Select the date for querying logs.
- Type: Select alarm log,you can select the alarm type.
- Time: Select the start time and end time for querying logs.
- Export: You can export the current queried logs.

(2) When something wrong and R&D needs to provide V3 running log, please input the “V3 IP/logs/” . Download the log of the day when the prolem occured to us (as shown below).



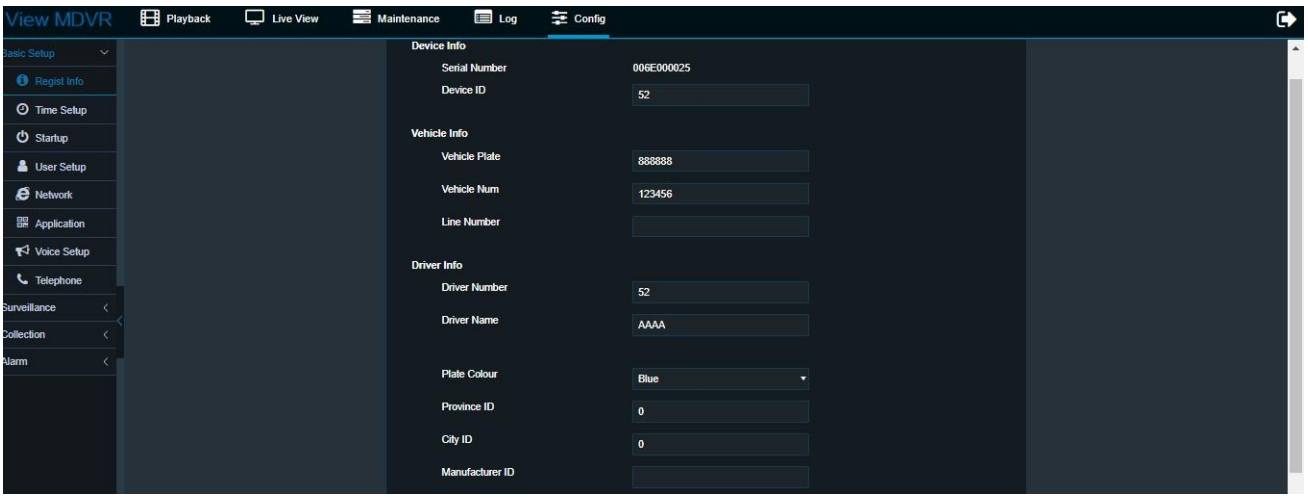
9. Basic Setup

Click [config] > [Basic setup], in the basic setup interface, you can set register information, time Setup, startup, user Setup, network Setup, application, voice Setup, phone Setup.

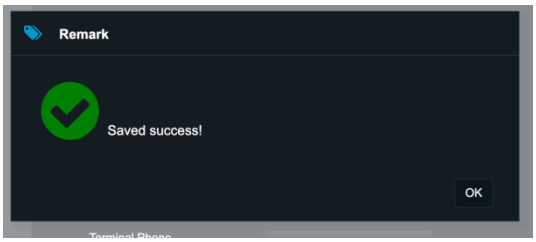


9.1. Regist Info

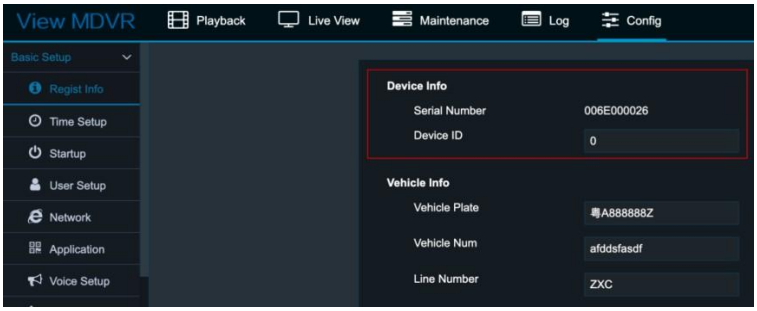
This function allows you to set device registration information. Enter the vehicle information in the interface shown in the figure below, and click "save" to save the setting.



When CP4/IE prompts to save successfully (as shown in the figure below), you can confirm that the vehicle information is added successfully. Click "OK" to close the prompt.



Click "device info" on the same page to view the serial number of the device (which will be used by the subsequent reporting VEMS)



(1) device information

- Serial number: device serial number
- Device ID: Enter the device ID.

(2) Vehicle information

- In the vehicle information setting interface, you can set the license plate number, vehicle serial number and line.

(3) Driver information

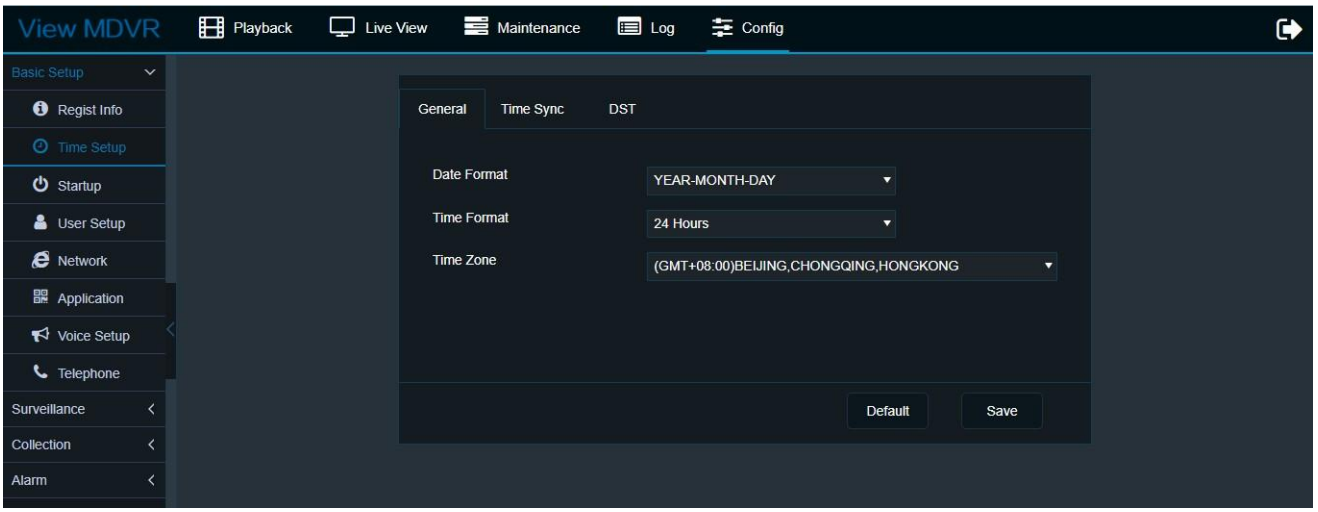
- Driver information, such as driver number, name, license plate color, etc.

Time Setup

Choose config > Basic setup > Time setup.

9.2. Time Setup

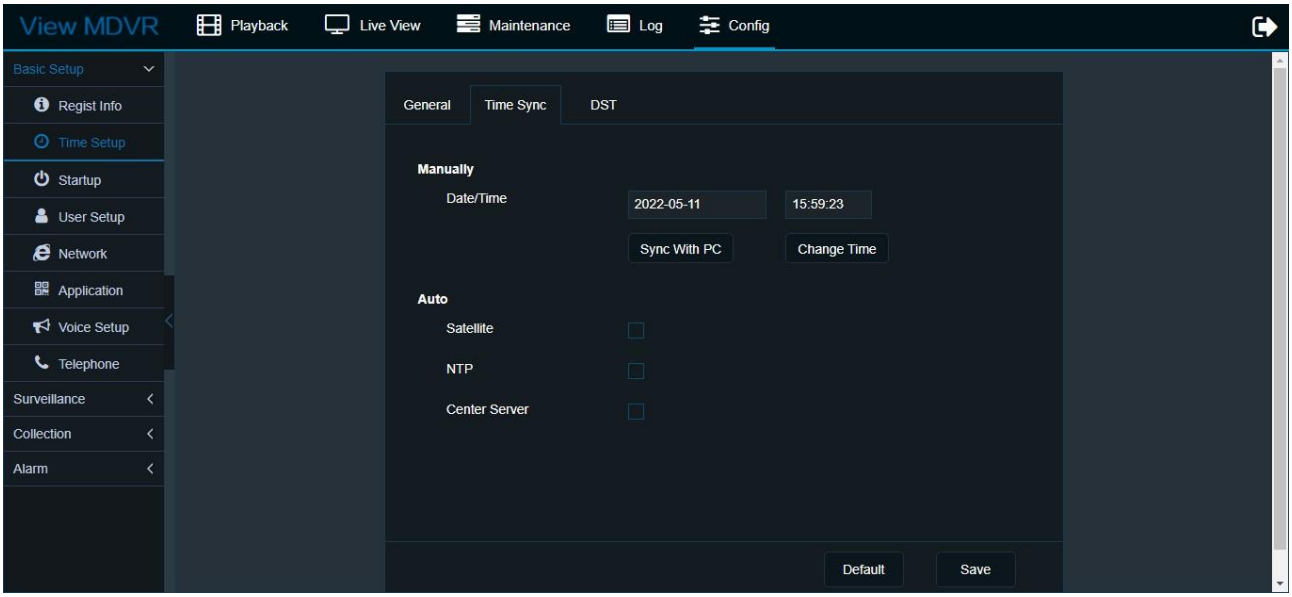
9.2.1. General



Make sure your Device (MDVR and BWC) is the some time zone with VEMS. So that device can upload evidence to VEMS normally.

- Date format: year/month/day, month/day/year, day/month/year.
- Time format: 24 hours or 12 hours.
- Time zone: Supports time zone selection.

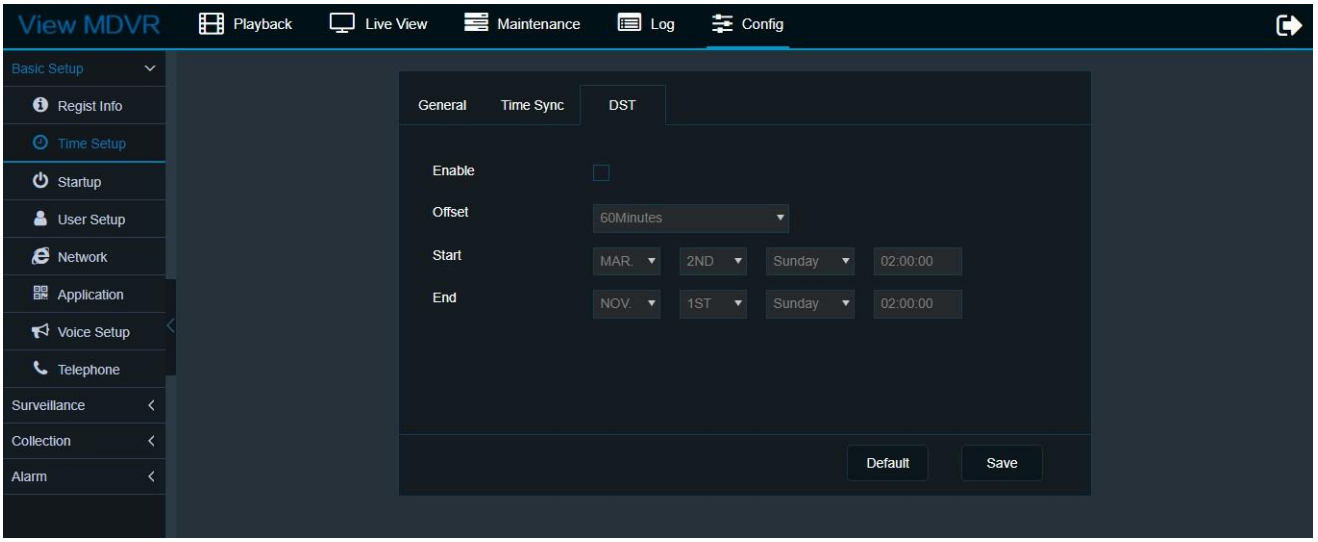
9.2.2. Time Sync



- Synchronize time with computer.
- Support GPS satellite time calibration.
- NTP calibration is supported, the NTP server is available.
- Support platform calibration.
- Supports multiple time adjustment functions at the same time. When one mode cannot be adjusted, other modes can be automatically switched.Follow the sequence of Satellite >NTP> Central Server.When satellite calibration fails, NTP calibration is performed. When NTP calibration fails, central calibration is performed.
- After the startup calibration is successful, the calibration should be repeated every 24 hours.The time correction action is executed according to a certain policy:

  1) System startup calibration.
  2) Calibration when GPS signal changed from invalid to valid..
  3) Calibration failure, continue to calibration, until success.

9.2.3. DST

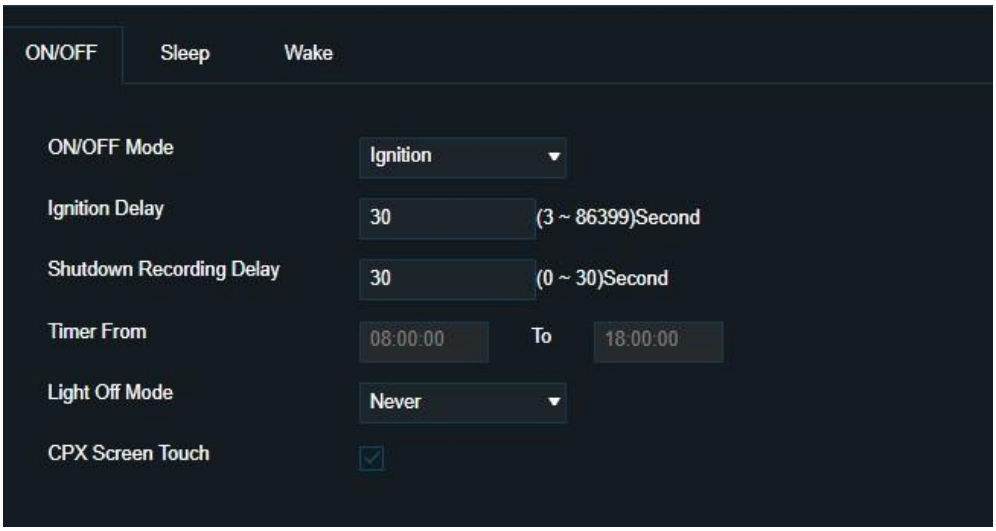


- [Enable] : The DST function can be enabled or disabled by user. By default, the DST function is disabled.
- [Offset]: indicates an Offset of 1 or 2 hours.
- Week mode: Set the start and end of the DST based on the month, day of the week, and time.
- Date mode: Set the start and end of the DST based on the date, hour, minute, and second.

9.3. Startup

9.3.1. ON/OFF

This function allows you to set the start mode and time of the V3 device.Click [config] > [Basic setup] > [Startup] > [on/off]. The interface is shown as follows:



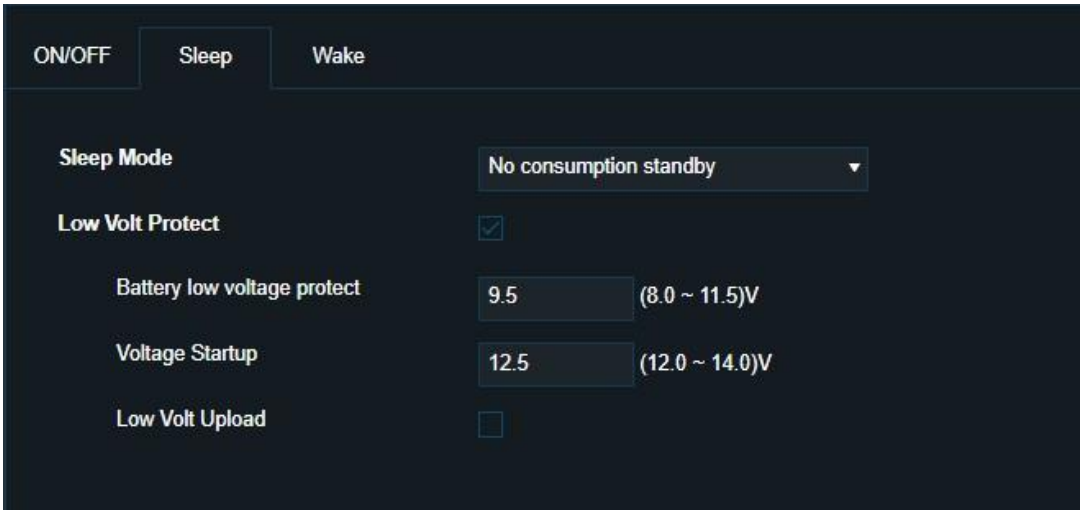
- **Start mode: ignition, timer, ignition or timer.**
  1) [Ignition mode], that is open the car key to start the device.
  2) [Timer mode] : Set the startup time from (H: min: s to H: min: s). The device starts when the time is equal to the start time and shuts down when the time is equal to the end time.
  3) [ignition or timer]: any one of ignition or timer is establish, V3 will power on, both two conditions are false will not power off.
- **Ignition shutdown delay:**
  1) Only take effect in the ignition starting state;Turn off the car key to enter the ignition shutdown delay processing, and prompt countdown shutdown time, the delay time can be set (0~86399 seconds).
  2) If the operation interface stays in the setup interface, the countdown is not entered, but when you exit to the live view interface, the countdown is entered.
- **Timer power on time:**
  1) It can be set only when switching mode is selected timer mode or ignition or timer mode;
  2) Input the time, the device will be power on and off at the specified time.
  3) If the operation interface stays on the setup interface, the device will be powered off only after exiting the interface.

  Note: Timer shutdown also meets this condition. It is not shut down in the setting interface, and can only be shut down after exiting the interface.

[Hard disk lock shuts down] The function of the hard disk lock is to ensure that the device is shut down before the SD card is removed to protect the SD card.

9.3.2. Sleep

This function can set the sleep state after the shutdown. Click [config] > [Basic setup] > [startup] > [Sleep]. The interface is as follows:



- **Sleep mode:**
  1) Zero power Standby: The device does not wake up after it is powered off or powered off at a scheduled time.
  2) Low-power standby: After the device is powered off, the system can be woken up by the IO alarm .
- **Low voltage protection**

A function designed to protect the battery when the battery voltage below a certain value.The interface is shown as follows:

- **Low voltage protection enable:**

Low voltage protection	**keys**	**device working condition**
Open	Ope	• The current voltage is lower than the protection voltage, and the device enters the low-power standby state.

		• After the voltage is restored, the device wakes up to work.
	close	• When the current voltage is low than the protection voltage, the device into the state that does not work; • The device does not wake up after the voltage is restored.
close	/	The device defaults 10V as the judgment condition of low voltage protection, and the rule of car key is the same as the above two requirements.

- **Battery low voltage protection:** When low voltage protection is enabled, set this value as condition of low voltage protection.
- **Restore startup voltage:** When the voltage reaches this value, the device will resume startup.
- **Low voltage reporting enable:** If this function is enabled, low voltage is detected and immediately reported to the platform before protection.This condition is called a "low voltage alarm," and includes the license plate number, time, and GPS location.

  If low voltage shutdown protection occurs, a log is generated, which can be viewed in log query

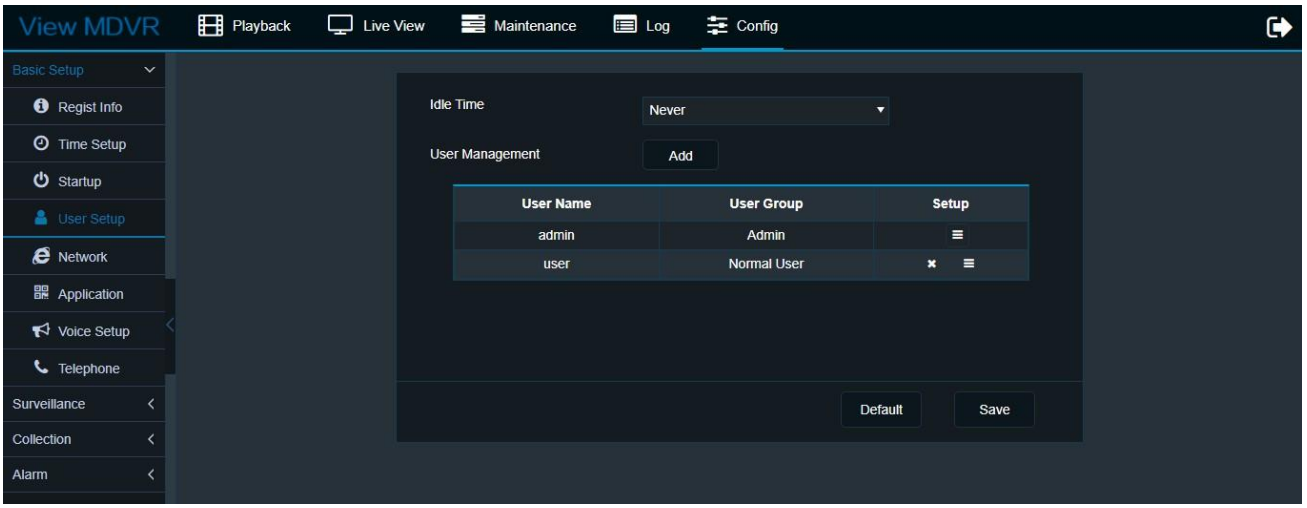
9.3.3. Wake

V3-h0404 supports I/O wake up and G sensor wake up.

9.4. User Setup

Click "setup" > "Basic setup" > "User setup".The following interface is displayed, on which you can add, delete, and edit common user name and password.

Administrator: The administrator password default empty and it can be changed, but the administrator name cannot be changed or deleted.



User account:

1) Users can be divided into administrators and ordinary user.
2) By default, there is an administrator account admin and a common user for the first login.
3) You can reset your password , and add or delete your account.
4) A maximum of one administrator account and two common users can be configured.

User rights:

account	The default password	The user types	permissions
admin	admin	administrator	Administrator, all privileges
user	user	user	Other function besides setup and maintenance

- **IdleTime:**

The idle time refers to the interval for a user to log in to the device using an account and enter the setup page again after a period of time.The idle time can be set to 30s, 1min, 3min, 5min, 10min or never.

- **Add user**

1) Only administrator can add user.
2) A maximum of one administrator and two users can exist.
3) The username cannot be empty or have the same name as an existing user.
4) The user password can be empty.
5) After adding a user, click "OK" button to return to the user setting interface, and click "Save" button.

- **Edit the user**

Enter the user name and password, and then click "OK" to return to the user setup interface. Click "Save".

Changing the user name and password. The operation does not need to confirm the old password and cannot change the administrator user name.

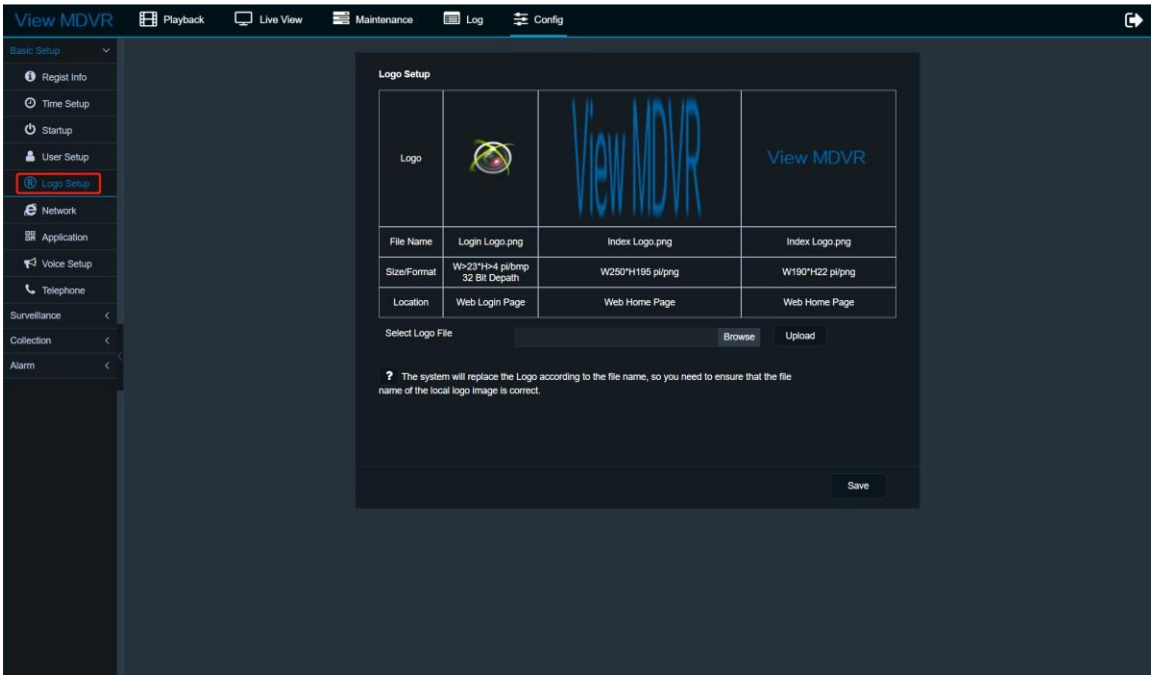
- **Delete user**

On the user setup page, you can delete a common user.Select the common user to be deleted, click "Delete" button, and click "Save" button.Note： administrators cannot be deleted.

9.5. Logo Setup(V1.7)

Can setup the LOGO for OSD and browser logo.

Note:Only C37 and C24MA Support OSD logo, and the camera need to be upgraded to the right version to support.



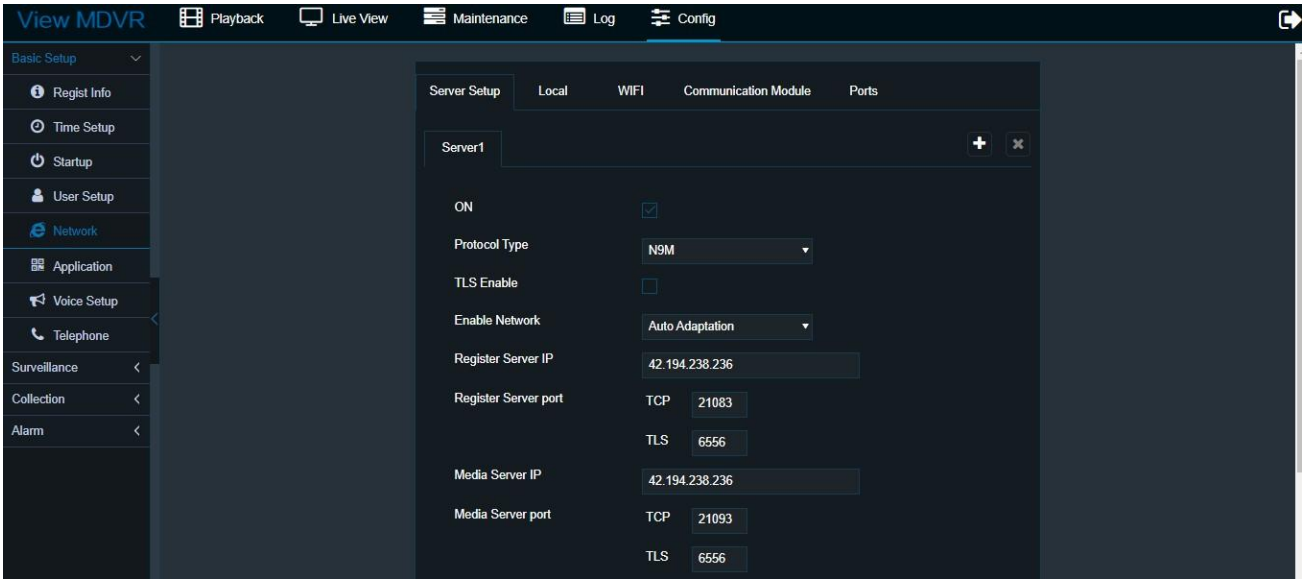
9.6. Network

9.6.1. Server Setup

The device connect to the network and report to the server, you need to set the server information for connecting to the network server, including the protocol type, Registration server and port, and media server address and port.

Note: please ensure that V3 is connected to the network before connecting to the server.

Click [config] > [Basic setup] > [Network setup] > [Server]. The interface is as follows:



The device can connect to multiple servers based on the configuration. By default, the device connects to one server.Servers can be added and removed manually.

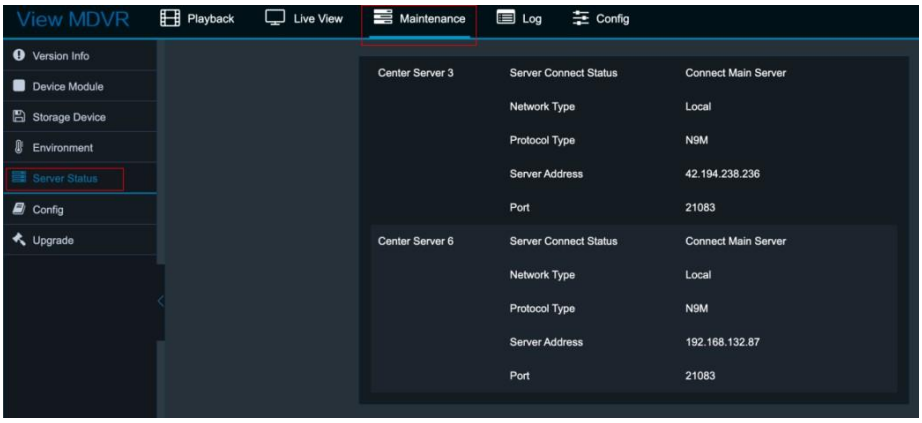
The network connected to the server supports local networks, WIFI networks, and 3G/4G/5G communication networks.

After the dial-up succeeds, the system automatically connects to the server. If the connection fails, the system connects to the server again at an interval of 5 seconds.

- **Select a central server:** By default, only server 1 is available. You can add a maximum of six central servers. Server 1 cannot be deleted.
- **Enable:** If this parameter is selected, the server is enabled. After the enable is not selected, the device does not report to the server, but the server parameters are saved.
- **Protocol Type:**
  1) [N9M] : Protocol type selected by device reporting surveillance platform;
  2) [Maintenance] : protocol selected by the device report to platform;
  3) [808] : Protocol type selected by the 808 platform reported by the device (not used for LE);
- **Use network:** The default value is adaptive and the current network is used. Also select the network mode which obtained by the device, including the local network, WIFI, and communication module.
- **Registration server:** Enter the IP address of the registration server or media server for the platform to be reported.
- **Register server port:** Set this parameter based on the platform port. For VEMS, it is 21083.
- **Media server :** Enter the IP address of the media server to which the device is to report.For VEMS, it is 21093.
- **Media server port:** Set this parameter based on the platform port

  The default address and port of the registration server and media server are the same

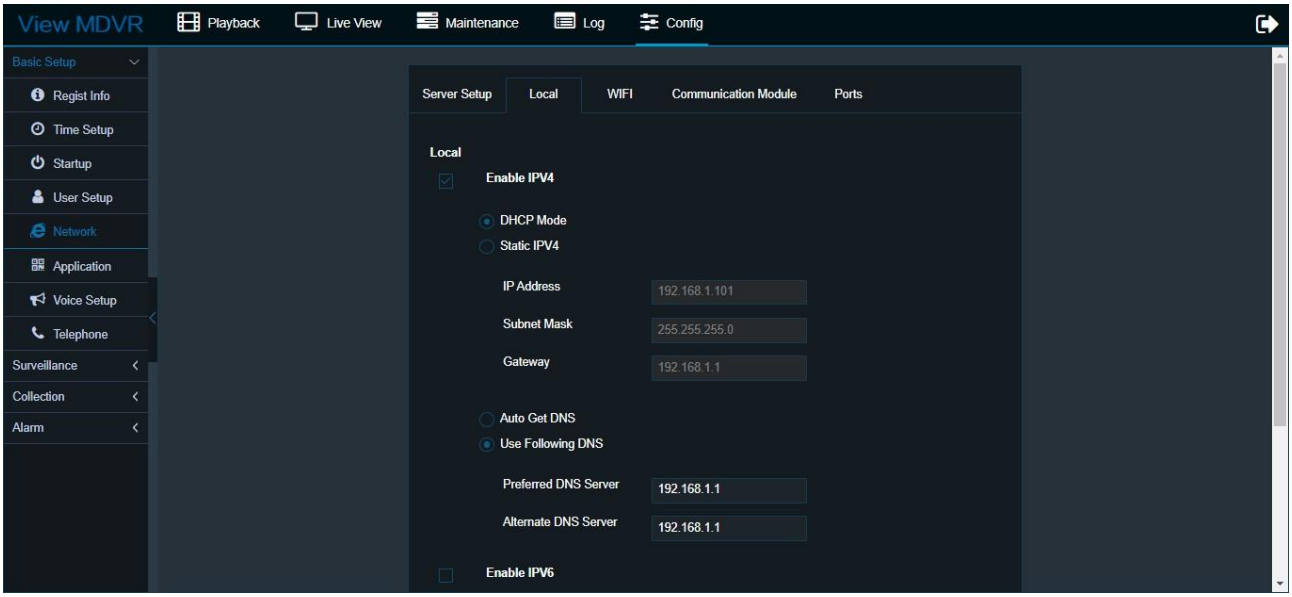
After completing the server configuration, you can view the server connection status in the main menu - > System - > Server Status. When you see that the server status is "connected to the main server", V3 successfully connects to the VEMS server.



Please refer to the document of "VEMS user mannul" to see how to report V3 to VEMS.

9.6.2. Local

The V3 can connect to the Internet through a local network and report to the platform.Click [config] > [Basic setup] > [Network setup] > [local Network]. The local network interface is shown as follows:



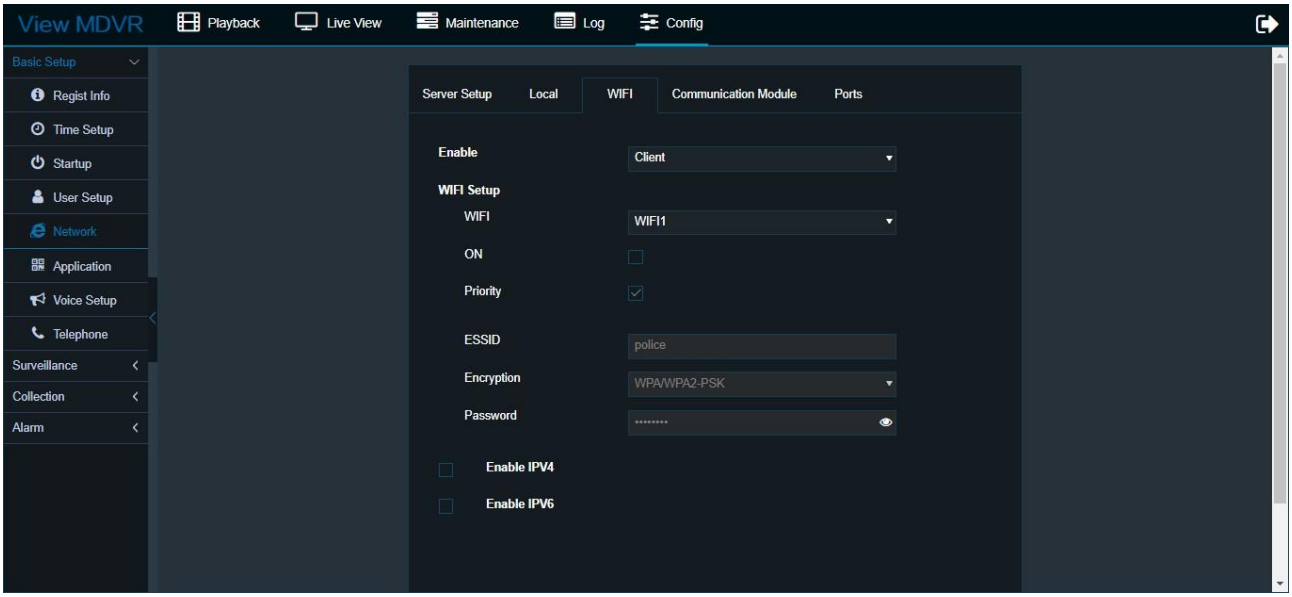
- **IPV4 Enable:** enable IPV4
- **DHCP mode:** DHCP automatically assigns an IP address to a device.If this mode is selected, no other setup are required and the device is directly connected to the Internet.After the network connection is successful, the IP address, subnet mask, and gateway of the device are displayed below.
- **Static IP address:** If you select static IP address, you need to know the available IP address segment and manually enter the IP address, subnet mask, and gateway.
- **DNS:** The DNS server can be automatically obtained or automatically configured.

  1) If the DHCP mode is selected, you can select automatic or custom.

2) If static IP addresses are selected, you can only customize DNS.

9.6.3. WIFI

The device supports external WiFi antenna, connects to the network through Wi-Fi, and reports to the platform. Click [config] > [Basic setup] > [Network setup] > [WIFI]. The interface is as follows:

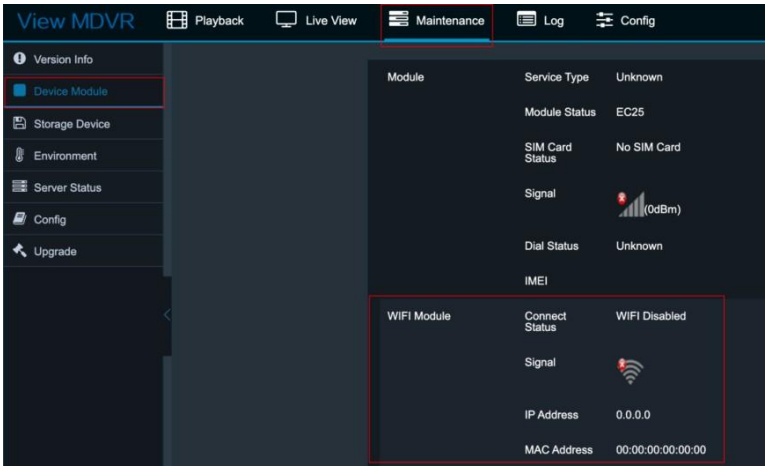


Note: The WiFi module can be used normally only when an external antenna is connected (at least one WiFi antenna is connected).

- **Enable WiFi:** The default value is Disabled, user can choose Client to open WiFi.
- **WiFi Setup--WiFi:** Enter the name of WiFi manually. V3-h0404 supports two WiFi setup.
- **WiFi Setup--ON:** Enable the selected WiFi.

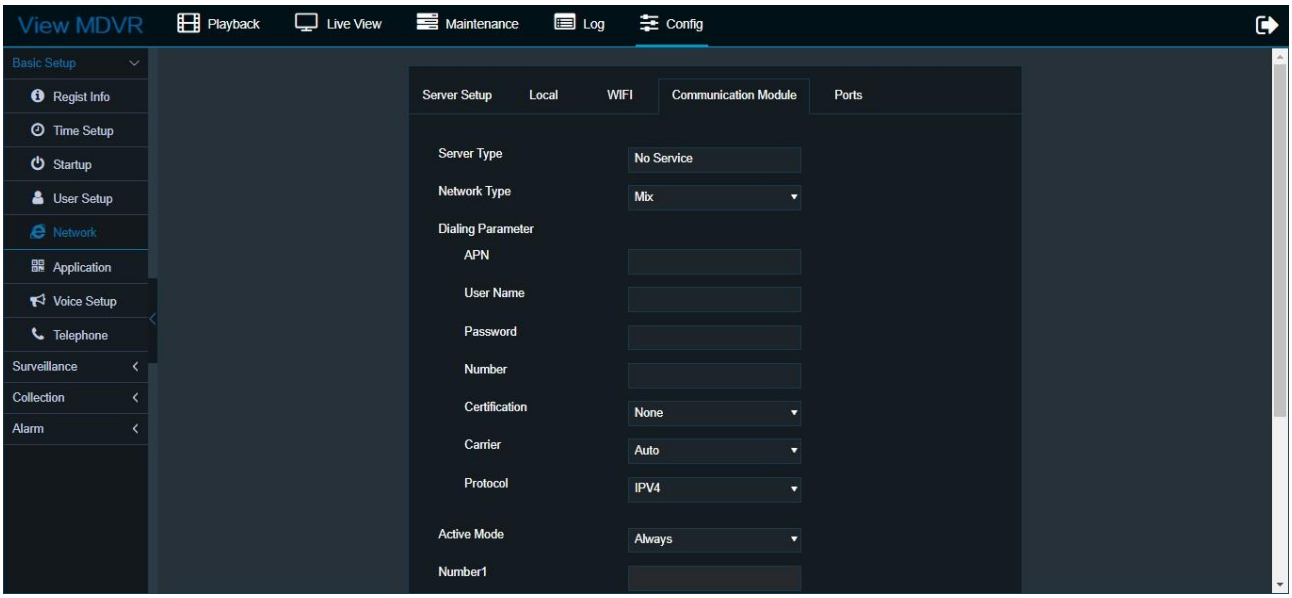
- **WiFi Setup--Priority:** Sets the selected WiFi to priorty.
- **WiFi Setup-- Encryption mode:** Connected WiFi encryption mode can choose : WEP, WPA/WPA2-PSK, and WPA2_Enterprise .The most common is WPA/WPA2-PSK.
- **WiFi Setup-- Password:** Enter the WiFi password.
- **IPV4 and IPV6:** Static IP addresses can be configured for WIFI networks.

After the setting is completed, you can check whether the WiFi is successfully connected through the main menu—> System—> Module—> WIFI.



9.6.4. Sim card

The device can be configured with two network communication modules (2G, 3G, 4G, 5G) to connect the network and report to the platform.Click [config] > [Basic setup] > [Network setup] > [Communication Module]. The interface is as follows:

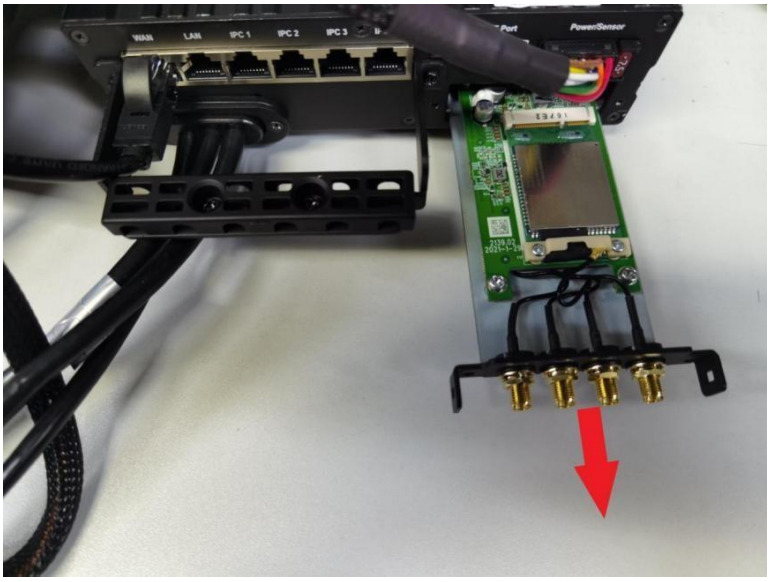


- **Service type:** After the SIM card is inserted, the device automatically monitors and displays the wireless module type.If there is No module, No Service will be displayed.
- **Network access:** The default mode is mixed, 2G/3G /4G/5G/mixed can be chose.
- **Dial-up parameters:** include the access point, user name, password, data service number, and authentication mode (none, PAP, CHAP, or mix).Enter the parameters provided by the SIM card manufacturer.The default value is empty. If it is empty, dial the number according to the program parameters.
- **Dial-up activation mode:** The network module can be activated by external conditions. The dial-up activation modes include: Normal connection mode, phone or SMS activation mode, and IO activation.
  1) [Normal connection mode] : After the device is started, the network module automatically starts dialing and connects to the server.
  2) [Phone or SMS activation mode] : After the device is started, the network module does not work. Only by calling or sending SMS messages to the phone number of the device can the network module be activated to dial and connect to the server.A maximum of three numbers can be configured.
  3) [IO activation] : After the device is started, the network module does not work. Only after the IO sensor is triggered, the network module is activated to start dialing and connect to the server.

Note: If the SIM card of the corresponding type exists and the 3G/4G signal is normal, the dialing succeeds automatically.

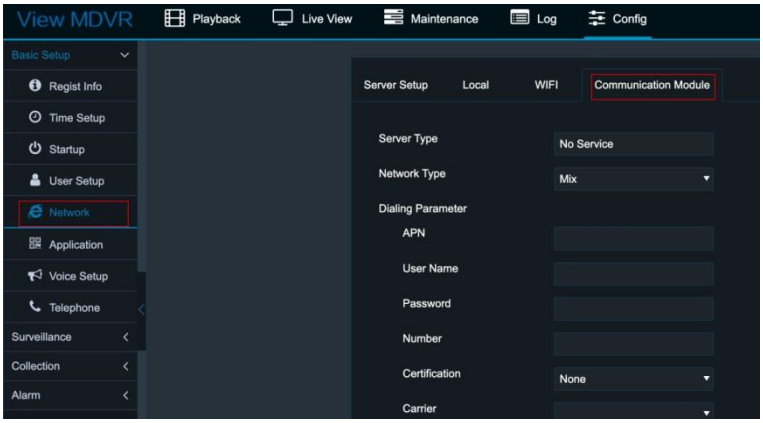
The method of V3 connecte server through 4G network:

Step 1. Remove the two screws in the figure below and pull out the V3 communication board.

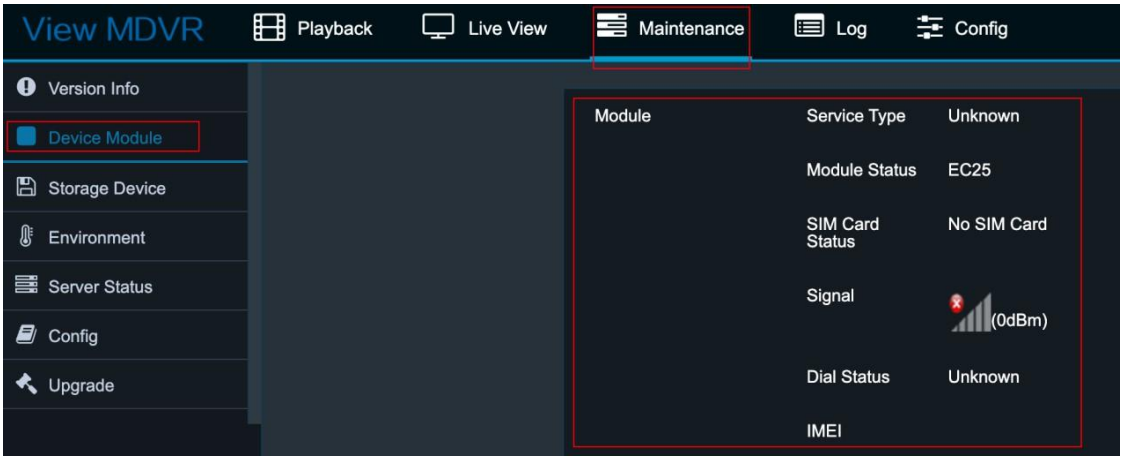


Step 2. Remove the SIM card slot protective cover on the back of the communication board, install the SIM card into the card slot (as shown in the figure below), and then install the communication board back to V3. SIM card installation completed.

Step 3. After installing the SIM card, click Basic setup - > Network - > Comm in the setting page to set the mobile network of V3(as shown in the figure below).

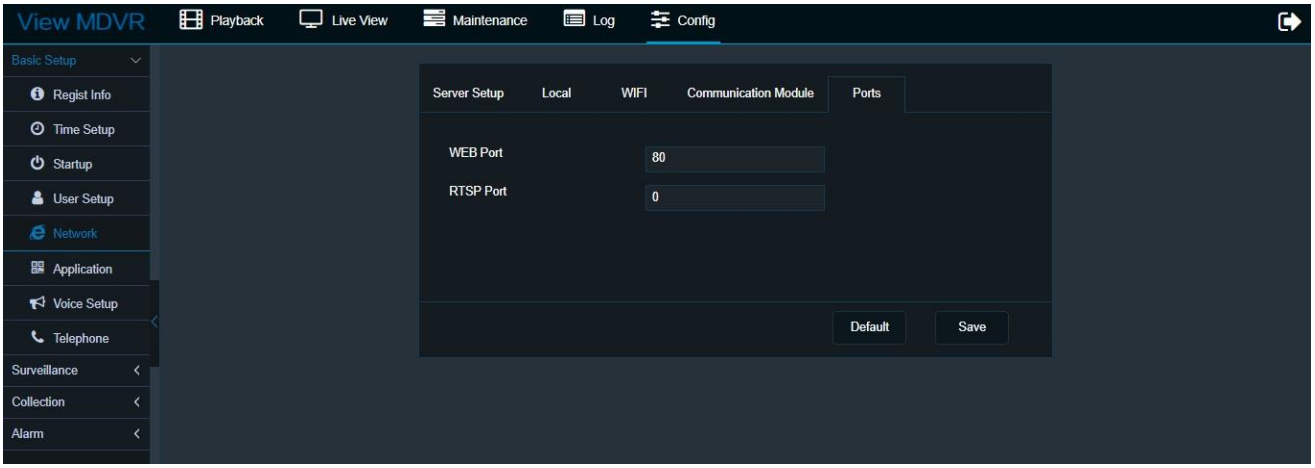


Step 4. In the main menu - > System - > Modules - > Module1, you can view the 4G network connection status.



9.6.5. Ports

Click [config] > [Basic setup] > [Network setup] > [Port] . The interface for port setting is as follows:

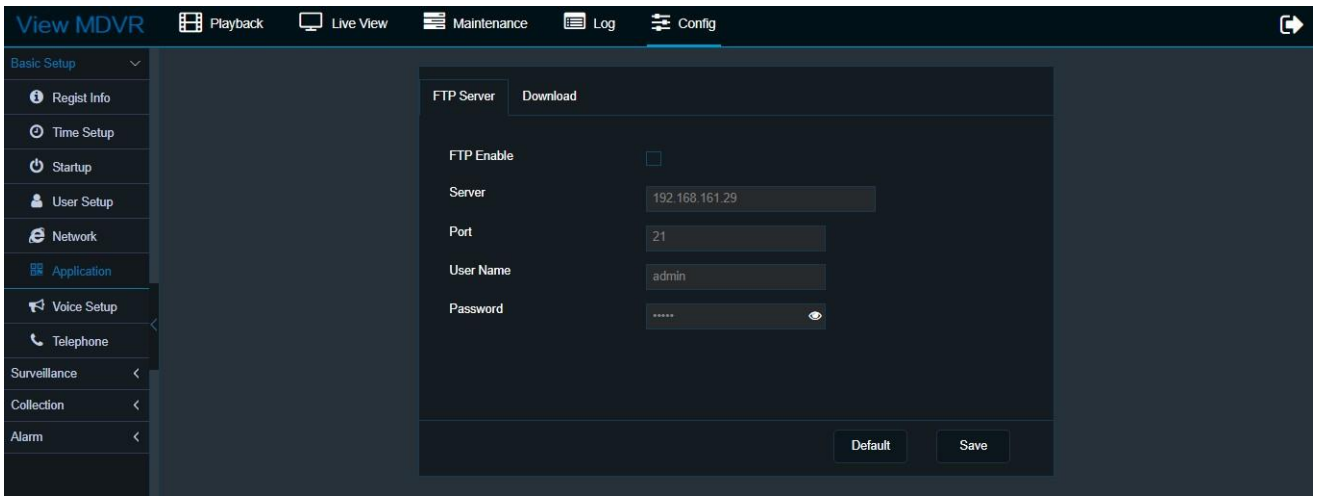


The default port number is 80. You can change it to another port number, such as 81.It is used for Internet Explorer remote access.The port number must be added to the IP address or domain name. For example, http://192.168.1.61:81.http://192.168.1.61:81If the default port number is 80, you do not need to enter the port number during access.

9.7. Application

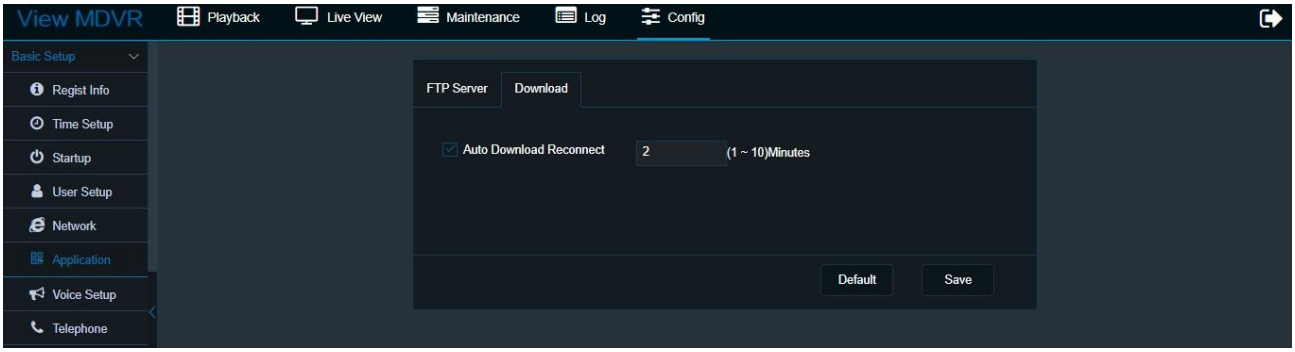
9.7.1. FTP

The device can connect to the FTP server. After the IP address, port number, user name, and password of the FTP service have been configured, the device can connect to the FTP server for uploading pictures or downloading files.Click [config] > [Basic setup] > [Network Application] > [FTP Server] , the interface is as follows:



9.7.2. Download

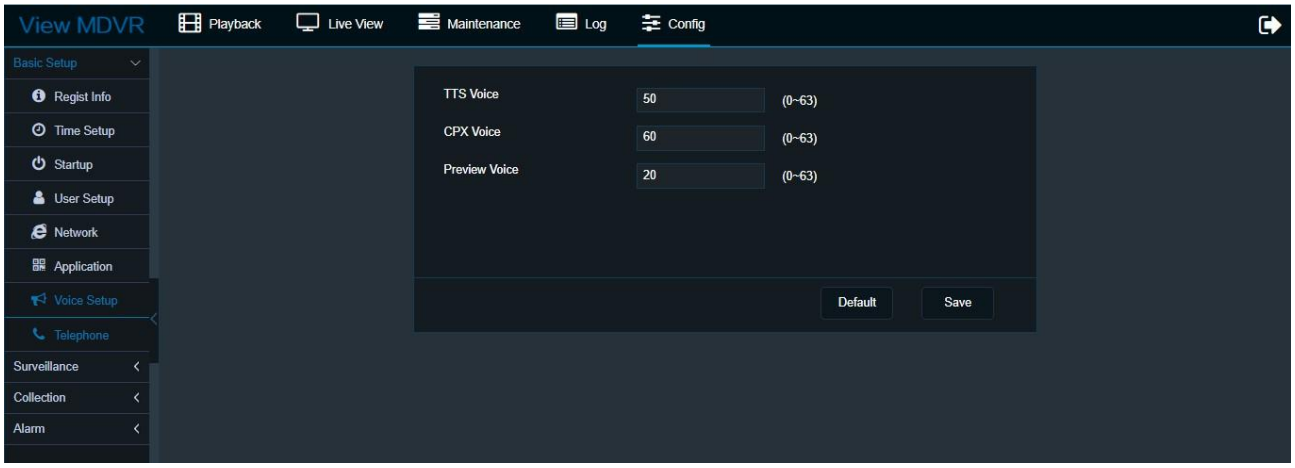
Automatic download and reconnection, that is, when the police car returns to the police station and uploads evidence, if the uploading task connection times out, the device will try uploading evidence again according to the automatic download time.Click [config] > [Basic setup] > [Network Application] > [Automatic Download], the interface is as follows:



Select Enable automatic download reconnection and set the reconnection time. 1 to 10 minutes is optional. By default is 5 minutes and not selected.

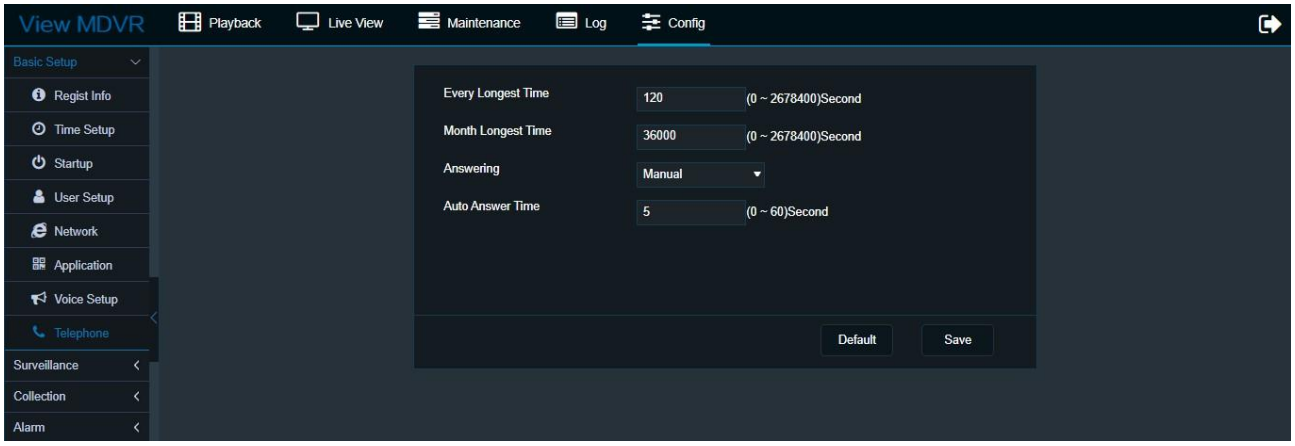
9.8. Voice Setup

Click [config] > [Basic setup] > [Volume setup], the interface is as follows.The volume value can be manually changed.



9.9. Telephone

Click [config] > [Basic setup] > [Phone setup], the interface is as follows:



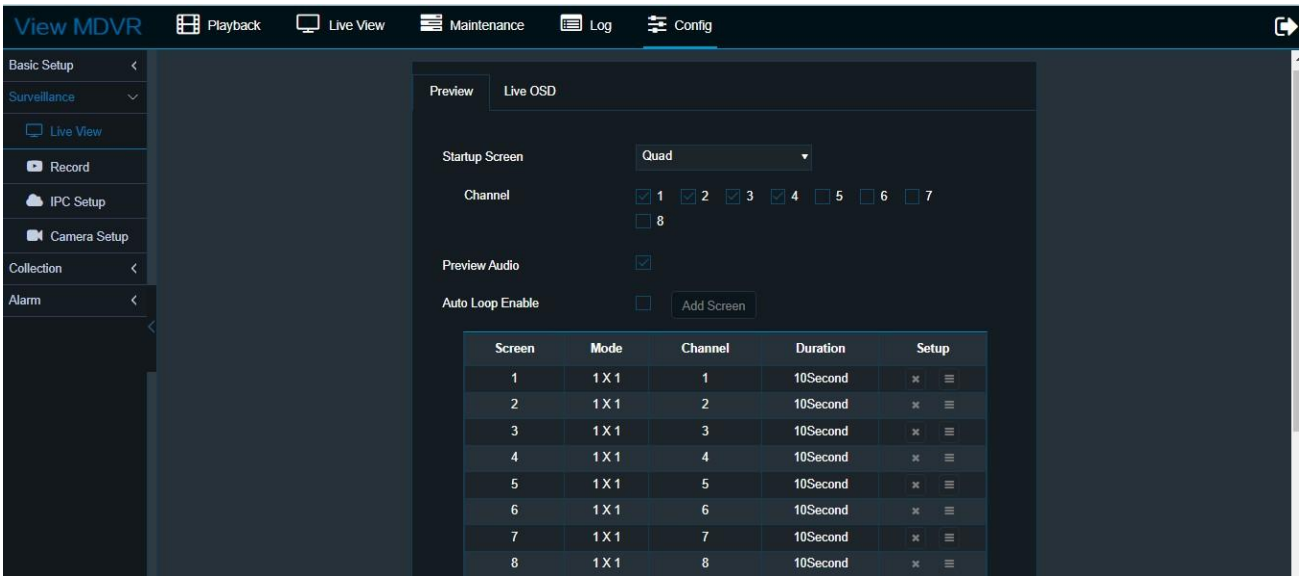
10. Surveillance

In the surveillance interface, the preview image, record and IPC can be set.

10.1. live view

10.1.1. Live View setup

Click [config] → [Surveillance] → [Live View], user can set images, audio and display channels, etc.The interface is shown as follows:



- **power on interface:** you can choose single interface, double interface, four interface, nine interface.
- **Channel:** you can set which channels are displayed after the device is started.
- **Preview audio:** After this option is selected, the audio will be displayed .
- **Automatic rotation:** After this function is enabled, channel rotation can be set.

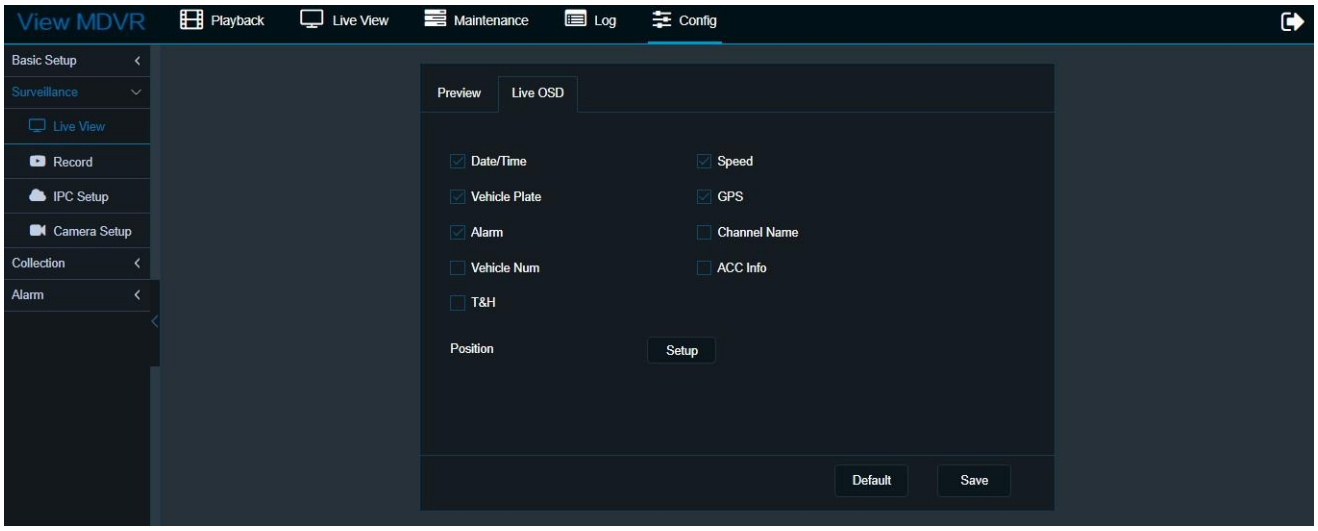
  Mode: 1×1, 2× 2,3 ×3 can be selected, which means that single interface, four interface and nine interface are used for rotation;

  Layout: you can select each channel;

  Dwell time: Set the dwell time on the surface.

10.1.2. Live OSD

Click [config] > [Surveillance] > [Live View] > [live view OSD] to display OSD information .The interface is shown as follows:



1) Select the corresponding information enable switch to display the OSD overlay information .

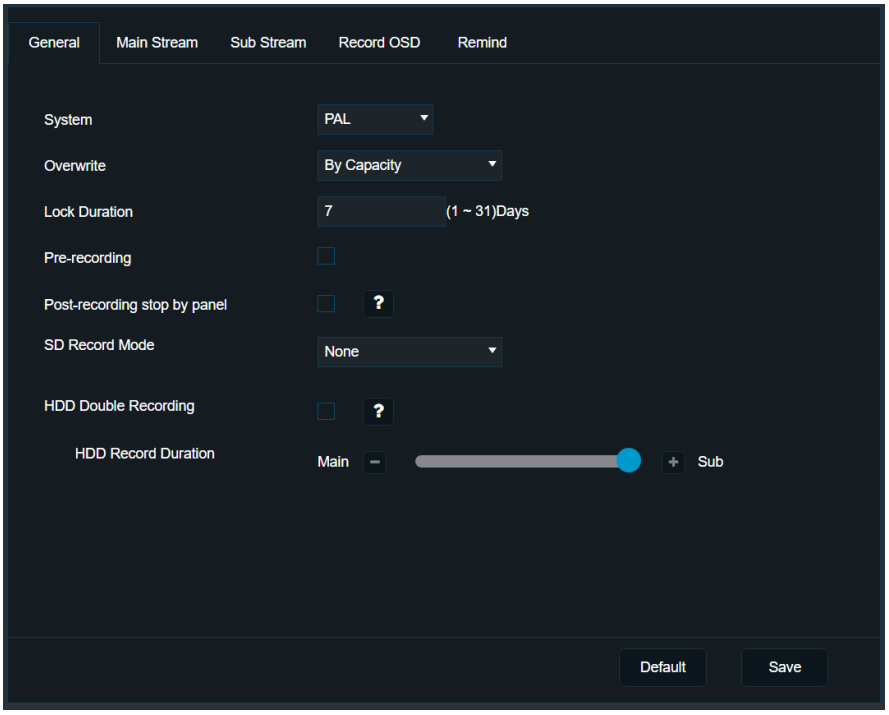
2) Select the corresponding information enable, and click the setup button to set the position of each OSD . Ensure that the position of each OSD cannot exceed the boundary. Click setup. The interface is shown as follows. You can drag to change the location of the OSD overlay information:

10.2. Record

10.2.1. General

This function includes system selection, automatic overwrite function, record locking days and alarm record pre-recording.

Click [config] > [Surveillance] > [record setup] > [General], the interface is as follows:



- **System**

The system includes PAL and NTSC. The default system is PAL.

Note: The system must be the same as the record source system.

- **Overwrite**

Optional coverage by capacity, by day, or never.

Note: the locked record can be overwritten and deleted only after the protection time is lifted.

- The default value is by capacity. By capacity:
    1) The SD card is overwritten by capacity. When the remaining SD card capacity is less than 2 GB, 128 MB files are deleted each time.
    2) Delete 250 MB files on one channel at a time.
- Coverage by day:
    1) Coverage by day refers to the storage is covered by the set days.The number of days ranges from 1 to 31.
    2) If the number of days is set to 1, records are saved for only 1 day. If the number of days is set to 31, the recording is saved for 31 days.
    3) records can be saved for 31 days if the disk space is sufficient. Assume that if the disk space is set to 31 days, records can only be recorded for 7 days, and records will be

overwritten when the disk space is full.

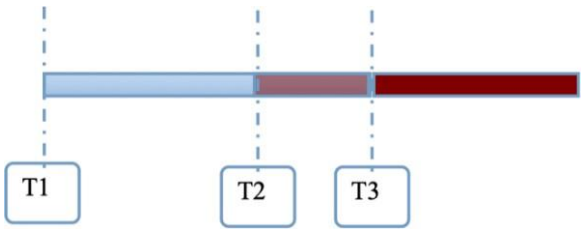
- No coverage: the coverage function is disabled for main stream recording, mirror stream, sub-stream and alarm stream, and the recording is stopped when the memory is full.

- **Lock Duration**

record lock days: time protection for locked record to prevent premature deletion;The default value is 7 days.

- **Pre-recording**

Open Prerecording function when enable the prerecording.The pre-recording function is enabled, when the V3 generates alarm, the previous record is captured and marked as alarm based on the preset pre-recording time.T1 to T3 are normal record. After alarm is generated in T3, T2~T3 in normal records will be marked as Alarm, and T3 will be marked by alarm.



- **Post-recording stop by panel**

When enable, can stop post-recording through the control panel(The button on the V3N front panel).

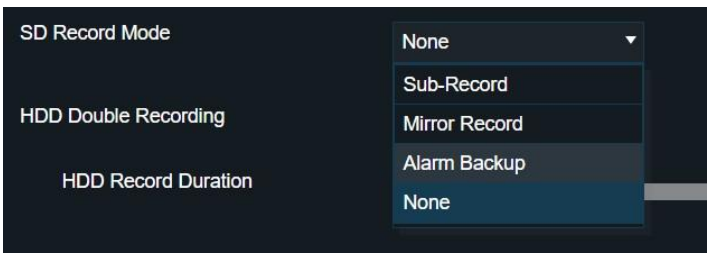
- **SD Record Mode**

When use the SD card recording, need enable.

Sub-Record:SD card record the sub-stream

Mirror Record:SD card record the main stream

Alarm Backup:SD card record the alarm recording



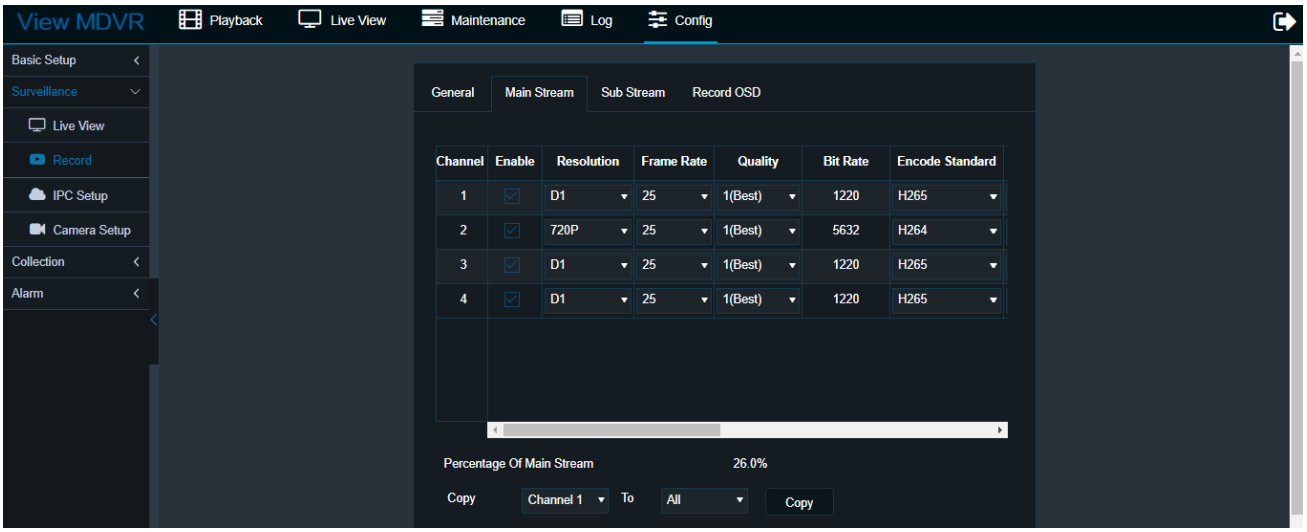
- **HDD Double Recording (No suggest to enable)**

The Main storage can record the Main stream and sub stream at the same time. Which can make the

online playback more smooth when playback the sub-streaming.

10.2.2. Main Stream

On this interface, you can set the recording mode, parameters, and voice recording parameters for each channel. Click [config] > [Surveillance] > [record setup] > [Main Stream], as shown below.



- **Channel selection:** The channel number is optional. After selecting the channel number, you can set the video recording and voice recording parameters of the channel.You can customize the channel name below.
- **Channel number:** you can customize the channel name.
- **Enable record recording:** After this parameter is selected, the main stream recording function is enabled.
- **Resolution:** CIF/WCIF/HD1/WHD1/D1/WD1 if analog camera is connected;
  If a digital camera is connected, the option is 720P or 1080P.
- **Encoding standard:** H264 and H265 are available.
- **Frame rate:** record rate. the number of rate played per second.
- **Quality:** record quality, 1-8, the smaller the number, the better the record quality, record quality 1 is the best.
- **record mode**

Note: recording mode can be set separately for each channel;

Once selected, the record mode is applied to both substream and mirror stream.

1) Power up recording: If the SD card is available and the power up recording function is enabled,

power up recording means that the device is always recording during startup.

2) Alarm recording: Starts recording only when the device is alarm.You can also pre-record the record before alarm recording.

3) Timer recording: Record according to the set time plan, click Add Plan, the interface is as follows:

   - Week X: Optional From Monday to Sunday, record time can be set for each day, weekly cycle;
   - Add plan: Add a new record time period on that day, be careful not to overlap with other record time periods;
   - Start/End time: Specify the start time and end time of the record;
   - Recording type: you can specify whether the recording is a normal recording or an alarm recording.
   - Copy style: You can copy this setting to other record channels.

- **Alarm recording quality:** Set the recording quality of the alarm record. The smaller the number, the better the record quality.
- **Encoding mode:** The record encoding format of VBR and CBR is optional. The default is VBR.
- **Recording parameter:** Audio encoding format: G711A, G711U and ADPCM, default ADPCM.
- **Recording mode：**

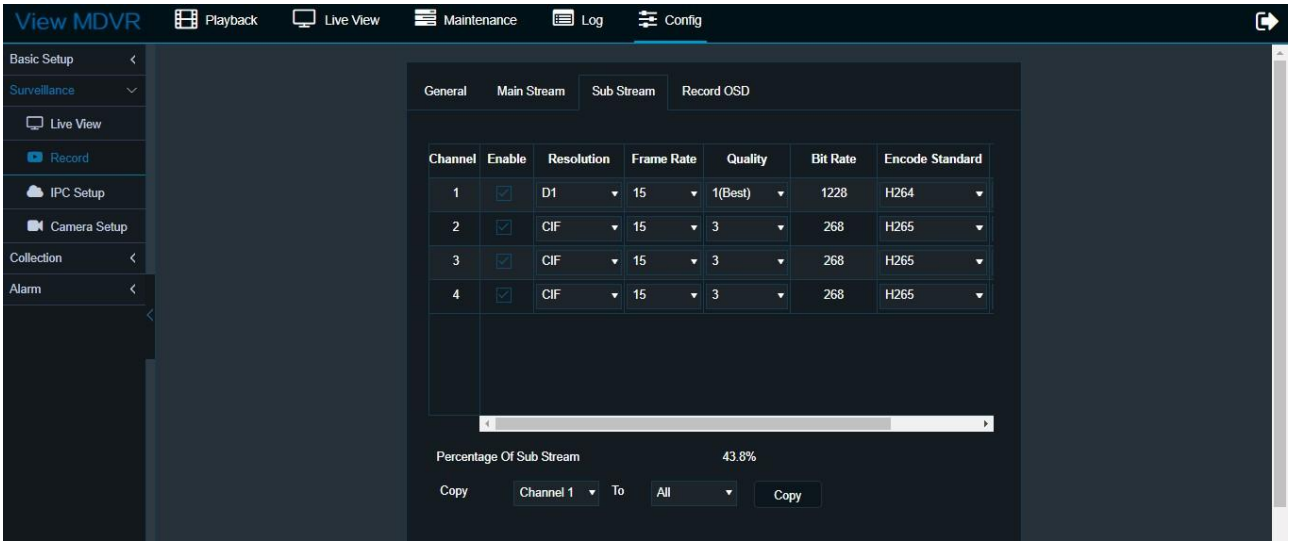
  1) Recording: Always recording in record;

  2) No recording: No recording in the record;

  3) Alarm recording: Recording is performed only in the alarm state.

10.2.3. Sub Stream

This function is used to set the substream. click [config] > [Surveillance] > [record setup] > [Sub-code Stream] to enter the module.



Channel selection: The channel number is optional. After selecting the channel number, you can set the video recording and voice recording parameters of the channel.You can customize the channel name below.

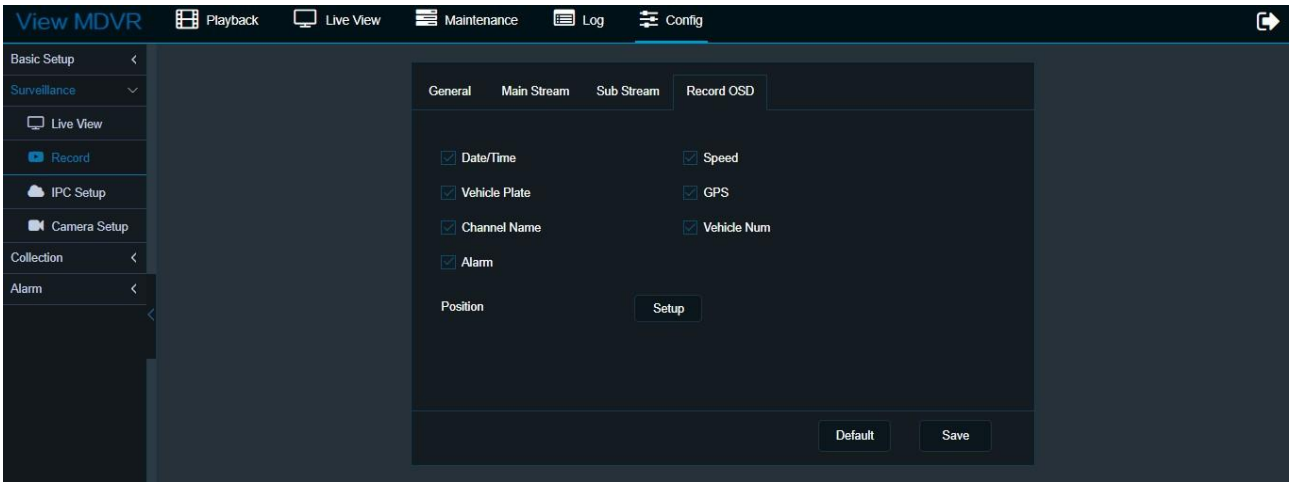
- **Enable record recording:** After this parameter is selected, the sub-stream recording function is enabled.
- **Encoding standard:** H264 and H265 are available.
- **Recording:** indicates whether open vioce recording at the same time;Optional recording, unrecording and alarm recording.

  1) Recording: Always recording in record;

  2) No recording: No recording in the record;

  3) Alarm recording: Recording is performed only in the alarm state.
- **Audio encoding format:** G711A, G711U and ADPCM, default ADPCM.
- **Rate:** record rate. the number of record rate played per second.
- **Quality:** record quality, 1-8, the smaller the number, the better the record quality,quality 1 is the best.

10.2.4. Record OSD

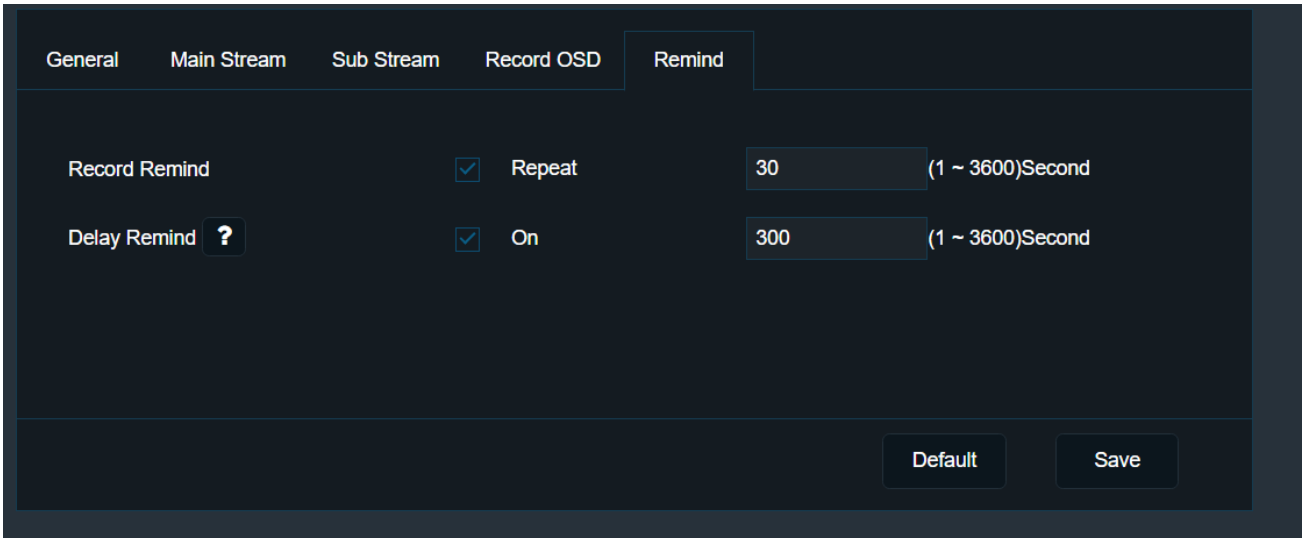


The OSD overlay function is used to add selected information to the record display, which is different from the live viewOSD overlay function.

Other setup are the same as the live viewOSD information overlay operations.

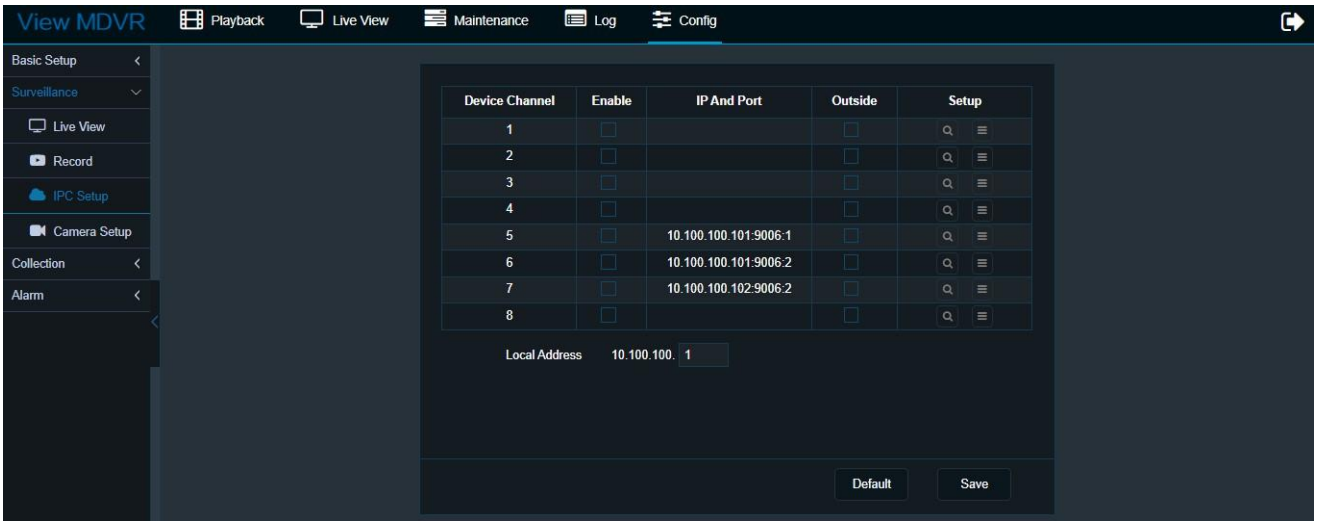
10.2.5. Remind

When the MDVR is keep recording, can setup the remind to remind the officer the MDVR is recording now. It's beeping remind.

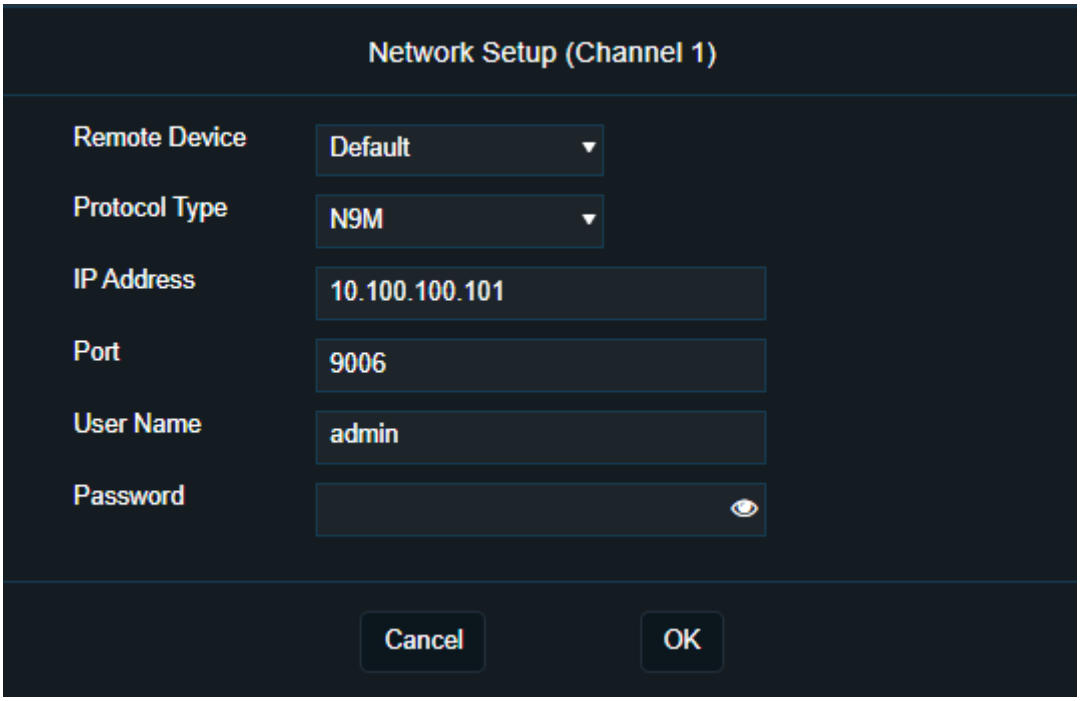


10.3. IPC Setup

After the IPC camera is connected to the V3, you can search for and set IPC on the interface.Click [config] > [Surveillance] > [IPC setup], as shown below:

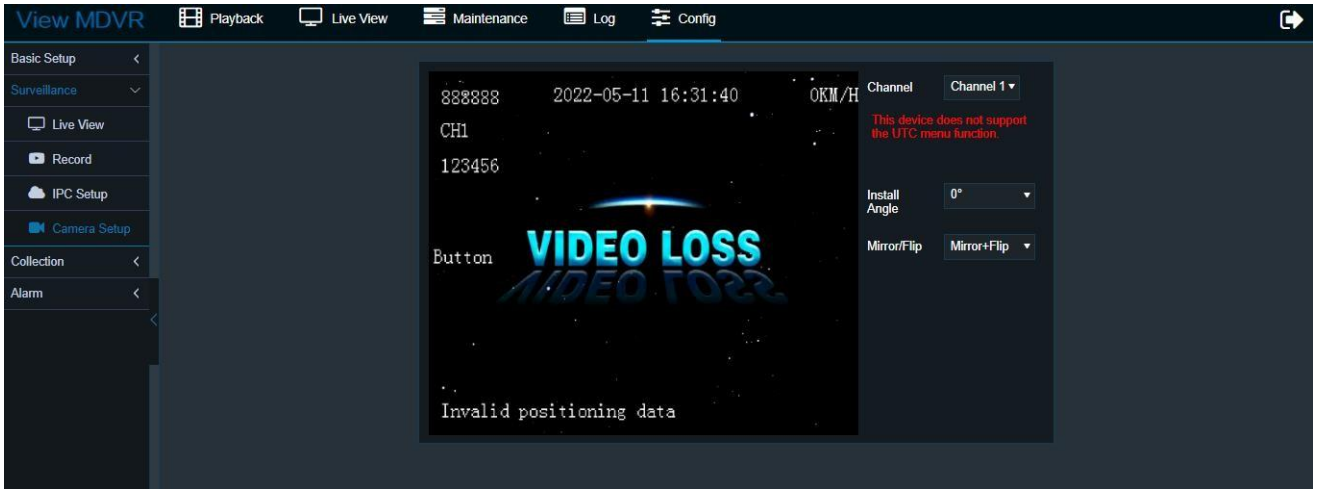


- Supports automatic configuration for IPC, quick IPC setup, and manual IPC channel configuration by searching for IP addresses.
- Supports quick IPC setup.
- After the IPC channel is enabled, the corresponding analog channel is automatically invalid.
- Each channel supports IPC search and displays a list of IPC searched.The modified IP address of IPC displayed in the search results is to modify IPC. The modified IP address in the edit is to select IPC for the channel.
- The local IP address of the IPC network can be configured. If the local IP address is specified, the IP address is skipped during the automatic search and configuration.
- IPC search interface. On this interface, you can change the IP address of the searched IPC.
- Click "Edit" as shown below.For the onvif camera, this channel is the binding relationship between the configuration channel and IPC. Changing the IP address in this channel does not change the IP address of IPC, but binds another IPC.



10.4. Camera Setup

The installation Angle can be adjusted.



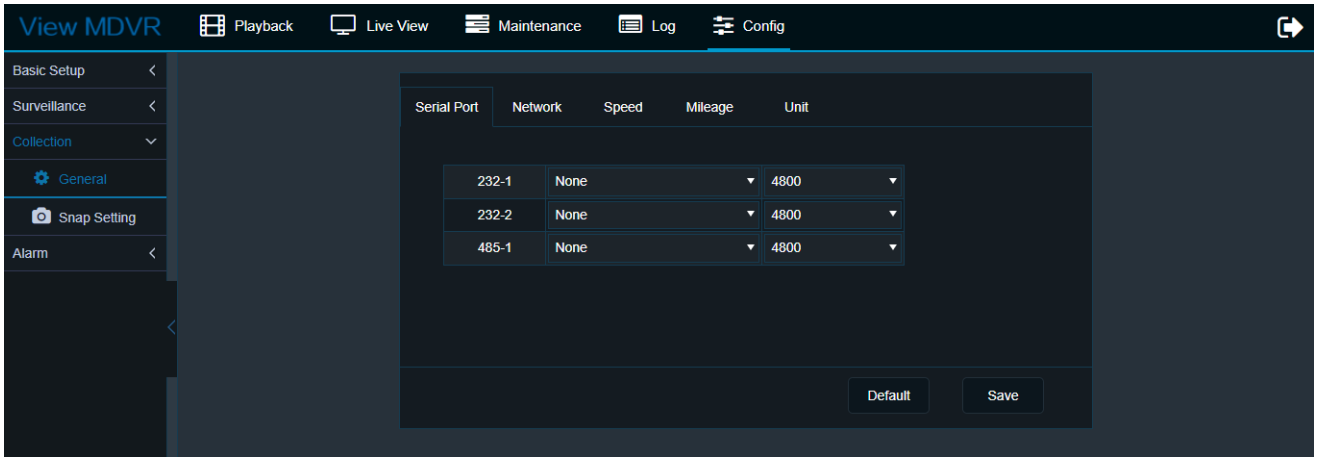
11. Collection

11.1. General

11.1.1. Serial Port(V1.7)

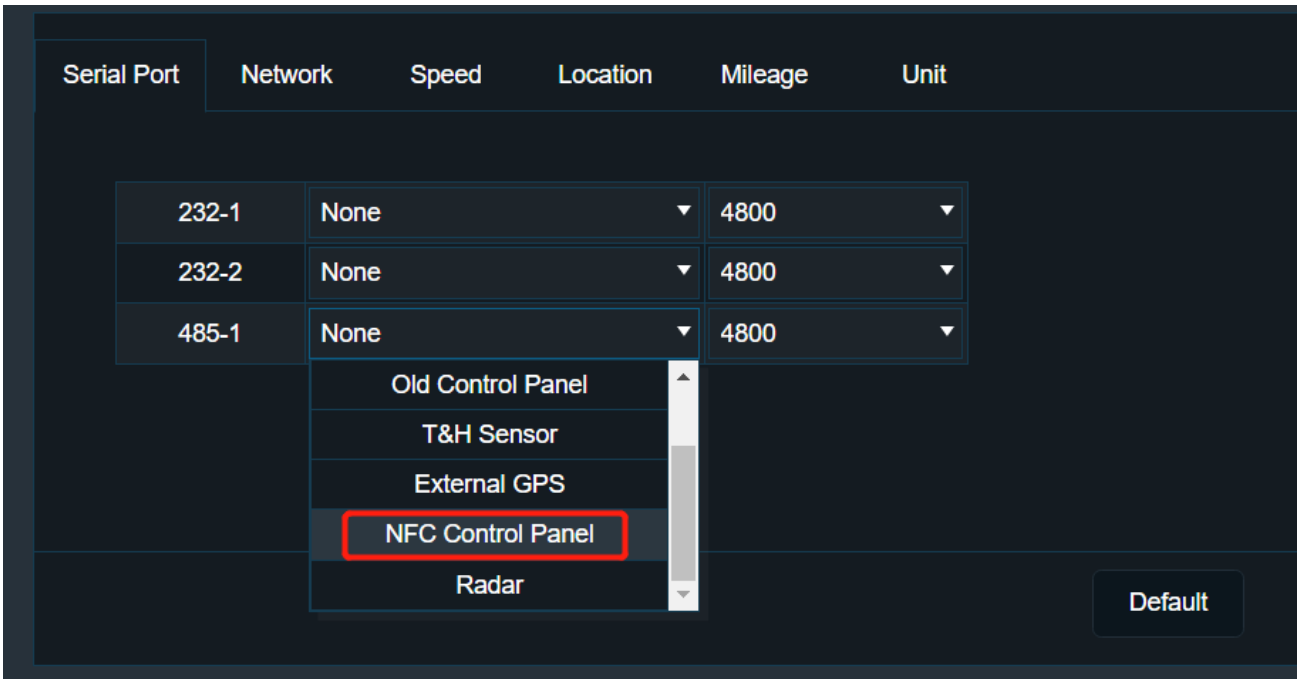
V3-h0404 supports 2 x RS232 and 1 x RS485.

This function can set the function and baud rate of the serial port.Click "setup" > "Data Collection" > "General" > "Serial Port", as shown below:



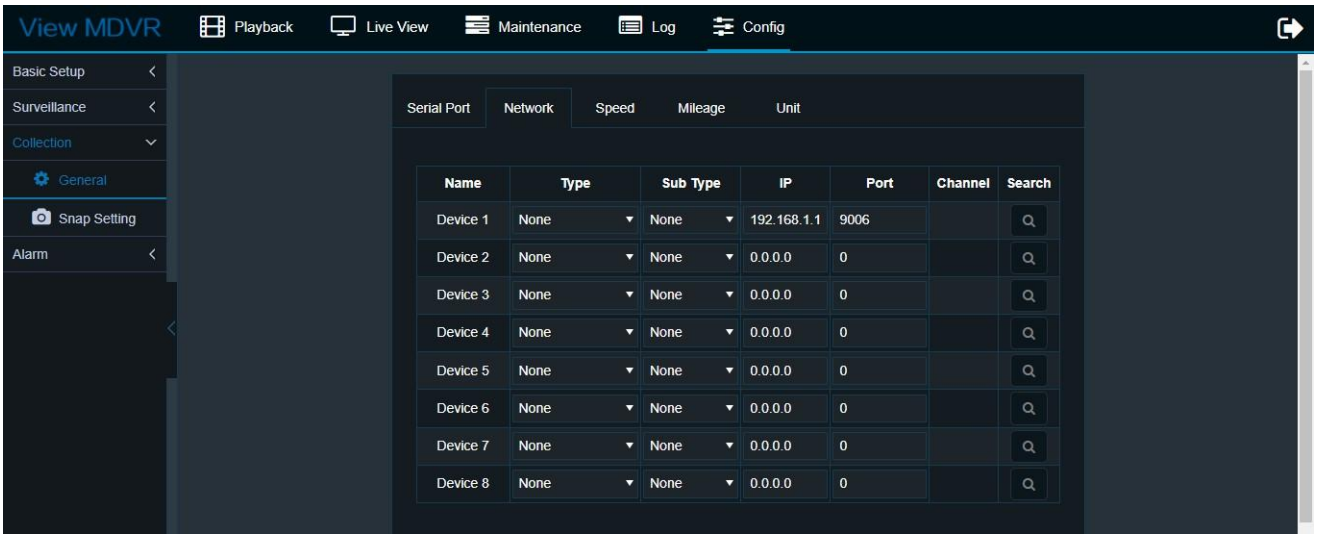
- Serial port usage Can be [None], [Extend], [Control Panel], or [485bus].
- After selecting the serial port function, select the corresponding Baud rate.

The NFC Control Panel is using RS485 to connect.



11.1.2. Network

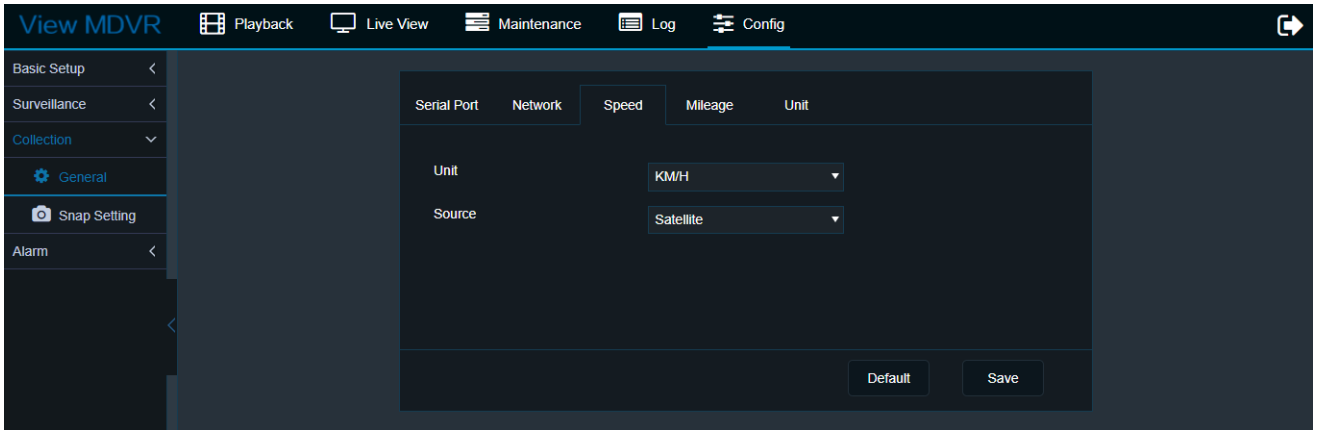
You can set the device network name, type, IP address, and port.Click [config] > [Data Collection] > [General] > [Network] , as shown in the picture below:



11.1.3. Speed

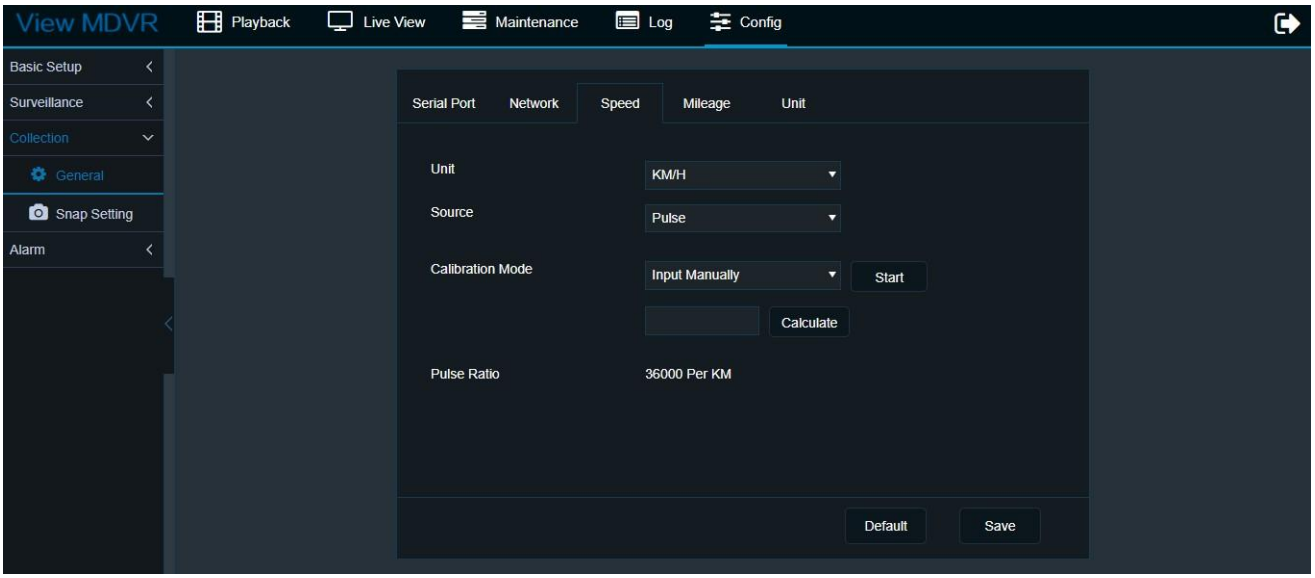
The source of speed can come from satellite positioning or pulse signals.Satellite positioning requires external GPS module;For pulse signals, connect to the cable labeled SPEED IN on the serial port cable.

Click [config] > [Data Collection] > [General setup] > [Speed], as shown in the picture below:



- Speed unit: optional kilometers/hour or miles/hour.
- Speed source: Available from satellite, Pulse, or OBD.

When pulse is selected as the speed source, the setting interface is as follows:



The pulse speed calibration function is to obtain the value of the pulse coefficient, which is the number of pulses generated by the vehicle per kilometer.

Select calibration mode as [Input mileage mode] :

1） You need to manually enter the initial mileage of the odometer, and the system will calculate the initial mileage of the odometer.

2） Click to start learning;(the STM will automatically record the number of pulses);

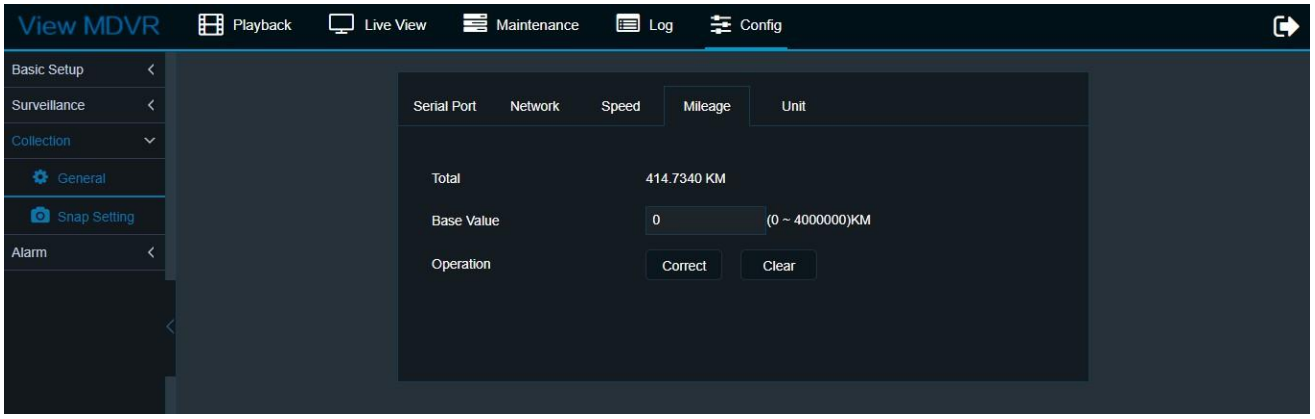
3） At any time, click the end of learning, record the mileage of the odometer again, calculate the mileage difference;

4） Then input the mileage difference, click calculate, pulse coefficient will automatically display the calculation results;(The unit of calculation result is consistent with the unit of speed)

5） The state of learning will be automatically saved, and the state will not be cleared even after the device restart.

11.1.4. Mileage

The mileage function records the total mileage of the vehicle.Click [config] > [Data Collection] > [General setup] > [Mileage] , as shown below:



Note: the speed source of the mileage value is the same as the vehicle speed source selected. There is no need to set the special source here.

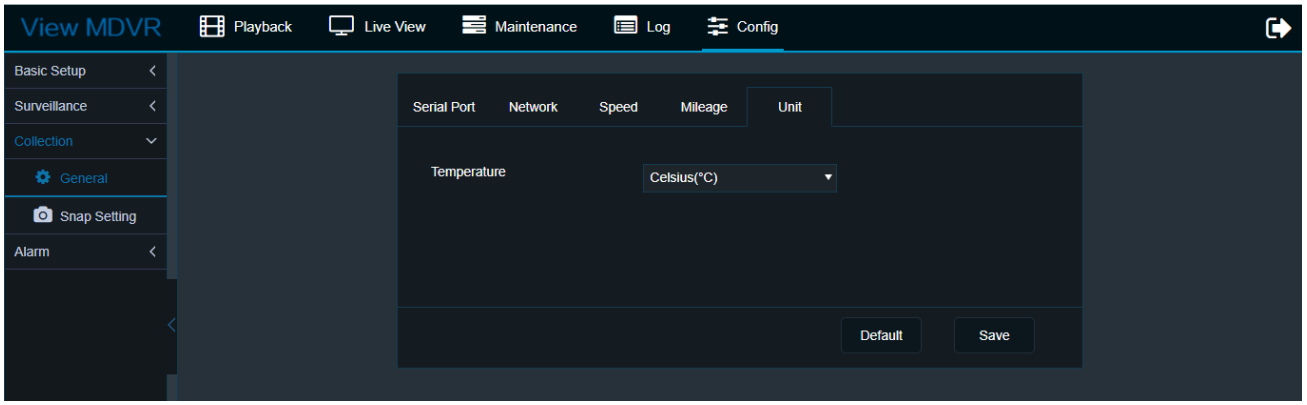
- [Total mileage] : You can view the total mileage of the current vehicle here.
- [Mileage base value] : a current base value can be set for calibration.
- [Mileage operation] :

  [Calibration] Will change the current total mileage value into the input mileage base value;

  [Reset]: reset the current mileage.

11.1.5. Unit

On this interface, you can set the temperature unit, including Celsius or Fahrenheit.The default is Celsius temperature.The interface is shown as follows:

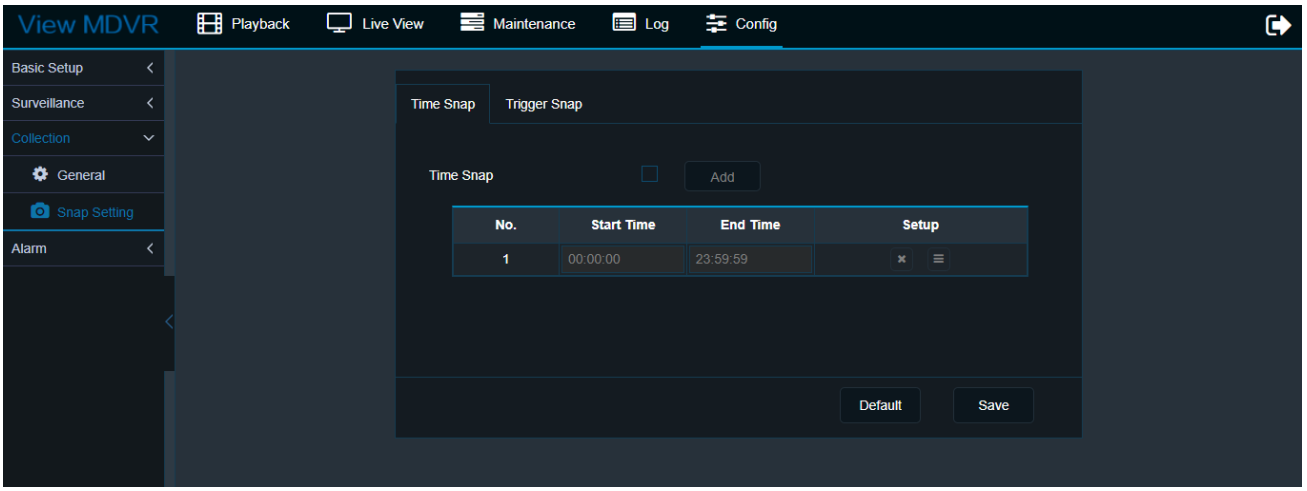


11.2. Snap Setting

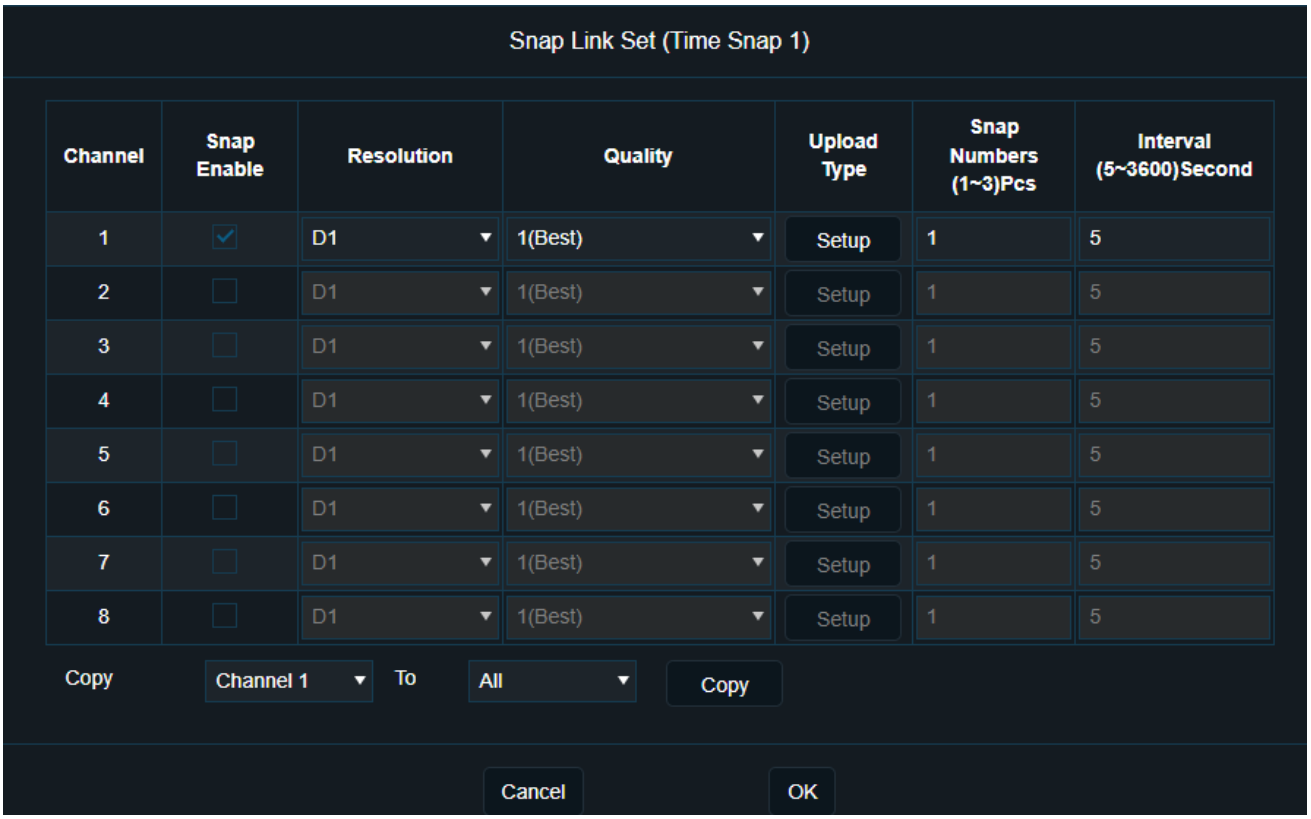
The device can trigger the capture function under certain conditions and upload it to the server automatically. You can set the capture conditions and capture linkage content here.Click [config] > [Data Collection] > [Capture setup] .

11.2.1. Time Snap

Supports set a period of time, within the period of time to automatically capture.The timer capture setting interface is as follows:



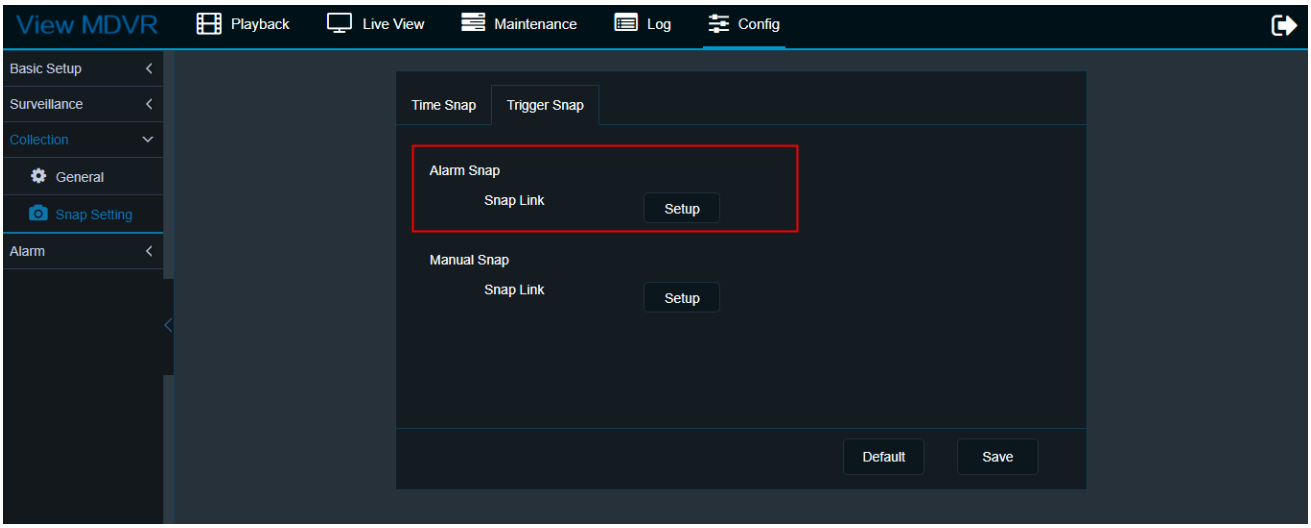
- Start/Finish Time:
    1) Set a period during which the capture function can be enabled.
    2) The time period of timer capture is within a day;
    3) A maximum of 8 periods of time can be supported every day.
    4) Can add, delete, edit time period.
- Independent capture parameters can be set for each time period. Click "Operation" to enter the capture linkage interface:



1) Channel: Select the camera channel to capture;
2) Enable snapshot: Select enable the periodic snapshot function of the channel.
3) Resolution: Select snapshot resolution;
4) Picture quality: choose the quality 1-8, best is 1 ;
5) Upload mode: Supports Upload photos automatically through FTP and server.
6) Number of snapshot at a time: 1-3 shots can be set;
7) Snapshot interval: that is, how many seconds take a snapshot within this period;
8) Copy style: You can copy setup to other record channels.

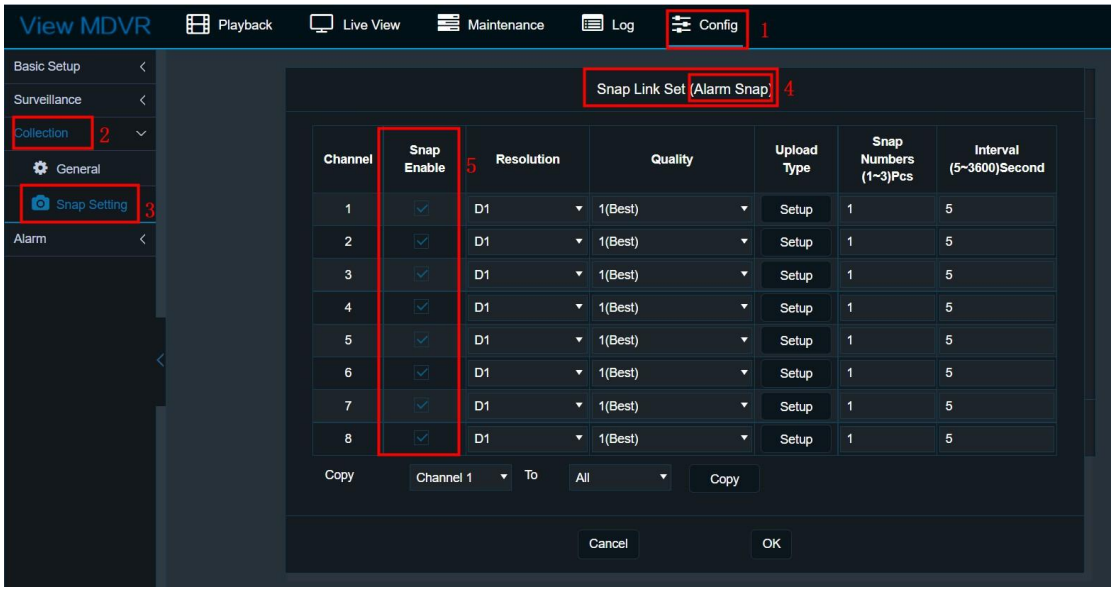
11.2.2. Alarm Snap

Alarm linkage capture is supported. After an alarm is generated, the snapshot starts.Click "setup" > "Data Collection" > "Snapshot setup" > "Trigger Snapshot" , and the snapshot setting interface of Alarm is shown as the picture below:



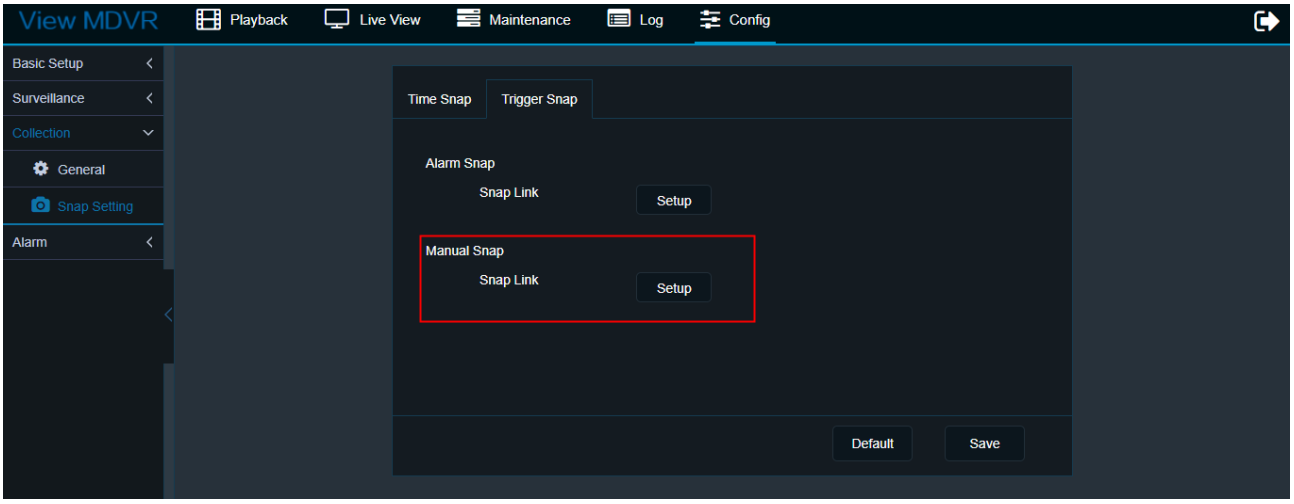
Click setup to enter alarm capture linkage and the set is same as timer capture.

Note: When you enable the Alarm Snap, V3 has the ability to snap images when an alarm generate. But you still need to enable the linkage of a specific alarm in the linkage setting of the corresponding alarm.



11.2.3. Manual Snap

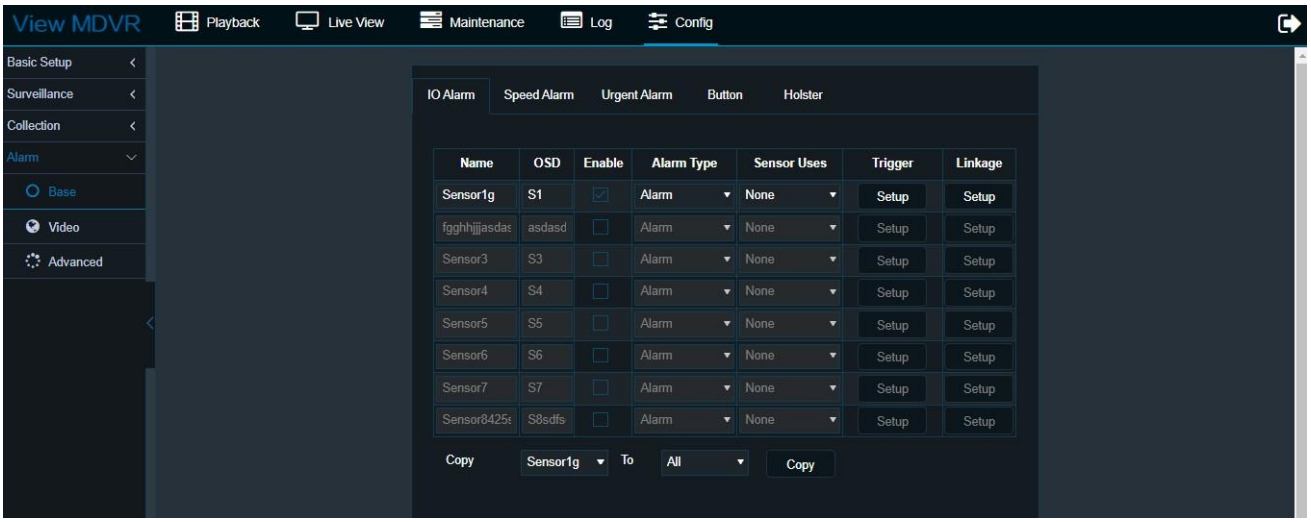
Through an IO or serial port to connect an external button or a button on CP4, it will begin snap when the button is triggered. the capture mode can be executed according to the parameter setup.Click [config] > [Data Collection] > [Snapshot setup] > [Manual Snapshot] . The manual snapshot setting interface is shown as the picture below:



Click setup to enter manual snapshot linkage. See timer snapshot for the content, but manual snapshot does not have "Snapshot interval". Once triggered, a snapshot is taken.

12. Alarm Setup

In IE interface, click [config] > [Surveillance] > [Alarm setup] to enter the following alarm setting interface.

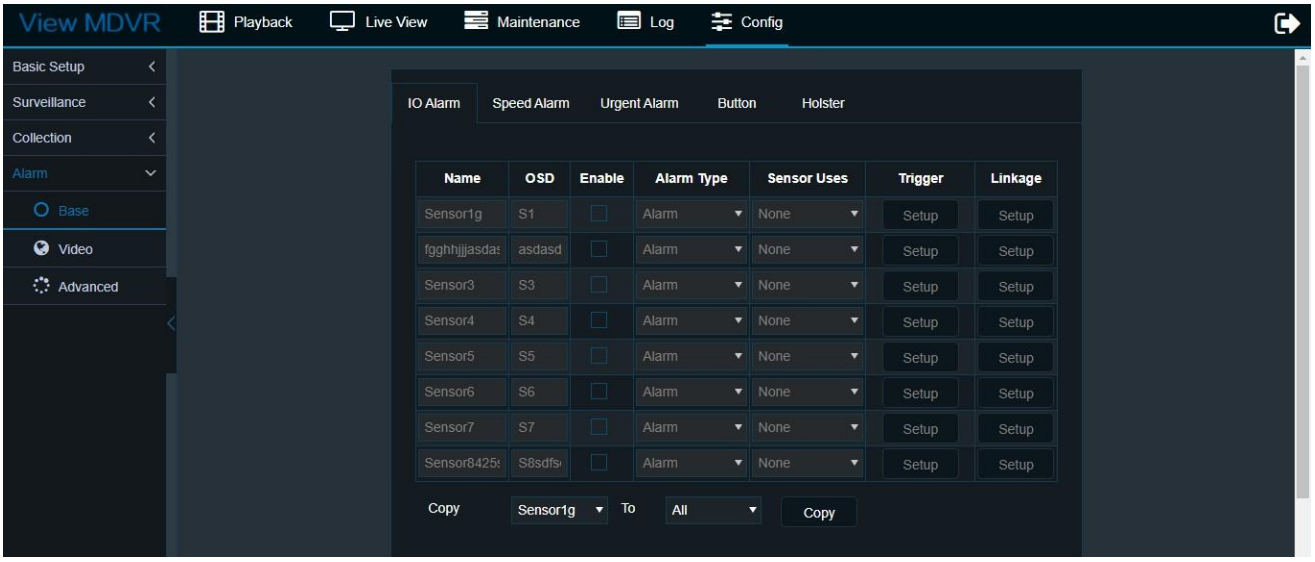


12.1. Base

12.1.1. IO Alarm

The V3 machine can be connected to8 IO input signal. You can set the IO Alarm name and alarm type. You can set alarm trigger conditions and linkage setup.

Click "IO Alarm" in the basic alarm interface, as shown below:



- **Enable:** Indicates whether to enable the alarm function.
- **Alarm type:** Includes alarm and event.

  When the type is alarm:

  1. Alarm can add OSD in the preview interface and record.
  2. After an alarm is generated, the ALM indicator on the V3 panel is on.
  3. Alarm will be uploaded to the platform;
  4. Write alarm log;

  When the type is event:

  1. No OSD overlay;
  2. ALM light does not light up
  3. Will not report to the platform;
  4. Write alarm logs.

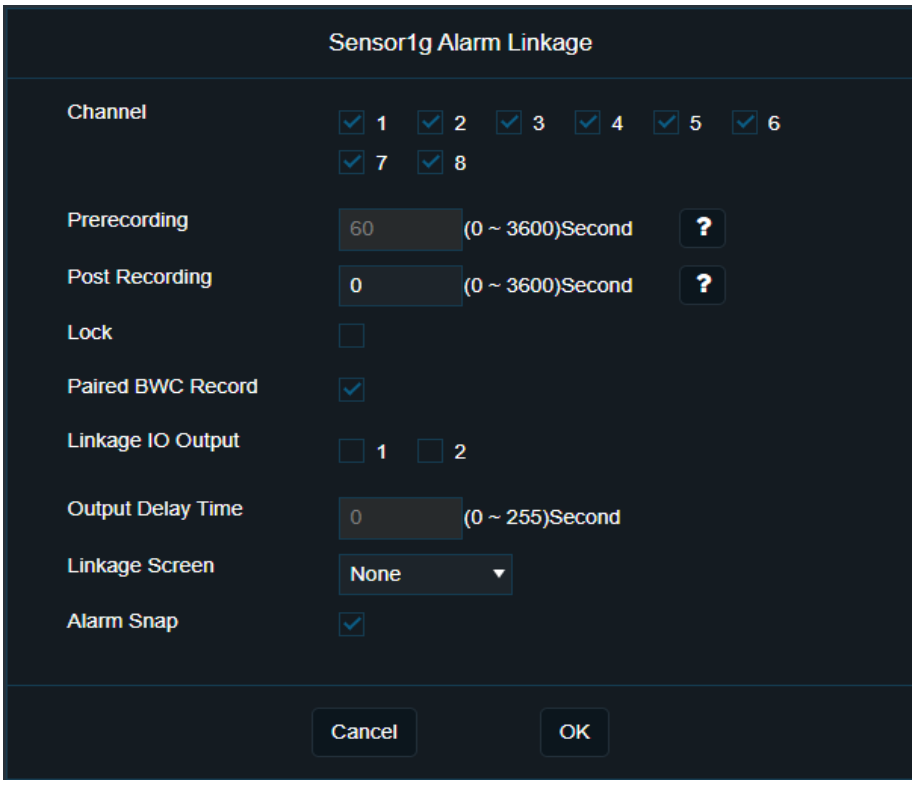
- **Trigger condition:** Click the triggered [Setting] button to enter the following interface:

1) [Trigger condition] : High and low level optional, default low level alarm.

2) [Alarm Valid time] : The valid time refers to an alarm is cancelled and the generation of the same alarm within a certain period of time.

Such as: A motion detection alarm is generated at 13:23:30 and cancelled at 13:23:50. If the valid time is set to 10 seconds and a motion detection alarm is generated within 10 seconds, the two motion detection alarms are considered to be the same alarm, and an alarm log is recorded. Alarm linkage stops until the subsequent movement detection is cancelled.

- **Linkage content:** Service functions that can be linked when an alarm occurs.Click setup to enter the following interface:

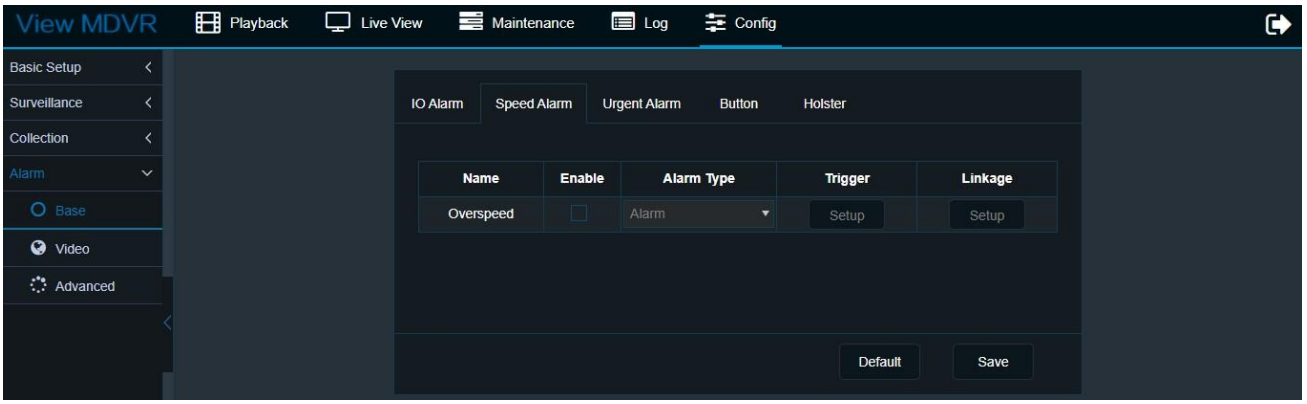


1) [Channel] : The channel for recording after alarm is generated;The record of these channels will be marked as alarm record.
2) [Prerecording] Precording for alarm video.
3) [Post Recording] : Time for recording to continue after alarm is cancelled.
4) [Lock] : Can set alarm record locking.If checked, the alarm recording enabled will be locked after the overspeed alarm is triggered.After the alarm is removed, the record locking is complete.
5) [Paired BWC Record] The MDVR can linkage the paired BWC recording.
6) [Linkage IO output] : After triggering overspeed alarm, IO output 1 and 2 have low level output;IO outputs 1 and 2 return to high 10 seconds after the alarm is released.
7) [Output delay time] : the duration of alarm output after the alarm is removed when the audible and visual alarm output is linked.
8) [Linkage interface] : that is, the interface required for direct display after alarm is generated. Do not display by default, can also set single interface and four interface display.
9) [Critical alarm Duration] : duration of an alarm after the critical alarm has been cleared.
10) [Alarm Snap] : Whether to capture pictures after an alarm is generated.When the FTP address

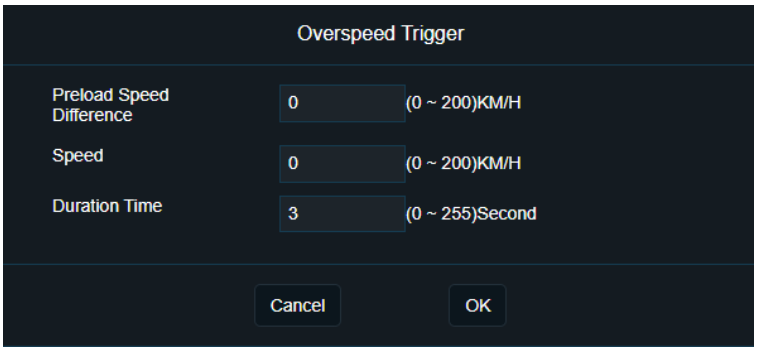
is set and the IO alarm is triggered, channel capture is enabled, and captured images are exported through FTP.

12.1.2. Speed Alarm

Speed alarm is the speed warning and alarm.Velocity information can be obtained by satellite positioning, vehicle pulse and OBD.You can set alarm triggering conditions and linkage content.Click "Speed Alarm" in the basic Alarm setting interface, as shown below:



- **Enable: Specifies** whether to enable the overspeed alarm function., trigger conditions and linkage content can be set only when this parameter is selected.
- **Alarm type:** Includes alarm and event.
- **Trigger condition:** Click setup to enter the following interface:



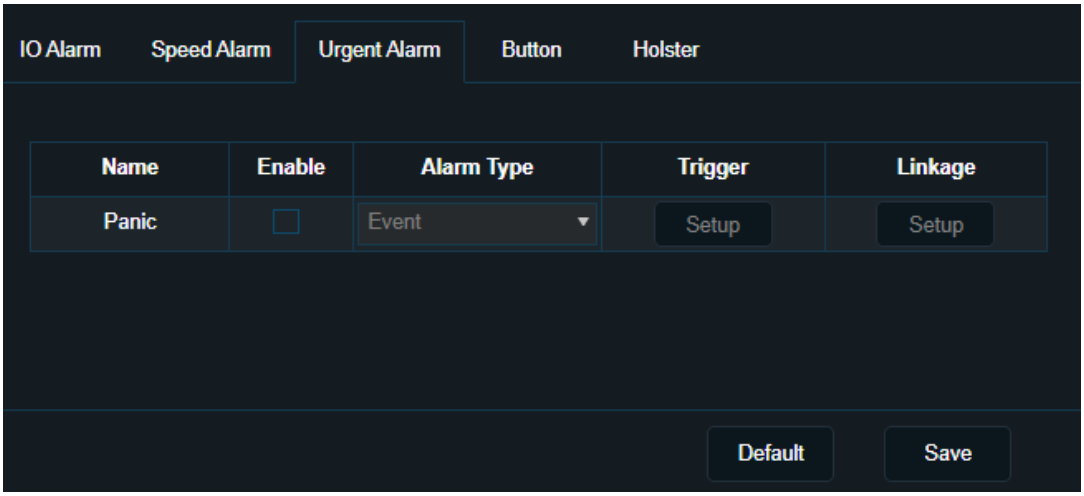
1) The combination of speed and Duration is used to trigger the speed alarm.That is, when the speed exceeds the set speed for a certain period of time, it is considered to be excessive alarm.
2) [Warning speed difference] is a value of speed warning. For example, if the speed threshold value is 80km/h and the warning speed difference value is 5km/h, the warning will be generated when the speed reaches 75km/h and voice prompt will be adopted.

3) [Alarm Valid time] : The valid time refers to the cancellation of an alarm and the generation of the same alarm within a certain period of time.

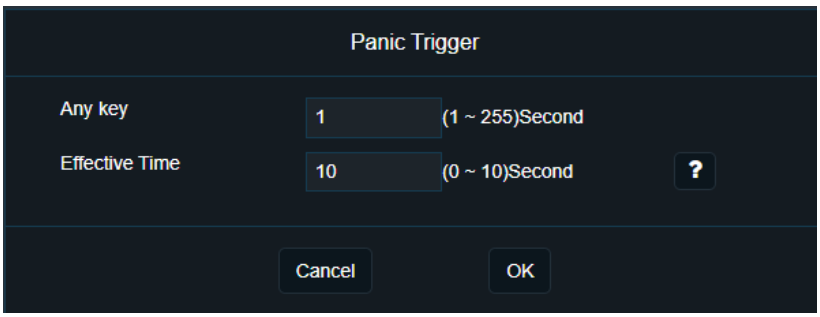
- **Linkage content:** Service functions that can be linked when an alarm occurs.The specific setup are the same as the IO alarm.

12.1.3. Urgent alarm

An urgent alarm is an alarm generated when a police officer presses the urgent button in case of danger.The urgent button signal input is generally accessed through the 485 protocol transmission port. You can set alarm triggering conditions and linkage content.Click "Panel Alarm" in the basic Alarm setting interface, as shown below:



- **Enable:** Indicates whether to enable the alarm function on the panel.The function enable if this parameter is selected, trigger conditions and linkage content can be set only when this parameter is selected.
- **Alarm type:** Includes alarm and event.The difference between alarm types is the same as the IO alarm.
- **Trigger condition:** Click setup to enter the following interface:



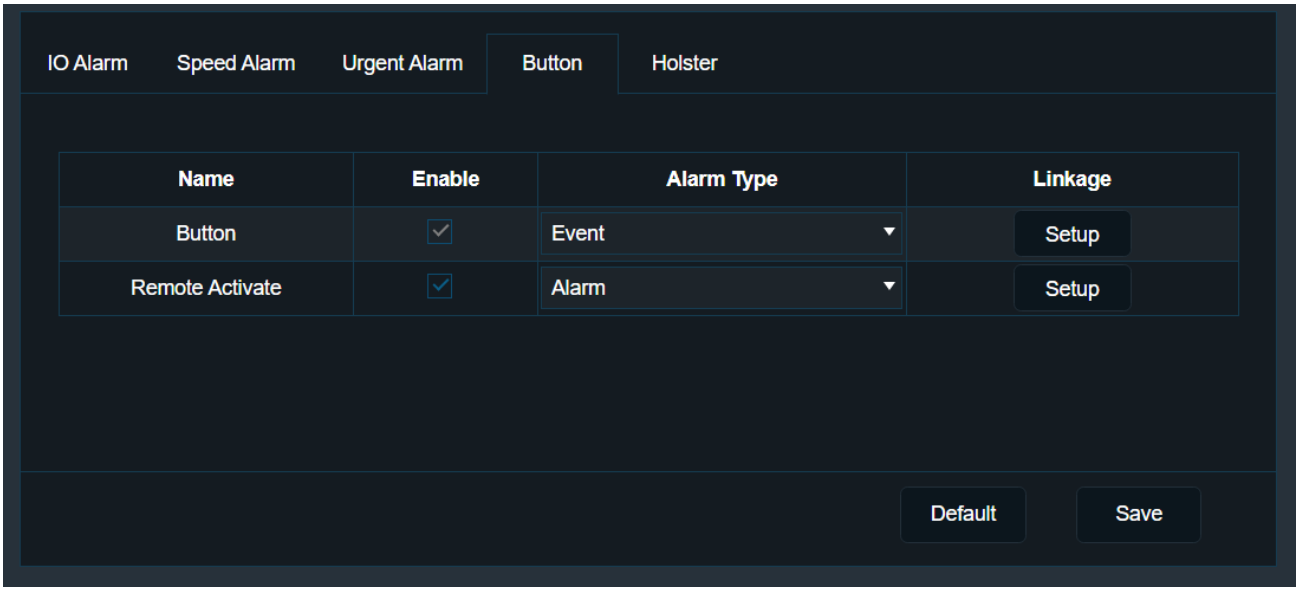
1) [Keystroke duration] : that is, how long the keystroke lasts for urgent alarm.

2) [Alarm Valid time] : The valid time refers to the cancellation of an alarm and the generation of the same alarm within a certain period of time.

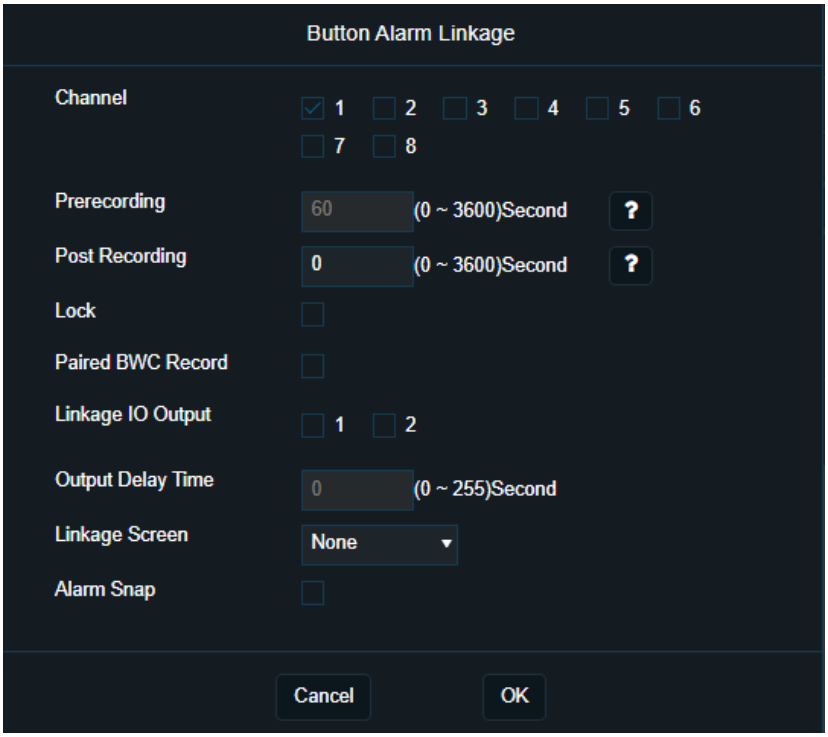
- **Linkage content:** Click setup, the interface and detailed explanation are the same as the IO Alarm.

12.1.4. Button alarm(V1.7)

If you press alarm button on the V3 front panel to enable the record recording , the V3 will start alarm recording. Click "Button alarm" in the basic Alarm setting interface, as shown below:



- **Enable:** This function is disabled, and by default is disabled.
- **Alarm type:** Includes alarm and event.The difference between alarm types is the same as the IO alarm.
- **Linkage content:** Click setup. The interface is as follows.
- **Remote Activate:** No support on VEMS, the MDVR already support the protocol.



1) [Channel] : The channel for recording after alarm is generated;The record of these channels will be marked as alarm record.

2) [Prerecording] Precording for alarm video.

3) [Post Recording] : Time for recording to continue after alarm is cancelled.

4) [Lock] : Can set alarm record locking.If checked, the alarm recording enabled will be locked after the overspeed alarm is triggered.After the alarm is removed, the record locking is complete.

5) [Paired BWC Record] The MDVR can linkage the paired BWC recording.

6) [Linkage IO output] : After triggering overspeed alarm, IO output 1 and 2 have low level output;IO outputs 1 and 2 return to high 10 seconds after the alarm is released.

7) [Output delay time] : the duration of alarm output after the alarm is removed when the audible and visual alarm output is linked.

8) [Linkage interface] : that is, the interface required for direct display after alarm is generated. Do not display by default, can also set single interface and four interface display.

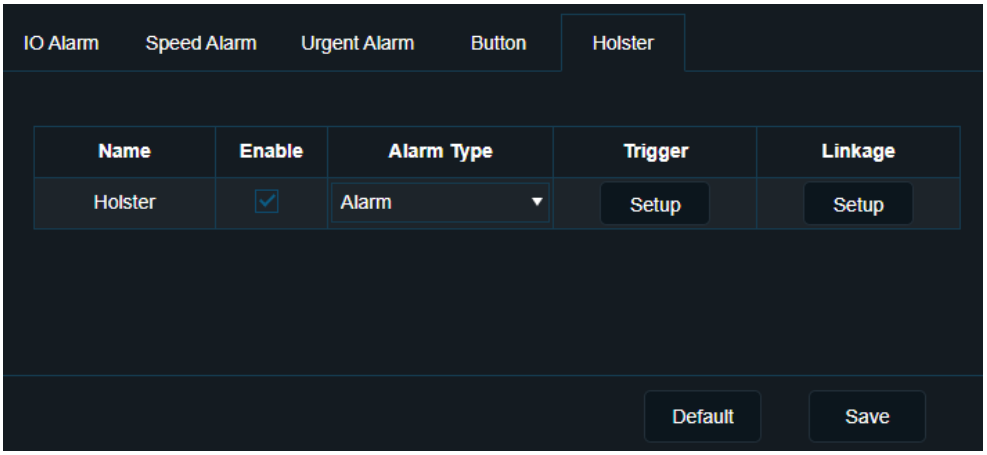
9) [Critical alarm Duration] : duration of an alarm after the critical alarm has been cleared.

10) [Alarm Snap] : Whether to capture pictures after an alarm is generated.When the FTP address is set and the IO alarm is triggered, channel capture is enabled, and captured images are exported through FTP.

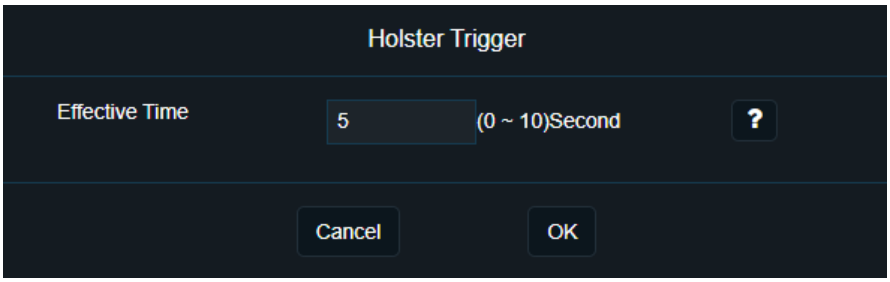
12.1.5. Holster alarm

When the V3 is configured with alarm setting for holster linkage, when the police trigger bluetooth signal through the gun holster sensor during law enforcement, the V3 will open alarm recording.

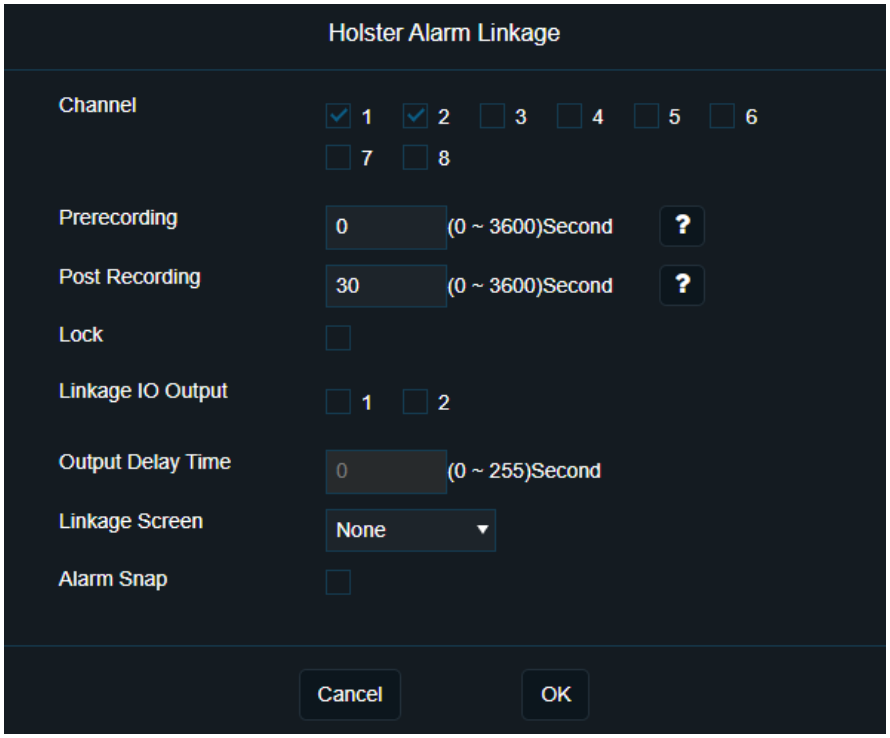
Click "Holster alarm" on the basic alarm setting interface, as shown below:



- **Enable:** When enabled, the recording can be opened through the alarm linkage of the holster sensor. By default, the recording function is disabled.
- **Alarm type:** Includes alarm and event.The difference between alarm types is the same as the IO alarm.
- **Trigger condition - Valid time:** The valid time refers to the time when the same alarm is generated within a certain period of time after an alarm is cancelled.



- **Linkage content:** Click linkage setup, and the interface is as follows.



1) [Linkage channel] : the channel for recording record after an alarm is generated. The records of these channels will be marked as alarm records.
2) [Pre-recording time] : The pre-recording time can be set only when the pre-recording enable is enabled in the record setting (0--3600S).
3) [Extended recording time] : Time for recording to continue after alarm is cancelled (0--3600S).
4) [Lock] : Whether to lock alarm recording can be set.If checked, the alarm recording will be locked after the overspeed alarm is triggered.After the alarm is removed, the record locking is complete.
5) [Paired BWC recording] : After BWC and V3 establish binding relationship through NFC, when alarm recording is enabled on the V3, paired BWC will enable recording at the same time through Bluetooth linkage.
6) [Linkage IO output] : After triggering the button alarm, IO output 1 and 2 have low level output; IO outputs 1 and 2 return to high 10 seconds after the alarm is released.
7) [Output delay time] : the duration of alarm output after the alarm is removed when the audible and visual alarm output is linked.
8) [Linkage interface] : that is, the interface required for direct display after alarm is generated. Do not display by default, can also set single interface and four interface display.

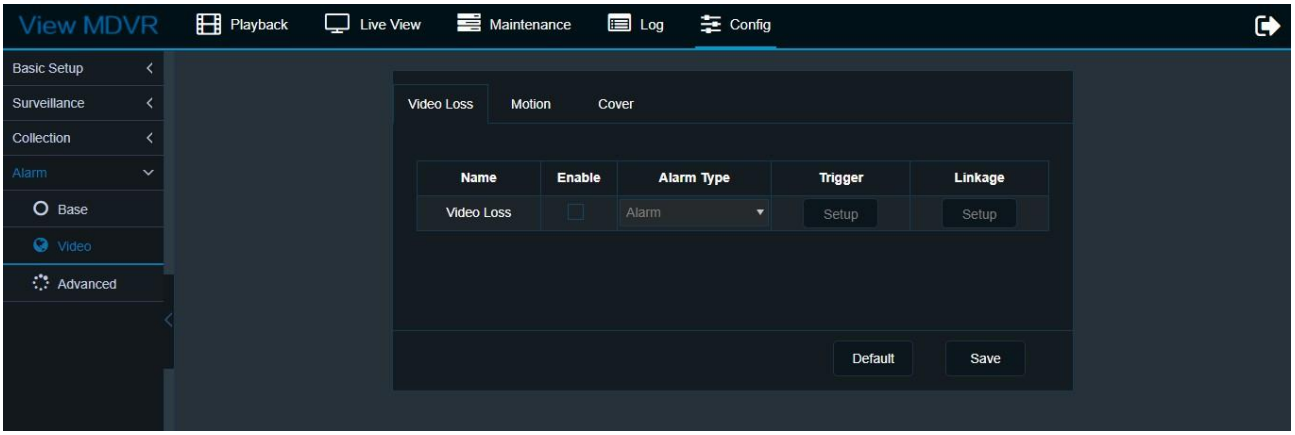
9) [Critical alarm Duration] : duration of an alarm after the critical alarm has been cleared.

10) [Alarm Capture] : Whether to capture pictures after an alarm is generated. When the FTP address is set and the IO alarm is triggered, channel capture will start, and captured images are exported through FTP.

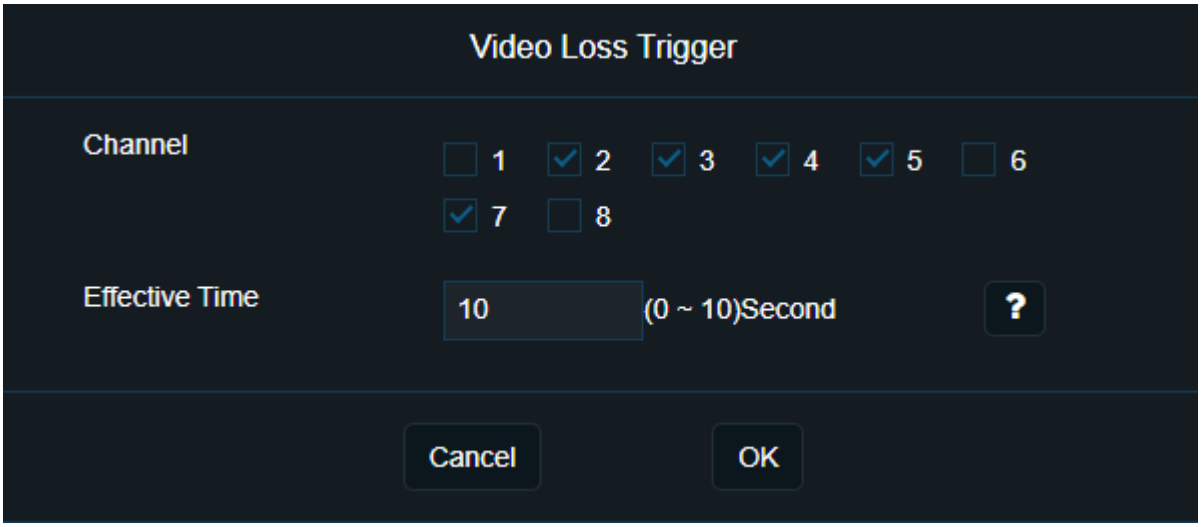
12.2. Video alarm

12.2.1. Video Loss

Video loss Alarm refers to the alarm generated and the corresponding linkage when a channel record signal is lost.You can set alarm triggering conditions and linkage content.Click [record] > [video loss] in alarm setting interface, as shown below:



- **Enable:** Indicates whether to enable the video loss alarm function. If this function is selected, trigger conditions and linkage content can be set only when this function is selected.
- **Alarm type:** Includes alarm and event.The difference between alarm types is the same as the IO alarm.
- **Trigger condition:** Click setup to enter the following interface:

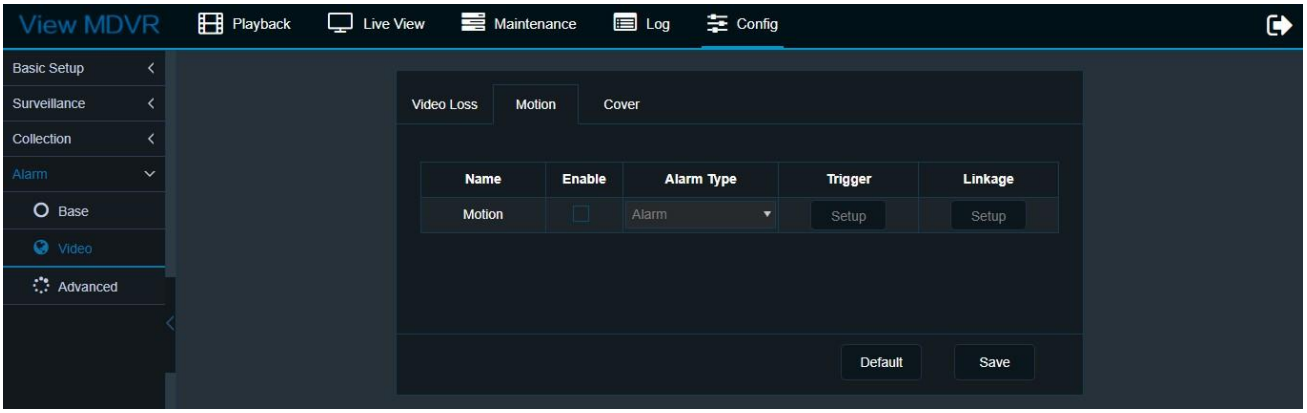


1) [Channel] : If the corresponding channel is selected, the channel will alarm once the video is lost.
2) [Alarm Valid time] :The valid time refers to the cancellation of an alarm and the generation of the same alarm within a certain period of time.

- **Linkage content:** Click setup, the interface and detailed explanation are the same as the IO Alarm.

12.2.2. Motion

Motion detection alarm refers to the alarm triggered when there is a moving target in a certain area.The prerequisite for setting the motion detection alarm is that the corresponding channel has a surveillance interface.You can set alarm triggering conditions and linkage content.Click [record] > [Motion Detection] in the Alarm setting interface, as shown below:



- **Enable:** Indicates whether to enable the movement detection alarm function.
- **Alarm type:** Includes alarm and event.The difference between alarm types is the same as the IO

alarm.

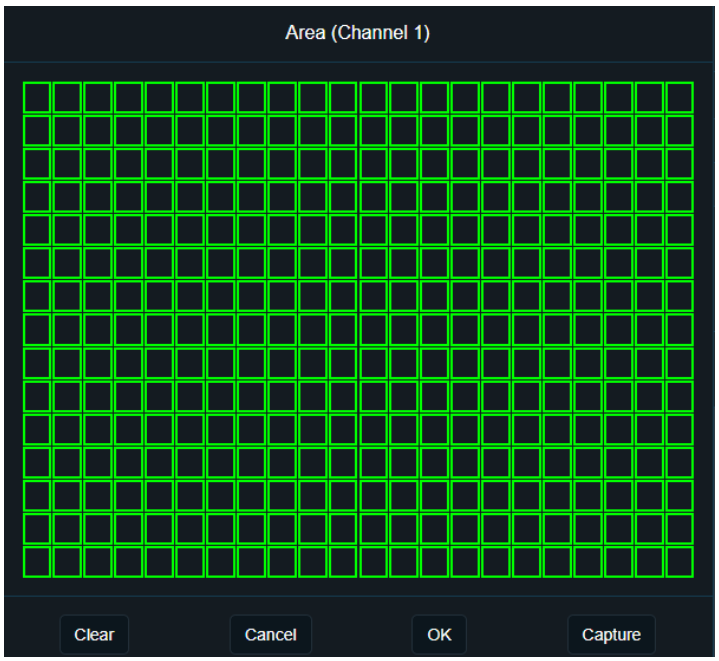
- **Trigger condition:** Click setup to enter the following interface:

1) [Channel] : Select the corresponding channel to start the movement detection alarm.

2) [Sensitivity] : The smaller the sensitivity, the higher the sensitivity, ranging from 1 to 8.As the sensitivity is affected by color time (day or night), it is necessary to adjust the value according to the actual situation.

3) [Region] : Click setup and drag the movement detection region on the channel. Multiple movement detection regions can be set.

Note: This parameter is selected all by default. Green indicates the movement detected area, and gray indicates the undetected area.



4) [Car key status] : Optional [Off], [on] and [All].That is, when the vehicle is closed, started or any state to detect movement alarm.

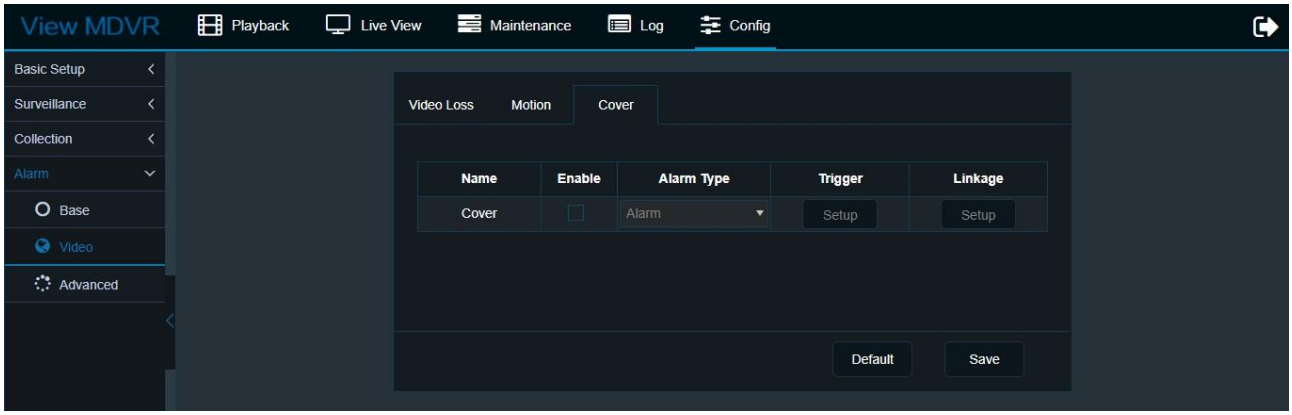
5) [Speed] : optional [0] and [ALL].That is, when the vehicle stop or move at any speed to detect alarm.

6) [Alarm valid time] : Alarm valid time refers to the interval between two adjacent movements detected. If other movements are detected within this period, they are considered as continuous movements.If other movements are detected outside that time period, the two adjacent movements are independent and distinct movement events.

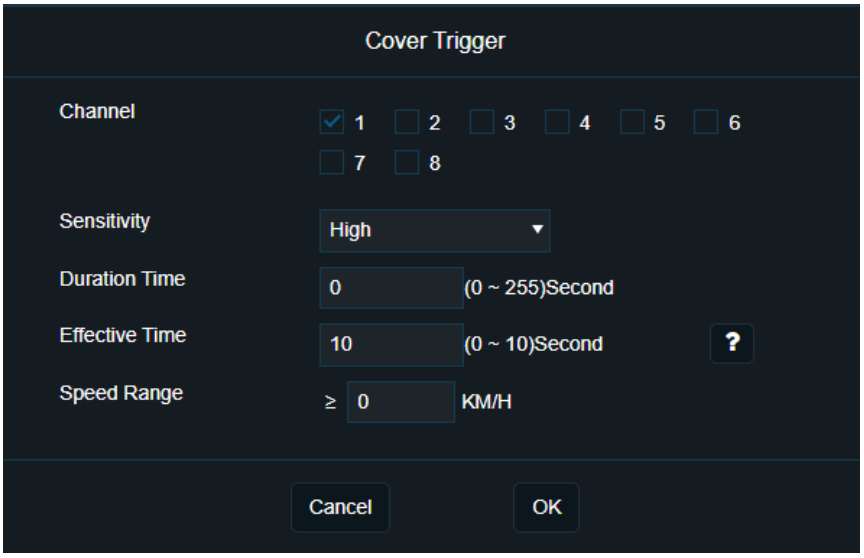
- **Linkage content:** Click setup, the interface and detailed explanation are the same as the IO Alarm.

12.2.3. Cover

Video cover alarm refers to the alarm triggered when a channel video has been covered. The premise that Video cover alarm can be set is that the corresponding channel has surveillance interface.You can set alarm triggering conditions and linkage content.Click [record] > [record Occlusion] in the Alarm setting interface, as shown below:



- **Enable:** Indicates whether to enable the movement detection alarm function.
- **Alarm type:** Includes alarm and event.The difference between alarm types is the same as the IO alarm.
- **Trigger condition:** Click setup to enter the following interface:



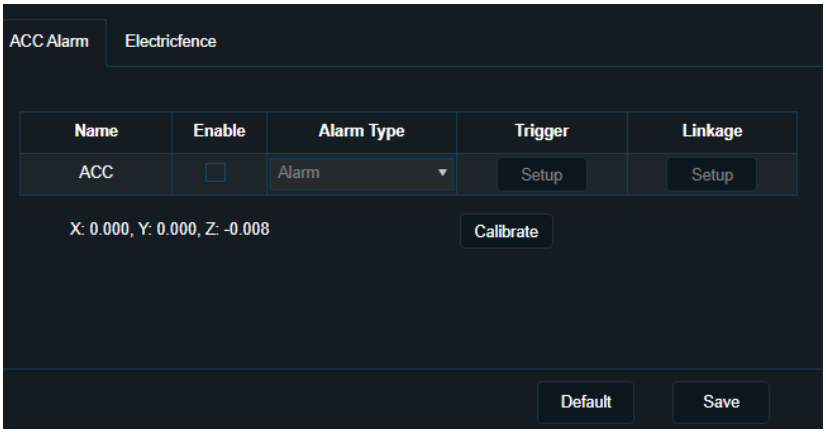
1) [Channel] : If the corresponding channel is checked, an alarm will be generated once the channel is covered..
2) [Sensitivity] : [low], [medium] and [high].
3) [Duration] : Alarm will be generated when detecting how long the occlusion lasts.
4) [Alarm Valid time] : The valid time refers to the cancellation of an alarm and the generation of the same alarm within a certain period of time.Explain in detail with the IO alarm.

- **Linkage content:** Click setup, the interface and detailed explanation are the same as the IO Alarm.

12.3. Advanced alarm

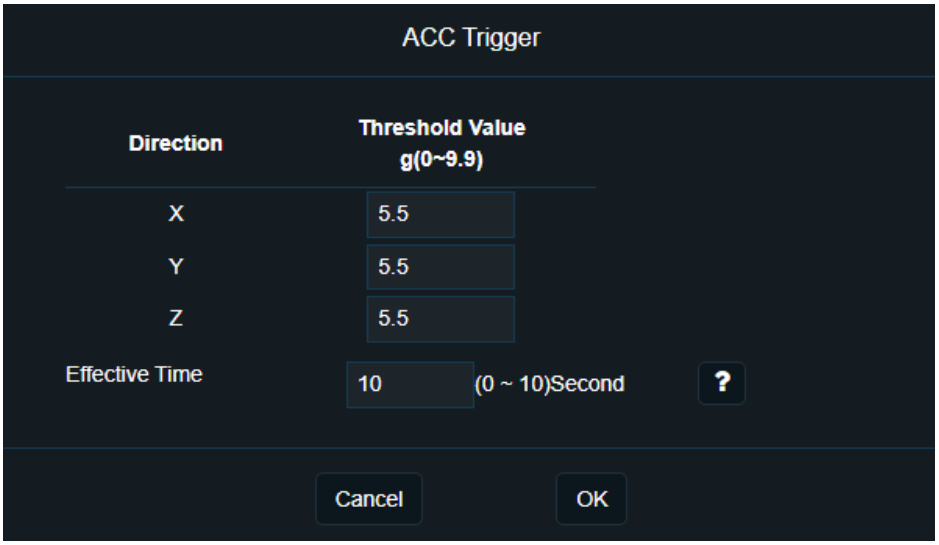
12.3.1. ACC Alarm

ACC alarm is also known as a collision alarm. A collision Alarm is triggered based on the Sensor G-sensor of the V3 .Click "Advanced" > "ACC Alarm" in the Alarm setting interface, as shown below:



ACC mode:

- **Alarm type:** Includes alarm and event.
- **Trigger condition:** Click setup to enter the following interface:

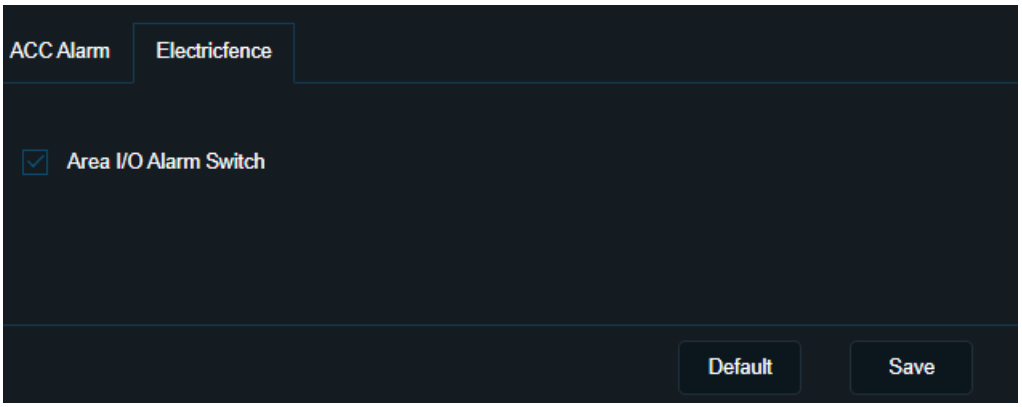


1) [Threshold value] is the resultant force of acceleration in an axis direction. If the acceleration generated in the corresponding direction is greater than this value, alarm will be triggered.
2) [Alarm Valid time] : The valid time refers to the cancellation of an alarm and the generation of the same alarm within a certain period of time.

- **Linkage content:** Click setup, the interface and detailed explanation are the same as the IO Alarm**.**

12.3.2. Electricfence Alarm

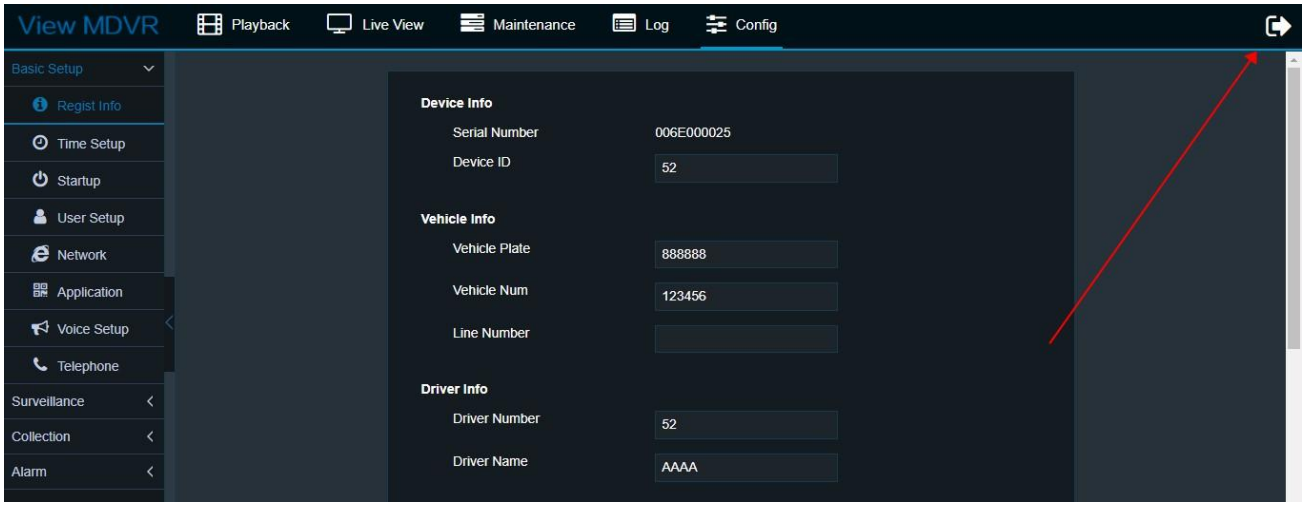
Click "Advanced" > "Electronic Fence" in the Alarm setting interface, as shown below:



On this interface, you can only select whether to enable electricfence alarm, but cannot set the position and range of the electronic fence.The area of the electronic fence can be set up on the VEMS platform.

13. Login out

Click the button in the upper right corner of Internet Explorer to return the interface to the login interface, as shown below:



2. FAQ