

User Manual for WOLFCOM Mini MDVR In-Car Camera System



Instructions

1. Please do not power up the product before installing and connecting the cable. Make sure the product is installed correctly and the cable is connected correctly before starting up. Please read the installation guide
2. Please turn off the power supply before removing the cover or removing the card.
3. The power supply must be DC 9-36v and cannot be higher than 37V.
4. Download the app on IOS (App Store) or Android (Play Store) for your mobile devices. Search for "C6D EasyCheck" and download the application with the following thumbnail:



1. Overview

1.1. Product Introduction

The WOLFCOM Mini MDVR is a compact, cost-effective device designed for police video surveillance. Its characteristics are as follows:

- ✧ Supports 3G/4G, Bluetooth, WIFI, 6-axis and other functions;
- ✧ GPS-enabled;
- ✧ SD card video storage, up to 128GB;
- ✧ Support IP voice intercom;
- ✧ Special file system, secure video data, and protect personal privacy;
- ✧ Industrial design and aluminum alloy shell that allows for a good heat dissipation;
- ✧ Interior-Facing Camera records in 720P resolution and is equipped with infrared, which can clearly capture the interior of the vehicle, even in dark situations;
- ✧ The Mini MDVR built-in camera records in 1080P resolution, capturing all the action with details;
- ✧ The installation of the alarm button is concealed, which is convenient for the driver to promptly report an accident

1.2. Mini MDVR Interface



	Mini MDVR interface description
1	Base fixing screw
2	LED status indicator
3	Bluetooth / WIFI
4	Speaker
5	Lens adjustment screw



	Mini MDVR interface description
1	SIM card / SD card panel
2	SIM card / SD card panel screw
3	USB port
4	SIM slot
5	SD slot



	Mini MDVR interface description
1	Base
2	3M double-side tap
3	Lens (front view camera)
4	Mounting Bracket Release

1.3. Interior-Facing Camera Interface



	Interior-Facing Camera interface description
1	Microphone
2	Lens (interior-view camera)
3	Photosensor
4	3M double-side tape
5	Base
6	Lens left and right adjustment screw
7	Lens up and down adjustment screw

1.4. Status Indicator of Mini MDVR

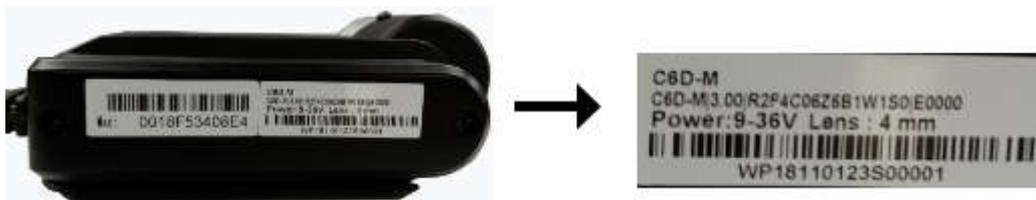
There is only one LED status indicator on the Mini MDVR. Status of the unit is as follows:

- ✧ No light: indicates power supply is off.
- ✧ Steady red light: The power is on and the unit is initializing.
- ✧ Red light flashes per second: Indicates that initializing is completed, but the module is faulty. Faults include no GPS module, no WIFI module, no SD card, channel video loss.
- ✧ Steady green light: Indicates normal operation with no module failure.
- ✧ LED flashes 2 times per second: Indicates that it is being upgraded.

1.5. Product Information

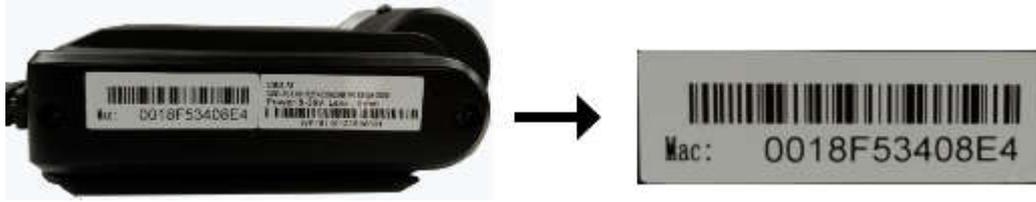
1.5.1. Machine Type and Model Information

Machine type and model information helps support personnel identify products and provide faster service. The figure below shows the location of the machine type and model of the product:



1.5.2. Physical Address Information

The machine physical address is the only network identifier for the product. The picture below shows the location of the machine's physical address:



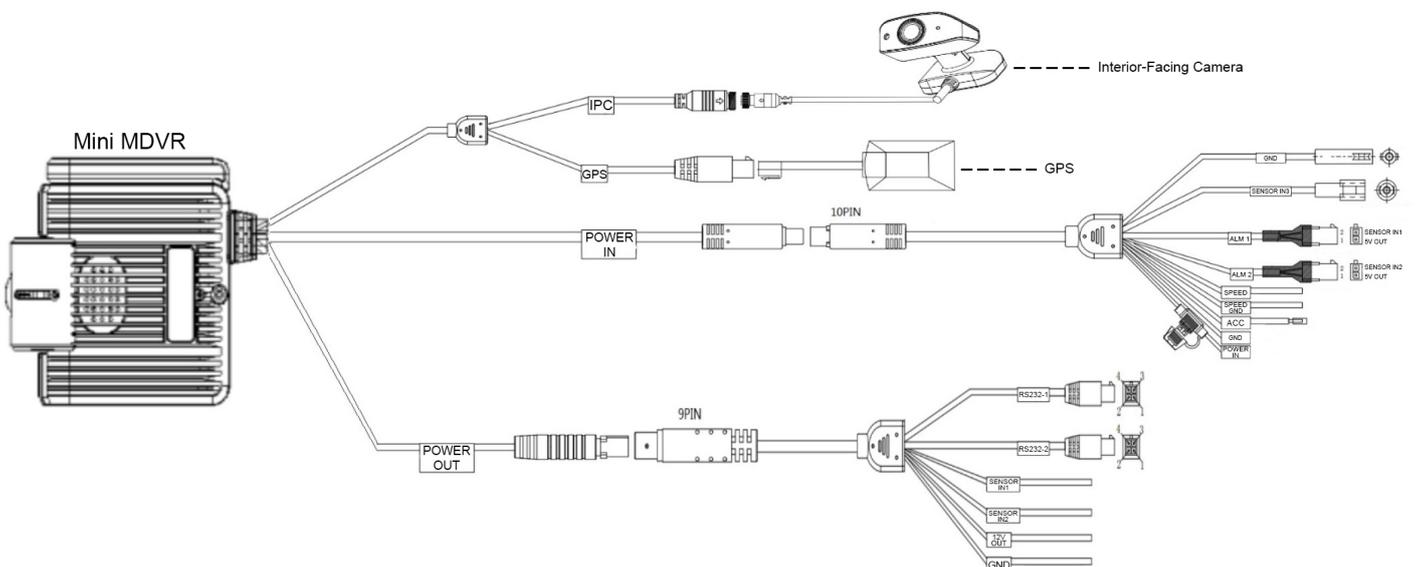
Note: Depending on the model, your product may slightly differ from this.

1.5.3. QR Code Information

The machine QR code contains the unique device serial number identifier. Use the Easy Check application scans the machine QR code and login to the device. The location of the QR code on the machine is shown below.



1.6. System Diagram

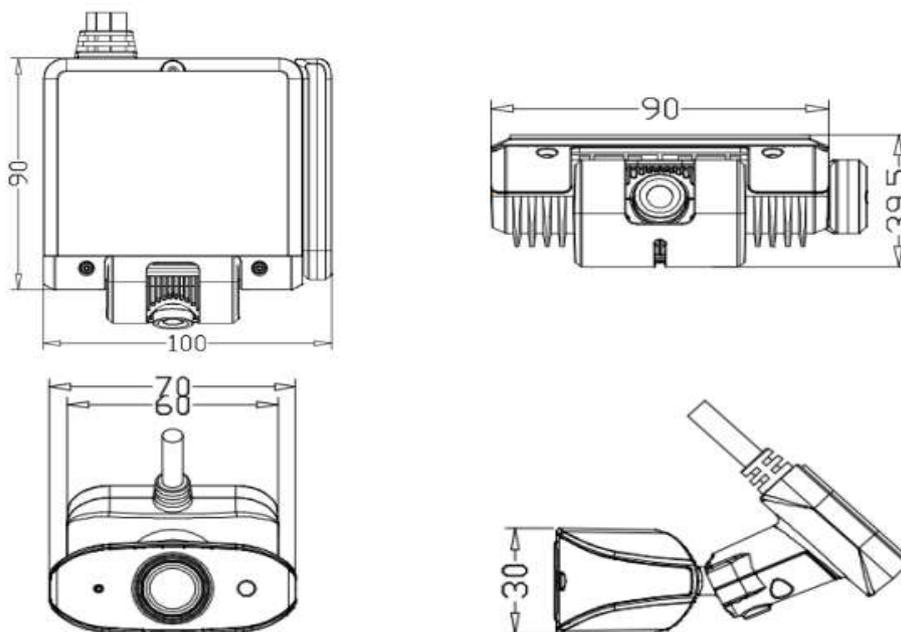


1.7. Specifications

Model	Mini MDVR	
Network	WIFI	Yes
	Bluetooth	Yes
	3G/4G	Yes
Positioning	GPS/BD dual mode	Yes
Sensor	Six-axis sensor	Yes
Working status indicator	The indicator light shows the four states of the device: Power on: When the device is powered on, the red light is always on; Normal operation: the green light is always on; Fault alarm: The indicator light flashes red and lights up once every second;	
Storage	SD Card	SD card, support SDXC64G/128G, support hot plugging
Video and Audio	Video and Audio recording	Video 2 channels, audio 2 channels
	Main stream resolution and frame rate	Interior-Facing Camera: 720P@30fps Mini MDVR: 1080P@30fps
	Largest resource	Main stream 1080P@30 frame +720P@30 frame, 2 way sub-stream VGA@30 frame
	Image setting	Brightness, color, contrast, saturation, sharpness adjustment
	Video coding	H.264 Baseline Profile/H.264 Main Profile Baseline
	Video compression rate	Mini MDVR: 500Kbps ~ 6Mbps Interior-Facing Camera: 500Kbps ~ 6Mbps
	Audio compression standard	G.711U/ADPCM
	Audio compression ratio	4:1
	General function	Heartbeat mechanism, multi-level user management
	CBR/VBR	Yes
	Audio input	Yes
	Built-in speaker	Built-in speaker for broadcasting voice messages
	Camera parameters	Sensor Type (Interior-Facing Camera)
Sensor type (Mini MDVR)		1/2.9" 2M pixel CMOS Sensor
Shutter speed		1/30 sec-1/100000sec
Lens		Interior-Facing Camera: 2.3mm Mini MDVR: 4mm
Lens interface type		M12
Day and night	Interior-Facing Camera: support	

	conversion mode	Mini MDVR: does not support
	Digital wide dynamic	Digital wide dynamic
	Backlight compensation	Support
	Signal to noise ratio S/N	≥48db
	Infrared distance IR	Interior-Facing Camera: 3m Mini MDVR: Not support
Interface	RS232	2
	IO alarm	2 with self-test
	SPEED	1
	Power output	5VDC@500mA, 12VDC@500mA
Protocol	Network Protocol	HTTP,TCP,ARP,UDP,FTP,DHCP,DNS,IPV4,NTP
Power related	Power supply	9-36V
	Built-in battery	not support
	Typical power consumption	6W
	Power consumption	no more than 9W (standard application for two cameras)
General specification	Operating temperature	-30℃~+70℃
	Storage temperature	-40℃~+85℃
	Humidity	0% - 90%

1.8. Size



Unit: mm

2. Product Applications

2.1. Easy Check Application

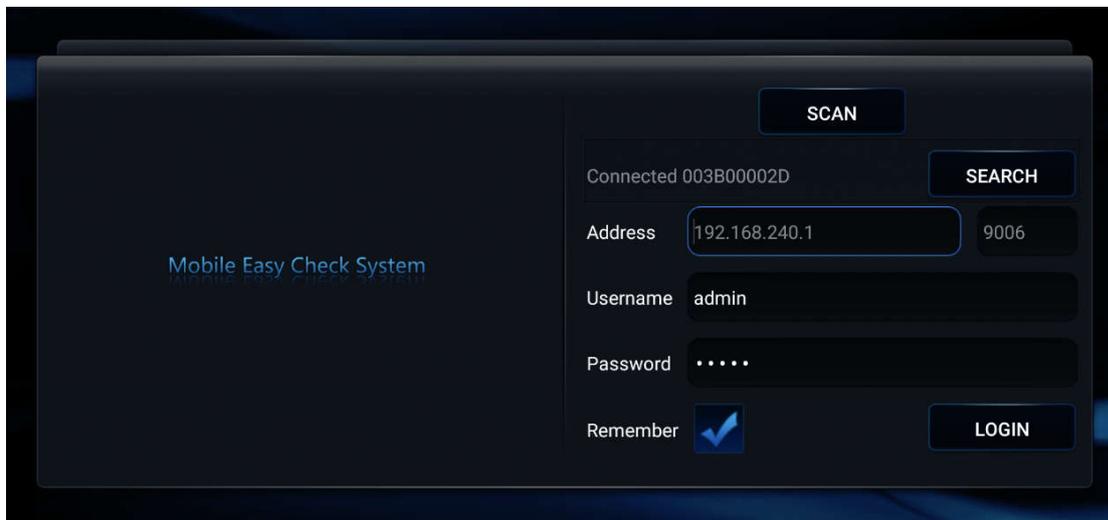
Download the app on IOS (App Store) or Android (Play Store) for your mobile devices. Search for "C6D EasyCheck" and download the application with the following thumbnail:



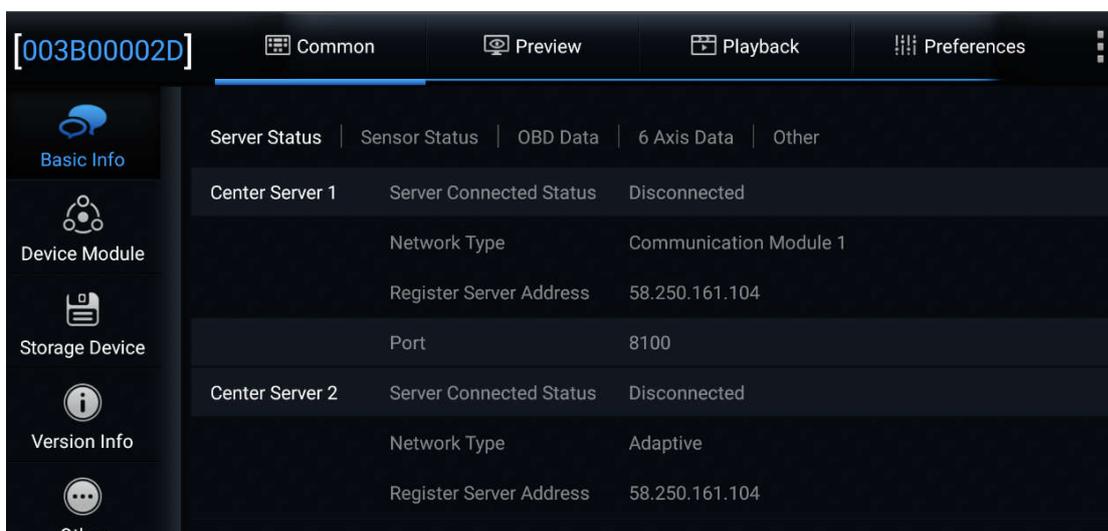
2.2. Login to Device

Install and run the Easy Check App to operate the product as follows.

1. Power on or restart the Mini MDVR and check the indicator light. The steady red light indicates that it is booting. The red light flashes or the steady green light indicates that the power is on.
2. Within 2 minutes after power on, apply Easy Check to scan the QR code on the device or manually search for the Mini MDVR serial number, and enter the correct user name and password to log in.



3. After successful logging in to Easy Check you view Common, Preview, Playback and Preferences interface.

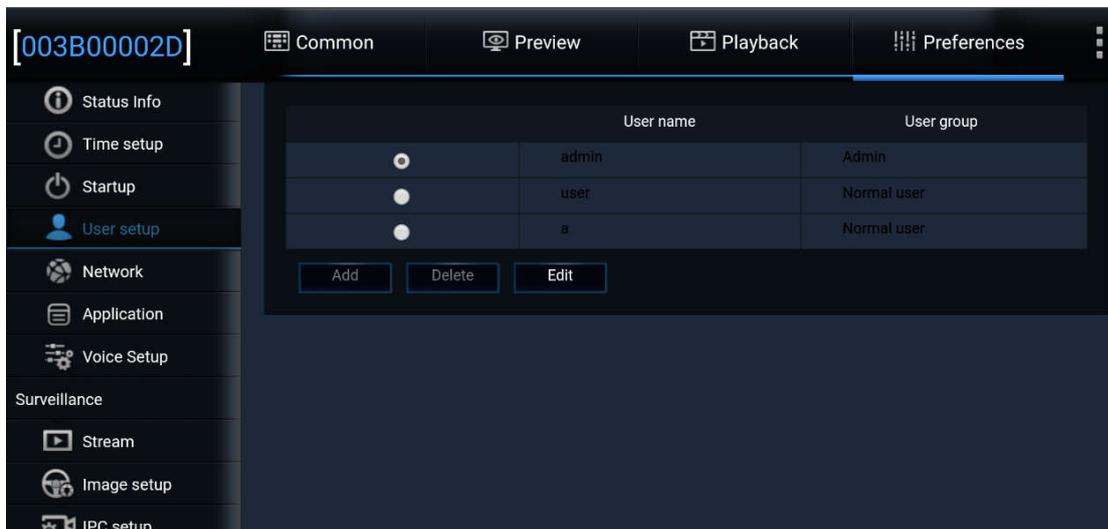


2.2.1. Power-on Password

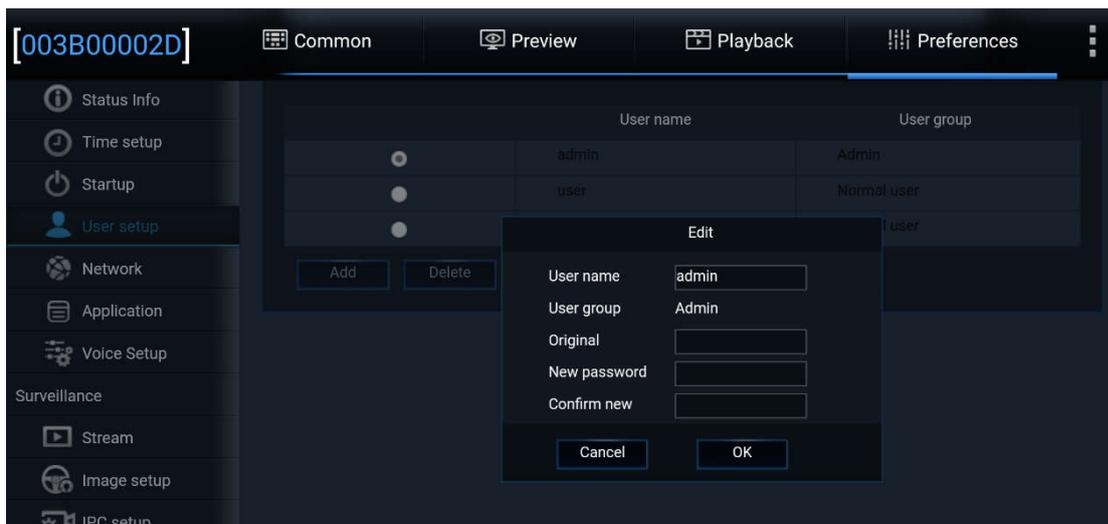
Using a power-on password helps prevent unauthorized users from accessing your computer. The default username and password are admin/admin. When using it for the first time, please change your power-on password. If a power-on password is set, you must enter the correct password to operate your product.

To modify or delete the power-on password, do the following.

1. Restart the device and use the Easy Check to scan the QR code and manually search for the product list.
2. Once you have found and selected the product, go to the login interface, enter the default username and password, and click Login.
3. Login successfully, go to the Preferences -> user setup interface.



4. Select the Username and click Edit.
5. Enter the editing interface and enter a new password, no password is allowed.



6. Enter the completion, confirm the submission, and the new password is set successfully.

2.2.2. Multi-level User

The use of multiple levels of users helps to limit the support staff's operational rights to the product, with a level 3 user level.

- ✧ Administrator: The administrator username cannot be changed, and there is only one administrator account. The password can be modified by yourself. All permissions except the physical address of the product.
- ✧ User: Up to 2 users can be added, they can be added, modified, and deleted by the administrators . The user cannot modify the username by itself, but have the right to change the password. Permission to query, playback, and export videos and log files.
- ✧ Super administrator: Same as the administrator user name, the user name cannot be changed. The super administrator's password needs to be dynamically generated using the dynamic password tool. Please contact the support staff for the tool documentation.

Adding, modifying, or deleting user information is the same as editing an administrator password.

2.2.3. Data Export

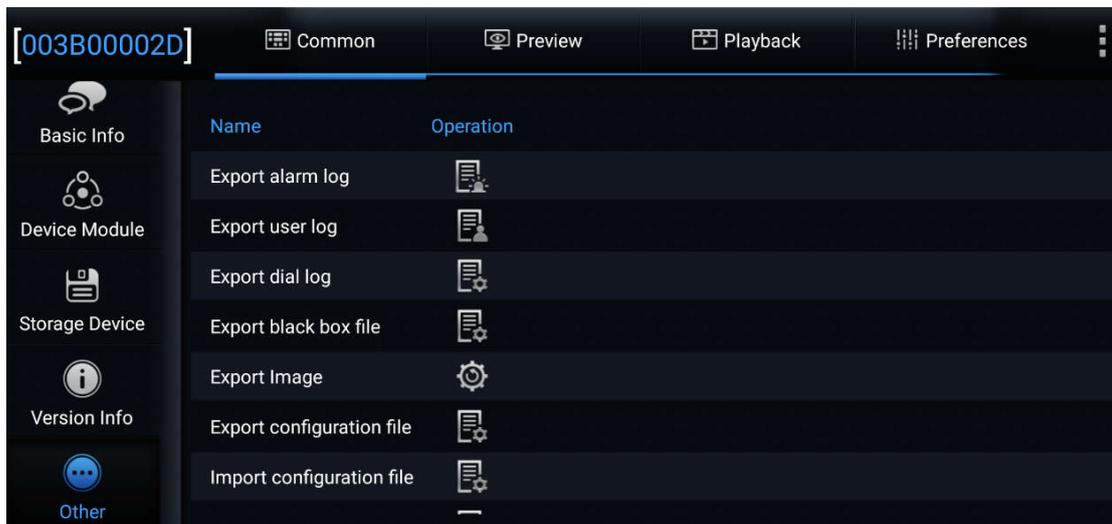
Enter the Easy Check APP interface, and export the video file, black box data and configuration file to the flash drive. The data export method is as follows:

- ✧ Export log file

1. Open the card panel on the right side of the Mini MDVR, connect the USB port to the customized USB adapter cable, insert flash drive into the other end of the cable.



2. On the Easy Check APP, enter the file export interface, select the log type, and click the Export button to export.

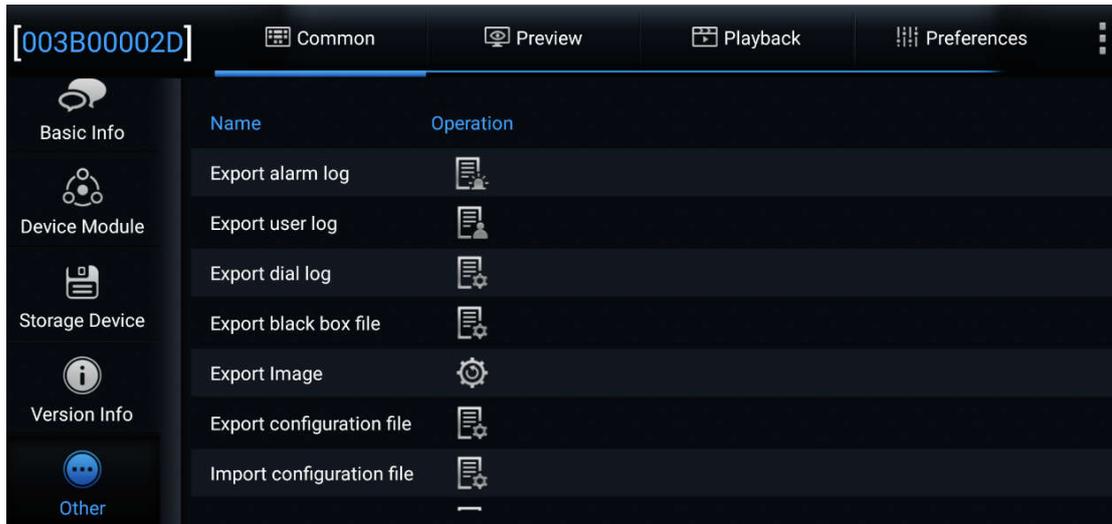


- ✧ Export configuration file

1. Open the card panel on the right side of the Mini MDVR, connect the USB port to the customized USB adapter cable, insert flash drive into the other end of the cable.



2. On the Easy Check App, enter the configuration interface and click the Export configuration file button to export the data.



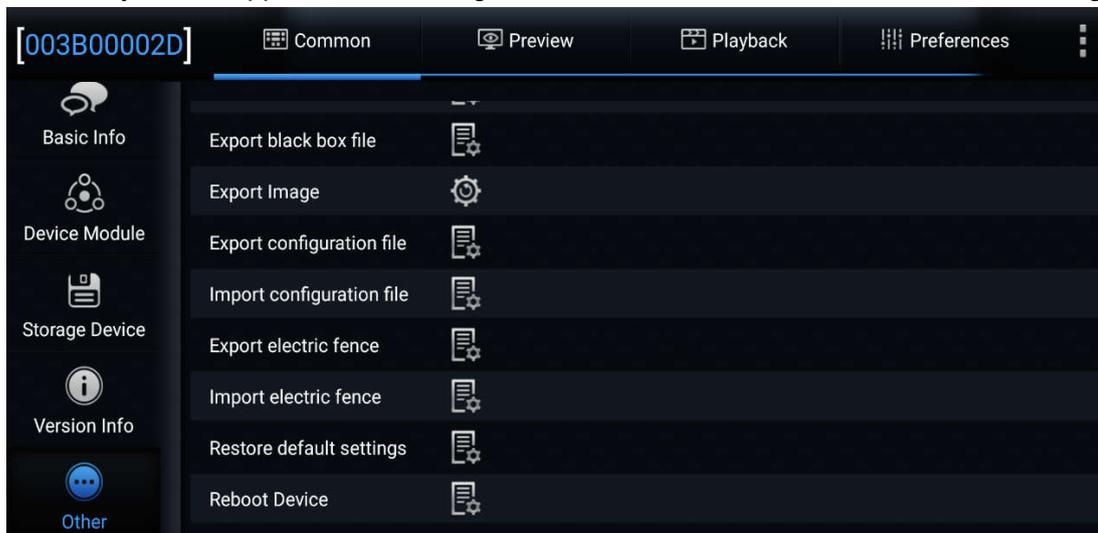
2.2.4. Configuration settings

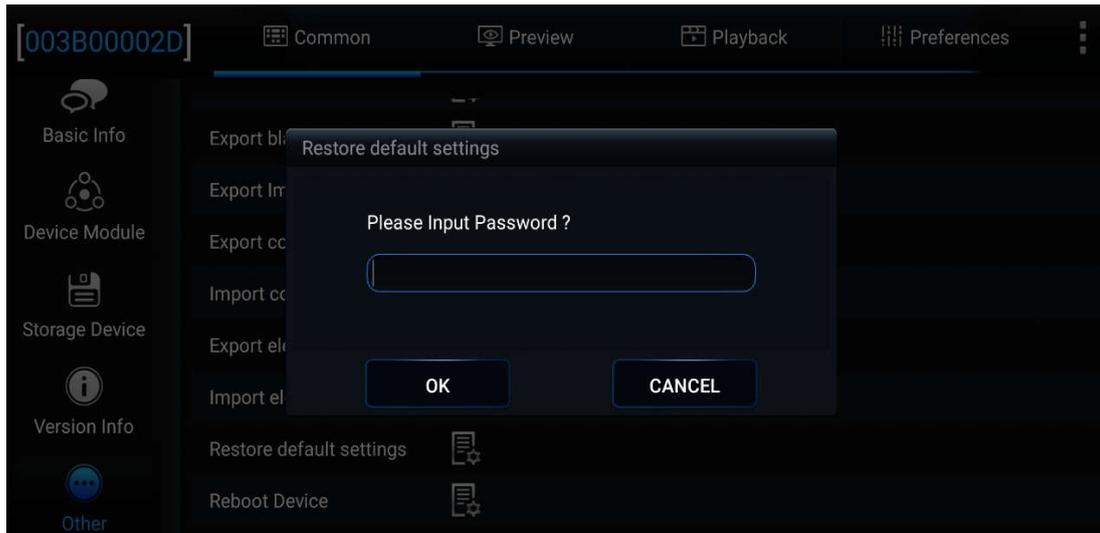
In addition to manually modifying the configuration, batch modification of the configuration is also supported by the following methods:

✧ Restore default settings

1. Open the card panel on the right side of the Mini MDVR, connect the USB port to the customized USB adapter cable, insert flash drive into the other end of the cable.

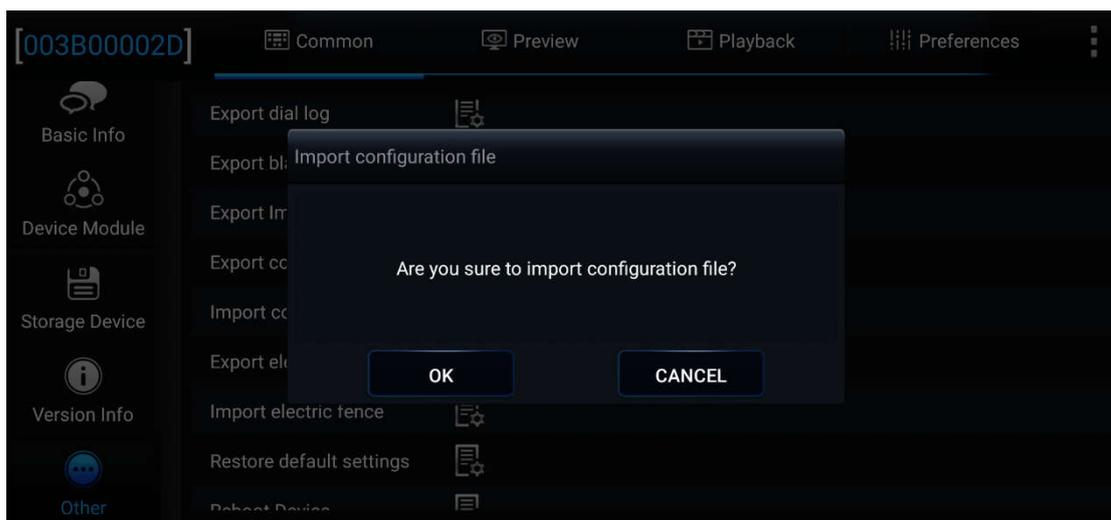
2. On the Easy Check App, enter the configuration interface and click “Restore default settings”.





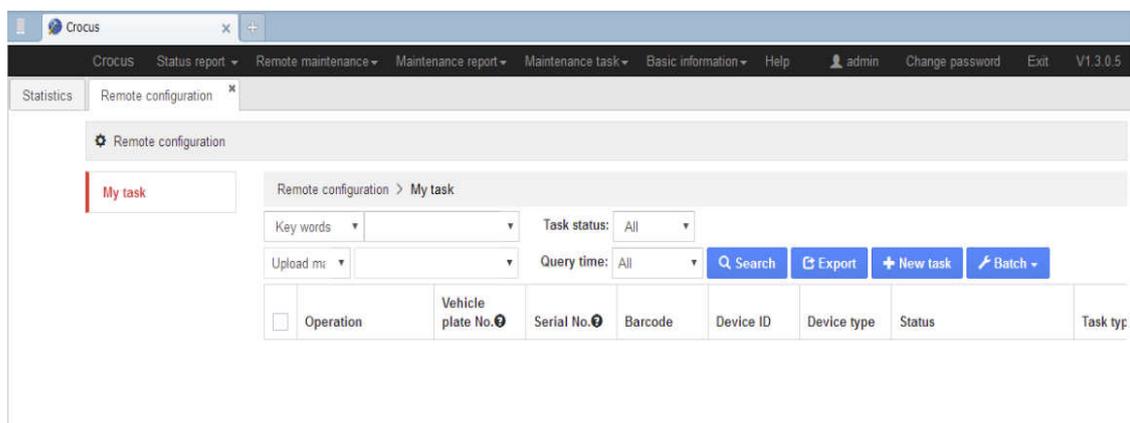
✧ Import configuration file manually

1. Open the card panel on the right side of the Mini MDVR, connect the USB port to the customized USB adapter cable, insert flash drive into the other end of the cable.
2. On the Easy Check App, enter the configuration interface and click “Import configuration file”.



✧ Automatically download configuration files from the Crocus platform

1. Login to the Crocus platform, enter Remote maintenance -> Remote configuration interface, create a task to deliver configuration files



2.3. Using IP Camera

The Mini MDVR has built-in Ethernet function component with IPC interface, and the Interior-Facing Camera can be connected to the interface with resolution of 960P or 720P.

2.4. Using Micro SIM Card

To connect to the network using a wireless WAN, you need a micro SIM card. The type of SIM card must match the cellular module. To install and replace the SIM card, please follow the steps below.

1. On the right side of the product, find the card cover.
2. Insert the T8 Torx wrench into the screw, unscrew the screw counterclockwise, and remove the cover.
3. Locate the SIM card mounting slot and insert the sim card into the card slot with the integrated circuit (IC) chip facing up and the notched side facing forward.
4. Replace the card cover and tighten the screws clockwise.



2.5. Using Functional Unit

- ◇ Built-in microphone with video recording or IP intercom audio input.
- ◇ Built-in speaker with IP intercom audio output or overspeed broadcast.

2.6. Storage

Use SD card for video storage and other file recording. Note when using an SD card:

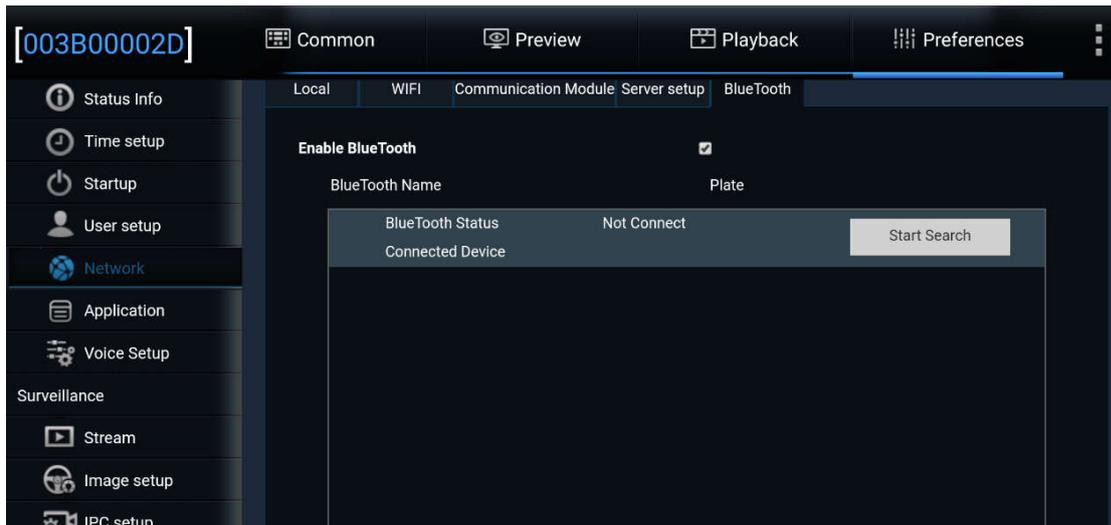
1. The new SD card will be automatically formatted after booting to ensure normal recording after startup.
2. Support for manually formatting SD cards on Easy Check.
3. The SD card is an encrypted file system. The format SD card on the PC is invalid. The disk data is automatically restored after booting.
4. SD card capacity supports 32G/64G/128G.



2.7. Using Blue Tooth

Use a Bluetooth network to connect an external Bluetooth device as follows:

1. Log in to the Easy Check App, enter to Preferences interface.
2. In the Network -> Blue Tooth interface, search for Bluetooth devices and connect.



3. Check the Bluetooth device connection status.

2.8. Using Encrypted File System

Users have strict security requirements for video data. Using special file system can effectively prevent the video data from leaking. The disk that stores video data must be formatted on the device before it can be used properly. Video data requires specific tool to preview, exports, and playback. Please contact the support staff to provide the tool file.

2.9. Power Management

The power required to run the product normally can be supplied by a battery or DC power supply.

- ✧ When the product is used on a vehicle, power can be supplied from the vehicle battery. You can take power from the OBD port of the vehicle or take the battery from the car's fuse box.
- ✧ AC power adapter should be used if AC power is needed which convert AC voltage to DC voltage.
- ✧ When using a battery or DC power supply, the output voltage range should be within 9-36V.

3. FAQ

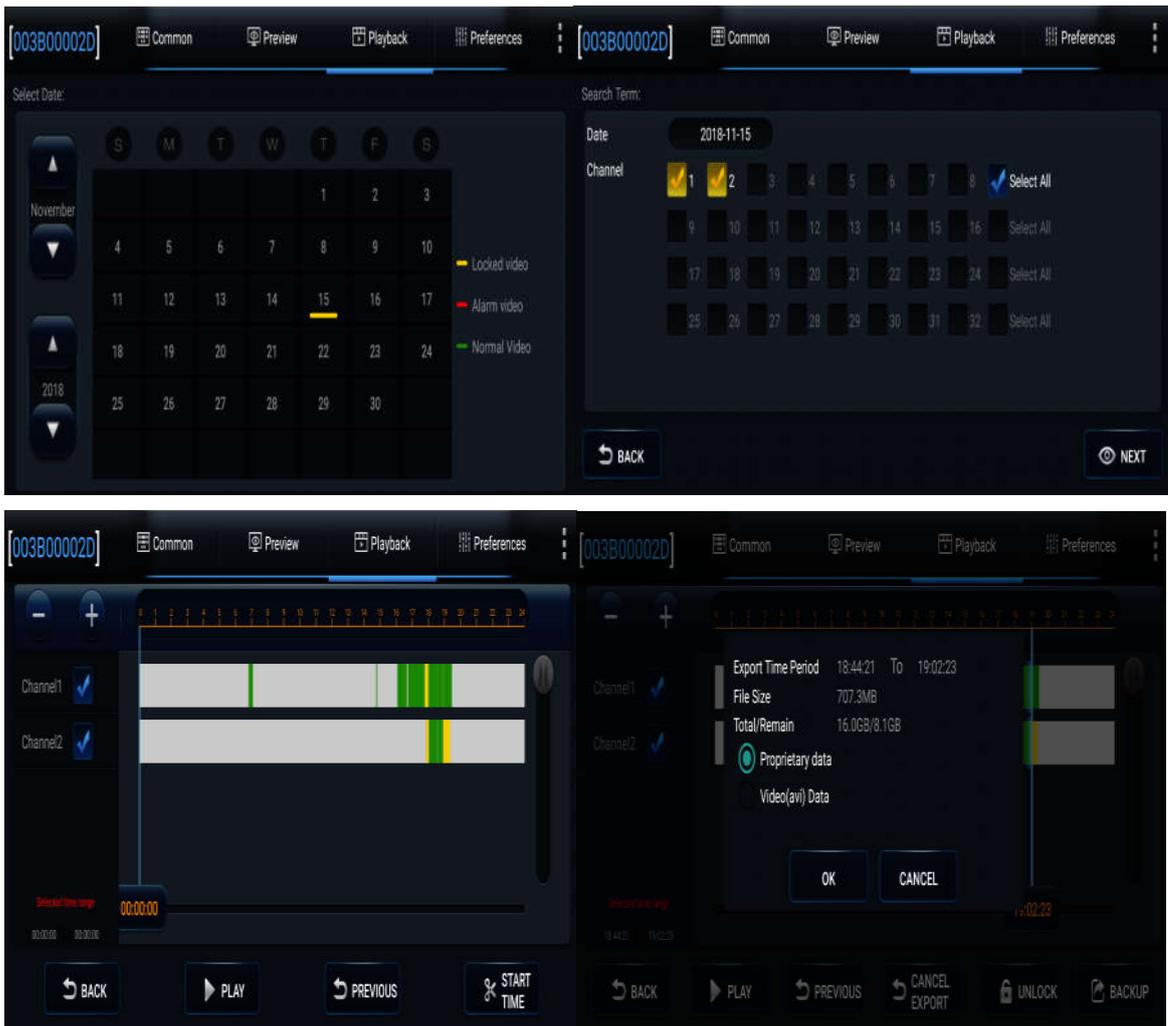
3.1. How to Backup Video?

✧ The video file can be backed up locally to the flash drive on the Easy Check App.

1. Open the card panel on the right side of the Mini MDVR, connect the USB port to the customized USB adapter cable, insert flash drive into the other end of the cable.



2. Play back the video on the Easy Check App, then click the “VIDEO EXPORT” button and follow the prompts to export the video.

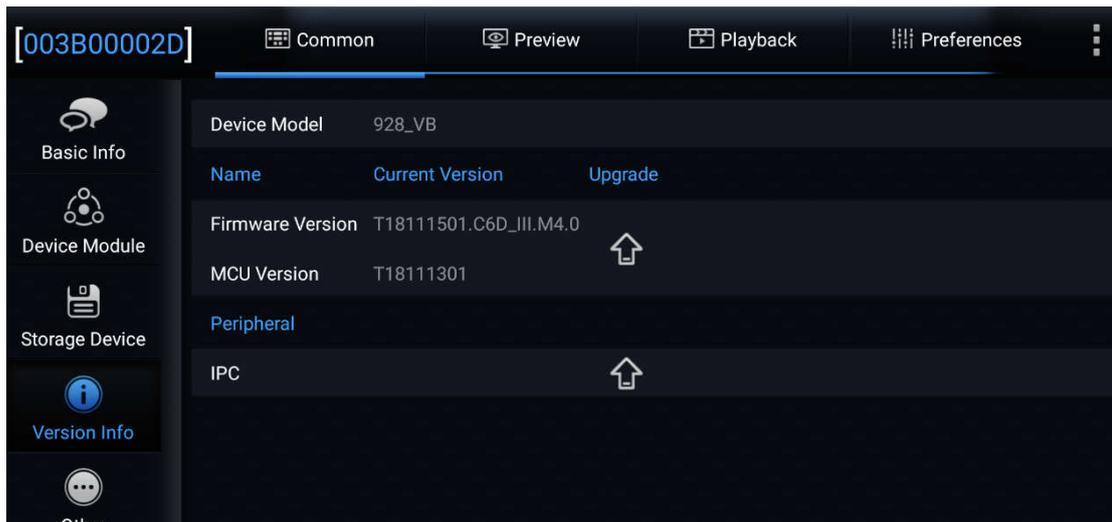


- ✧ The video files can be remotely replayed to the local or server via the N9M server.
- ✧ The video files can be downloaded remotely and automatically to the server via the N9M server.
- ✧ Retrieve the SD card and play back the clip video files locally on the N9M client.

3.1.1. How to Upgrade Locally

When updating the program locally, you can upgrade by operating flash drive on Easy Check. The upgrade method is as follows.

1. The flash drive is formatted in FAT32 format, and a new “upgrade” folder is created in the root directory.
2. Put the firmware in the flash drive upgrade folder;
3. Power on the device again. Within 2 minutes of booting, use the mobile phone to search for the Mini MDVR and log in to the Common->Version Information interface.
4. Open the panel of the SD card on the side of the device, insert the USB transfer test cable, and connect the flash drive to the USB transfer cable;
5. In the Common -> version information interface, find the firmware version, click the upgrade button behind;



6. After clicking Upgrade, the device will verify the firmware first.
 - (1) If there is no flash drive or no firmware or the firmware file type is incorrect, the file will be prompted to not exist;
 - (2) If the firmware version of the device is the same as the firmware version in the flash drive, the prompt is that the file is the latest version;
7. If the firmware verification is passed, there will be an interface prompting the upgrade progress (this prompt interface will take 10 minutes to automatically exit and display the upgrade timeout, which can be manually quit);
8. Prompt the upgrade progress, indicating that the firmware file in the flash drive is being uploaded to the SD card of the device (if there is no SD card, it is placed in the memory);
9. After the upload is complete, the device will automatically restart and upgrade (takes 40 seconds);
10. After the upgrade is completed (takes 55 seconds), the device will automatically restart (takes 13 seconds) and power on (the red light is always on until the red light flashes for 36 seconds).
11. The red light flashes once every second, indicating that the boot is completed and the upgrade is successful (a total of 144 seconds);

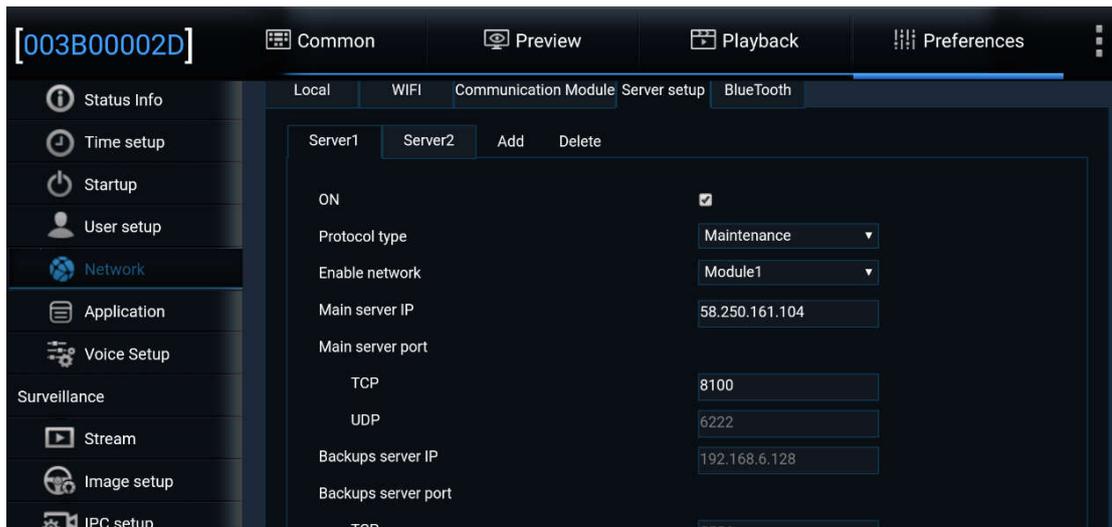
Note:

1. During the upgrade (the LED light will flash twice in seconds), please do not power off;
2. If the upgrade is interrupted, the device may not be powered on.
3. During upgrading, Easy Check is disconnected. After the upgrade is complete, you need to manually search for the device again.

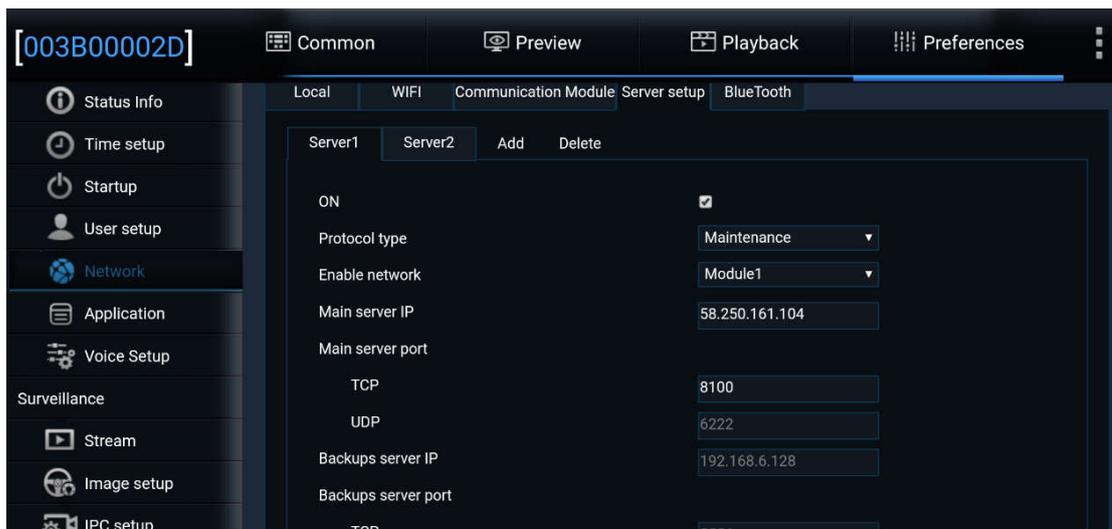
3.1.2.How to Upgrade Remotely?

When the program is updated, the running vehicle will not actively upgrade. Support personnel are required to use the wireless WAN to create upgrade tasks for remote software updates. The remote upgrade is performed as follows.

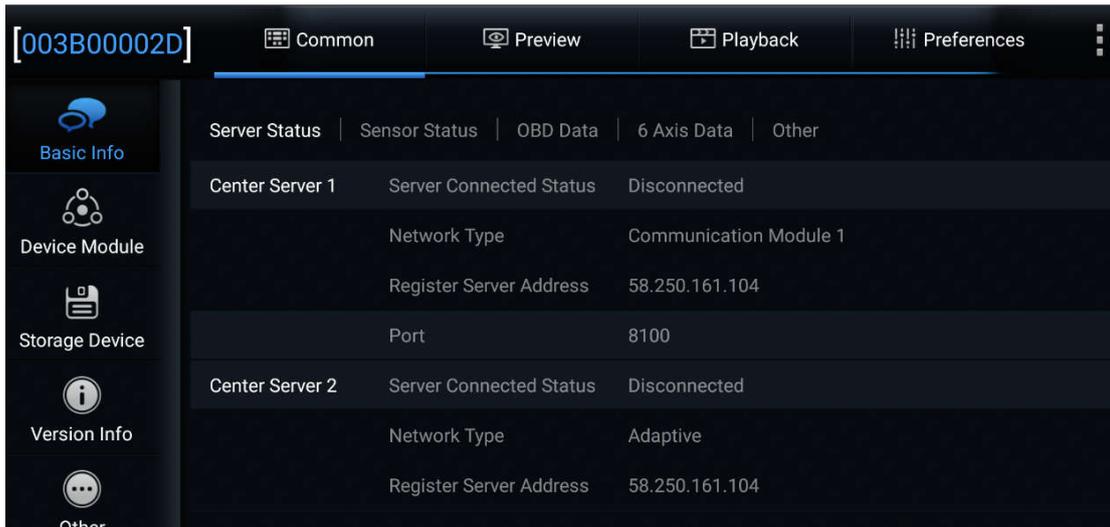
1. Insert a valid SIM card;
2. Power on the device, enter to the Preferences-> Network -> Server Setup interface on Easy Check App, select the N9M server type, fill in the N9M server address, select the Module1 network, and report the device to the N9M server.



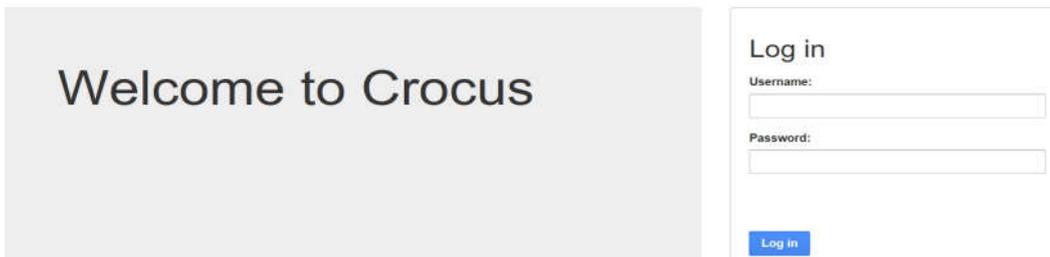
- On the Server Setup page, add Server2, select the protocol type as Maintenance, fill in the Maintenance server address, and select the Module1 network to report the device to the Maintenance server.



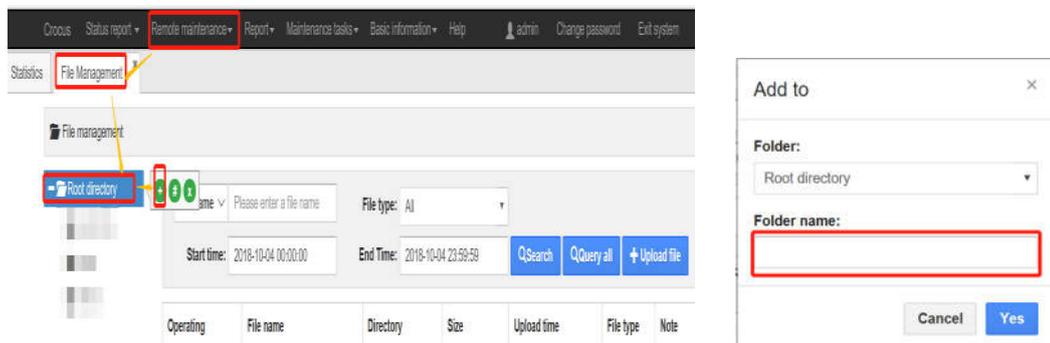
- The device dials successfully. On the Status Info -> Server Status interface, check whether the server is successfully connected.



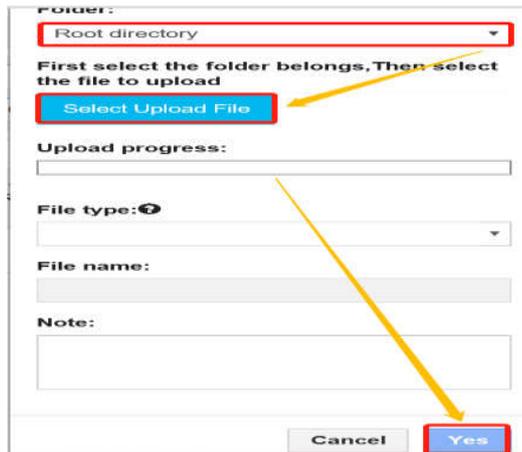
5. Open the client on the testing PC, enter the server address and log in;
6. After logging in to the server, enter the device management interface and add devices.
7. Open the IE in the testing PC, and enter the address of the maintenance server at the URL and log in;



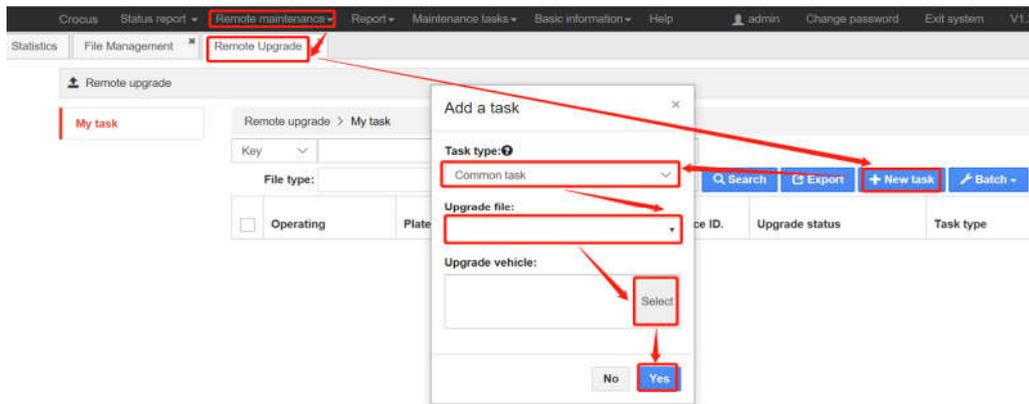
8. After logging in to the maintenance platform which is called Crocus, enter the remote maintenance interface, create an upgrade directory, and store the upgrade file.



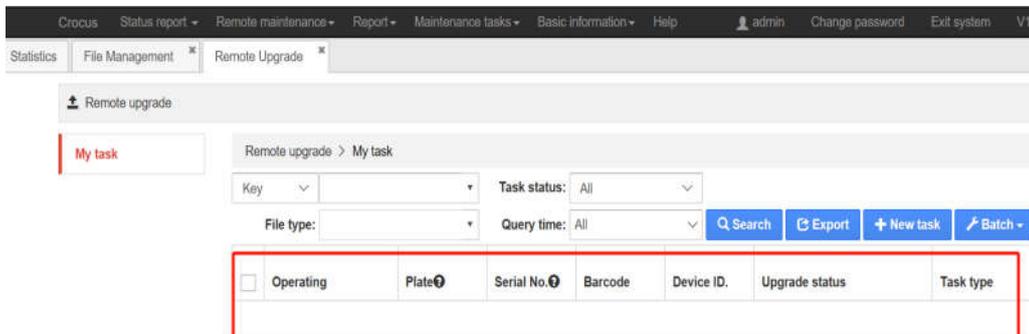
9. After creating the upgrade directory, upload the upgrade file as follows:



10. After uploading the upgrade task, create an upgrade task as follows



11. After the upgrade task is created, you can see the task execution in the task list.



12. The online device will immediately perform real-time tasks and upgrade, first upload the upgrade file to the SD card of the device; (If there is no SD card, store it in the memory)

13. After the upload is complete, the device will automatically reboot and upgrade.

14. After the upgrade is completed, the device will automatically reboot.

15. If the red light flashes per second which indicates that the boot and upgrade are completed successfully.

Notes:

1. The task of the Crocus server can be performed by waking up the device through the N9M server.
2. Real-time tasks, online devices will be executed immediately, and offline devices will be executed immediately after going online.

3. Ordinary tasks are executed when the online device network is reconnected, and the offline device is executed immediately after going online.
4. During the upgrade (LED lights will flash 2 times per second), please do not power off.
5. If the upgrade is interrupted, the device may not be powered on.
6. The time consuming of the upgrade process depends on the network bandwidth, and if the signal is good, it takes about 5 minutes;

3.1.3. Calculate the Video File Size

Each channel's files are recorded separately. When exporting video files, each channel will have a separate video file. The video file size is calculated as follows.

✧ Size of each video file: recording duration (s) * bit rate (Kbps) /8/1024=file size (MB)

Example: The video file size of a fixed bit rate of D1 resolution with image quality of 1 in 1 hour:

$$3600 \times 2048 \text{ Kbps} / 8 / 1024 = 900 \text{ MB/H}$$

✧ Video recording rate Kbps (CBR)

Resolution	1	2	3	4	5	6	7	8
1080P (1920*1080)	8192	6390	5496	4602	3708	2814	1920	1024
720P (1080*720)	6144	4800	4128	3456	2784	2112	1440	768
D1 (704*576)	2048	1536	1230	1024	900	800	720	640
CIF (352*288)	1024	768	640	512	440	350	312	280

✧ Size of recording file MB/H (CBR)

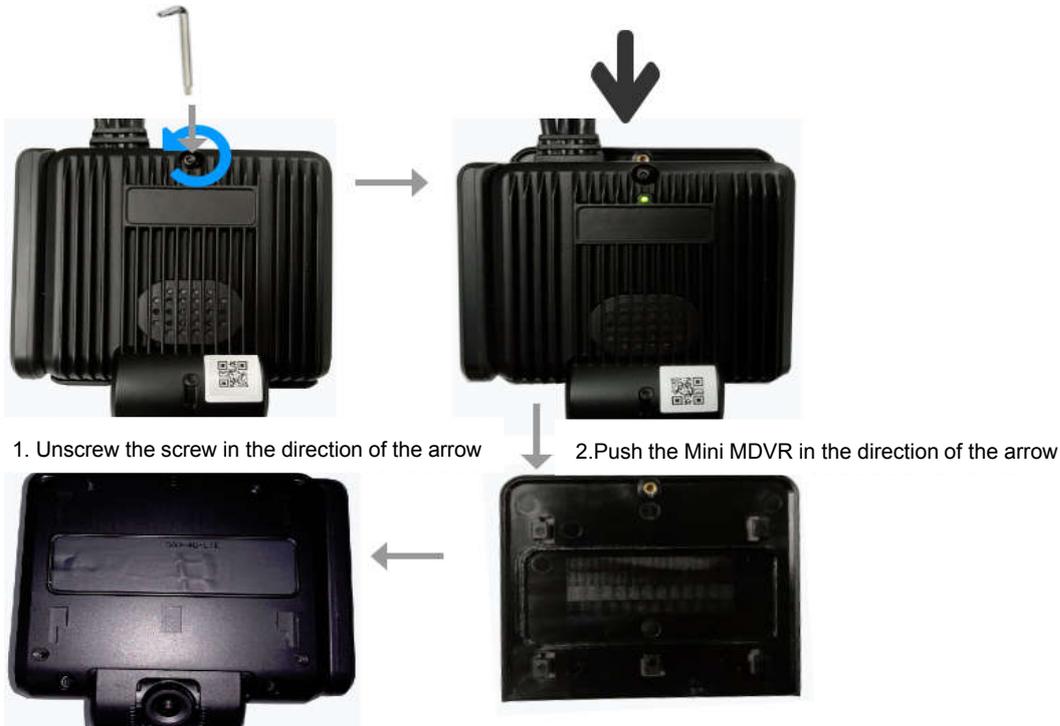
Resolution	1	2	3	4	5	6	7	8
1080P (1920*1080)	3600	2808	2415	2022	1629	1237	844	450
720P (1080*720)	2700	2109	1814	1519	1223	928	633	338
D1 (704*576)	900	676	562	450	382	308	274	246
CIF (352*288)	450	338	281	225	193	154	137	123

3.1.4. How to Replace Machine?

When you need to replace the main unit, you do not need to replace the bottom cover of the main unit. Please follow the steps below.

✧ Remove the host unit

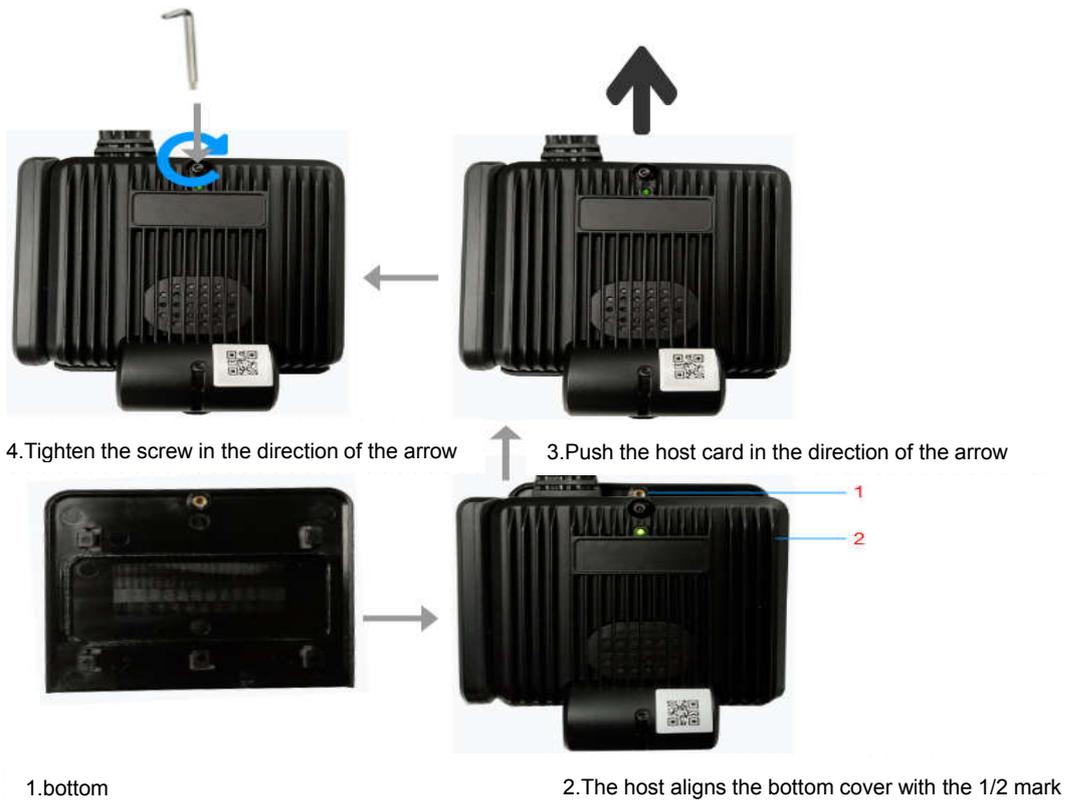
1. Disconnect and remove the peripheral cables .
2. Remove the cover of the cables.
3. Use a T8 wrench to loosen the bottom cover screw counterclockwise.
4. Grab the sides of the Mini MDVR and pull down it from bottom cover.



4. The bottom of the Mini MDVR after disassembly 3. Unpacked back cover

✧ Install Mini MDVR

1. Use a T8 wrench to loosen the bottom cover screw of the new product counterclockwise.
2. Grab the sides of the Mini MDVR and pull down from the bottom cover
3. Cover of the glass, align the bottom cover buckle, and press firmly from bottom to top to buckle the main unit.
4. Use a T8 wrench to tighten the bottom cover screw clockwise.
5. Reconnect the external cable.
6. Recover the cables, power on and check the device, if it run normally,,the unit is replaced successfully.



3.2. Product Troubleshooting

3.2.1. System Won't Start

Symptom: Power is on, but the LED indicator is off.

Solution:

- ✧ Check if the power wire is connected correctly. Make sure the ground wire is connected back to the battery, and the fuse on the power wire is in good condition.
- ✧ Check if the ACC signal wire input to the power is with voltage higher than 7V.
- ✧ Check if the vehicle has started ignition (whether the ACC signal line is off);

3.2.2. System Restarts Uninterruptedly

Symptom: After the power is turned on, the LED indicator of the main unit is always on. After a while, the device will automatically restart.

Solution:

- ✧ Check if the voltage of Mini MDVR is sufficient. If the voltage is less than the start-up voltage of the device, the unit will always restart.
- ✧ Problem with hard drive/SD card may cause failure to start. Remove the storage drive and check if it's in good condition.

3.2.3. Device Won't Record

Symptom: After the device is running normally, there is no recording mark on the Preview interface.

Solution:

- ✧ Make sure the storage drive is properly installed and can be read normally in computer.
- ✧ Check if the storage drive is formatted. The storage drive should always be formatted before storing recorded files.
- ✧ Make sure there is video signal input into the device from the camera and that there is video/ image on the screen.

3.2.4. There's no Audio in Recorded Files

Symptom: After the device is running normally, the video file is played normally but with no sound.

Solution:

- ✧ Make sure the external microphone is properly connected.
- ✧ Check if Audio is enabled in Video Channel Settings
- ✧ The channel that implements the recording feature must have video input and normal recording.

3.2.5. GPS Malfunction

Symptom: GPS has no signal.

Solution:

- ✧ Check if the GPS antenna is installed properly.
- ✧ Make sure the GPS antenna receiver is unobstructed by anything as that might affect its reception.
- ✧ Environmental factors such as trees, high buildings, tunnels, bridges, as well as thunderstorms or other weather influences can also cause weak reception.

3.2.6. The Device can't Shut Down in Ignition Switch Mode

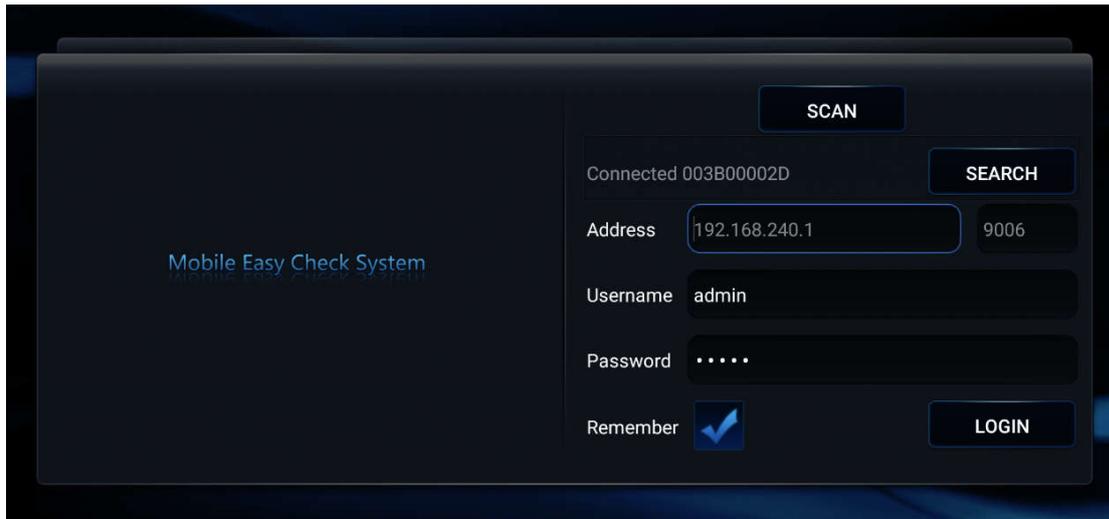
Symptom: After the vehicle is turned off, the device does not shut down.

Solution:

- ✧ Check the ignition shutdown delay time, after the shutdown delay time countdown is over, the Mini MDVR will shut down;
- ✧ Check if the ACC line connection is correct and connected to the ignition wire that shows 12V when on and cranking. This connection should show no voltage when the ignition is turned to the off position.
- ✧ If the device has been set with schedule recording, it can't shut down if it is still during recording time of the task table.

4. Menu Introduction

Use the Easy Check App to scan the QR code of the Mini MDVR and enter the login interface, as shown in the figure below.



Enter the correct user password. After successful login, enter the Easy Check interface.

Common	Preview	Playback	Preferences
--------	---------	----------	-------------

Menu description:

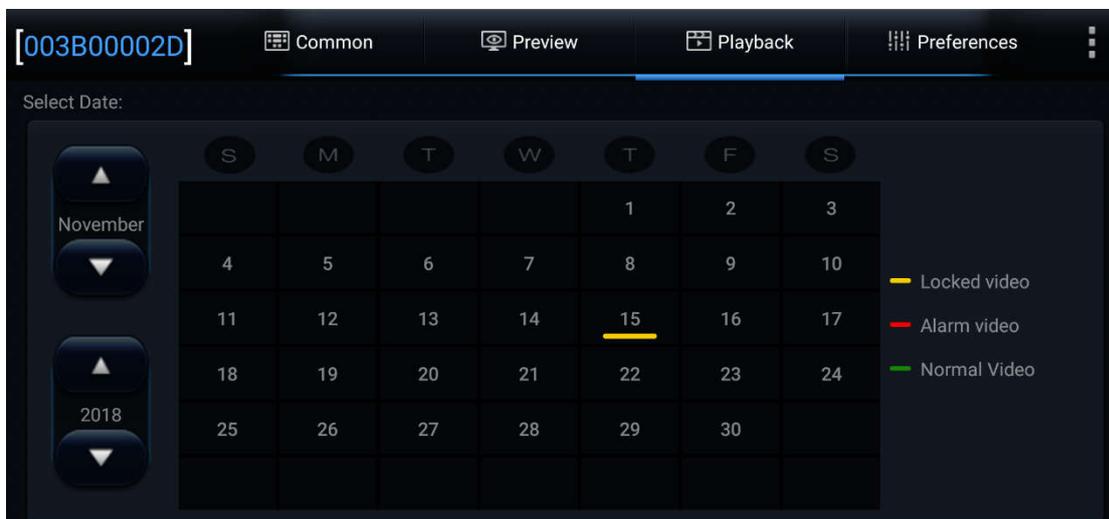
- ✧ Common menu: device status queries can be performed.



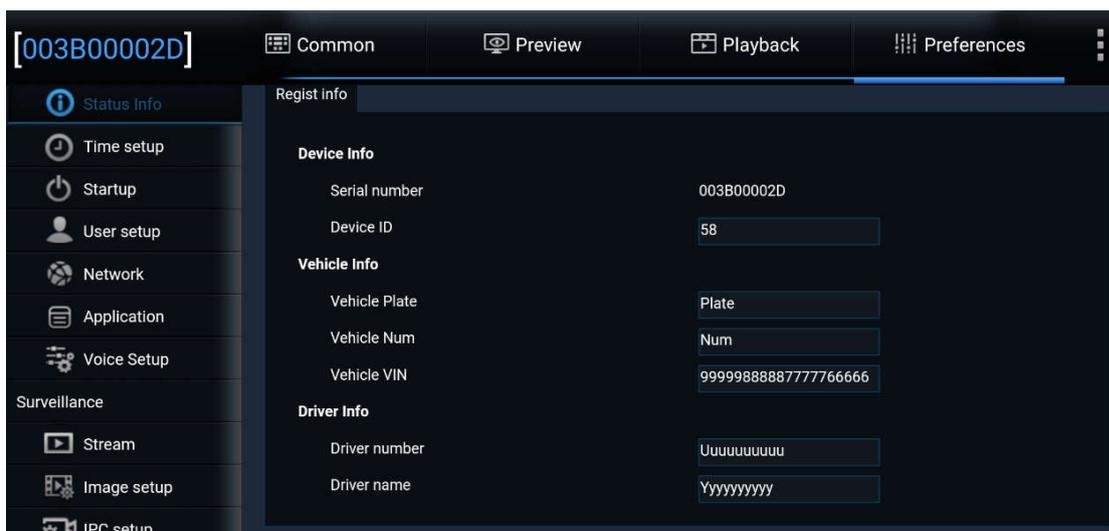
- ✧ Preview menu: for real-time preview of front and cab video



✧ Playback menu: Video playback and backup are available.



✧ Preferences menu, all parameters of the machine can be set.



To change the product Preferences, click on the **Preferences** tab. The various menu items of the Preferences menu are listed below. The default values are highlighted in bold. Menu items are subject to change without notice.

4.1. Basic Setup menu

Menu items	Submenu items	Parameter items	Option	Comments	
Status Info	Regist Info	Device Info	Serial Number	Serial Number for reporting server	
			Device ID	Device ID	
		Vehicle Info	Vehicle Plate	Vehicle Plate	
			Vehicle Number	Vehicle Number	
			Vehicle VIN	Vehicle VIN	
		Driver Info	Driver Number	Driver Number	
			Driver Name	Driver Name	
Time Setup	General	Date Format	Year-Month-Day 、 Month/Day/Year、 Day/Month/Year	Date format	
			Time Format	24Hours 、12Hours	Time format
			Time Zone	DUBIN	Time zone
		Time Sync	Manually	Date/Time	System time, can be entered manually
				Change Time	Confirm the modification
				Sync With PC	Synchronize time with PC accessed by IE
			Auto	Satellite	GPS calibration enable switch, default: ON
				NTP Sync	Network calibration enable switch, default : OFF
		DST	Enable	ON/OFF	DST enable switch
			Offset	One Hour/Two Hours	DST offset time
			Mode	Week/Date	DST start mode
			Start	Mar. 2nd Sunday 02:00:00	DST effective date
			End	Nov. 1st Sunday 02:00:00	DST end date
	Start up	ON/OFF	ACC Mode	ON/OFF	OFF mode
				ON/OFF Mode	Ignition
			Ignition Delay	300 (0-86399) s	Shutdown delay, default; 300s
			Low Volt Protect	ON/OFF	Low voltage shutdown protection enable switch
			Battery Low Voltage Protect	10 (9-11.5)V 12V vehicle 20 (19-21.5)V 24V vehicle	Low voltage shutdown voltage value
		Voltage Startup	12.5 (12-14) V 12V vehicle 24.5 (24-26) V 24V vehicle	Voltage value for restarting after low voltage shutdown	

		Battery Power Shortage Alarm	ON/OFF	Low voltage shutdown alarm reporting enable switch
User Setup	User Name	admin	admin/admin	Admin username/password
		user	user/user	Normal username/password
	User Group	Admin/Normal User		User level description
	Add	Add button		
	Delete	Delete button		
	Edit	Edit button		
Network	Local	DHCP Mode	ON/OFF	Dynamically acquire the IP mode enable switch
		Static IP	IP Address	Ethernet IP address, default: 192.168.1.99
			Subnet Mask	Subnet Mask
			Gateway	Gateway
		Auto get DNS	ON/OFF	Automatically obtain the DNS enable switch
		Use following DNS	Preferred DNS Server	Primary DNS server address
			Alternate DNS Server	Alternate DNS server address
		MAC Address	Hex	Ethernet NIC physical address, factory configuration, cannot be changed
	Ports	Web Port	80	IE access port, Default: 80
		RTSP Port	554	network pull por, Default: 554
	WIFI	Enable	ON/OFF	WIFI function enable switch, default OFF
		ESSID		WIFI hotspot name
		Encryption	None/WEP/WPA	WIFI hotspot encryption
		Password		WIFI hotspot connection password
		Static IP	ON/OFF	Enable switch, default OFF
		IP Address	192.168.2.100	WIFI network address, manual input in static mode, automatic allocation of hotspot AP when dynamically acquired
		Subnet Mask	255.255.255.0	Subnet Mask
		Gateway	192.168.2.1	Gateway

	Communication Module	Server Type		
		Network Type		
		Dialing Parameter	APN	
			User Name	
			Password	
			Number	
			Certification	
		Active Mode	Always	Power-on dialing, default Always
			Phone/SMS	Call or text to activate dialing, you can set 3 mobile numbers
			Sensor	IO alarm can activate dialing, IO linkage content can be configured
	Server Setup	Server1	ON/OFF	Server enable switch
			Protocol Type	Protocol type, support N9M /Maintenance
			Enable Network	Use network type, support Module1 /WIFI/Local
			Register Server IP	Registration server address
			Register Server Port	Register server port TCP : 5556
				Register server port UDP : 6222
			Media Server IP	Media server address
			Media Server Port	Media server port TCP : 5556
				Media server port UDP : 6111
		Add	Add button	Up to 6 servers
		Delete	Delete button	Server1 cannot be deleted, other added servers can be deleted.
	BlueTooth	Enable BlueTooth	ON/OFF	Bluetooth function enable switch
		BlueTooth Name	license plate number	Bluetooth name, automatically filled according to the license plate number
		BlueTooth Status	Not Connect/Connect	Bluetooth connection status

		Connected Device		The name of the connected Bluetooth peripheral, automatically populated based on the connection result
		Start Search	Search button	
Application	FTP Server	FTP Enable	ON/OFF	FTP server enable switch
		Server	192.168.1.200	FTP server address
		Port	21	FTP server port
		User Name	admin	FTP server login user name
		Password		FTP server login password
Voice Setup	System Volume	6 (0-8)		Preview audio volume

4.1.1.How to Connect to Central Server?

The product uses a wireless network connection server, and the wireless network is further divided into a wireless LAN and a wireless WAN. The wireless LAN uses a WiFi module to connect to the network, and the network coverage is limited. The wireless WAN uses a communication module to connect to the network, and the network coverage is wide.

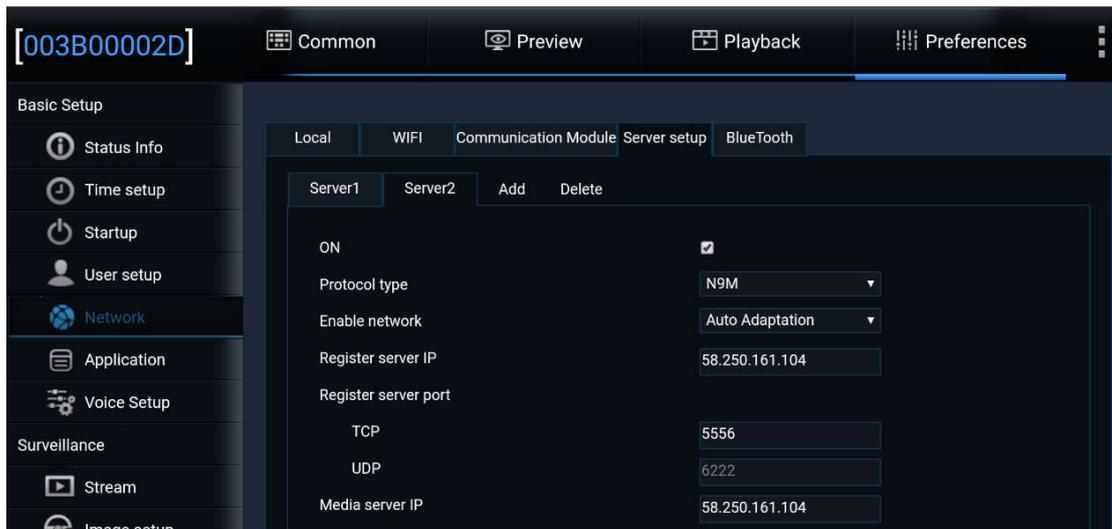
4.1.1.1. Use Wireless LAN Connection

The built-in wireless network card and configuration program of the wireless LAN uses a WIFI hot spot connected to the station or vehicle to help you establish a wireless connection and monitor the connection status. To use a wireless LAN, proceed as follows.

- ✧ To establish a wireless LAN connection, do the following:
 1. Log in using the Easy Check App and go to the Preferences interface.
 2. On the Network -> WIFI interface, configure the SSID, encryption method, and connection password for the WIFI hot spot.



3. On the Network -> WIFI interface, configure the WIFI network and the N9M server address to be connected.



- ✧ Check the Wireless LAN connection Status.
 1. Add a Mini MDVR to the central server to check the connection status of the device.
- ✧ Notes on using wireless LAN:
 1. Within 2 minutes of booting, the device is in debug mode and cannot use the wireless LAN network.
 2. You cannot use a wireless LAN network when using the Easy Check. Can be used after exiting the Easy Check for 2 minutes.
 3. The intensity of WIFI hot spot in the car is weak.
 4. WIFI data transmission capacity may be degraded while using Bluetooth devices

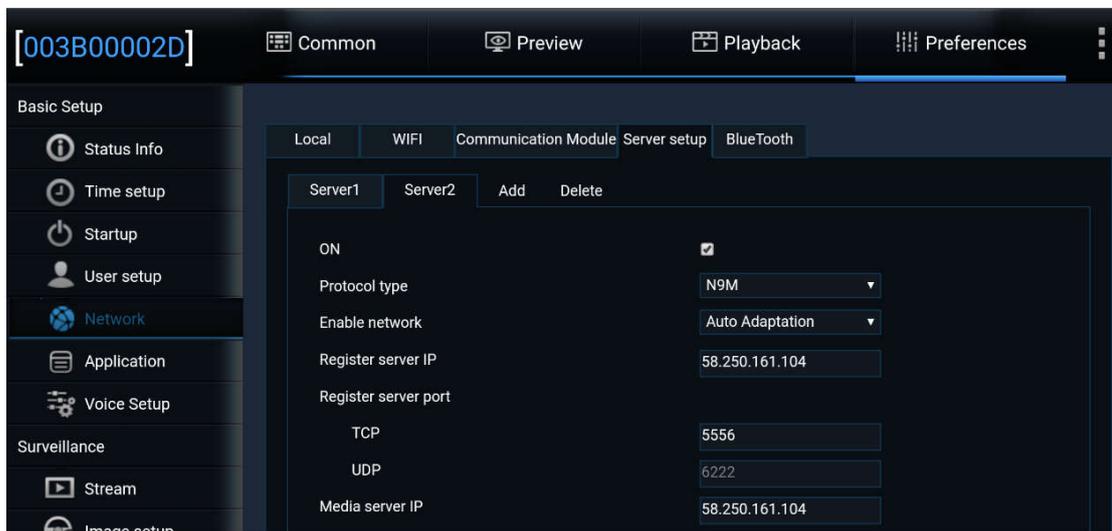
4.1.1.2. Use a Wireless WAN Connection

Wireless WAN use cellular networks to transmit data, which allows wireless connections to be established over remote public or private networks.

- ✧ To establish a wireless WAN connection, do the following:
 1. Use a valid SIM card;
 2. Log in using the Easy Check App and go to the Preferences interface.
 3. When using a private network, you need to enter the communication module interface to configure dialing parameters.

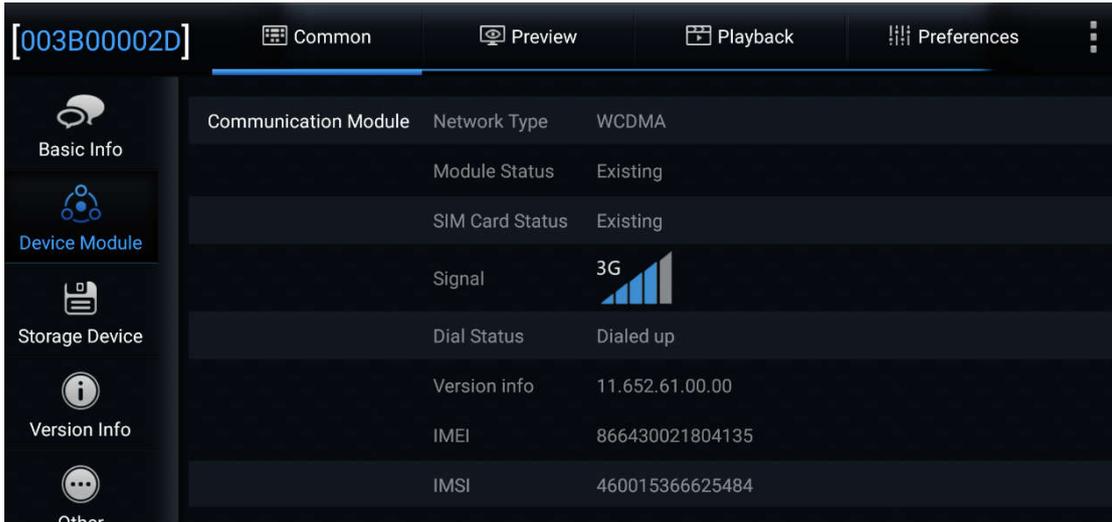


4. On the Network -> Server setup interface, configure the communication network and the address of the N9M server to be connected.

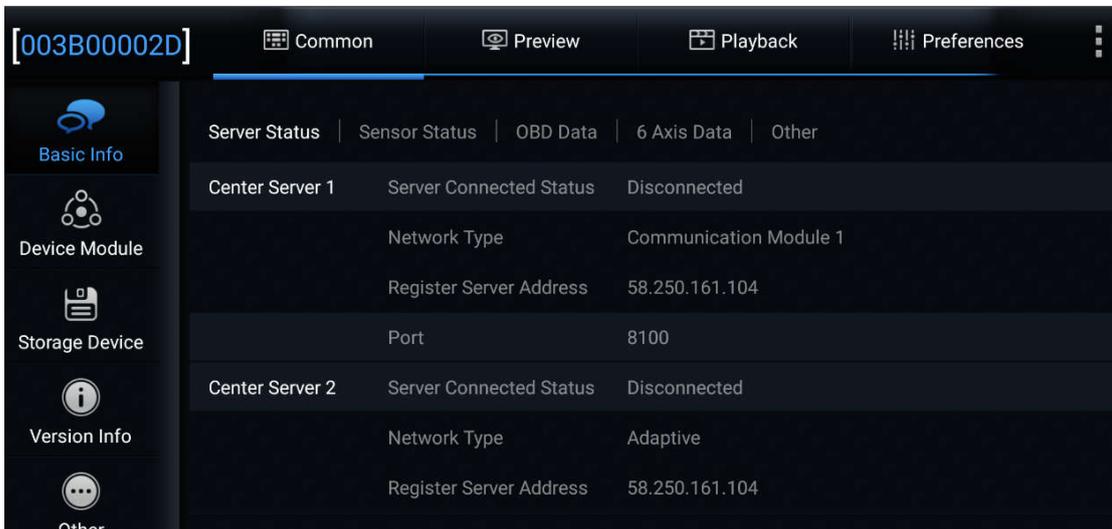


✧ Check the wireless WAN connection status.

1. Log in using the Easy Check App and go to the Preferences interface.
2. On the Device Module -> Communication Module interface, you can view the dialing status.



1. In the Basic Info -> Server Status interface, check the status of the N9M server connected to the communication network.



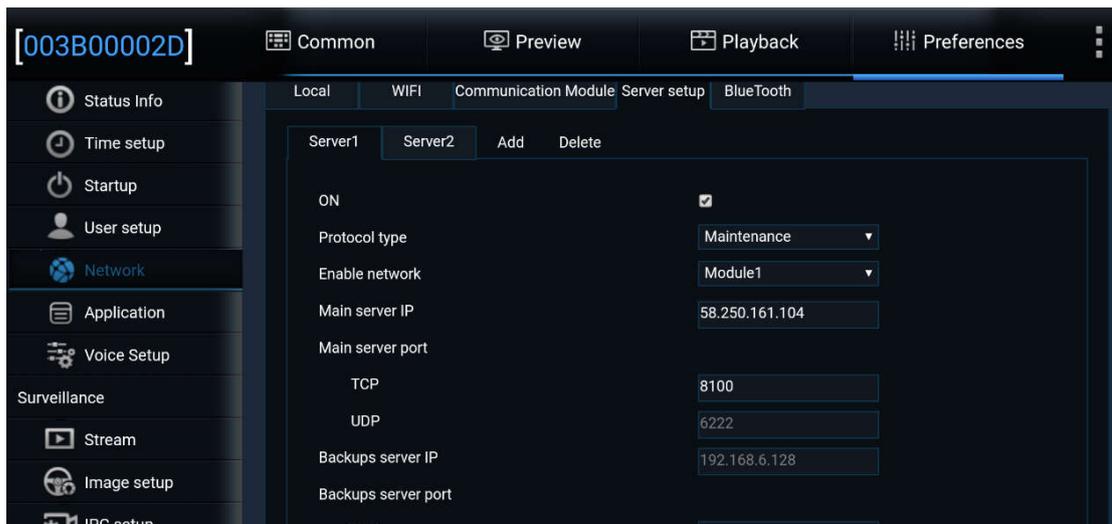
- ✧ Notes on using a wireless WAN:
 1. The SIM card should match the communication module.
 2. The network signal should cover the working area of the device.

4.1.2.How to Use Maintenance Server

The server includes an N9M server and an maintenance server. It can be installed separately or in a fused version.

4.1.2.1. Use Only the Maintenance Server

- ✧ The method is as follows:
 1. Install a separately maintenance server software.
 2. Log in using Easy Check and enter the Preferences interface.
 3. On the Network -> Server interface, configure the address of the wireless network and the connected Maintenance server.



4. Once setup is complete, you can use the maintenance platform.

Note:

1. When the maintenance server is used alone, it will be reported to the maintenance server when it is rebooted or day changed.

4.1.2.2. Use the multi-in-one maintenance server

The latest installer has merged these two services. When the N9M server is configured, it automatically associates with the matching server address.

✧ N9M server, which can add devices and manage devices. Here's how to add a device:

1. Open the N9M client, enter the N9M server address, enter the correct username and password on the platform, and click Login.
2. After the login is successful, click the system management tab to enter the system management interface.
3. In the system management interface, add a car group, add a vehicle, add a device, and press the prompt of the add interface to edit the information.
4. After the submission, the vehicle was added successfully. The vehicle can be reported to the N9M server for remote monitoring and management.

✧ The maintenance server is attached to the N9M server for fault monitoring and fault handling. The method of adding a maintenance server is as follows:

1. Log in using the Easy Check App and go to the Preferences interface.
2. On the Network -> Server interface, configure the network type, server type, and address. (The new all-in-one server will automatically match the N9M server after configuring the maintenance server and enabling it.)

4.2. Surveillance Menu

Menu items	Submenu items	Parameter items	Option	Comments
Stream	General	Overwrite	By Capacity /By Days/Never	Recording will cause at least 120M files to be deleted when the memory space is less than 2.2GB.
		Lock Duration	7 (1-31) Day	The length of protection time after the alarm recording is locked
		Pre-recording	1/3/5/10/ 15 /30/60Min	the alarm pre-recording time when starting the recording. Default: off
	Main Stream	Channel	1/2	Channel identification, selectable
		Channel Name	CH1	The name of the channel has been selected
		Enable	ON/OFF	Channel enable switch
		Resolution	1080P CH1 720P CH2	Channel resolution
		Frame Rate	30	Channel frame rate
		Bit Rate	4096Kbps CH1	Channel bit rate
		Audio	ON/OFF	Audio switch
		Encode Mode	VBR/CBR	Channel encode mode
		Encode Type	H264/H265	Channel encode type , IPC725C26 H264 only
		Copy	Copy button	
	Audio Frequency	Enable		
		Audio Format	G711Alaw/ G711Ulaw /ADPCM/G726	Audio encoding format Default: G711Ulaw (64Kbps)
		Audio Gain	4 (Low)-8(High)	Default:4,the sensitivity of the audio input, the larger the value, the easier it is to whistle
Image Setup	Video Parameters	Channel	1	Channel identification, selectable
		BRI	32 (0-63)	Brightness
		COL	32 (0-63)	Color
		CON	32 (0-63)	Contrast
		SAT	32 (0-63)	Saturation
		SHA	32 (0-63)	Sharpness
		Anti-flicker	OFF /50/60	Anti-flicker

		Mirror	ON/OFF	Image flip left and right
		Flip	ON/OFF	Image flip up and down
	OSD	Time	ON/OFF	Enable switch for video screen overlay
		Speed	ON/OFF	Enable switch for video screen overlay
		Vehicle Plate	ON/OFF	Enable switch for video screen overlay
		GPS	ON/OFF	Enable switch for video screen overlay
		Channel Name	ON/OFF	Enable switch for video screen overlay
		Vehicle Number	ON/OFF	Enable switch for video screen overlay
		Position		Position overlay
IPC Setup	Device Channel	2		Channel 2, channel 1 is not configurable
	Enable	ON/OFF		Channel enable switch
	IP And Port	192.168.1.99:9006		Default: IPC address and port
	Outside	ON/OFF		Internal/external mode
	Network Setup	Remote Device	Default	Camera type
		Protocol Type	N9M	Edit camera communication protocol
		IP Address		Edit camera communication protocol
		Port	9006	Edit IPC port
		User Name	admin	Edit the username used for IPC login
		Password		Edit the password used by IPC login
	Search Button	Manually search for IPC button		Display all IPCs in the subnet

4.3. Collection Menu

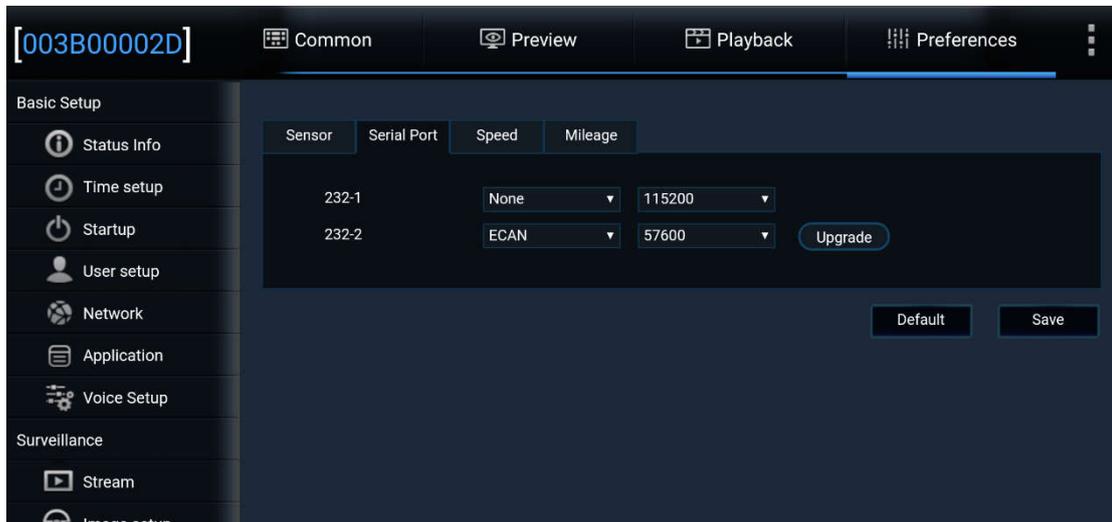
Menu items	Submenu items	Parameter items	Option	Comments
General	Sensor	I/O Number	1	Input sensor identification,selectable
		Sensor Name	Sensor1	I/O name
		OSD Name	S1	I/O Abbreviation
		Sensor Uses	None	I/O Number uses
		Copy	Copy button	Copy setting
	Serial Port	232-1	None/ECAN 9600/19200..	Supported peripheral types and bit rates
		232-2	None/ECAN 9600/19200..	Supported peripheral types and bit rates
	Speed	Unit	MPH、KM/H	Speed unit
		Source	Satellite/Pulse	Speed source
	Mileage	Total	0 Mile	Starting mileage, no default value, manual calibration
		Base Value	0	Starting mileage calibration value, manual input
		Operation	Correct	Calibration button, fill the Base Value value to Total as the initial value
			Clear	Clear button to clear the Total value
Snap Setting	Time Snap	Time Snap Link	Channel	Snap channel identification
			Enable	Snap Enable switch
			Resolution	Snap image resolution
			Quality	Snap image quality
			Snap Numbers	Snap image number
			Interval	Snap frequency
			Copy	Copy button
	Trigger Snap	Alarm Snap Link	Channel	Snap channel identification
			Enable	Snap Enable switch
			Resolution	Snap image resolution
			Quality	Snap image quality
			Snap Numbers	Snap image number
			Interval	Snap frequency
			Copy	Copy button
		Manual Snap Link	Channel	Snap channel identification
			Enable	Snap Enable switch
			Resolution	Snap image resolution
			Quality	Snap image quality
			Snap Numbers	Snap image number
			Interval	Snap frequency
			Copy	Copy button

4.3.1. How to Connect OBD?

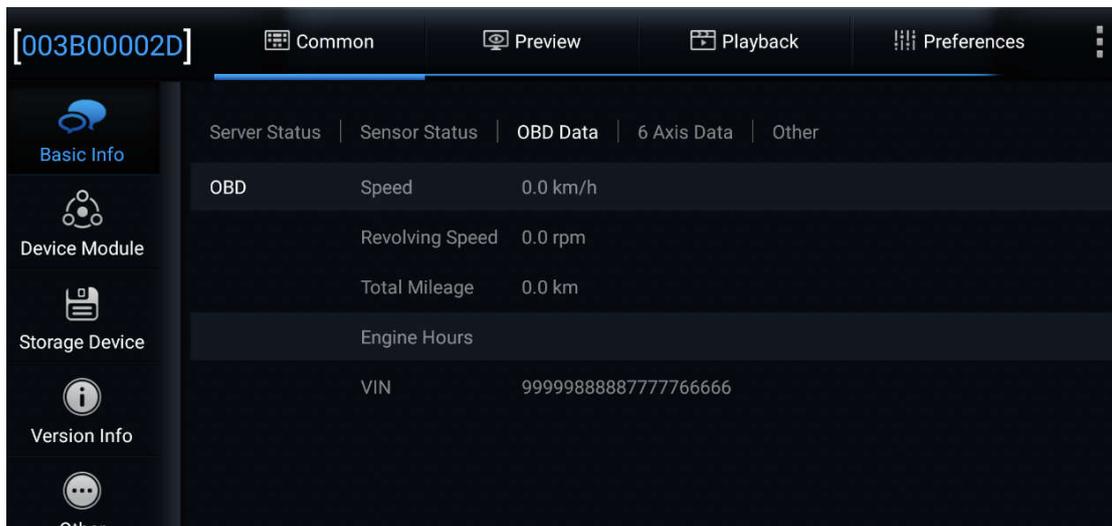
The way to connect OBD includes serial connection and Bluetooth connection.

✧ Serial connection:

1. Connect to OBD peripherals;
2. Enter the serial port setting interface to configure the OBD peripheral type and bit rate.

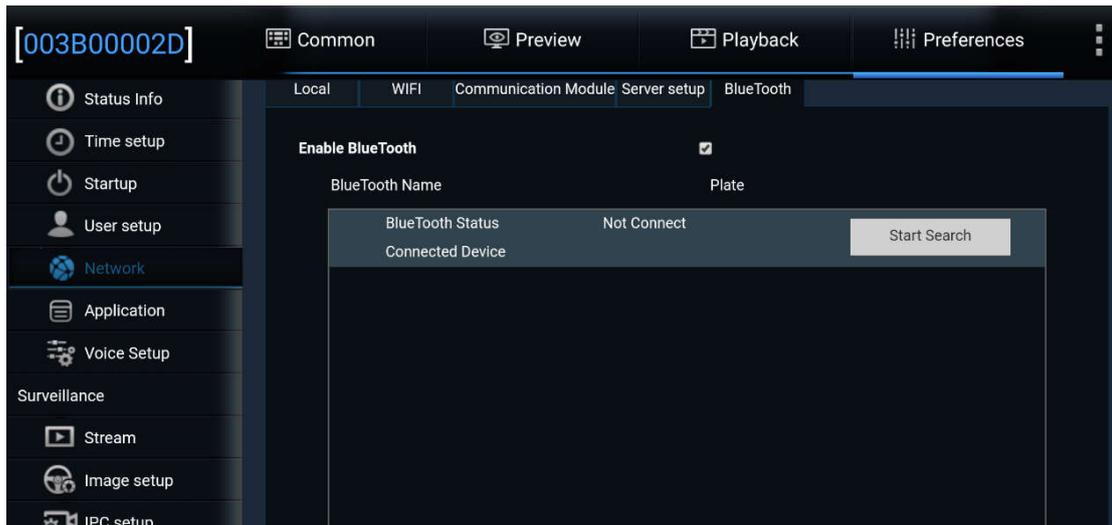


3. View the OBD connection status on the Common interface.



✧ Blue tooth connection:

1. Connect to Bluetooth peripherals;
2. Enter the network Bluetooth settings interface and manually search for Bluetooth peripherals.



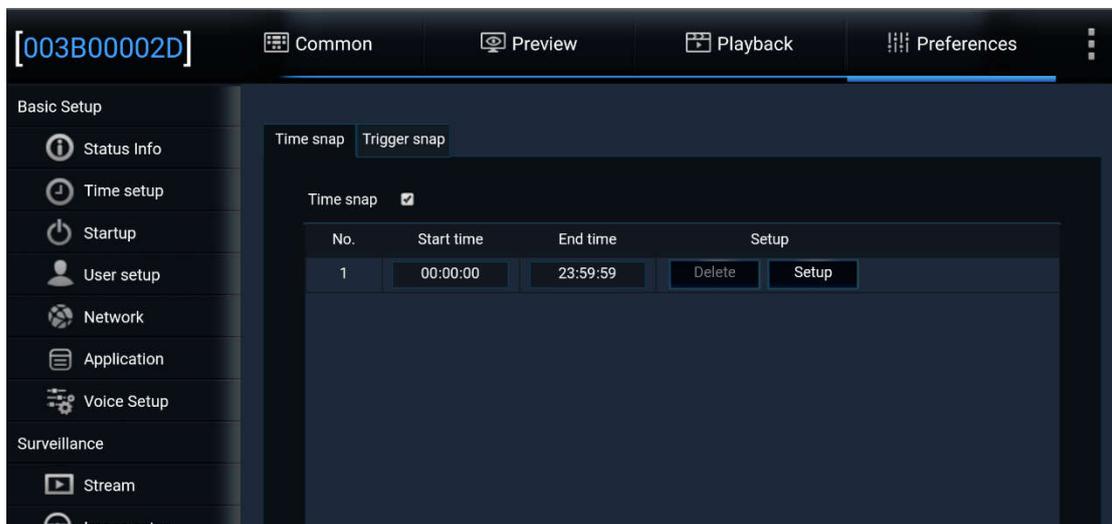
3. And check the Bluetooth connection status on this interface.

4.3.2. How to Snap?

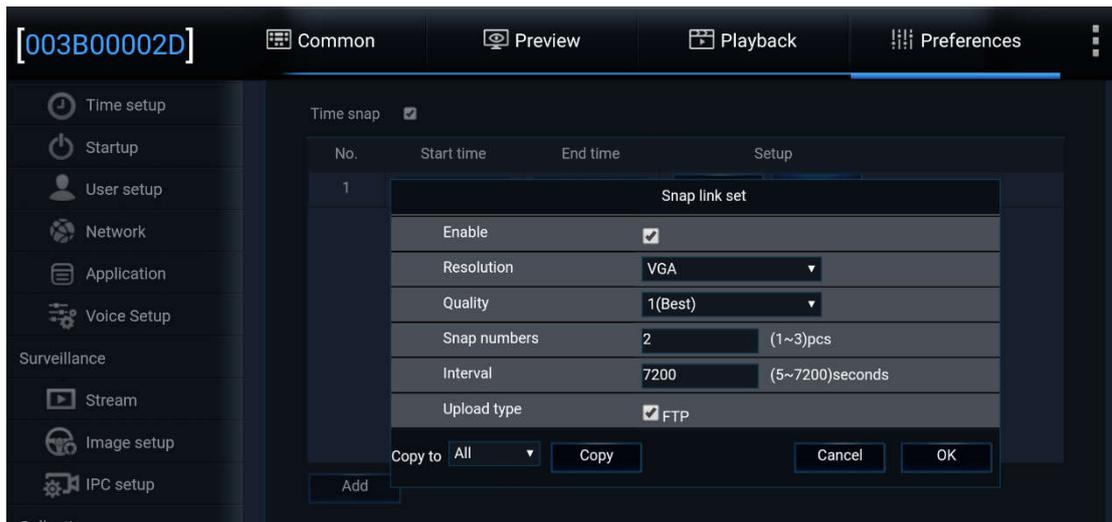
Timing snap and alarm trigger snap, configured by Easy Check.

✧ Timing snap method:

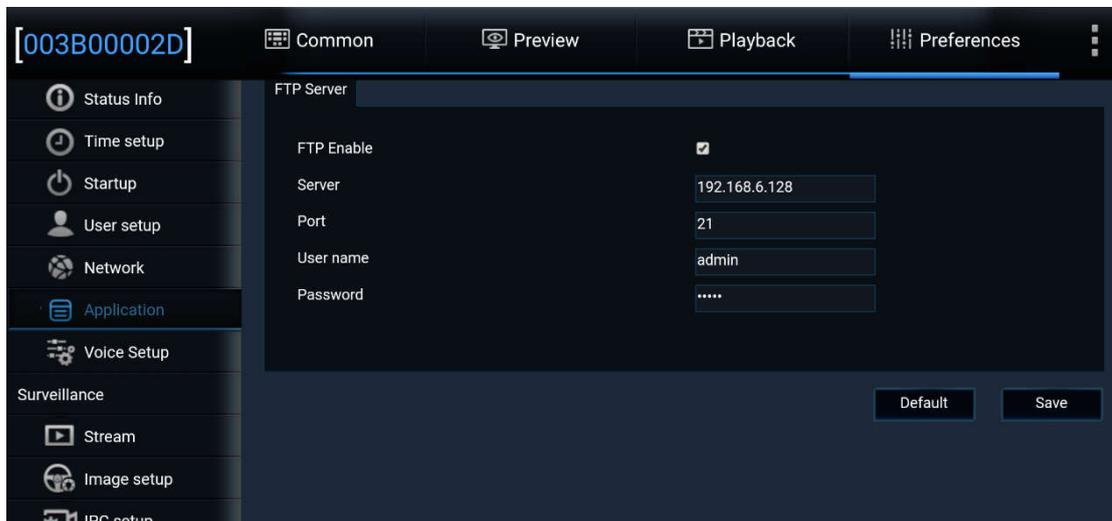
1. Log in to the Data Acquisition -> snap settings interface and set the timed snap period.



2. Click the Setup button to set the channel, picture parameters, and uploaded server type for the corresponding time period.



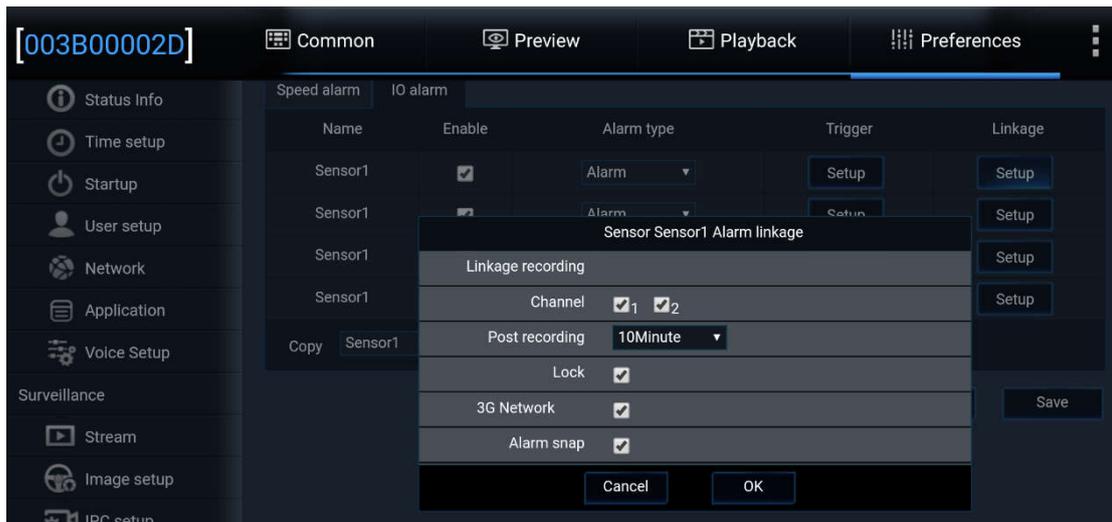
3. Set the snap image upload method and the uploaded server address.



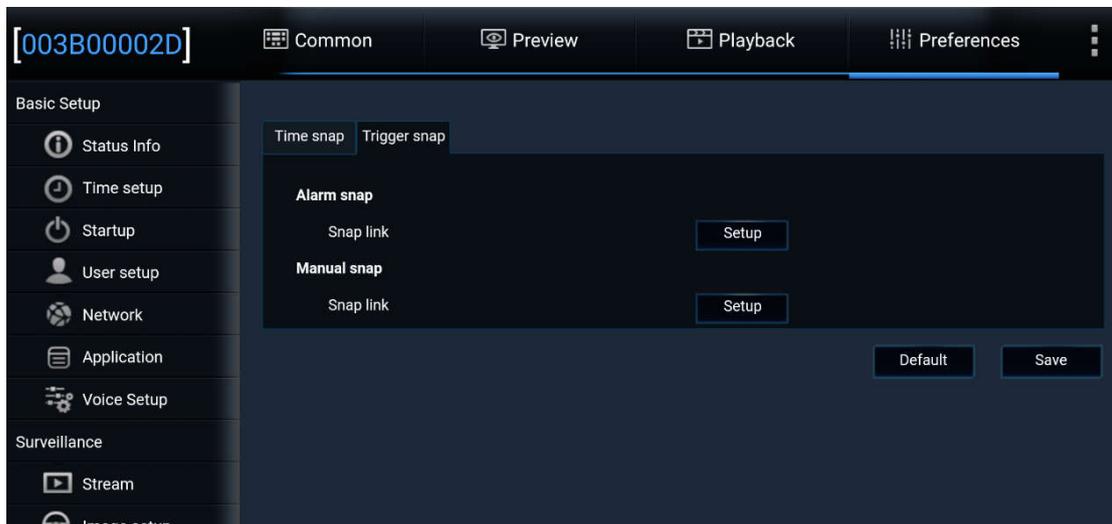
4. After the setting is completed, the host starts to timing snap. After the FTP server is started, the device uploads the image to the FTP server.

✧ Alarm snap method:

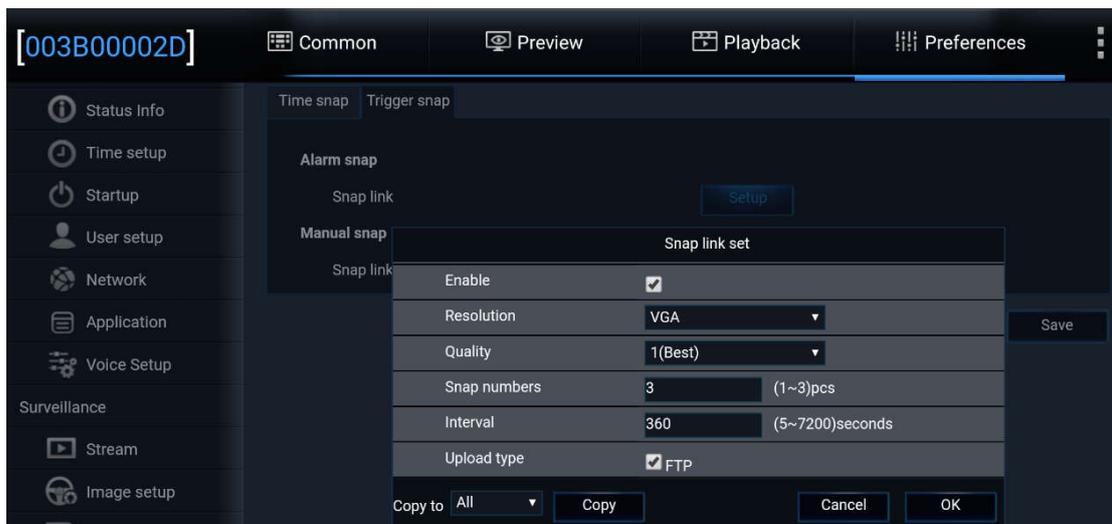
1. Log in to the Preferences -> Alarm Setup interface, enable the alarm switch, and enable the alarm linkage content snap.



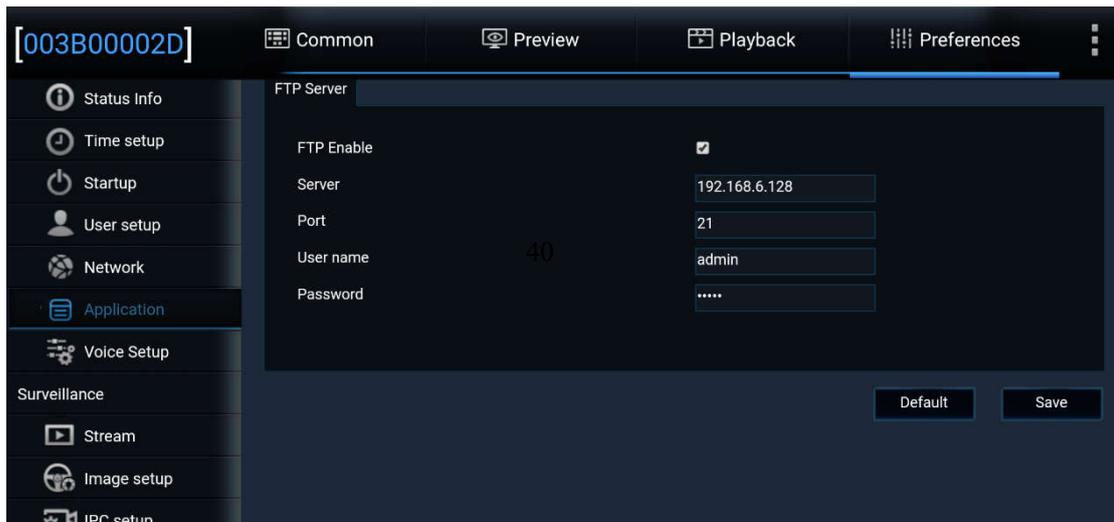
2. Go to Data Acquisition -> Snap Settings -> Trigger snap Interface.



3. Click the Setup button to set the channel, picture parameters, and uploaded server type for the corresponding time period.



4. Set the snap image upload method and the uploaded server address.



5. After the setting is completed, the host starts to alarm snap. After the FTP server is started, the device uploads the image to the FTP server.

4.4. Alarm Menu

Menu items	Submenu items	Parameter items	Option	Comments
General Alarm	Speed Alarm	Name	Over Speed	Event name identifier
		Enable	ON/OFF	Alarm enable switch
		Alarm Type	Alarm/Event	Event type
		Trigger	Early Difference Speed Duration Time Effective Time	Trigger condition setting: 1. Speed warning difference 2. Speed alarm real value 3. Continuous alarm time 4. Effective time
		Linkage	Recording Channel	Alarm linkage video channel
			Post Recording	Alarm delay recording time
			Lock	Alarm recording lock
	IO Alarm	Name	Sensor1/Sensor2/PanicBtn1/PanicBtn2	Event name identifier
			Enable	ON/OFF
		Alarm Type	Alarm/Event	Event type
Trigger		Channel Effective Time	Trigger condition setting: 1. Channel 2. Effective time	
Linkage		Recording Channel	Alarm linkage video channel	

			Post Recording	Alarm delay recording time
			Lock	Alarm recording lock
			3G Net Work	Activate 3G dialing
			Alarm Snap	Alarm linkage snap
		Copy	Copy button	
Video	Videoloss	Name	Videoloss	Channel name identifier
		Enable	ON/OFF	Alarm enable switch
		Alarm Type	Alarm/Event	Event type
		Trigger	Channel Effective Time	Trigger condition setting: 1. Channel 2. Effective time
		Linkage	Recording Channel	Alarm linkage video channel
			Post Recording	Alarm delay recording time
			Lock	Alarm recording lock
			Alarm Snap	Alarm linkage snap
Advanced	ACC Alarm	Name	X/Y/Z	Event name identifier
		Enable	ON/OFF	Alarm enable switch
		Alarm Type	Alarm/Event	Event type
		Trigger	X: 0.8 Y: 0.8 Z: 0.8 Effective Time	Trigger condition setting: 1. Alarm threshold for X/Y/Z direction axis 2. Alarm effective time
		Linkage	Recording Channel	Alarm linkage video channel
			Post Recording	Alarm delay recording time
			Lock	Alarm recording lock
			Alarm Snap	Alarm linkage snap
		Calibrate	Calibration button	After calibration, the data is back to 0.
	Electricfence	Area I/O Alarm Switch	ON/OFF	Zone Fence Alarm Enable Switch
		Line I/O Alarm Switch	ON/OFF	Line alarm enable master switch
		Skew Alarm Switch	ON/OFF	Line skew alarm enable switch
		Driving Alarm Switch	ON/OFF	Alarm enable switch
		Section Limit Speed TTS Switch	ON/OFF	Link speed limit alarm enable switch

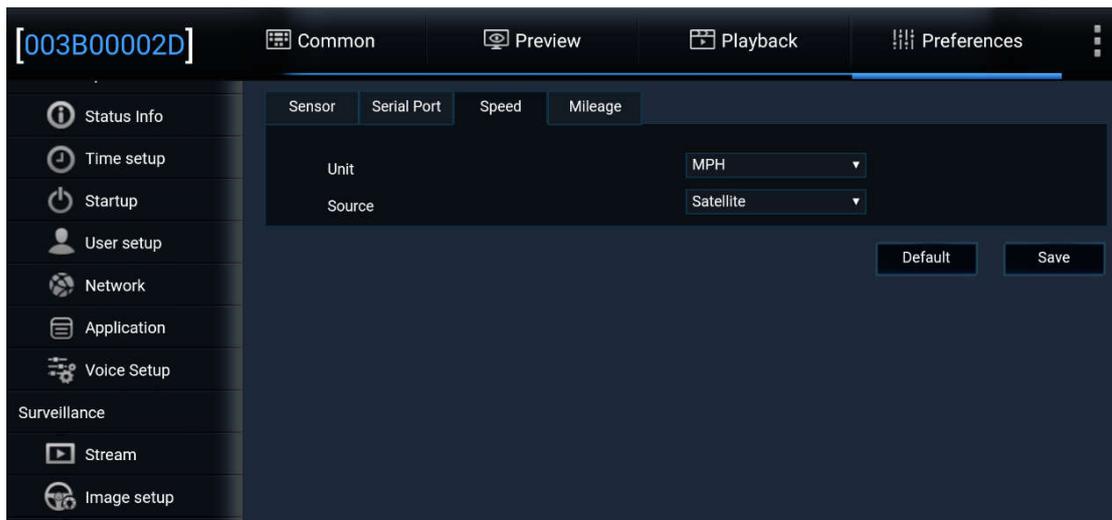
4.4.1.How to Set Speed Alarm?

Enter the Preference interface via the Easy Check App.

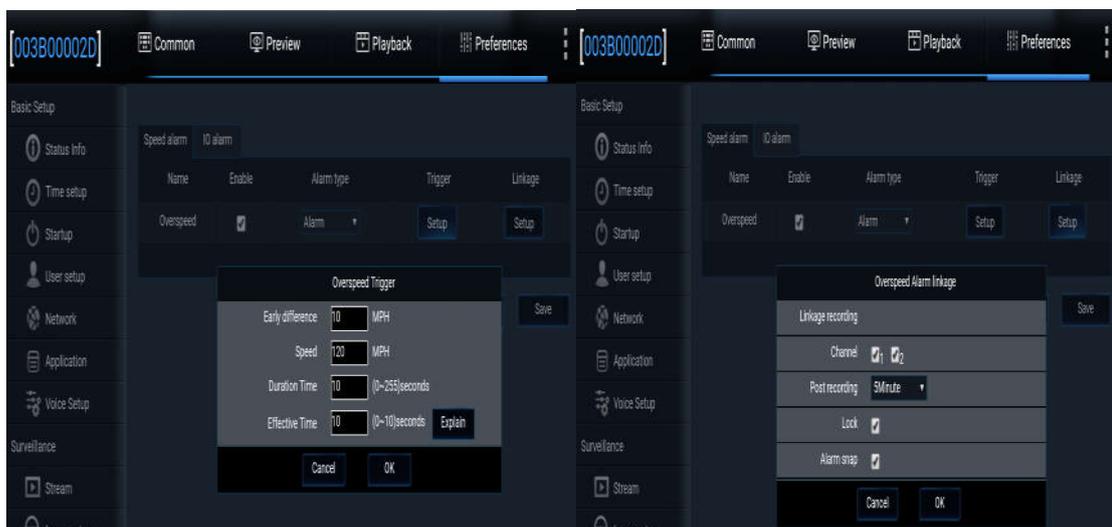
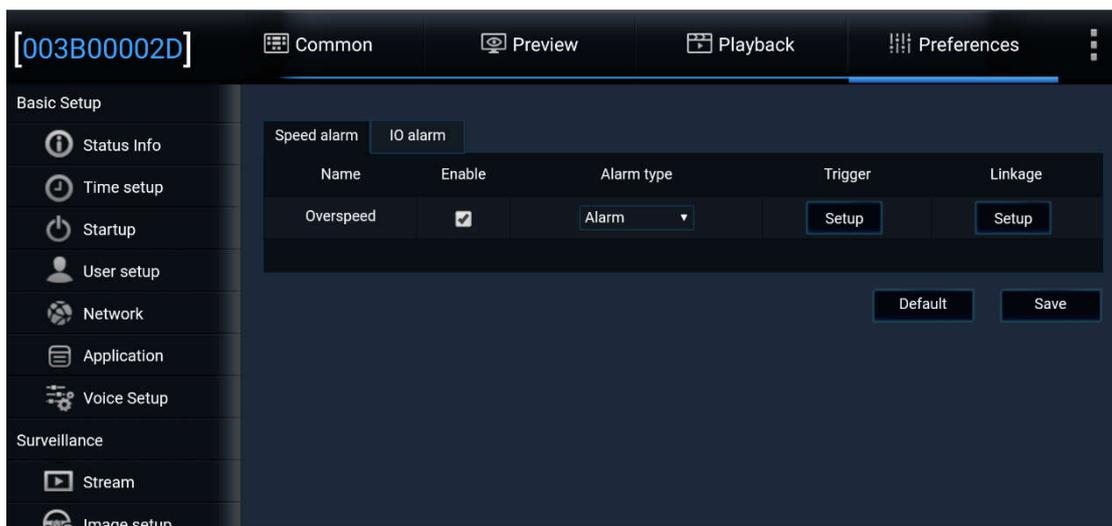
✧ Speed alarm,

1. Go to the Preferences -> Collection -> General -> Speed settings interface and set the speed

source to GPS.



2. Go to the Preferences -> Alarm -> General Alarm -> Speed Alarm setting interface. Enable speed alarm, Alarm type is alarm, set alarm threshold and continuous detection time.
3. In the linkage content interface, set the alarm linkage parameters as required.

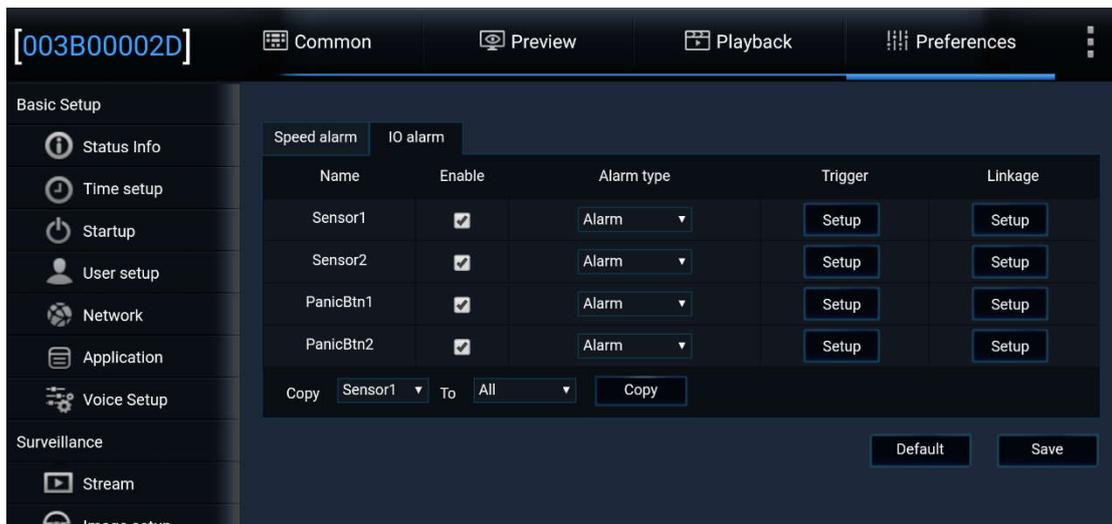


4.4.2. How to Set up Panic alarm?

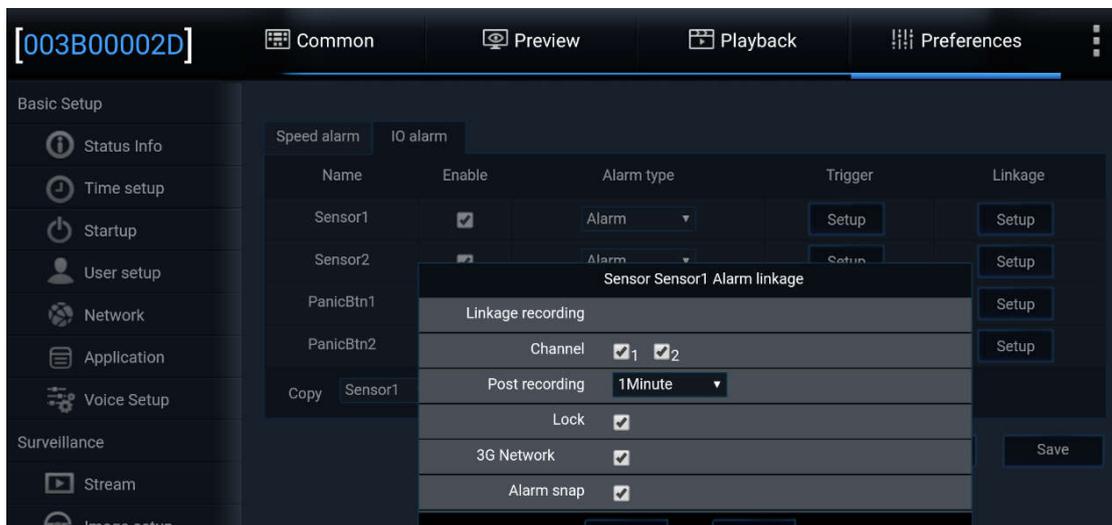
Log in to the Easy Check App and go to the Preferences -> Alarm Setup interface to enable the panic alarm.

✧ Panic alarm

1. Enter the IO alarm settings interface, set PanicBtn1 and PanicBtn2.
2. PB alarm enable check, the Alarm type choose alarm.



3. In the linkage content interface, set the alarm linkage parameters as required.

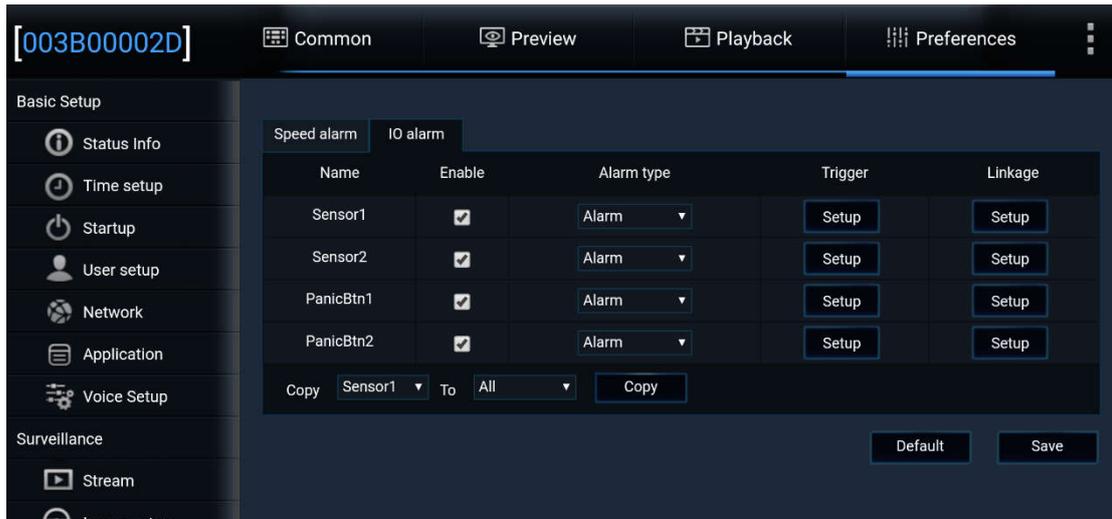


4.4.3. How to Set up IO alarm?

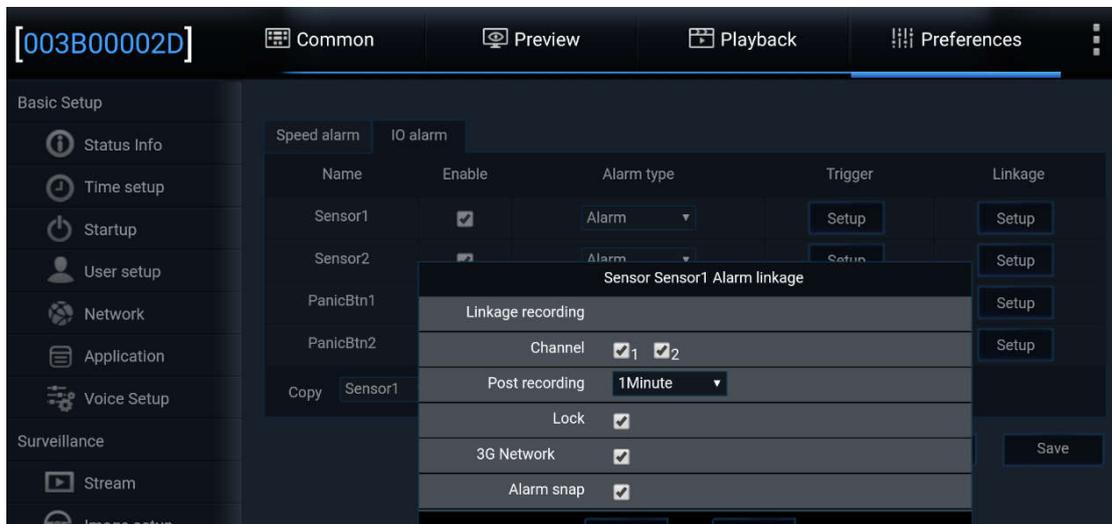
Log in to the Easy Check App and go to the Preferences -> Alarm Setup interface to enable the IO alarm.

✧ IO alarm

1. Enter the IO alarm settings interface, set Sensor IN1 and Sensor IN2.
2. IO alarm enable check, the Alarm type choose alarm.



3. In the linkage content interface, set the alarm linkage parameters as required.

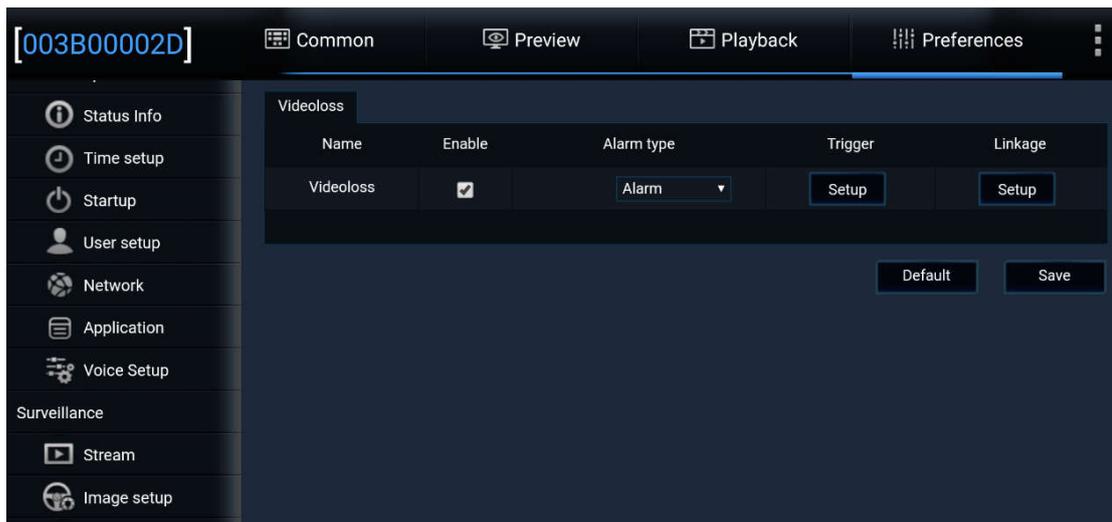


4.4.4. How to set up VideoLoss Alarm?

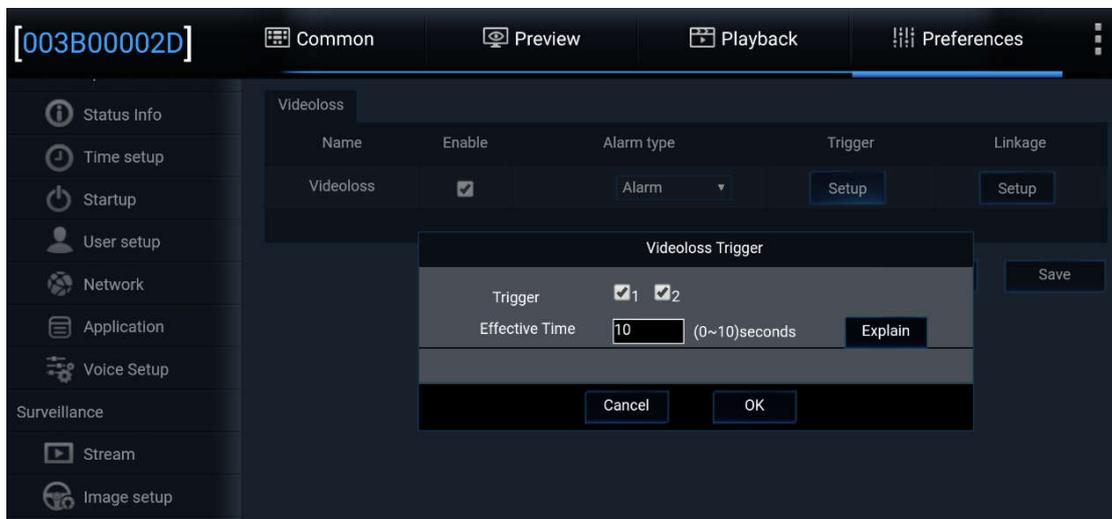
Log in to the Easy Check App and go to the Preferences -> Alarm Setup interface to enable the Videoloss alarm.

✧ Videoloss alarm

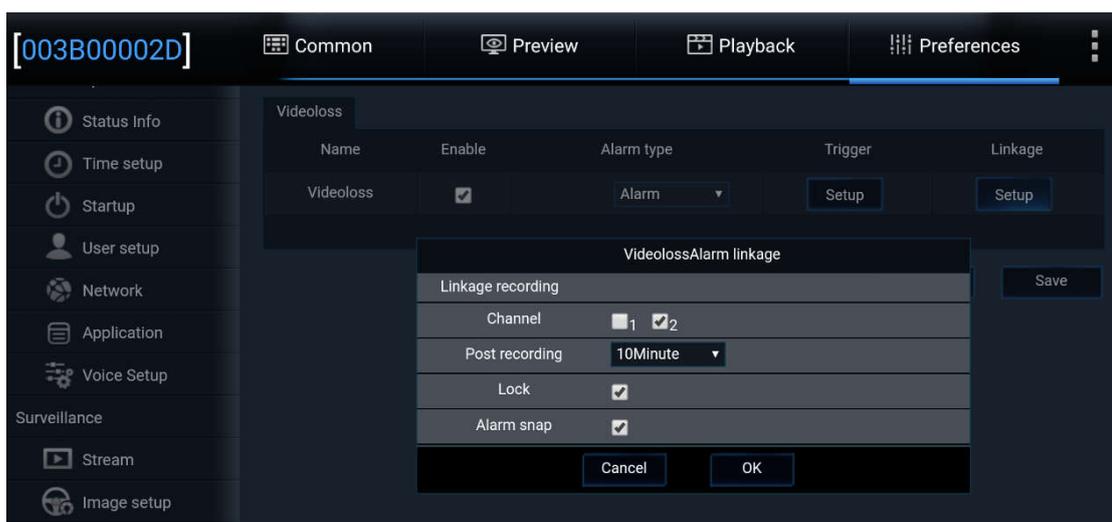
1. Enter the Videoloss alarm settings interface, the Alarm type choose alarm.



2. Turn on the enable switch of the recording channel.



3. In the linkage content interface, set the alarm linkage parameters as required.



Note:

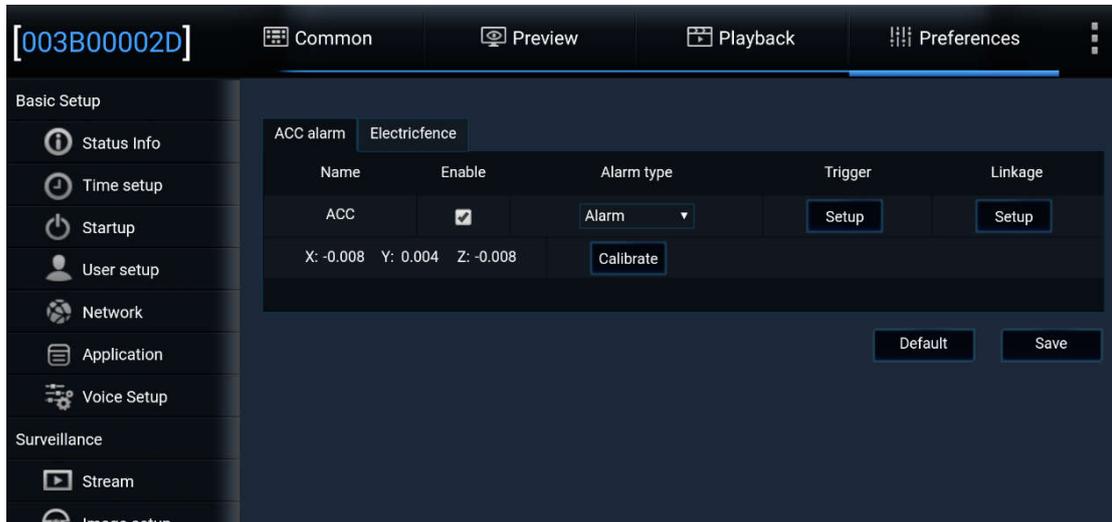
1. The channel where the video is lost is not recorded, but other channels can be triggered.

4.4.5. How to Set up Driver Behavior Alarm?

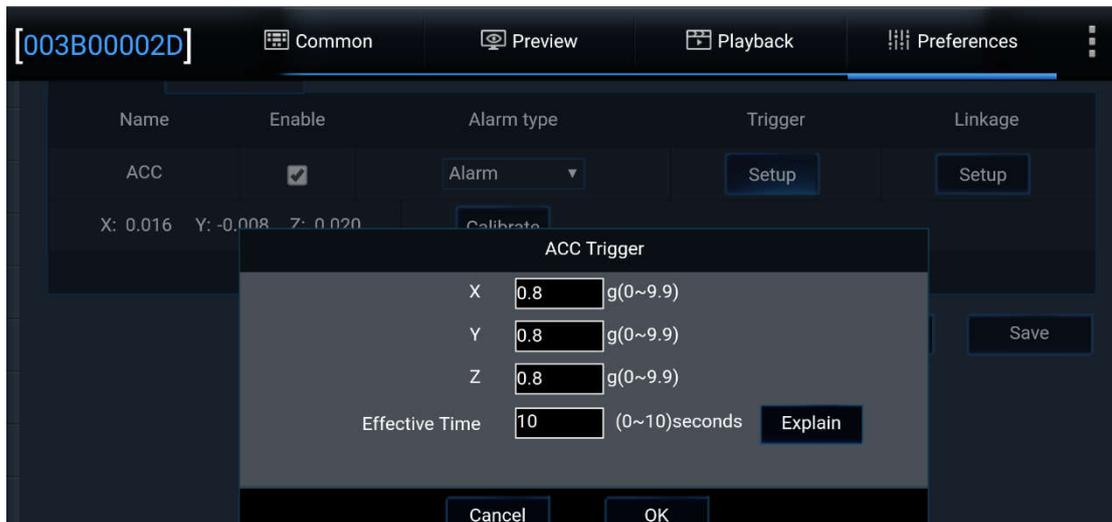
Log in to the Easy Check App and go to the Preferences -> Alarm Setup interface to enable the ACC alarm.

✧ ACC alarm

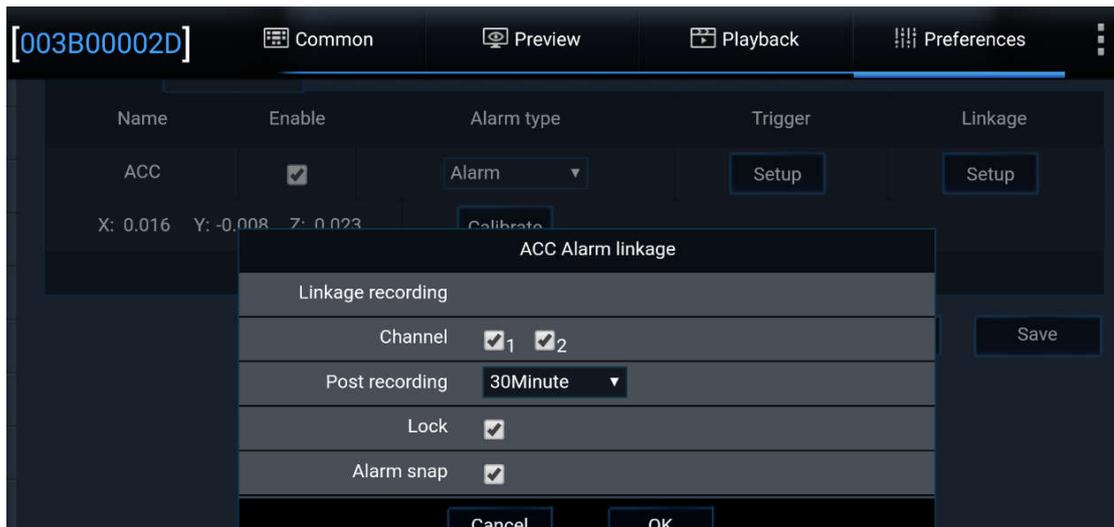
1. Enable check, Alarm type choose alarm, set alarm threshold.



2. Enter the Trigger settings interface and set the XYZ axis alarm threshold.



3. Enter the Linkage settings interface, set the Linkage content.



4.4.6. How to Set up Fence Alarm?

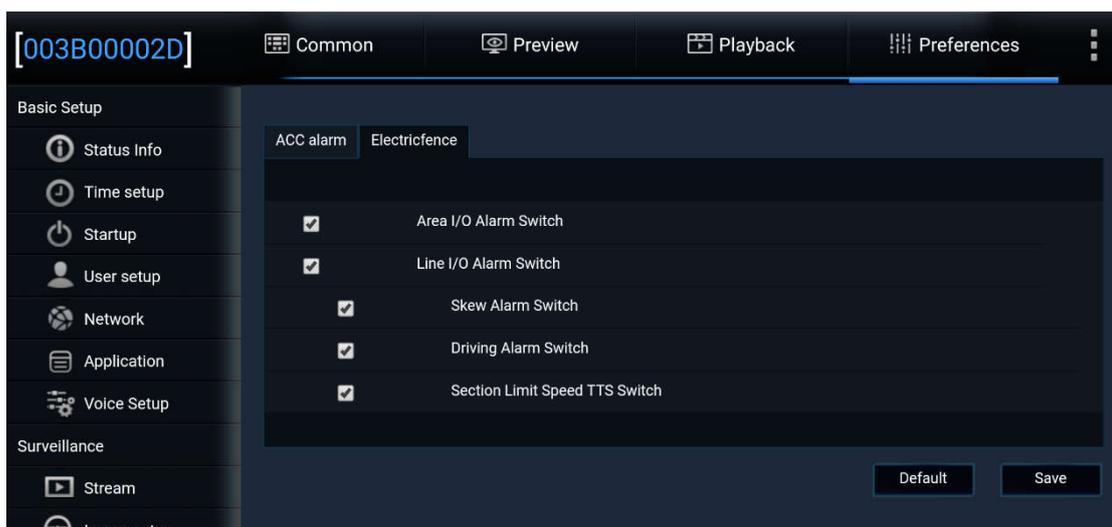
Log in to the Easy Check App and go to the Preferences -> Alarm Setup interface to enable the alarm.

✧ Area fence alarm

1. A fence type and a fence area are set on the platform and delivered to the vehicle equipment.
2. Through the GPS positioning system, the fence alarm is triggered when entering and leaving the fence.

✧ Line fence alarm

1. A fence type and a fence area are set on the platform and delivered to the vehicle equipment.
2. Through the GPS positioning system, the fence alarm is triggered when entering and leaving the fence.



5. Technical Support

If you encounter problems, please read the FAQ and Troubleshooting section of this user manual first. If you need help, service, or technical assistance, you can call the Customer Support Center. When calling for technical assistance, please have the following information ready:

- ✧ Machine type.
- ✧ Problem Description.
- ✧ Any error message.

Appendix A: Product Packing List

Note that the packing lists for different orders are slightly different.

Serial	Pictures	Product Name	Description
1		Mini MDVR	1pcs
2		Interior-Facing Camera	1pcs
3		3G/4G dual antenna	2pcs
4		External GPS module and antenna	1pcs
5		10PIN power cord	1pcs
6		9PIN serial cable	1pcs
7		OBD power output line	1pcs
8		T8 Torx Wrench	1pcs
9		Dry and wet paper	2pcs
10		Desiccant	1pcs
11		Installation guide	1pcs