

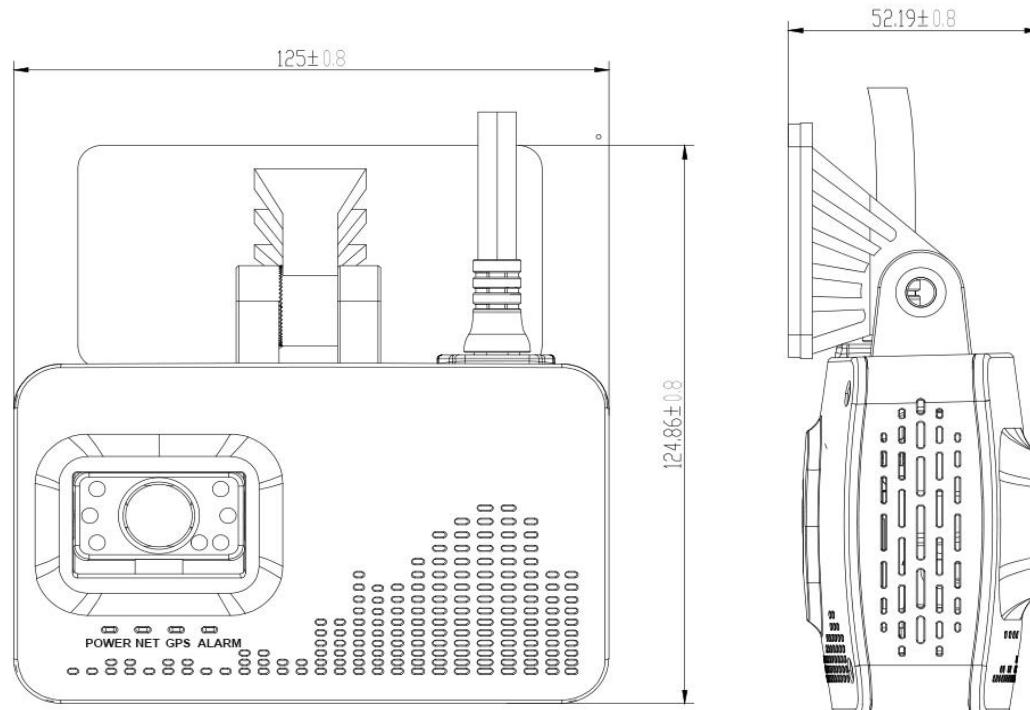
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1. Features

- ✓ All-in-one design, built-in GPS, LTE, Wi-Fi, easy to install and maintain
- ✓ Brand-new design and optimized heat-sink
- ✓ Wide angle FHD video recording and streaming
- ✓ Easy configuration via mobile App
- ✓ Extendable for additional third camera
- ✓ Support AI features (optional): DMS, ADAS
- ✓ Built-in microphone and speaker for two-way communication
- ✓ Cost-effective and reliable

2. Dimension and Definition



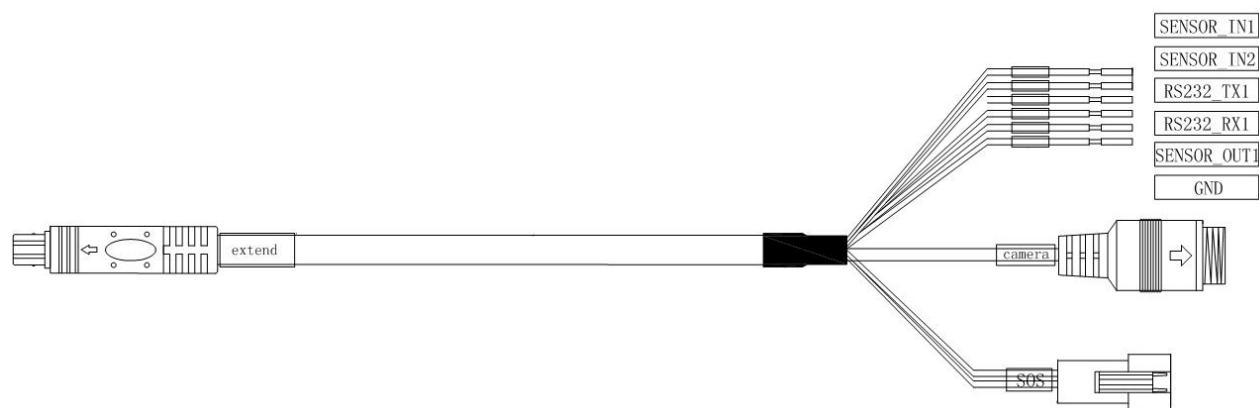
POWER: Power LED.

NET: Network status indicator, it stays on while linking.

GPS: GPS signal status, it stays on when it's valid.

ALARM: Alarm indicator while device triggering alert.

External Cable definition



It can connect 3rd channel camera, SOS button, RS232 device, Input and output.

Power box cable definition



3. Quick start for using

Install Memory card and SIM card

⚠ The TF card (a.k.a. Micro SD card) is automatically formatted when it is inserted into the device at the first time.

💡 Recommended storage capacity 32GB-256GB, **MLC material** [Important!], Class 10 or above.

Unscrew the cover at the bottom of device. Insert the SIM card and TF cards, please mind the direction.



Tips: USB port is for connecting USB drive via OTG cable.

In-Office test: **DC12V, 5A** or higher current power source is recommended.

Connect the power box to the device first. Connect the red & orange wire together to positive and the black wire to GND.

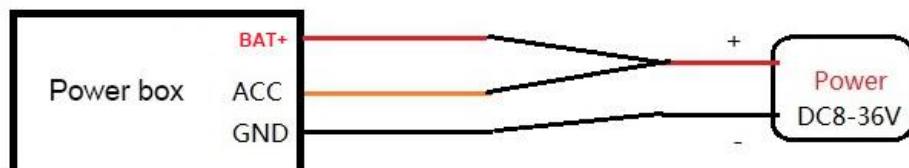


Fig.3.1 Office test

3.1 Mobile APP Connect



- Download Howen-iTool  from Google Play (iOS version available soon).
- The Wi-Fi name is **APxxxxxx** and the password is **12345678**

Step1: Power on the dash camera.

Step2: Enter the Wi-Fi settings on your mobile phone, search this Wi-Fi.

Step3: Connect the dash camera to this Wi-Fi, input the password.

Attention: Device will be at AP mode for 2 minutes then switch to Station mode. During this 2 minutes, if it connects via Howen-itool, it will stay at AP mode.

Search Dash camera via APP

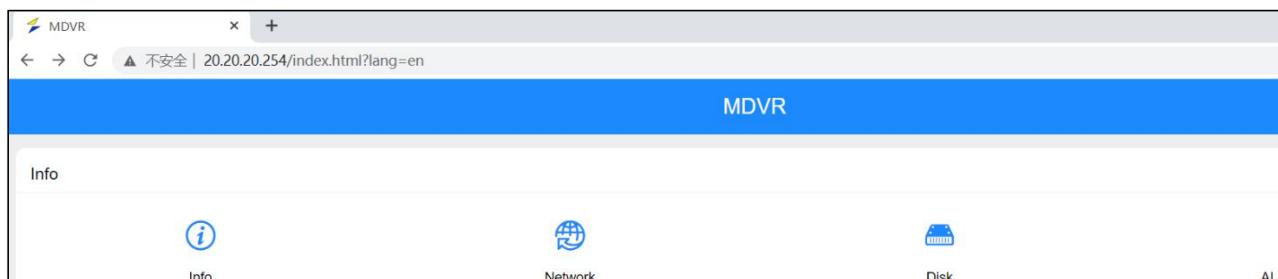
Step1: Connect dash camera to Wi-Fi of your mobile phone.

Step2: Open the mobile APP, the APP will search the device automatically.

💡 If auto search not started, please follow step 3.

Step3: Click the refresh button on the right upper of the screen, it will start searching. (Fig.3.2).

Tips: You can also use PC to access this AP and configure via web at office.



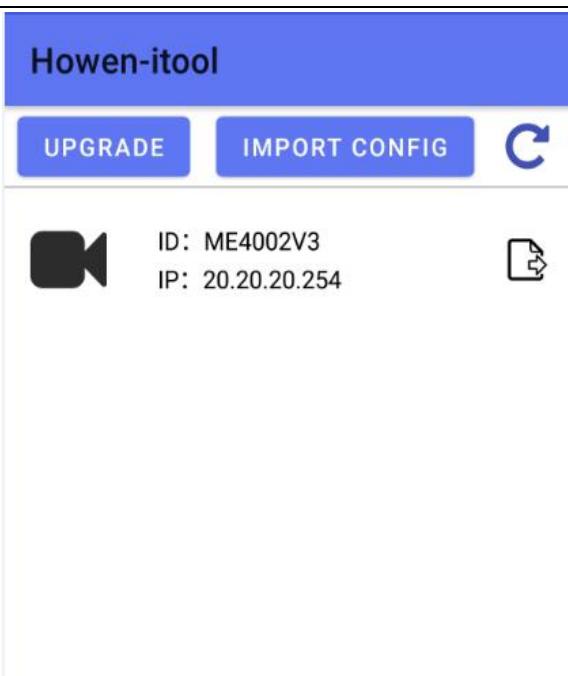


Fig.3.2 Search

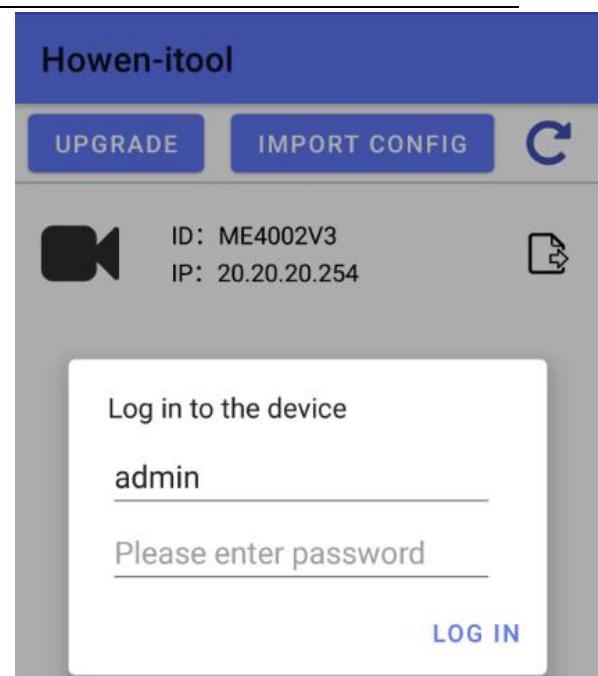


Fig.3.3 Login

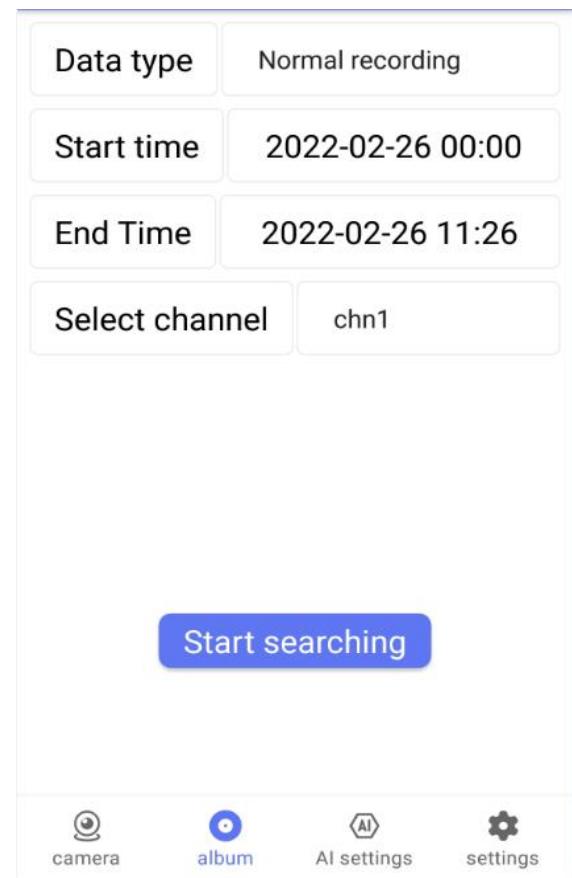
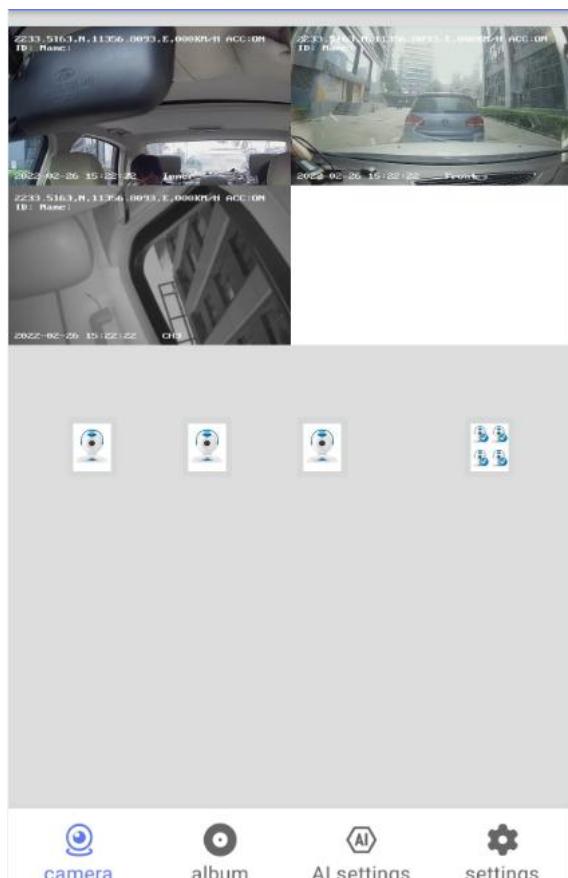
3.2 Set up MDVR via APP

Step 1: Click the settings button at the bottom, enter MDVR configuration homepage.

Step 2: Input the password and login. (Fig.3.3)

Step 3: Then you will get the homepage. (Fig.3.4)

 Default password is **111111**. You can change it.



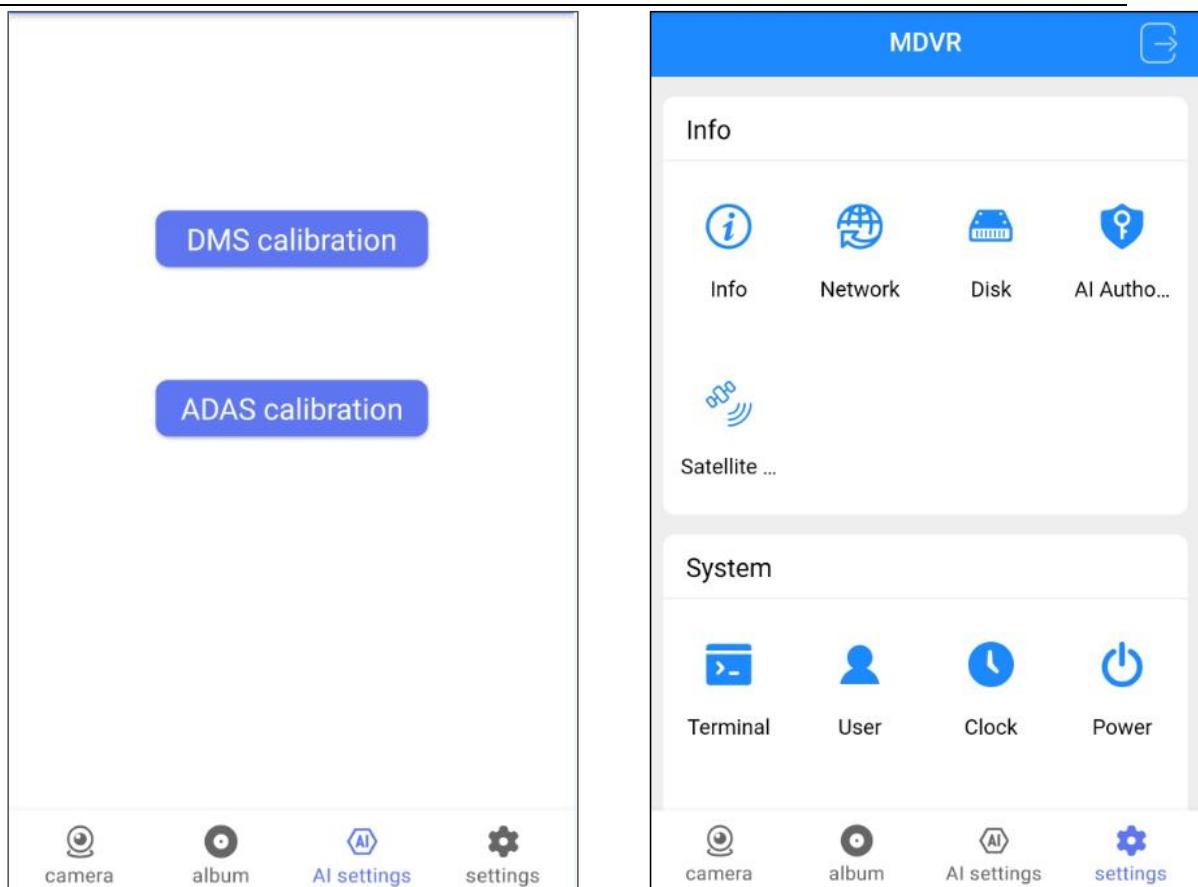


Fig.3.4 Home page

3.3 Record Setting

3.3.1 General and Main-stream

Step 1: Enter the **General** page, select H.265 or H.264 (Some platforms do not support H.265), if there is no real-time preview, please confirm the **TV system**: PAL or NTSC (Fig.3.5)

Step 2: Select **Video → Main stream**. (Fig.3.6)

Step 3: Confirm CH (refers to video Channel) setting. Higher resolution, higher video quality (**1 refers to the top quality**) and better frame rates will consume more storage space.

Step 4: Click on **Save**. (Fig.3.7)

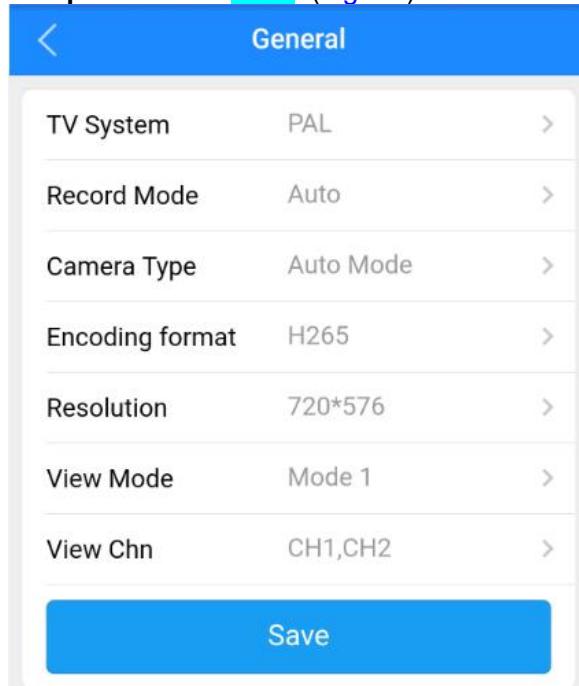


Fig.3.5 General

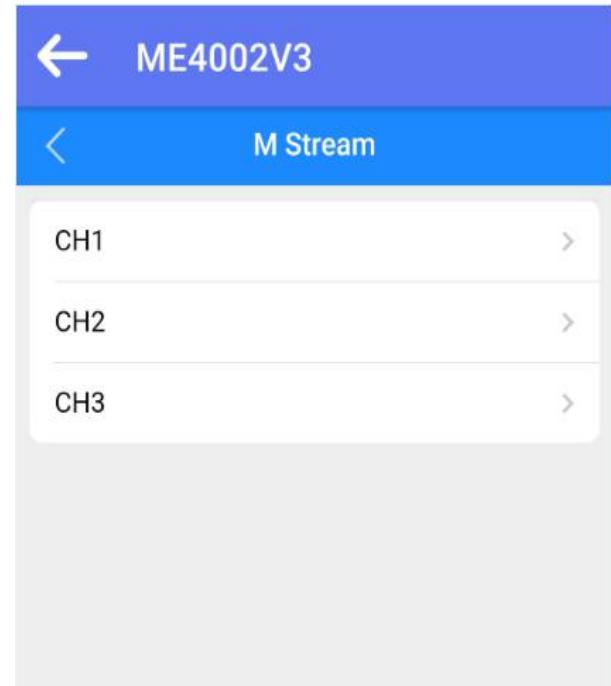


Fig.3.6 Main stream

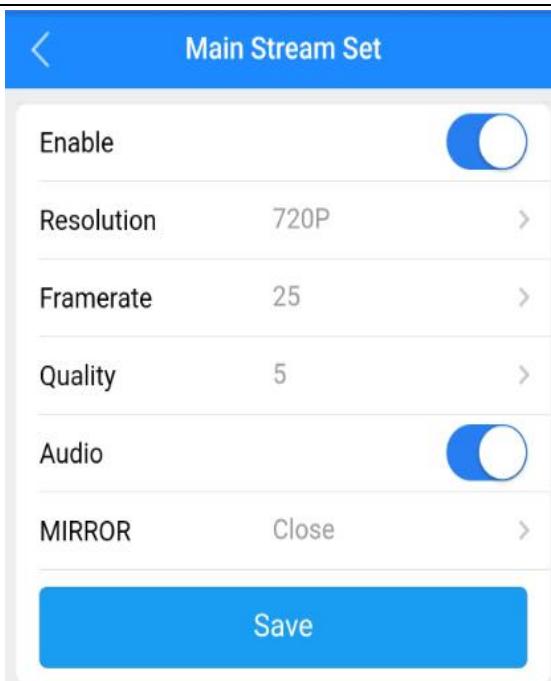


Fig.3.7 Channel setting

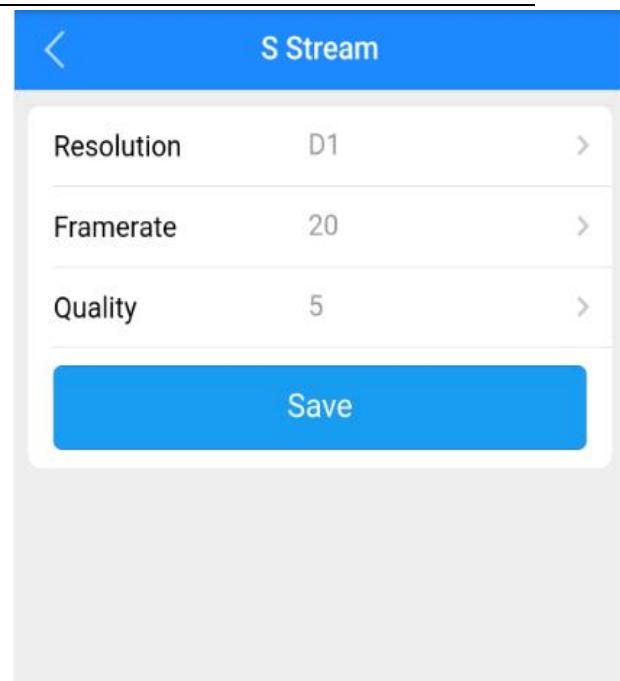


Fig.3.8 Sub stream

3.3.2 Sub-stream

The sub-stream is used for live streaming.

Video would be clearer with higher resolution, better frame rates and quality, but also consumes more cellular data. (Fig.3.8)

Notice: Quality, **1 is the best**, to save cellular data consumption, 5 or 6 is recommended.

3.4 Time zone setting

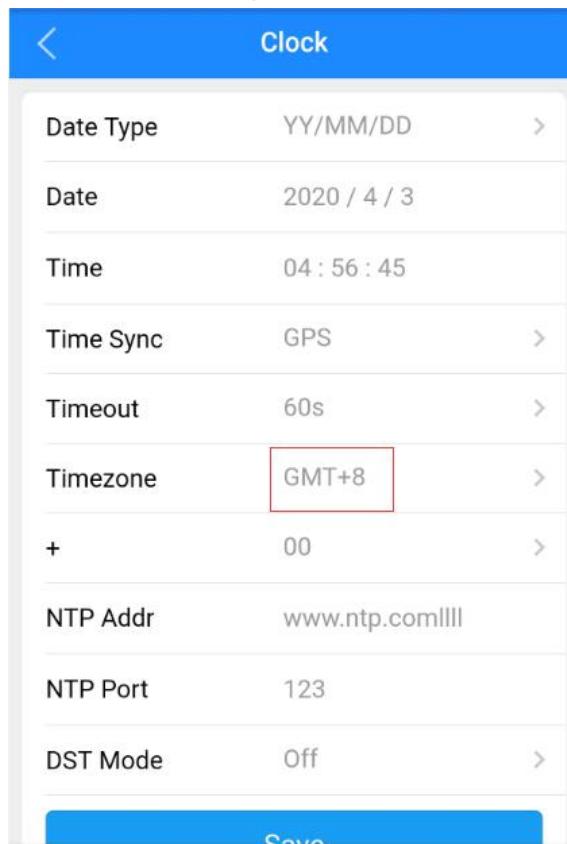


Fig.3.9 Time

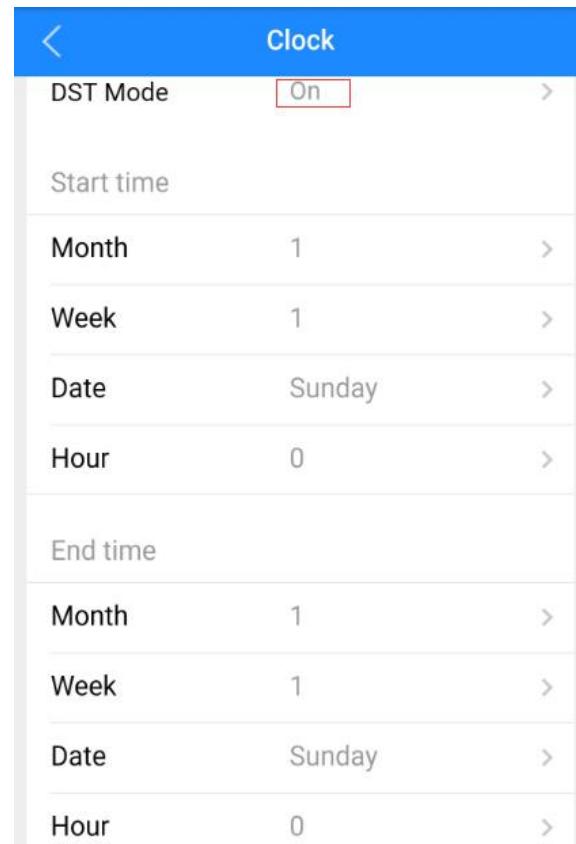


Fig.3.10 DST (Daylight Saving Time)

Timezone: Please set according to your preferred time zone, default is GMT + 08. (Fig.3.9)

DST mode: Daylight Saving Time, set according to your local rule. (Fig.3.10)

Set the **Month**, **Week**, **Days**, **specific hour**, then set the **offset time** (according to your local regulation, normally it's 60 minutes).

3.5 Connect to Platform

3.5.1 Device ID setting

Step1: MDVR configuration.

Step2: Click **Terminal Configuration**.

Step3: Set a unique **device ID** for it, it will be used for adding device onto the platform (Fig.3.11)

In addition, recommended to set the plate number which matching that of the vehicle in which the dash camera will be installed.

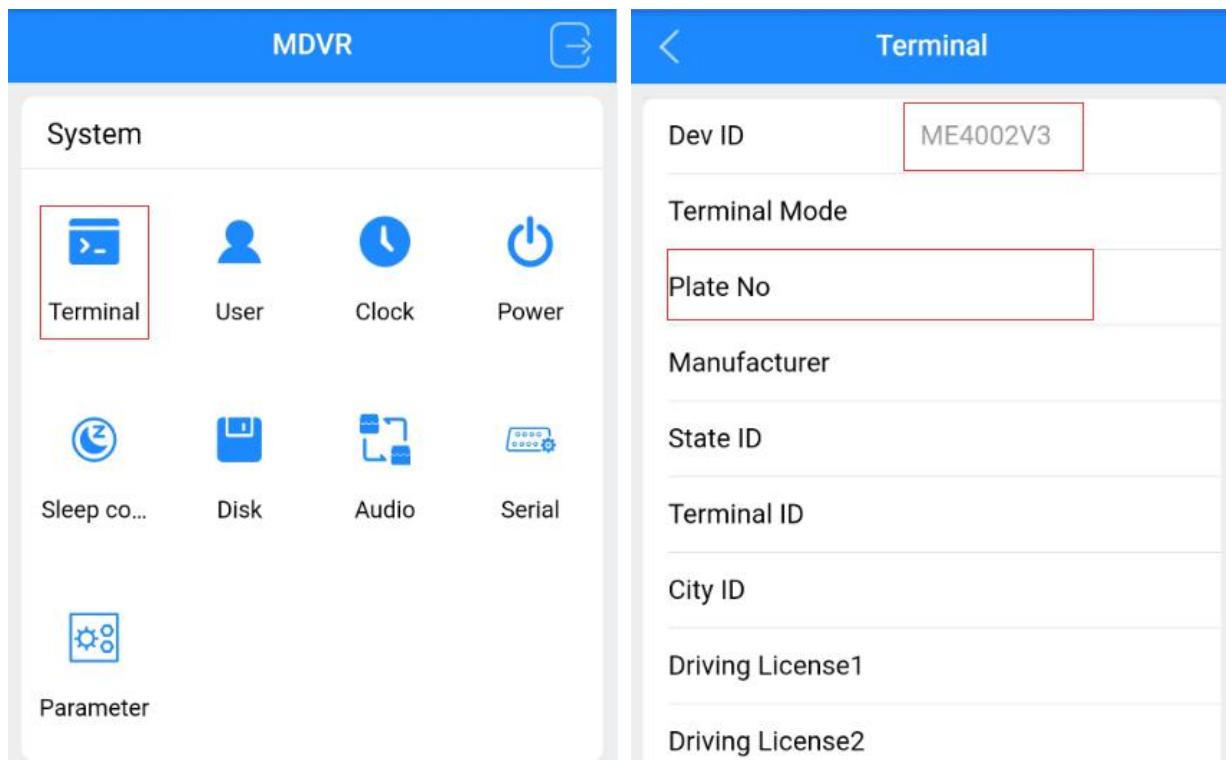


Fig.3.11 Device ID

3.5.2 Network setting

Network Setup page: **Center** settings, **IP** setting, **Dial** settings and **Wi-Fi** settings.

The device will access the VSS (Howen platform) server or 3rd party platform via 4G/Wi-Fi.

Step 1: Settings → Network.

Step 2: Click **Center** Settings.

Step 3: Select server 1 or server 2, H-protocol.

Step 4: Select the H-protocol, input the server IP address and port. (Fig.3.11)

Server IP: It's your server PC's IP address which already deployed the platform.

Port: 33000. It's set to point to VSS platform.

 Server 1&2 both could support either VSS or 3rd party platform via H-protocol, such as Wialon, Navixy etc.

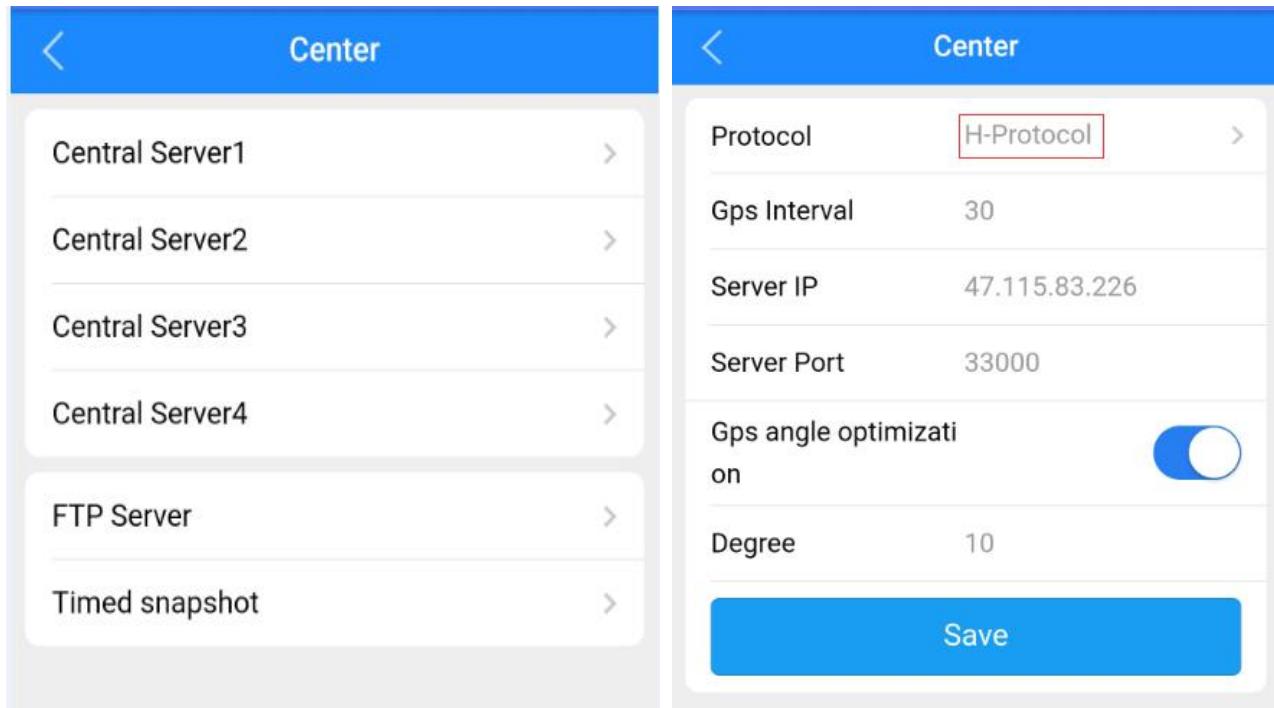


Fig.3.12 Center setting

More function

FTP server: You can build your own FTP server, and upload video to it.

Timed snapshot: Take snapshots according to the set interval and upload snapshots to VSS.



Fig.3.13 FTP server

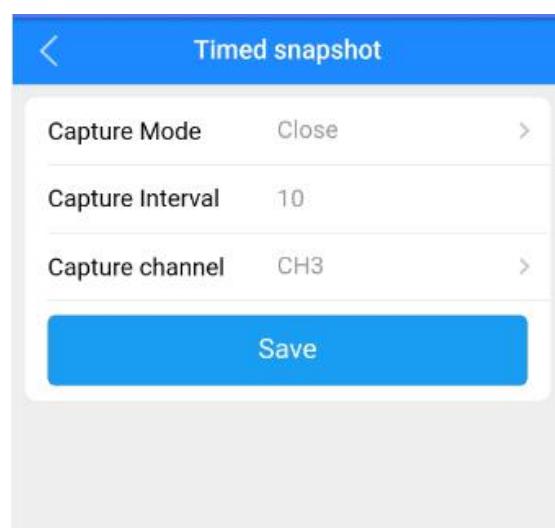


Fig.3.14 Timed snapshot

3.5.3 Dial setting

Enable: On.

Type: WCDMA / EVDO / TDDLTE / FDDLTE-1 / FDDLTE-2 for option.

Access Point: Input Access Point name.

Notice: Each telecom operator has various APNs, please consult your telecom operator first.

Center No: Default setting is ***99#** In most cases, you don't need to change it.

User&Password: Set up SIM card service user name and password. Please inquire your SIM card carrier first! (Fig.3.15)

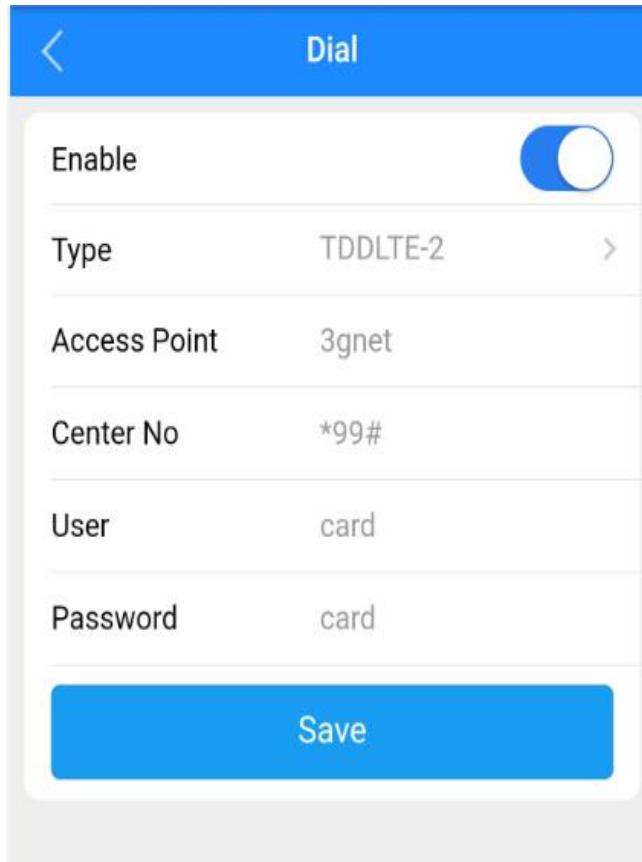


Fig.3.15 Dial setting

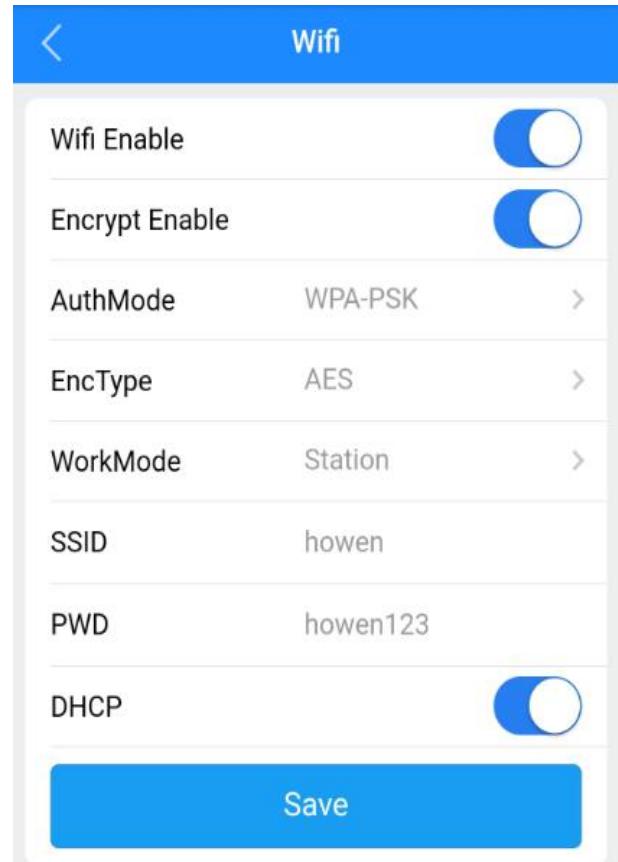


Fig.3.16 Wi-Fi setting

3.5.4 Wi-Fi setting

You can use Wi-Fi to access internet. To set up, simply follow your router's configuration.

Wi-Fi Enabled: Turn it On.

Encrypt Enable: On / Off.

Auth Mode: Open / Shared / WPA / WPA-PSK, set according to your router configuration.

EncType: NONE /WEP/ TKIP / AES, set according to your router configuration.

Work Mode: Station only.

DHCP: Turn it on/off, default is On.

3.5.5 Add device onto VSS

Login to the VSS platform via Web or VSS client. (Fig.3.17)

Device No. Input device ID.

Device Name: Input Plate number.

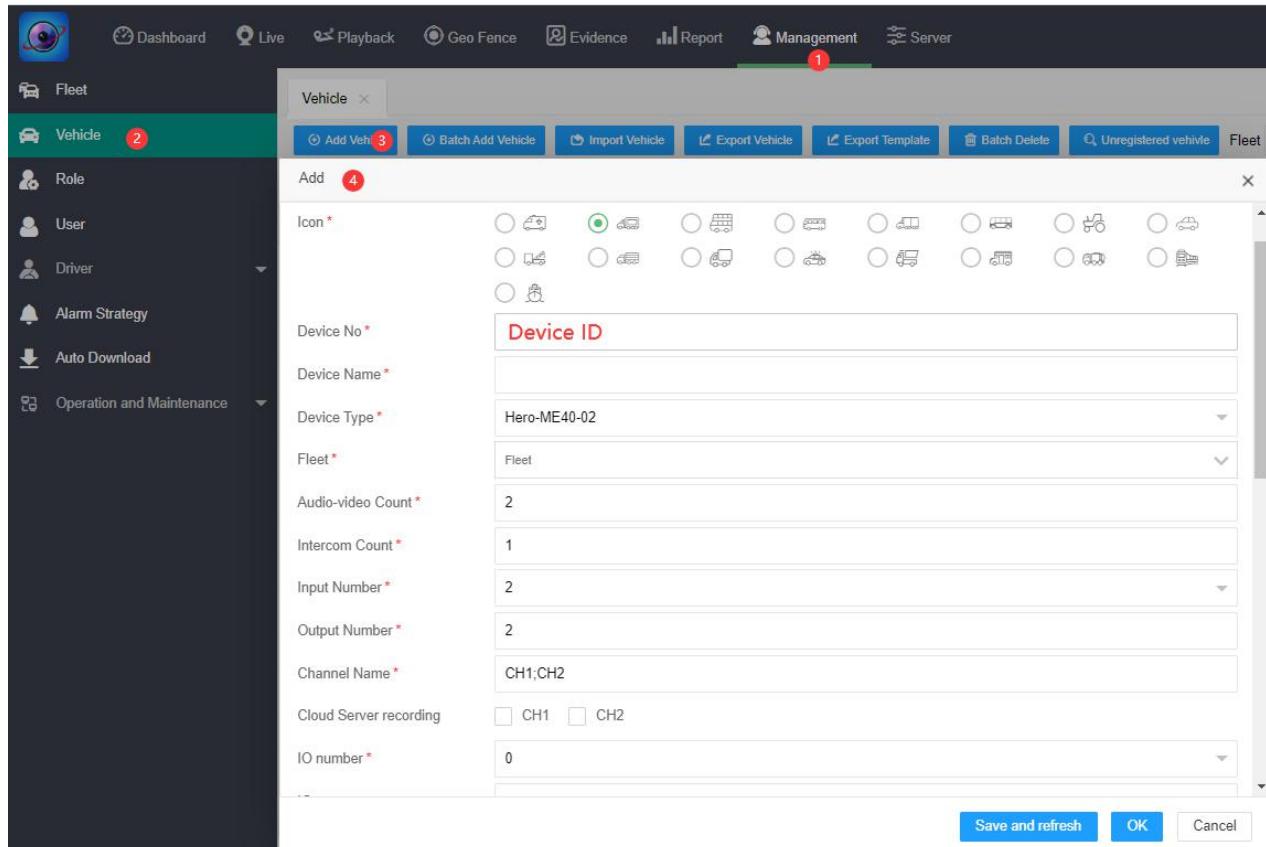
Device Type: Select the device model.

Fleet: Need to create a fleet first. Then select this device.

Audio-video Number: Channel numbers, set according to the video channel needed.

Input/Output: Input according to device type.

Click to show more info about device, then save it.



The screenshot shows the VSS platform's 'Management' section with a 'Vehicle' sub-menu. A red box highlights the 'Add Veh' button (labeled 3). The main dialog is titled 'Add' (labeled 4) and contains the following fields:

- Icon: A radio button is selected for a car icon.
- Device No. (highlighted in red): Device ID (input field)
- Device Name: Hero-ME40-02
- Device Type: Hero-ME40-02
- Fleet: Fleet
- Audio-video Count: 2
- Intercom Count: 1
- Input Number: 2
- Output Number: 2
- Channel Name: CH1;CH2
- Cloud Server recording: CH1, CH2 (checkboxes)
- IO number: 0

At the bottom are 'Save and refresh', 'OK', and 'Cancel' buttons.

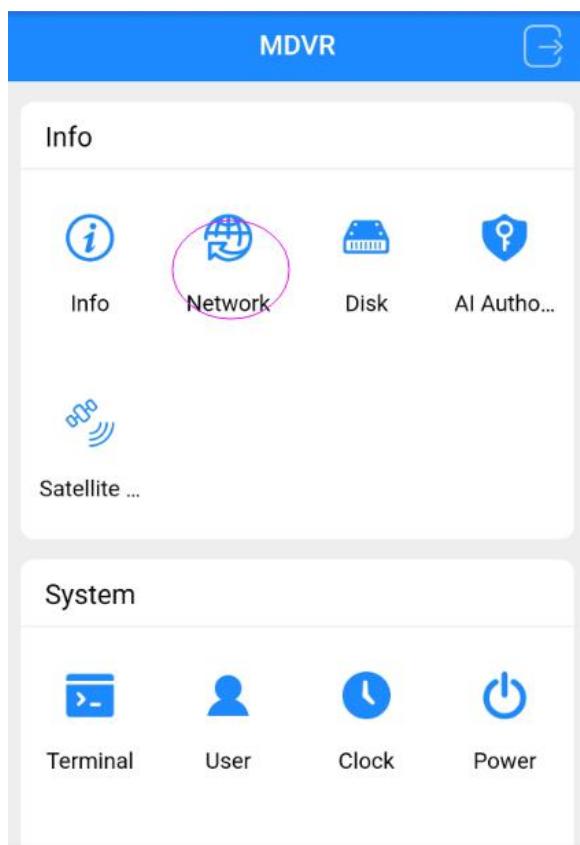
Fig.3.17 Add device for VSS

3.5.6 Network Status

Go to system info menu, check the network info. (Fig.3.18)

If dial failed, please double-check the [3.5.3 Dial setting](#).

If it shows disconnect, please check all the steps one by one.

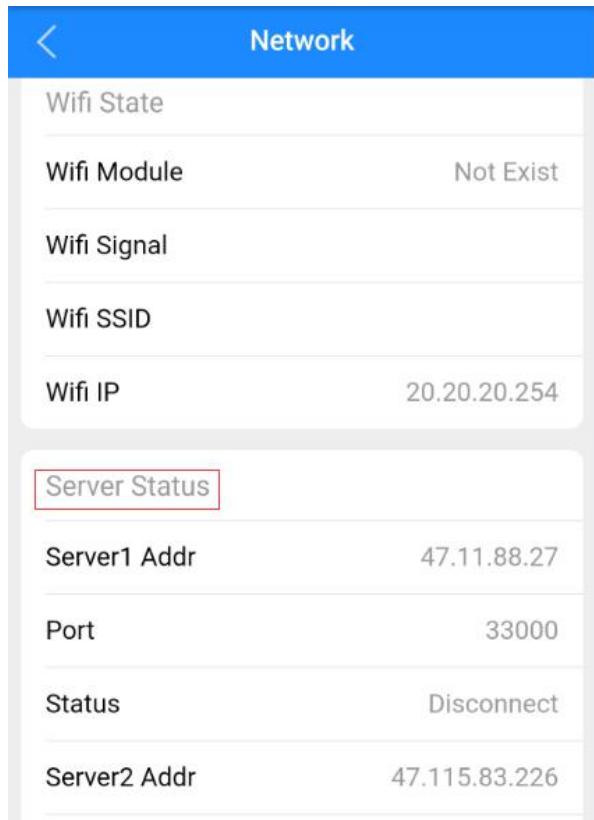


The main interface of the MDVR (Mobile DVR) application. It features a top navigation bar with the title 'MDVR' and a back arrow. Below this is a 'Info' section with icons for 'Info', 'Network' (which is highlighted with a pink oval), 'Disk', and 'AI Autho...'. A 'Satellite ...' section follows. Below these are 'System' sections for 'Terminal', 'User', 'Clock', and 'Power'.



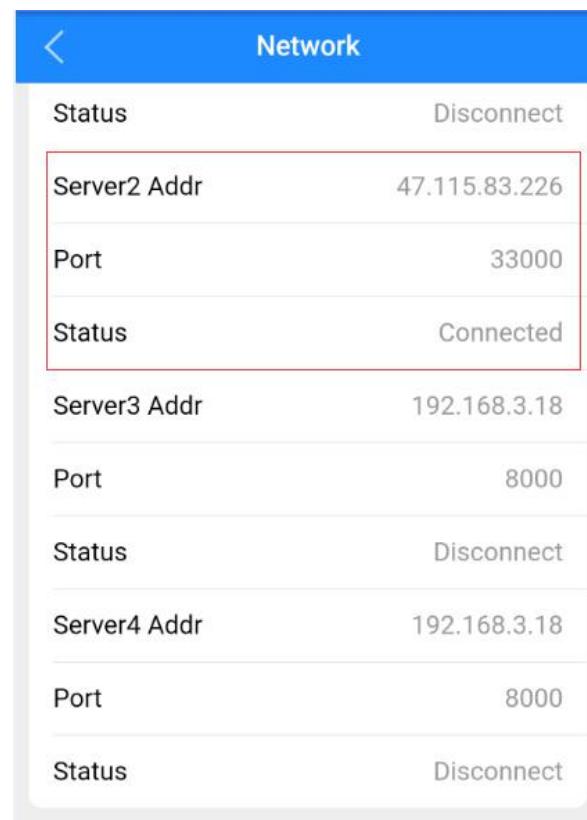
The 'Network' status screen. It shows the following information:

Net State	
Net Linked	Network Used 4G
Module Type	TDDLTE-2
Net Type	4G
SIM Signal	27
SIM Status	Exist
Dial Status	Dial Success
Dial IP	10.166.192.153
Wifi State	
Wifi Module	Not Exist



The 'Network' status screen. It shows the following information:

Wifi State	
Wifi Module	Not Exist
Wifi Signal	
Wifi SSID	
Wifi IP	20.20.20.254
Server Status	
Server1 Addr	47.11.88.27
Port	33000
Status	Disconnect
Server2 Addr	47.115.83.226



The 'Network' status screen. It shows the following information:

Status	
Server2 Addr	47.115.83.226
Port	33000
Status	Connected
Server3 Addr	192.168.3.18
Port	8000
Status	Disconnect
Server4 Addr	192.168.3.18
Port	8000
Status	Disconnect

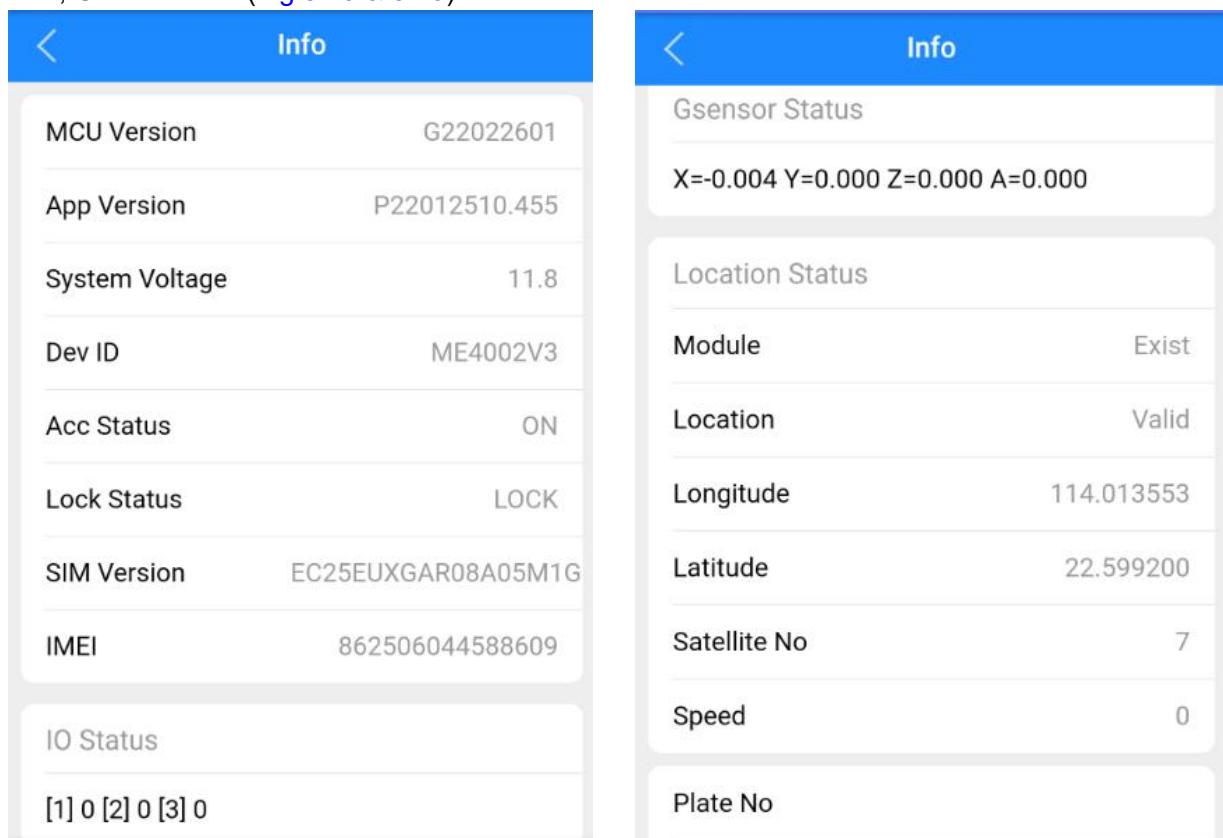
Fig.3.18 Network Status

3.6 Info page

In addition to the network status info, there are other important information.

3.6.1 Info

Check Info page, where you get general information about the device, e.g. MCU and firmware version, device ID and plate number, GPS info etc. (Fig.3.19 & 3.20)



Info	
MCU Version	G22022601
App Version	P22012510.455
System Voltage	11.8
Dev ID	ME4002V3
Acc Status	ON
Lock Status	LOCK
SIM Version	EC25EUXGAR08A05M1G
IMEI	862506044588609
IO Status	
[1] 0 [2] 0 [3] 0	

Info	
Gsensor Status	
X=-0.004 Y=0.000 Z=0.000 A=0.000	
Location Status	
Module	Exist
Location	Valid
Longitude	114.013553
Latitude	22.599200
Satellite No	7
Speed	0
Plate No	

Fig.3.19 INFO

The important information as following:

MCU version: MCU software version

FW Version: The current device firmware version.

System Voltage: The current device operational voltage.

Dev. ID.: Device ID.

SIM Version & IMEI: 4G module information.

I/O status: Check the I/O electrical level status. **1** is high, **0** (lower than 3V) is low. You can check once the device connected with an I/O device, such as panic button.

G-sensor: It shows the G-sensor value. Move the device and check if those value change.

Location Status:

It will show the longitude and latitude, satellites number. You can check more details for Satellites. (Fig.3.21)

The signal intensity should be more than 30dB, satellite Number more than 4 satellites.

Info	
Location	Valid
Longitude	114.013553
Latitude	22.599200
Satellite No	7
Speed	0
Plate No	
Oil	
IButton	0
Serial No	3B4398001712944E
Temperature Info	

Fig.3.20 INFO

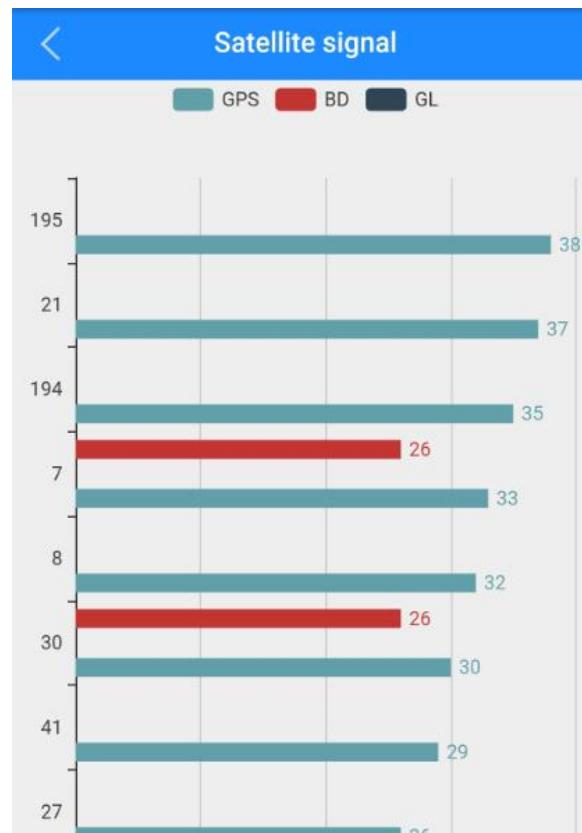


Fig.3.21 Satellites signal

3.6.2 Disk

Shows storage info. (Fig.3.22)

Disk	
SD1	
Total	122112M
Free	0M
Status	Exist
USB1	
Total	0M
Free	0M
Status	Not Exist

Fig.3.22 Disk

AI Authorization	
ChipId	00003352b94eccef2
DMS Authorization information	Activated
ADAS Authorization information	Activated

Fig.3.23 AI Authorization

3.6.3 AI Authorization

ChipId: The Chip-set ID is for activating the DMS/ADAS function.

DMS/ADAS Authorization Information: Activation status.

4. Installation

Step1: Install Memory card and SIM card for device.

Step2: Stick the bracket

Tips: Before paste the bracket, please measure and mark the center of vehicle's windshield at first.

Wipe clean windshield (make sure there is no oil/dust) and dry it. Tear off the 3M sticker, paste one side on holder. If the temperature was below 20 degrees, to use a hot-air cylinder to dry at 50 degrees for 5-10 seconds is recommended, then paste on.



Step3: Fix the device gently

Take out the screws and Dashcam.

Then insert the screw lock, keep it adjustable till installation is finalized on vehicle.

Installation Attention:

Horizontally: the device shall be installed around the center of windshield.

Vertically: adjust the device to get the best positioning for the front camera first, especially if ADAS function is required.



Step3: Wiring connection

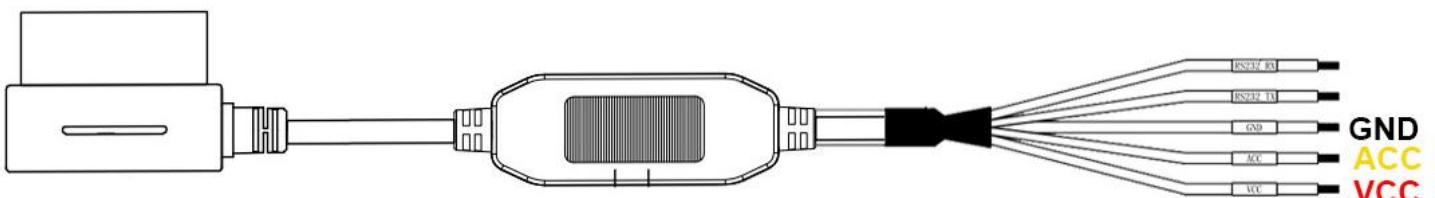
Take out the power adaptor/box, connect to device first. Connect the red wire (power positive +) to BAT+ of vehicle, and orange wire (ACC) to ignition of vehicle, and the black wire (power negative -) to BAT- on the vehicle battery.



⚠ Do check that all wires correctly connected, and make sure to wrap connection joints with electric tape when connection is finalized.

OBD method

If already purchased OBD cable from our side, connect the wires to power box, BAT+ to VCC, GND to GND, ACC to ACC.



For the OBD port, connect to your vehicle's OBD interface.

Step4: Adjust the ADAS camera

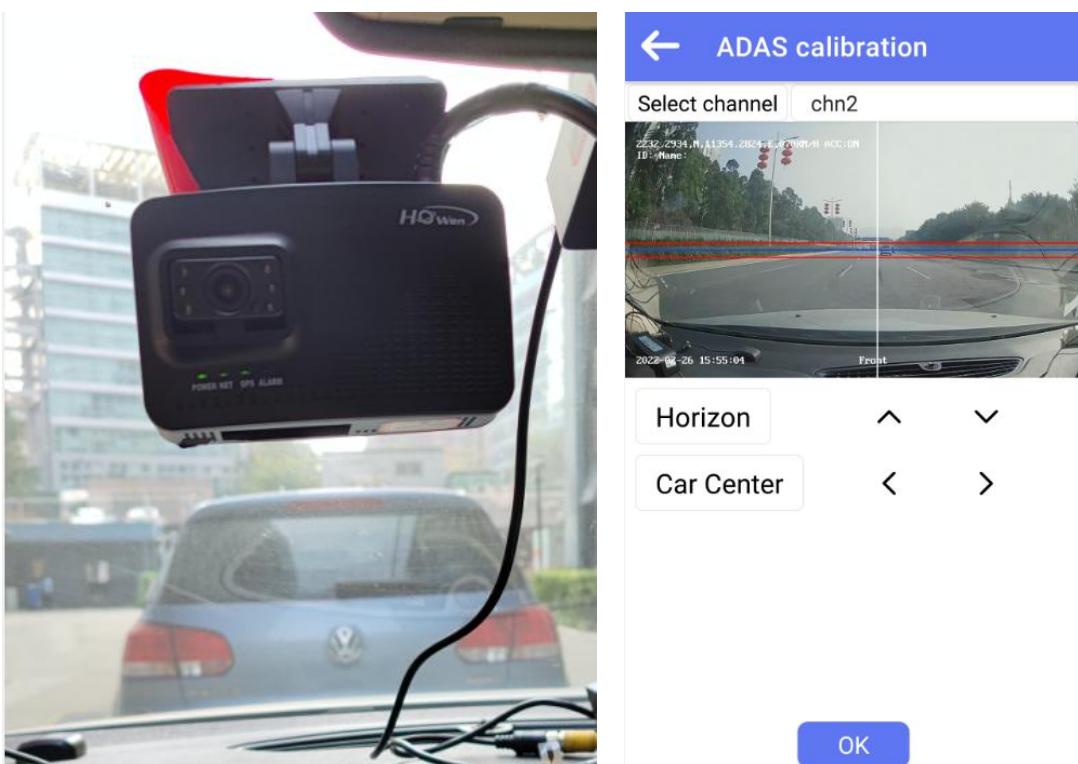
If ADAS is activated, need go to ADAS calibration view, make a roughly adjustment firstly.

Regarding how to calibrate ADAS accurately, please refer to [Part 5.2](#).

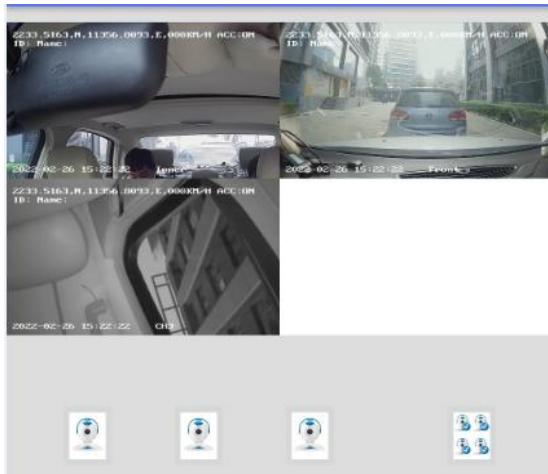
Tips:

Connect your mobile phone to Wi-Fi shared by the device, open the APP to get the real-time preview, and make sure the calibration angle is right (Refer to the below picture, the **horizon line should be lined up with the ground level 15-20m away**).

Notice:



Step5: Adjust the rear camera



Use the screw-driver to adjust the view angle, till the images appear suitable.

After calibrating/adjusting the cameras, **tighten up the screw to fix the device.**



Step6: Wiring

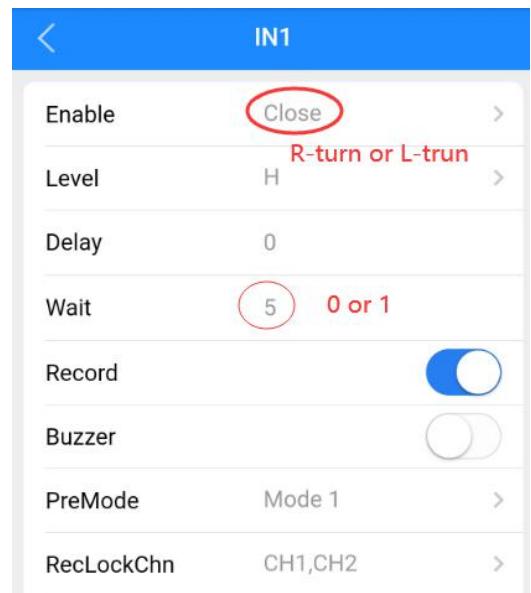
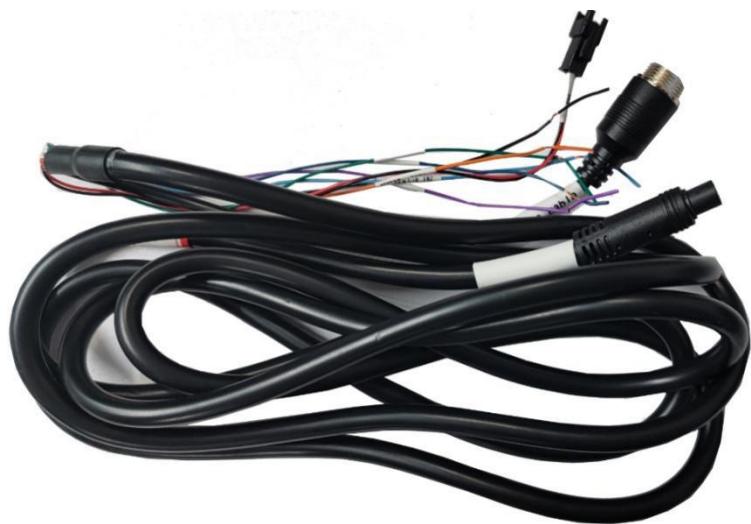
Connect the I/O, DMS camera, RS232 external device.

1. I/O connection

To bring out the best of ADAS's Lane Departure Warning (LDW) feature, need to connect I/O cable to turning signal lights of the vehicle.

Pick Sensor-IN1 and Sensor-IN2 of serial cable, connect the L-turn and R-turn signal light of the vehicle respectively (Must be consistent with the actual connection wire and then set R/L-turn item).

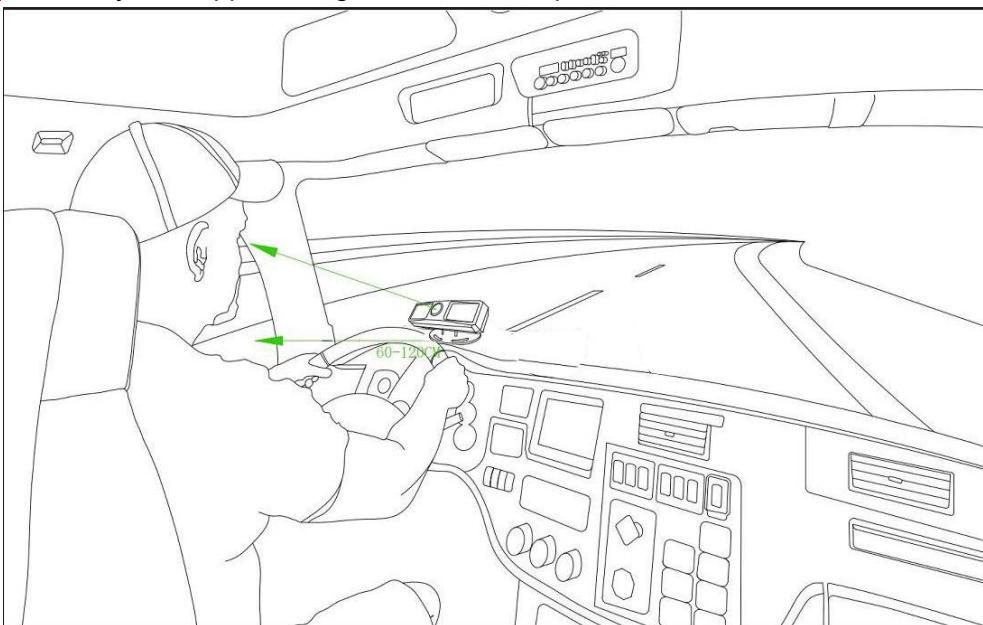
For **wait time**, recommend to set as **0 or 1 second**.



2. Install the DMS camera

If you purchased optional DMS features, connect the DMS camera provided by your supplier to extension cable and set it to CH3. Install the DMS camera 60-120cm away in front of the driver, make sure nothing laid between lens and driver. Angle is adjustable (left/right, up/down) to make sure DMS camera could capture driver's face entirely.

Attention: Currently not support fixing DMS cam on A-pillar of the vehicle



Standard DMS camera position as shown below:



If the steer wheel blocked the view of DMS camera, try the following 2 options (also refer to the pics below):

1. Install a holder to lift the DMS camera higher.
2. Move the DMS camera aside for 15-20cm or less than 15 degrees (towards vertical central line of the driver face), but shall not across the vertical central line of the windshield. Then adjust the camera, make sure it faces the driver, and driver face shall appear in the central field of camera view.



5. Calibration

5.1 DMS

If your device supports DMS function, connect the DMS camera to the extension cable and select CH3.

1. After you install the camera, sit in front of the DMS camera, and face the camera lens.
2. Go to DMS set menu, Click **Calibration**

It will take a few seconds to enter calibration interface, please wait.

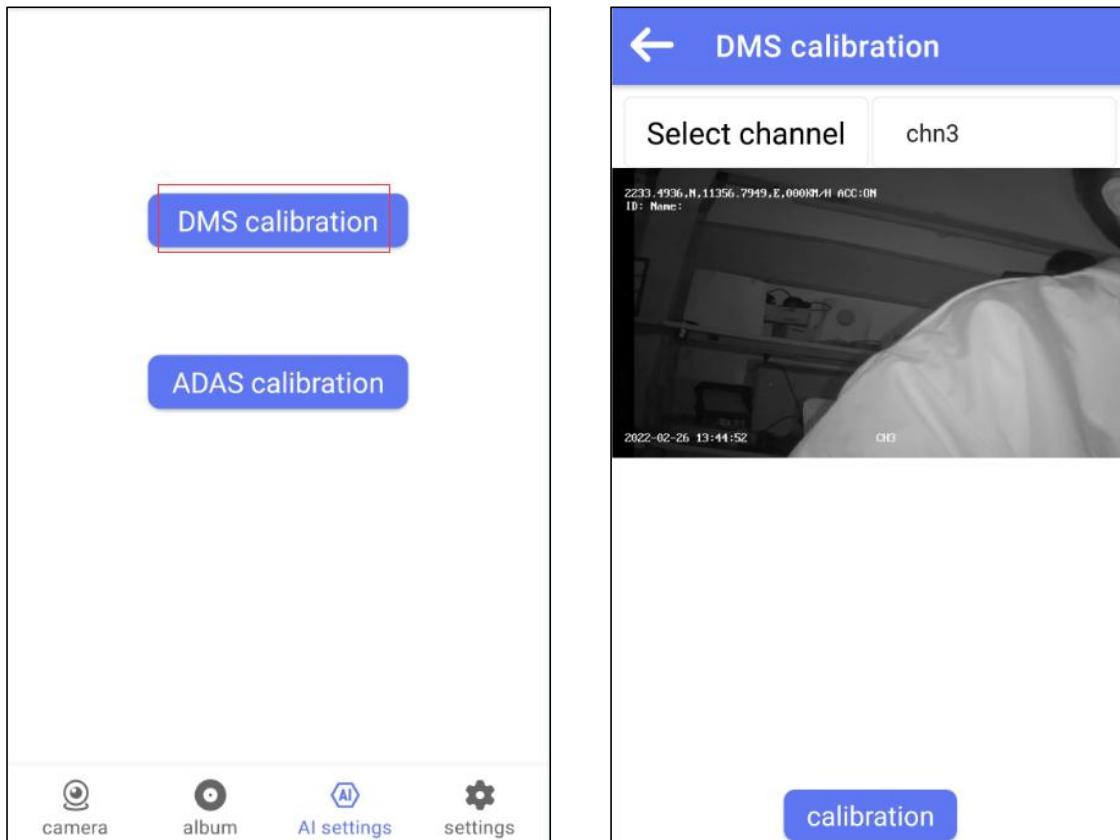


Fig.5.1 DMS calibration

3. It will show “DMS Calibration successful” once done.

If failed, make sure you face to the center of the lens, adjust the camera angle and try calibration again.

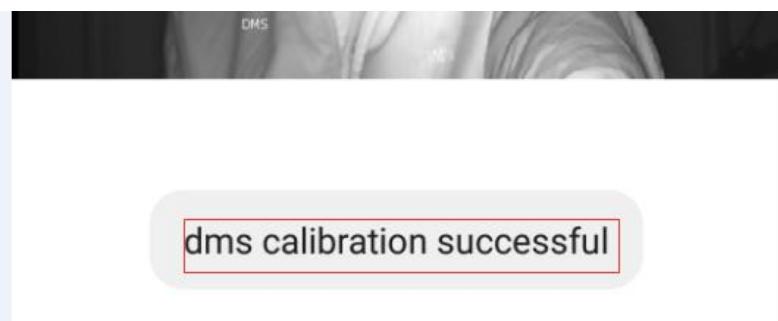


Fig.5.2 DMS calibration success

5.2 ADAS Calibration

1. Install the ADAS camera, and park the vehicle on a flat and open field.



Fig.5.3 Location

2. Go to ADAS setting menu, point the ADAS channel to CH2.

3. Calibrate Horizon&Car Center

A. Put a pole or ruler in the front of vehicle, the distance is 3~5m, and the pole or ruler should be in same line with camera center in vertical direction.

B. Mark a line which is the same height with ADAS camera's center [Need measure the camera height as below] on ruler.

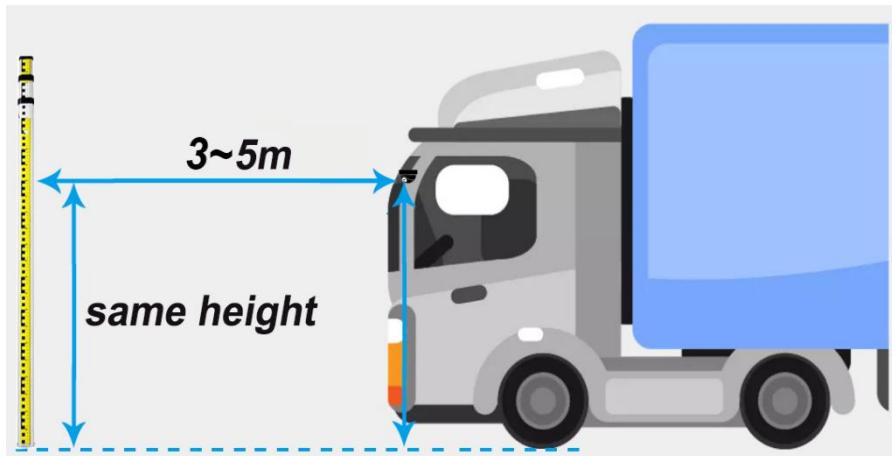


Fig.5.4 Ruler or Pole Position

C. Move the Horizon **Blue line** up or down, make it overlap with the marked line on the ruler.

Move the Car middle **white line** overlap with the ruler in vertical direction.

Attention: The ruler/pole must align with ADAS center line.

4. After calibrate the Horizon and Car middle , Click "**OK**"

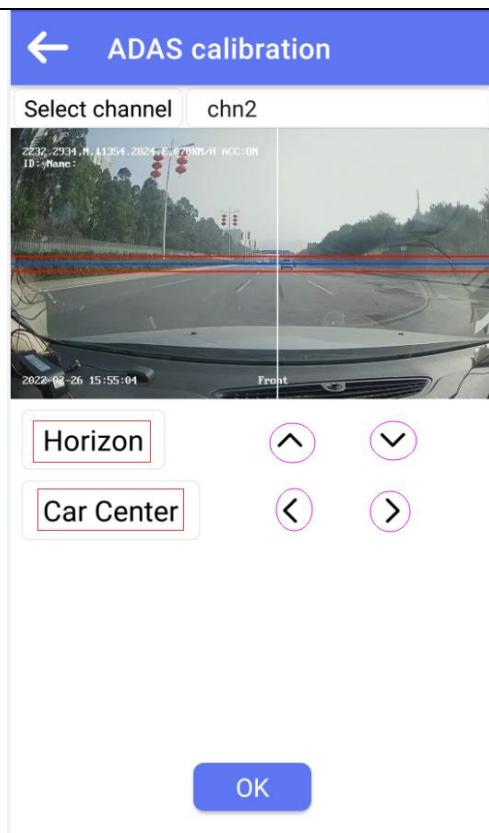


Fig.5.5 Horizon&Car middle

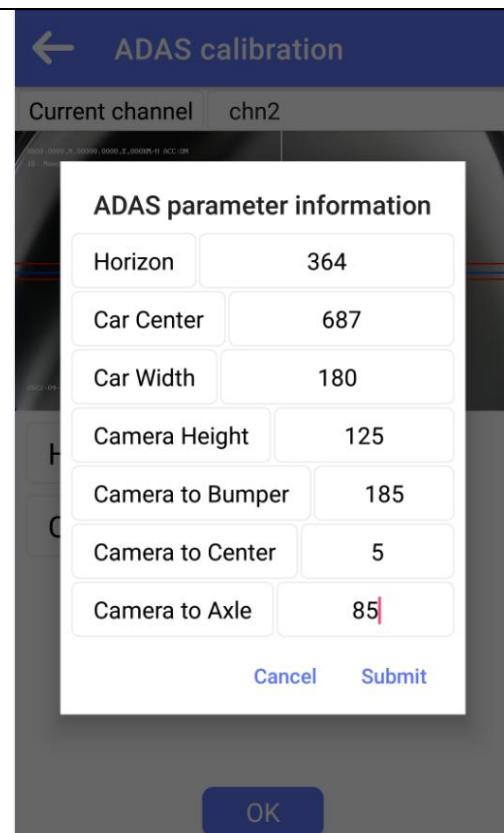


Fig.5.6 ADAS Calibration

Horizon: The horizontal level, which get from calibration as **Step3**, do not input manually. **Unit:Pixel.**

Car Center: The offset (distance) from the camera center, calibrate as **Step3**. **Unit: Pixel.** (Fig.5.7)



Fig.5.7 Car center



The width between the outer edges of tires

Fig.5.8 Car Width

Car Width: The width between the outer edge of tires. **Unit: cm.** (Fig.5.8)

Camera Height: The distance from the ground to center of camera. **Unit: cm.** (Fig.5.9)

Camera2Bumper: The distance from camera to front bumper. **Unit: cm.** (Fig.5.9) For flat cabin, input 0.

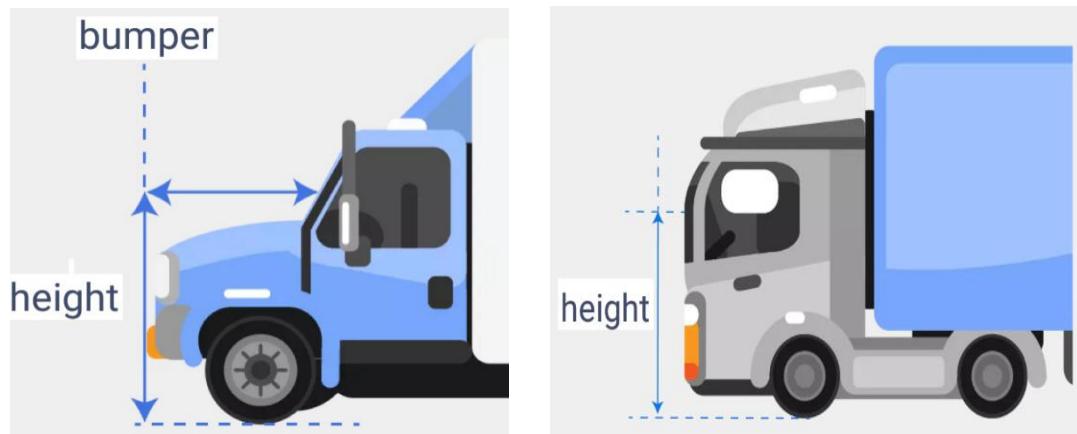


Fig.5.9 Camera Height and Bumper

Camera center: Set as **0** directly. **Unit: cm.**

Camera2 Axle: The distance from camera to front wheel axle. **Unit: cm.** (Fig.5.8)

Attention Need to pay attention the negative/positive value. If the front wheel is behind the camera, need input negative value. (Fig. 5.10- left)

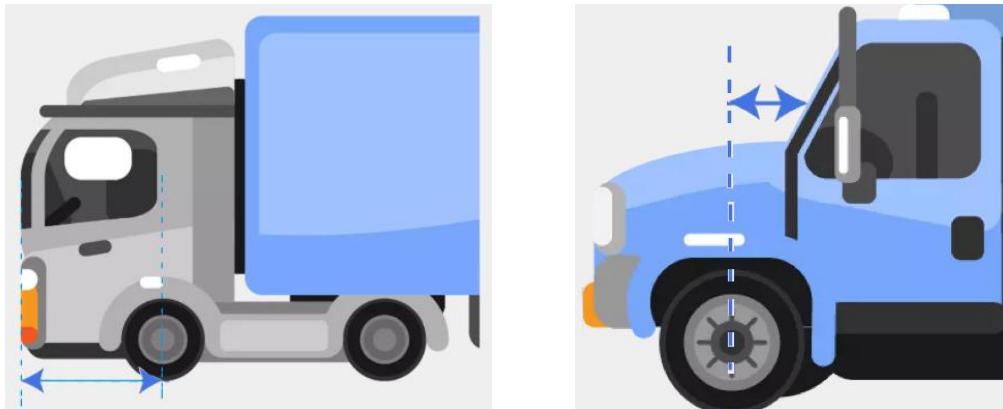


Fig.5.10 Camera to Axe

After you input those parameters, Click **SUBMIT**

ADAS parameters submitted successfully

OK

If failed, Please double-check each step and redo it.

5.3 Face Recognition

5.3.1 Add Driver In VSS

Click the  icon, wait for the pop-up page. Fill in Driver Name, Gender, Card NO., Fleet, Phone and other information of the added driver. Click **OK** to save.

Add

Driver Name *	Hank	Upload Driver Face Image
Gender *	Male	<input type="button" value="upload image"/>
Card No. *	1223456	
Fleet *	TestFleetAdd	
Phone *	16654782480	
Email	hank.zhang@howentech.com	Upload Driver License Image
ID	1100	<input type="button" value="upload image"/>
Driver License No	5578986	
Birth Date		

Fig.5.11 Add driver

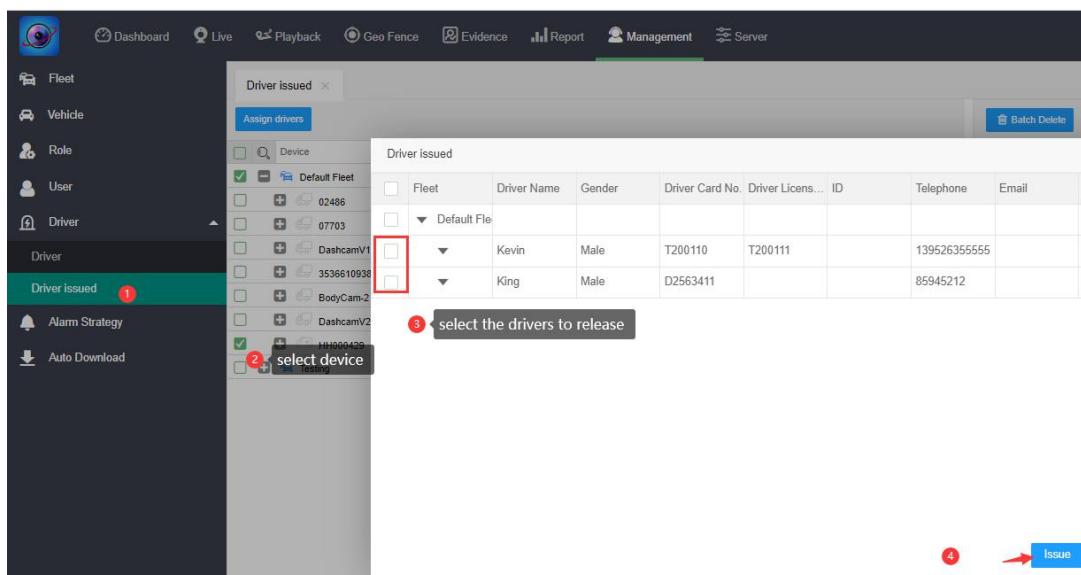
Attention: The picture requirement:

1. JGEG/JPG format
2. Size:1280*720, 16:9 (Pictures taken by cell phone are normally 4:3, need to adjust).
3. Mug-shot, which just contains head and shoulder, it will cover 70-80% area of whole picture.

5.3.2 Driver issue

Select the device to which you need to release, and select drivers which have been registered, then click release.

Wait about 1 minute, then restart the device. You can check if driver is successfully added in [6.4.8 Other](#).



Driver issued

Assign drivers

Driver issued

Fleet	Driver Name	Gender	Driver Card No.	Driver Licens...	ID	Telephone	Email
Default Fleet	Kevin	Male	T200110	T200111		139526355555	
Default Fleet	King	Male	D2563411			85945212	

① select device

② select device

③ select the drivers to release

④ Issue

Fig.5.12 Driver issue

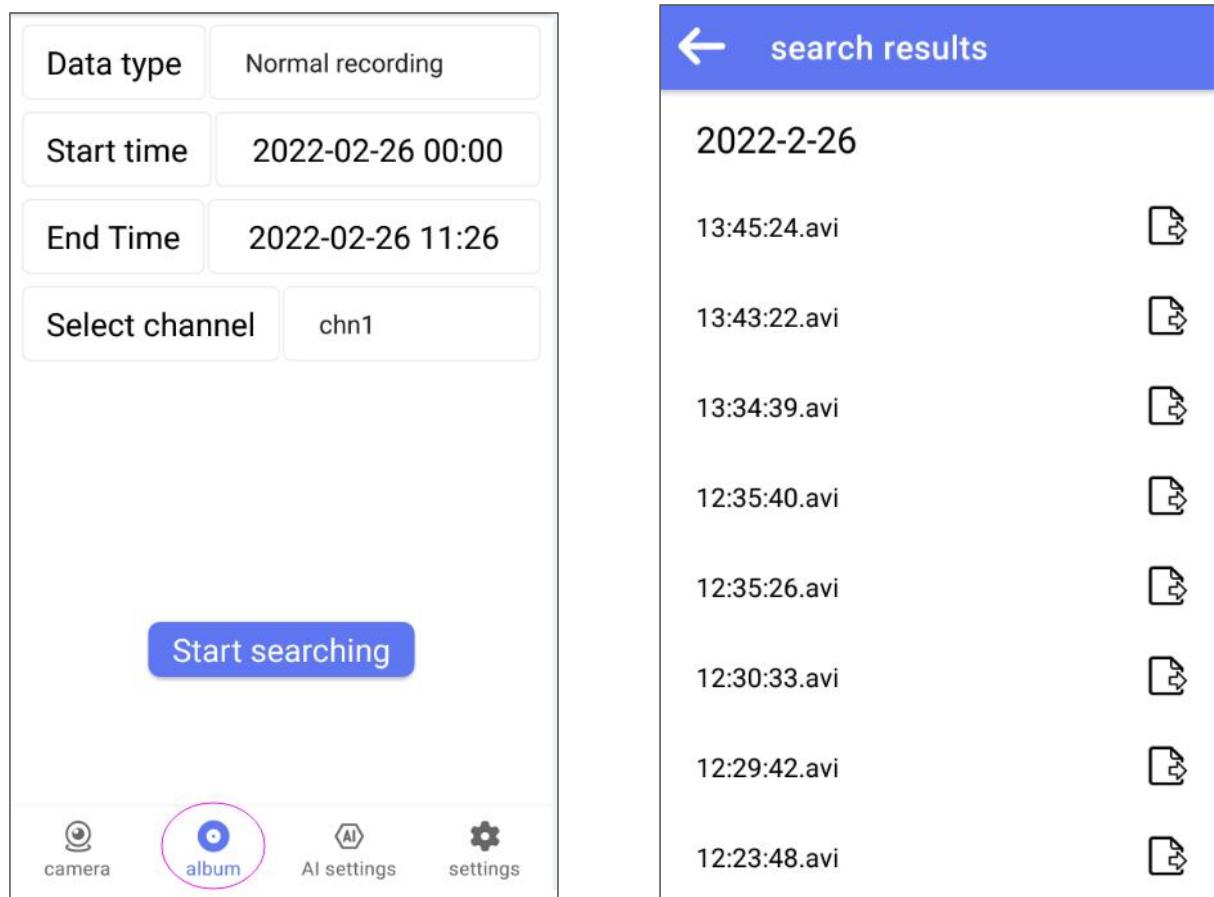
If released success, and driver recognize success, it will show the name on the OSD.



6. Main Menu

6.1 Search

Make sure the device has TF card installed and recording function works well. Switch to homepage.



The image shows two screenshots of the device's search interface. The left screenshot shows the search configuration screen with the following fields:

Data type	Normal recording
Start time	2022-02-26 00:00
End Time	2022-02-26 11:26
Select channel	chn1

Below these fields is a blue "Start searching" button. At the bottom of the screen are four icons: camera (grey), album (purple), AI settings (grey), and settings (grey).

The right screenshot shows the "search results" screen with a blue header. It lists video files with their names and recording times, each preceded by a download icon:

- 2022-2-26
- 13:45:24.avi
- 13:43:22.avi
- 13:34:39.avi
- 12:35:40.avi
- 12:35:26.avi
- 12:30:33.avi
- 12:29:42.avi
- 12:23:48.avi

Fig.6.1 Search

Data Type: Normal recording, alarm recording, Image, Log file and Black box file.

Start time: Select the start time for video search.

End time: End time for search, default is the current time.

Select channel: Select the channel requested.

Once video is available, you can export it to external USB drive (which need connect via OTG cable) or to your mobile phone.

6.2 System

The system menu contains Terminal, User, Clock, Power, Sleep mode, Disk, Audio, Serial and parameter.

6.2.1 Terminal

Device ID

Set a number (12 digit at most) , but must be unique, which is very important.

Plate NO.: It will display on the OSD for live streaming. It's better set as Plate number.

Position Mode: GPS, GLONASS (GL), Beidou (BD), GPS+BD [Default], GPS+GL.

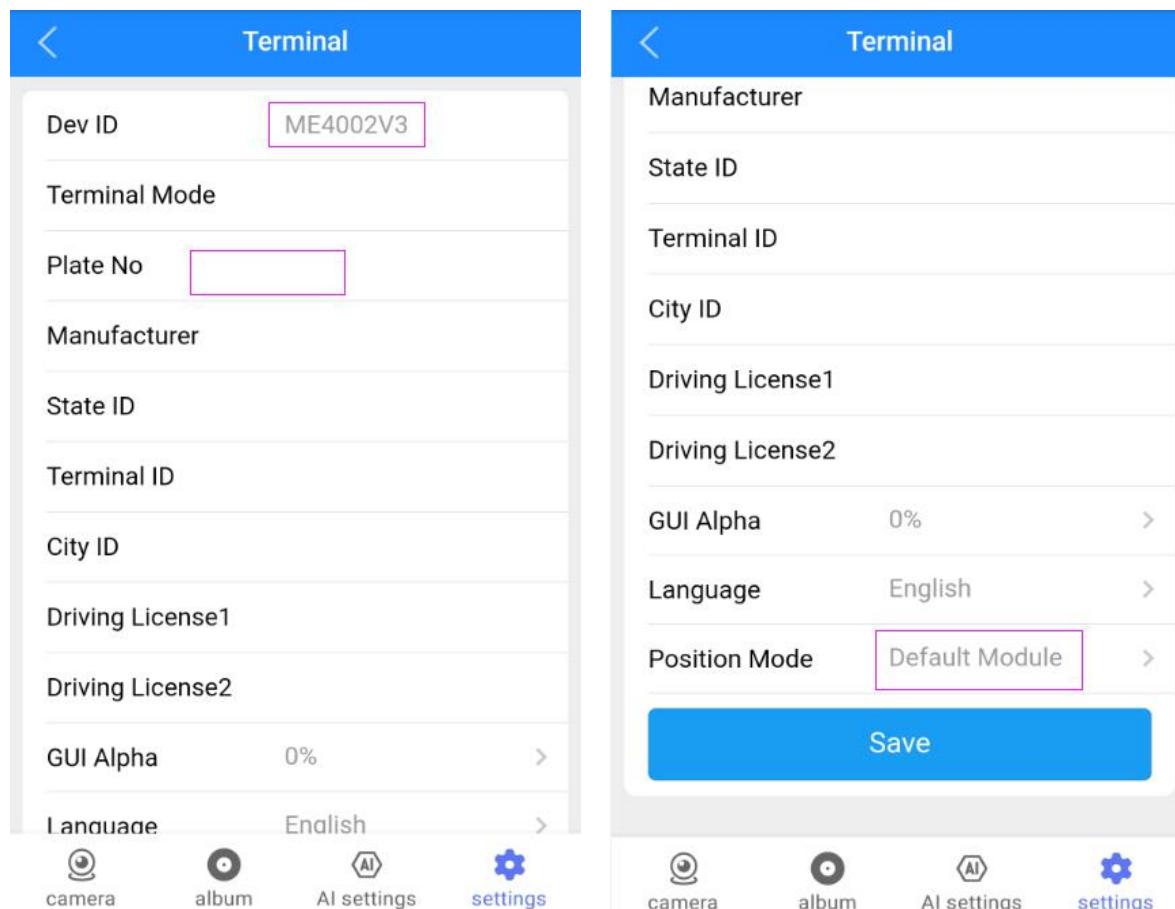


Fig.6.2 Terminal

6.2.2 User

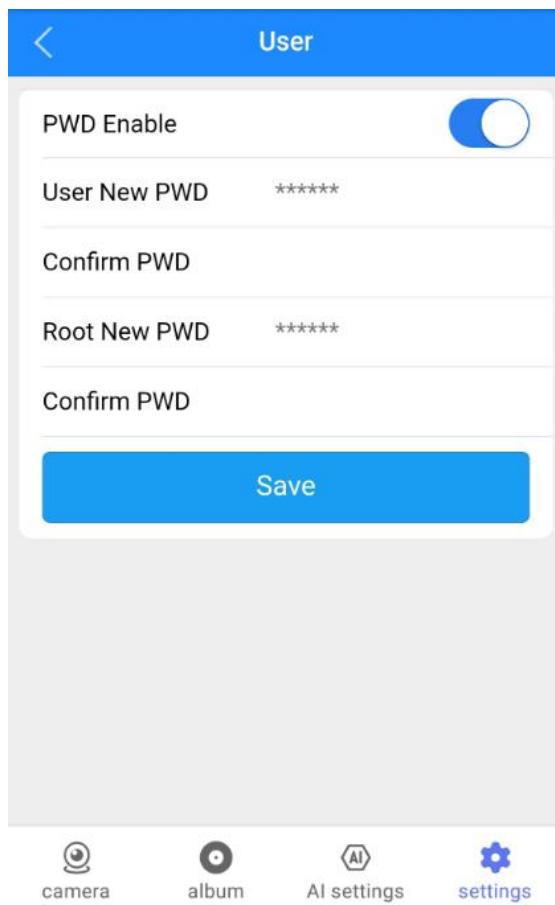


Fig.6.3 User

The default admin password is 111111, user password is 666666.

Password enable: On/Off

ON (Recommended): An administrator can set or change parameters, so if you need to set some parameters, login with this account. A user can only search and view the files.

OFF: Password verification disabled. Main menu will pop out without requesting password.

6.2.3 Clock

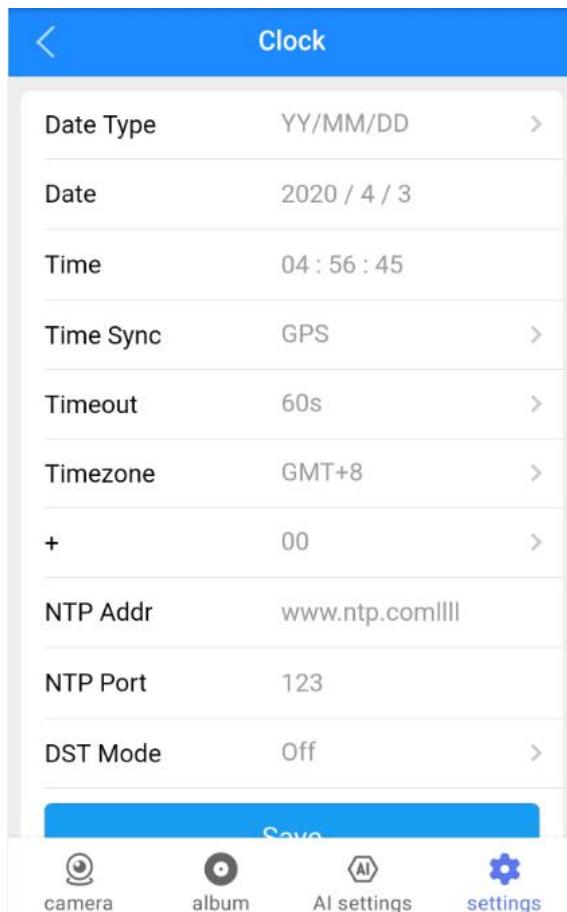


Fig.6.4 Date & Time

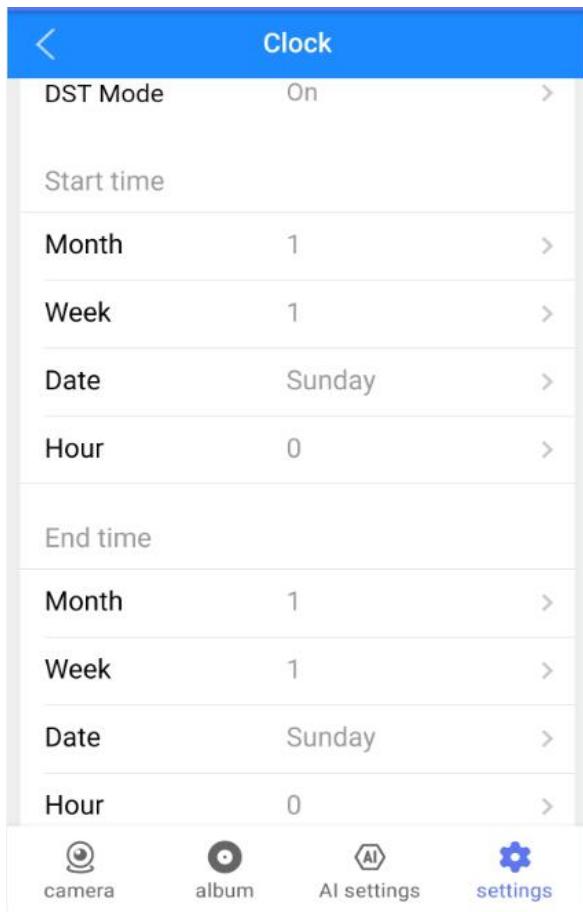


Fig.6.5 DST

Date Type: Use for selecting the date type, year - month - day, day - month - year, month - day - year.

Time Sync: Time synchronize method: Off / GPS / NTP, default is GPS.

Time zone: Please set according to your time zone, default is GMT + 08.

DST mode: Daylight Saving Time, set according to your local regulation.

Set the **Month**, **Week**, **Days**, **specific hour**, then set the offset time (according to your local regulation, normally it's 60 minutes). (**Fig.6.5**)

6.2.4 Power

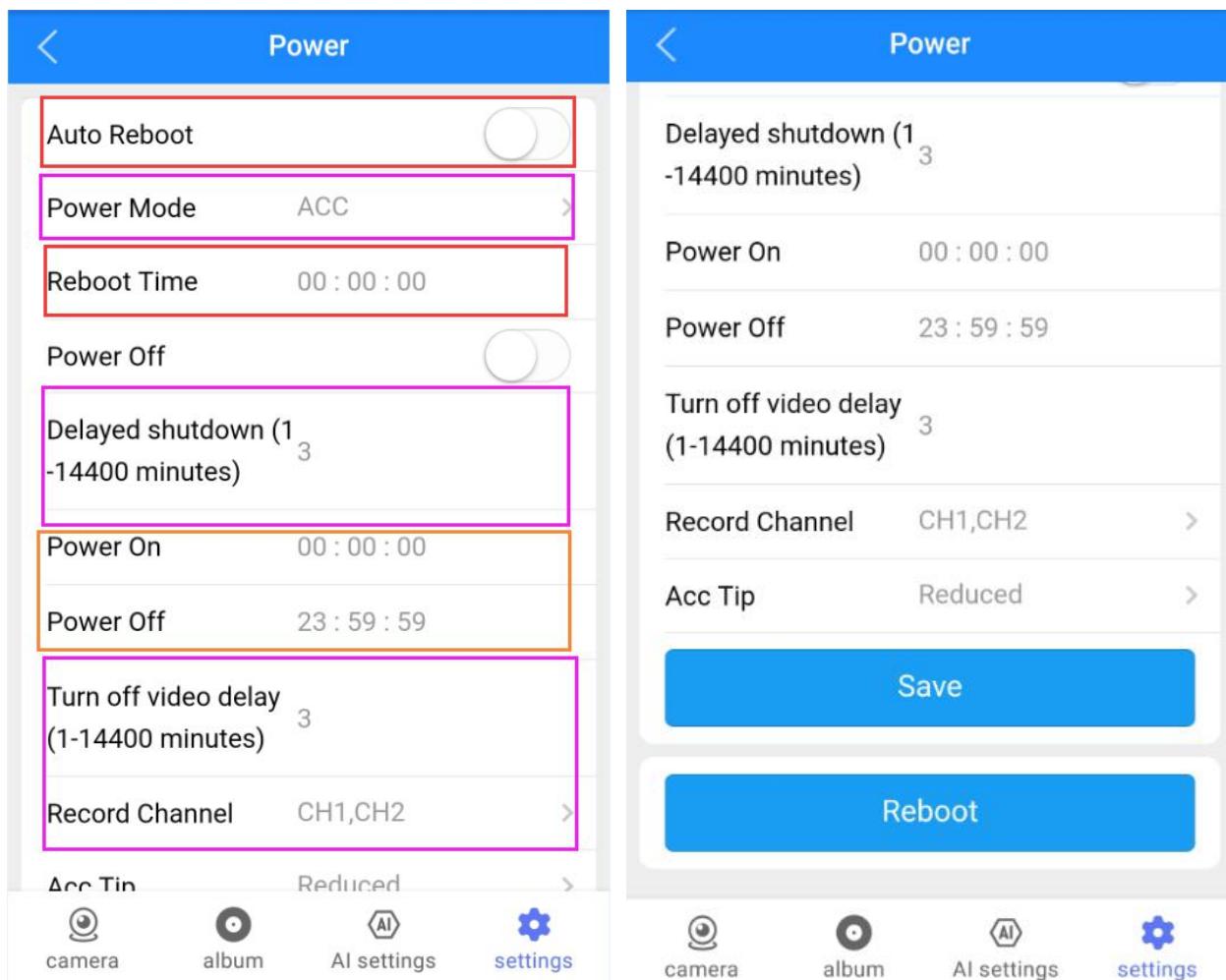


Fig.6.6 Power

Auto Reboot: ON/OFF. The default is OFF. If set ON, the device will reboot at the **Reboot Time**.

If the device will be running 24 hours a day, recommend to set it ON, then set a Reboot time.

Power Mode: ACC mode / timing mode.

Timing mode: On/Off according to the user's time setting.

ACC mode: On/Off by the vehicle's ignition status.

A. Timing mode

Power on: Setup power on time under timing mode.

Power off: Setup power off time under timing mode.

B. ACC mode

Delay shutdown: MDVR will continue working after the ignition is off, then turn off after **Delay-off** time you set.

14400 minutes means the device will keep working 10 days. Please set a reasonable parameter for it.

Turn off video delay: When ignition is off, set the record delay time, it will continue recording during this period. **This time can't exceed the Delay shutdown time.**

Record Channel: Check the channels for delay recording.

6.2.5 Sleep Configuration

It supports device wake-up by Timing mode, I/O or G-sensor. It will turn on and run for some minutes so that you can set, upload GPS or start recording.



Fig.6.7 Timing mode

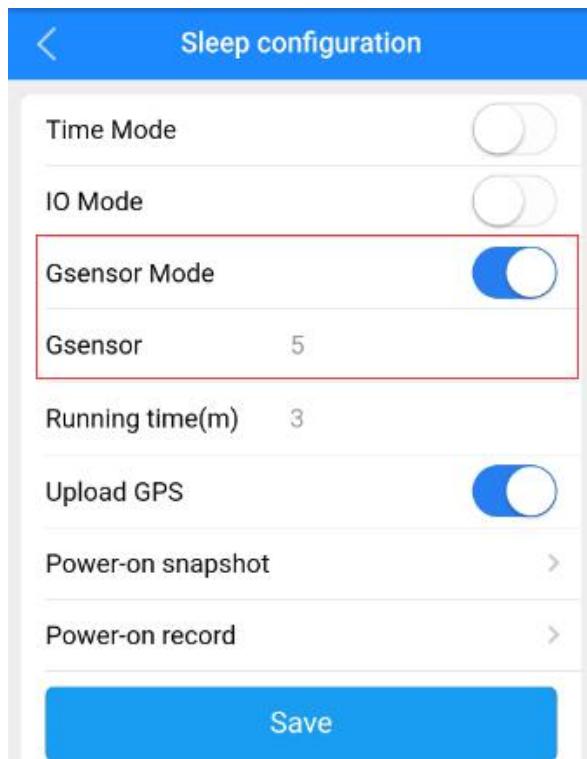


Fig.6.8 G-sensor mode

Time Mode & Timed Interval: The device will wake up by the set interval. ([Fig.6.7](#))

I/O mode: The device will wake up by the trigger of I/O, select I/O channel. ([Fig.6.9](#))

G-sensor mode & G-sensor: The device will wake up by the impact/hit value of G-sensor. ([Fig.6.8](#))

Running Time: The working time after device is wake-up. Unit is minute, the minimum is 1 minute.

Upload GPS: Turn it on/off to upload GPS information.

Power-on snapshot: Select the channels to take snapshots.

Power-on Record: Select the channels to record video.

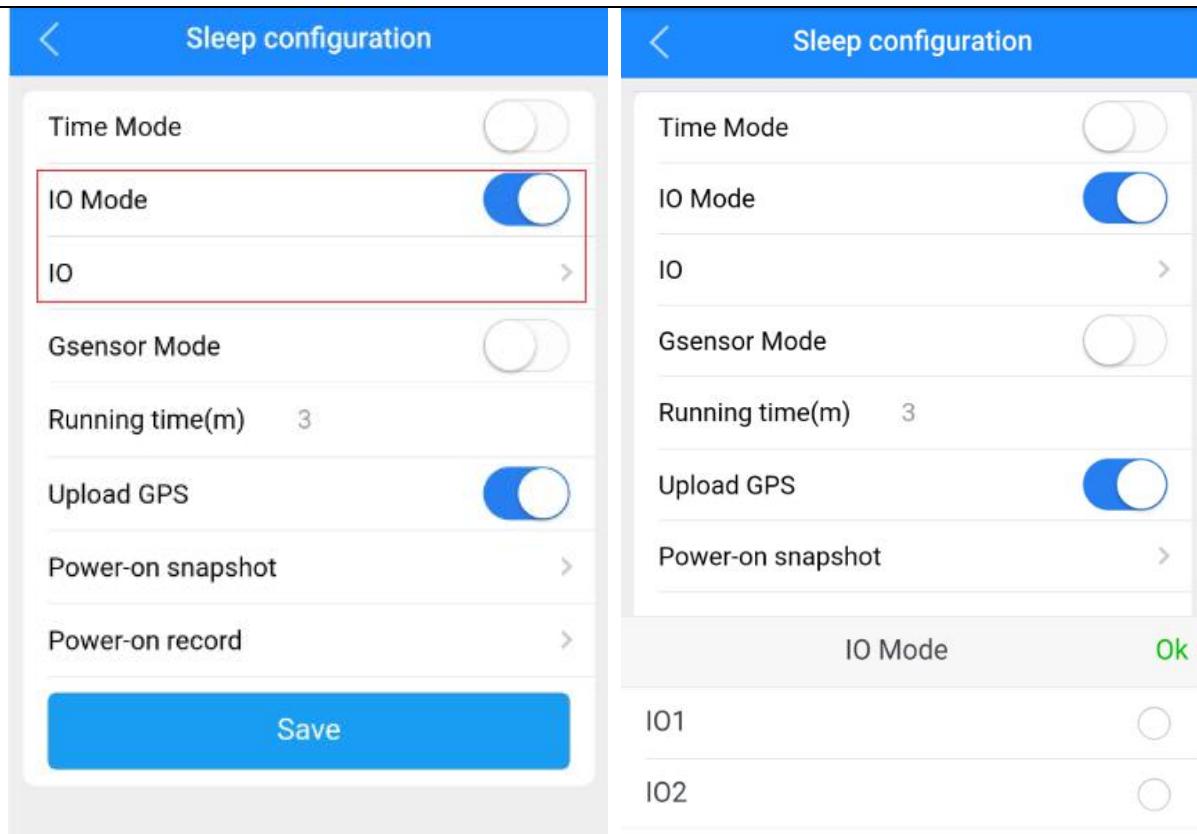


Fig.6.9 I/O mode

6.2.6 Disk

Encrypt Key: For safety concern, we can set a password (Key) for the dedicated channels. When played by Howen video player, user will be asked to input the password.

Encryption Channel: Select the channel to encrypt.

Once memory card is installed, Disk Name will be shown, click to enter.

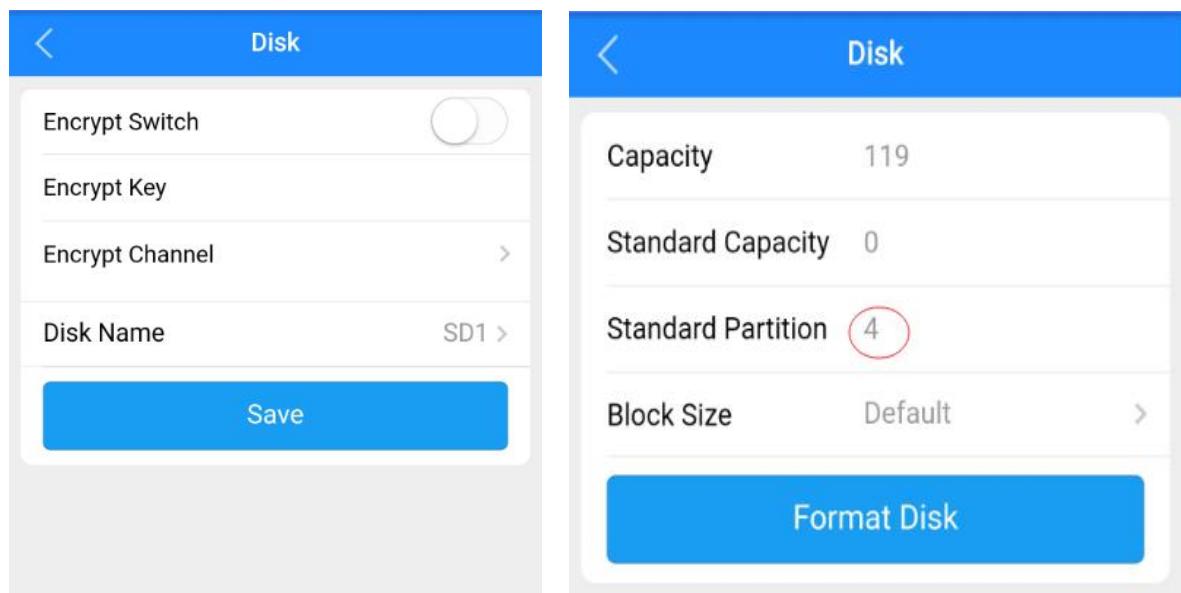


Fig.6.10 Disk format

It will show the whole capacity of storage, the unit is **GB**. To set it as standard, you can set via **Standard Partition**.

For Dash camera, AI video/picture will be saved in the Standard part of TF card, so need to set a proper space for it. The default setting is 4GB. (Tips: For 128GB storage, spare 4~8GB as Standard, then click format).

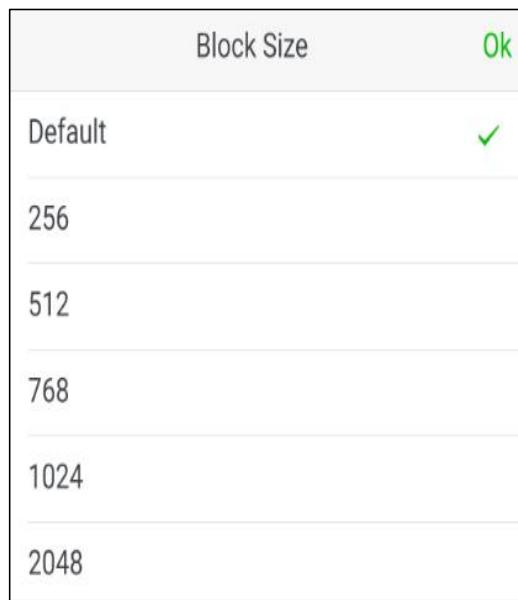


Fig.6.11 Block size

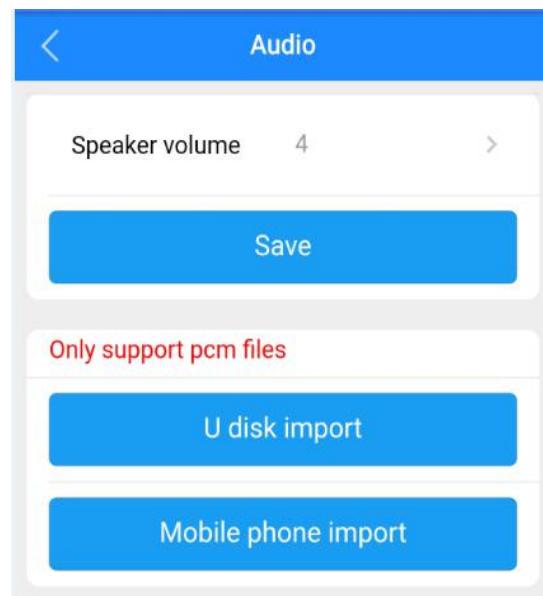


Fig.6.12 Audio

6.2.7 Audio

Speaker Volume: 0-5 scale, 5 is Max.

Import: Import customized voice alert to device.

6.2.8 Serial

Here is to set external devices connecting to the device via RS232, e.g. fuel sensor, temp sensor, IC card reader etc.

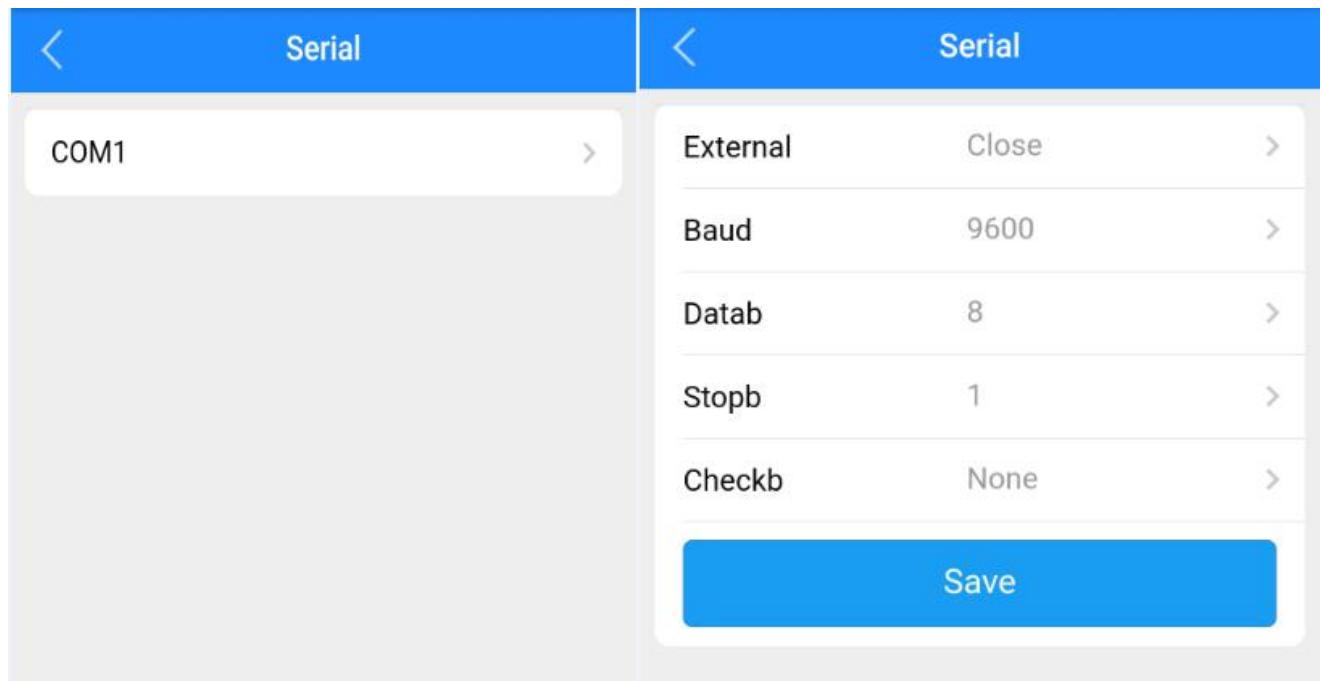


Fig.6.13 Serial

6.2.9 Parameter

Mileage: You could set an initial value or restore it to the original set-up. (Fig.6.14)

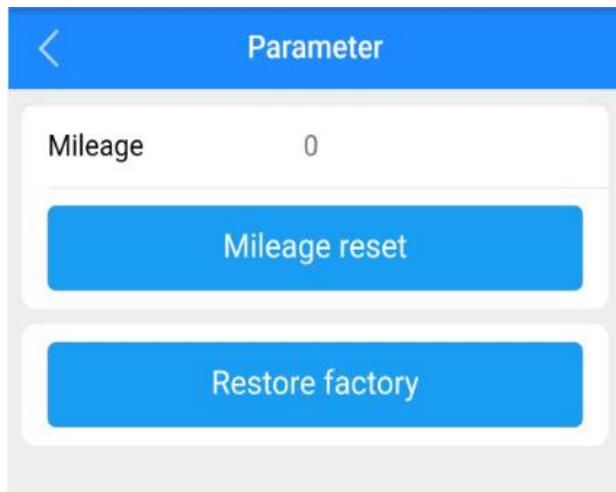


Fig.6.14 Mileage



Fig.6.15 Parameter import/export

- 1. Parameters Export:** Export all the configuration of the current device to a USB drive.
- 2. Parameters import:** Import configuration saved in the USB drive to the current device.

Tips:

Once finished parameters set-up on one device, you could export it, then import the set parameters to other devices via this feature. Once done importing, the device will reboot automatically.

6.3 Video

Recording setup including: **General, M-stream, S-stream, Time recording, Storage, OSD set.**

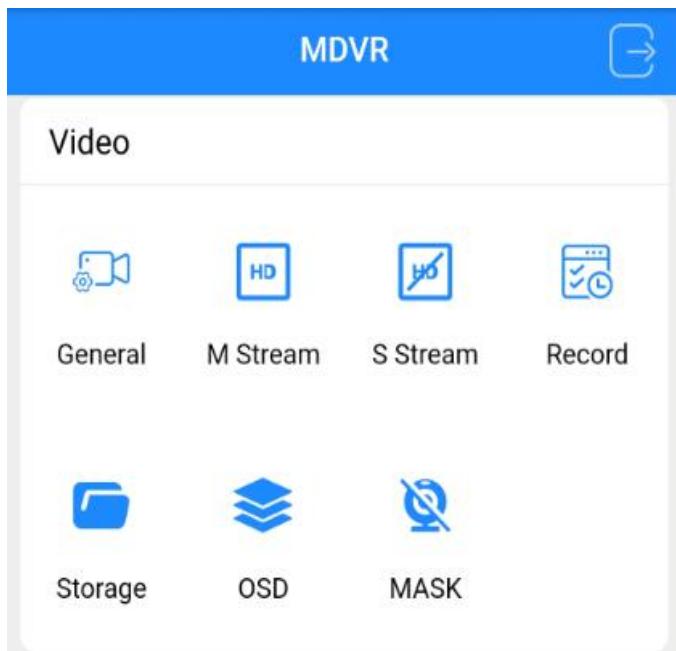


Fig.6.16 Video

6.3.1 General

TV System: PAL / NTSC, default is PAL. If it is not the local format, the image will turn black and white. Select PAL/NTSC according to your local video format. Device will automatically reboot after changing it.

Record Mode: Auto / time recording / alarm recording, default is Auto.

Auto: it will record all the time.

Time recording: Need set the time in [Timed Record].

Alarm: Only do recording when alarm is triggered, should set in the Alarm menu first.

Camera Type: The device will detect camera type automatically, no need to set manually.

Encoding format: Support H.264 and H.265.



Fig.6.17 General

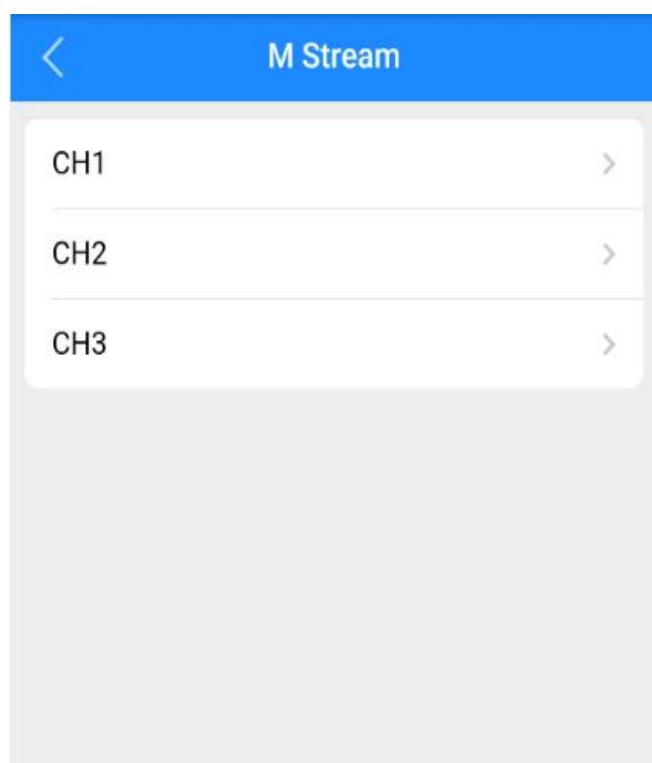


Fig.6.18 Main stream

6.3.2 Main-stream

Main-stream is for recording video locally. (Fig.6.18)

Enable: On / Off. You could disable all unused channels.

Resolution: Select: CIF/D1 / HD1/ 720P/1080P.

CIF:352*288, HD1:352*576, D1:704*576, 720P:1280*720, 1080P: 1920*1080.

Frame rate: Frames Per Second (FPS). NTSC: 30FPS, PAL: 25FPS.

Quality: Video quality, 1-8 scale. 1 refers to the best video quality, also will consume more storage space.

Audio: ON means the audio will be saved with video together, device has one built-in microphone.

Mirror: Set the image to mirror or flip.

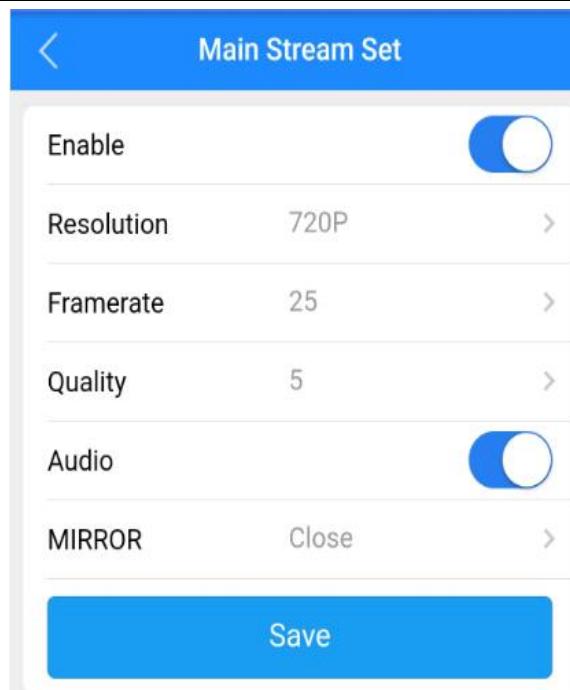


Fig.6.19 Main stream set

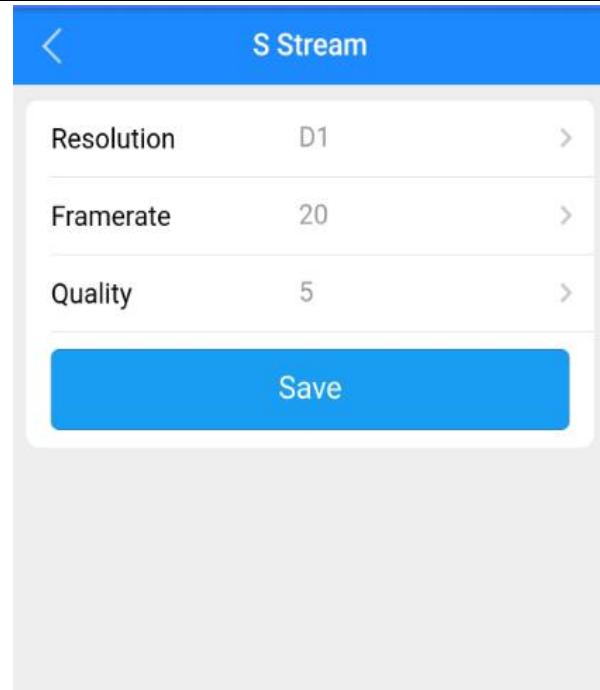


Fig.6.20 Sub-stream

6.3.3 Sub-stream

Sub-stream is used for live streaming. Higher the resolution, the frame rate, better the video quality, video will be clearer, but will consume more cellular data.

Notice: QUA, 1 refers to the best video quality. To save cellular data, suggest to set it as 5 or 6.

6.3.4 Storage

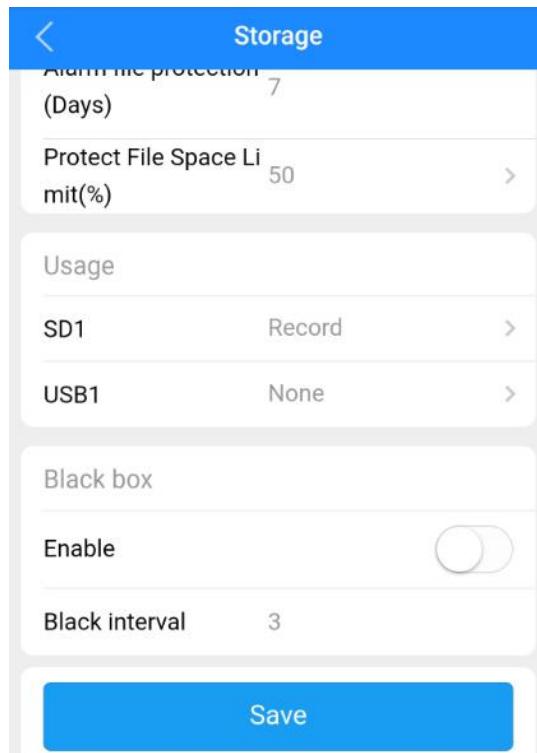
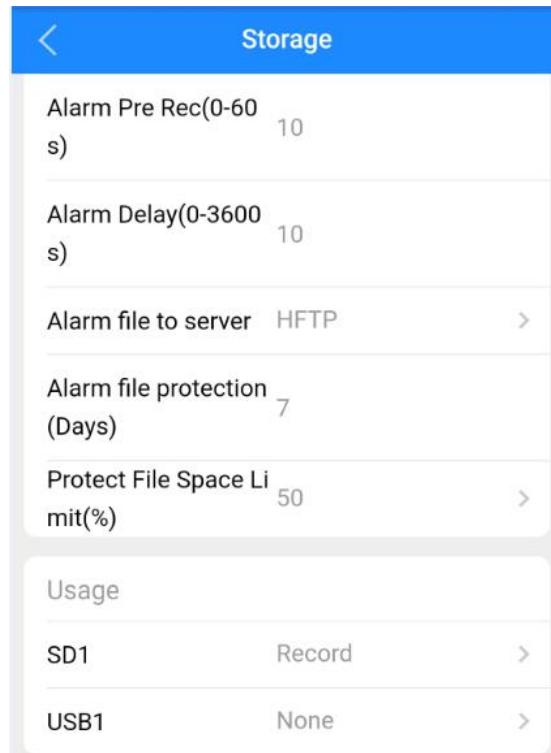


Fig.6.21 Storage

SD1 refers to TF memory card, USB means USB drive after you connect it.

Alarm Previous Rec: Set the previous recording time before the alarm happens. 0 to 60 seconds for selection.

Alarm delay: Set the delay recording time after the alarm happened. 0 to 3600 seconds for selection.

Alarm file to server: Alarm file upload to FTP or HFTP.

Alarm file protection: Set the alarm file protection days, those files will NOT be deleted during the setting days. Set a proper value for it.

Attention: To upload files to FTP server:

1. Must set protection days.

2. Set a reasonable space for Standard Partition in [6.2.6 Disk](#).

Usage: No / Record

No: No recording;

Record: Recording the file in this disk.

6.4 Alarm

Alarm menu contains I/O, Speed, Geo-fence switch, G-sensor, voltage, ADAS and DMS setting.

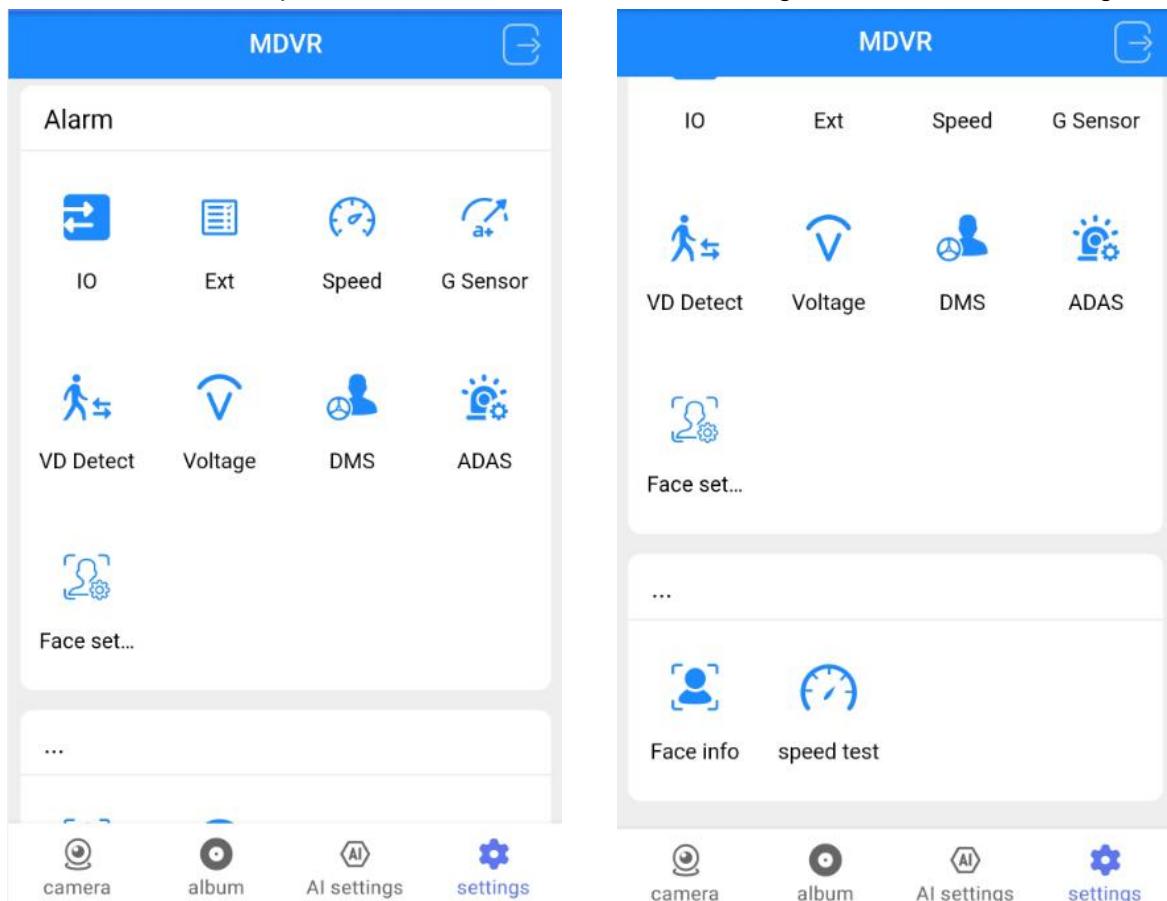


Fig.6.22 Alarm menu

6.4.1 I/O

For I/O, which is used to connect Panic button, right-turn and left-turn signal lights.

IN3 default setting is for panic button.

Enable: Off, Panic, L-turn, R-turn, Talk, Reverse and so on.

Level: High. High means it will trigger sensor alarm when the sensor voltage input is changed from 0 to a high voltage [DC 4V - 12V].

Attention: To set it as **Low**, need to connect external resistors, please contact Howen first if you need.

Delay: The alarm duration time after triggering source is deactivated.

Wait: The delayed response for alarm triggering could be set to prevent false alarm.

Record: On / Off, to dictate once the alarm is triggered, whether the device starts to record or not.

Buzzer & Premode: N/A.

RecLockChn: Select the channels which you need alarm files to be saved in TF card as well (REC-Alarm folder).

RecUploadChn: The files will be uploaded to VSS(HFTP) or FTP server. Just select the channel you need to upload.

AlarmOutput: Sensor output 1, which could connect a buzzer or LED.

SnapPicChn: Select the channel for snapshot. Snapshots will be saved in TF card, and upload to FTP server.

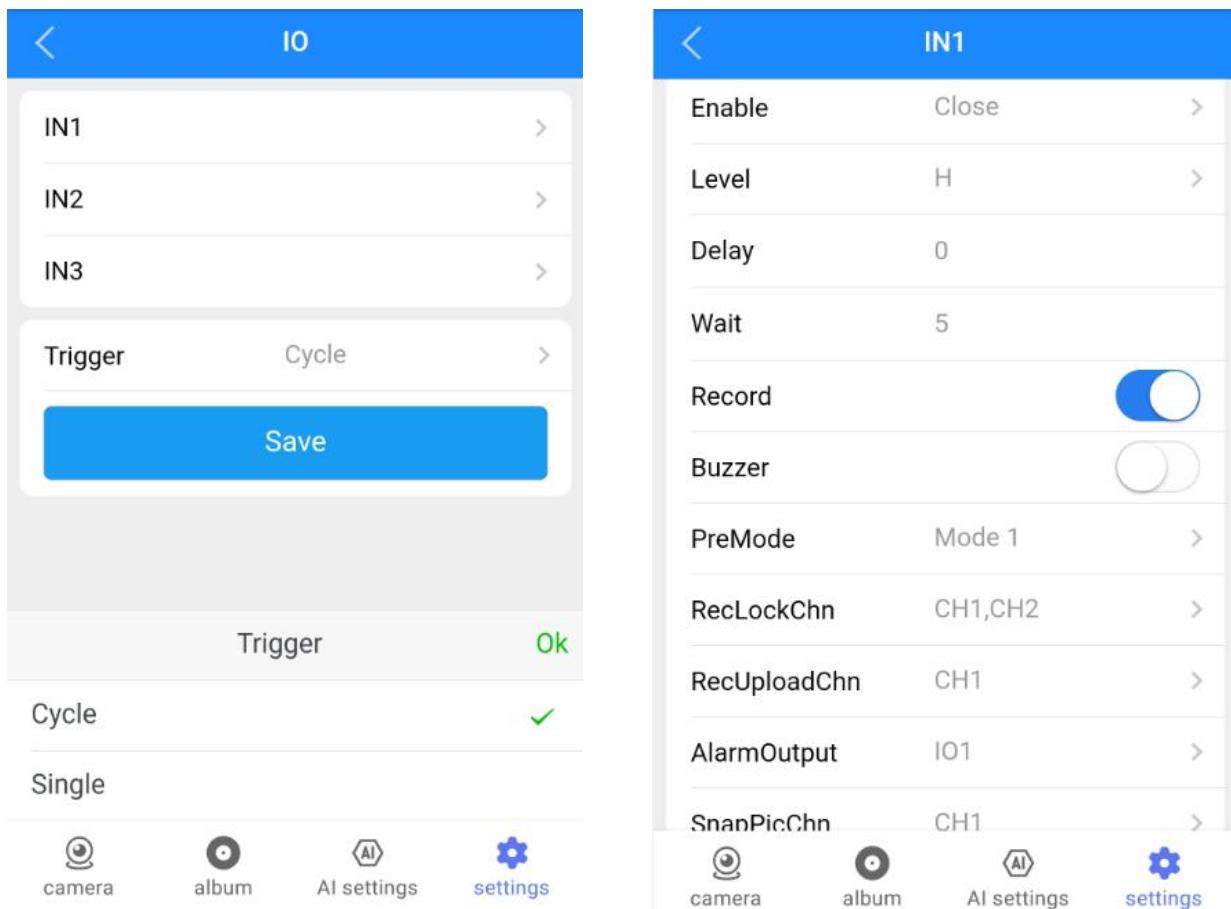


Fig.6.23 I/O setting

Tips: If you don't need to receive the repeat alerts when I/O been triggered, select **Single** mode.

6.4.2 External alarm

This function is for Geofence, if you have issued Geofence to the device from VSS platform, please enable it.

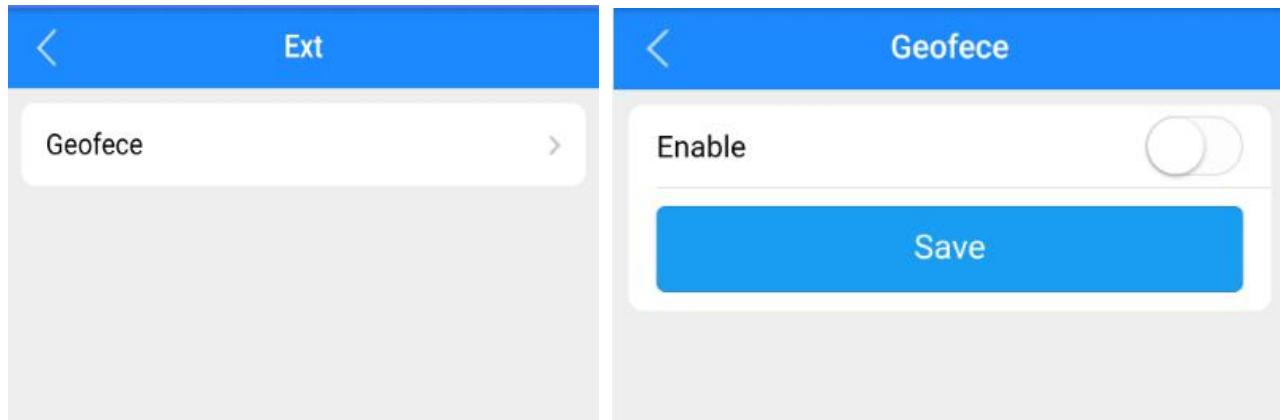


Fig.6.24 Geofence

6.4.3 Speed

It contains Parking (parking time setting), L-Warn (low-speed warning), L-ALM (low-speed alarm), H-Warn (high-speed warning), H-ALM (high-speed alarm), Spd Up (speed up), Spd Down (speed down), spd Idle (idle status).

Enable: On / Off.

Limit: Set a threshold speed value.

Delay: Linkage's duration time. During this period, it will not respond to new alarms if there is continuous triggering.

Wait: The delayed response for false triggering could be set to prevent false alarm.

Record: Turn on/off recording function.

Buzzer & Premode: N/A.

RecLockChn: Select the channels which you need alarm files to be saved in TF card as well (REC-Alarm folder).

RecUploadChn: The files will be uploaded to server. Just select the channels you need to upload.

AlarmOutput: Sensor output 1, which could connect the buzzer or LED.

SnapPicChn: Select the channel for snapshot. Snapshots will be saved in TF card, and upload to server.

Speed Source: GPS[default] / Vehicle / Mix.

Pulse: Not available.

Speed unit: KM/H, Mile/H or NM/H.

Set the parameters referring to the following text. When the set rules were violated, alarm will be triggered.

For example, L-ALM (low-speed alarm), set it ON and set Limit value and other parameters. If vehicle's speed is lower than the Limit value, alert will be triggered.

For Parking alert, first set a Limit value, if vehicle's speed is lower than this value, parking alert will be triggered.

For speed up/down, first set a Limit value, then the system will constantly compare vehicle's instant speed with its speed on the previous second. When the value difference is more than the set Limit, HA or HB alarm will be triggered.

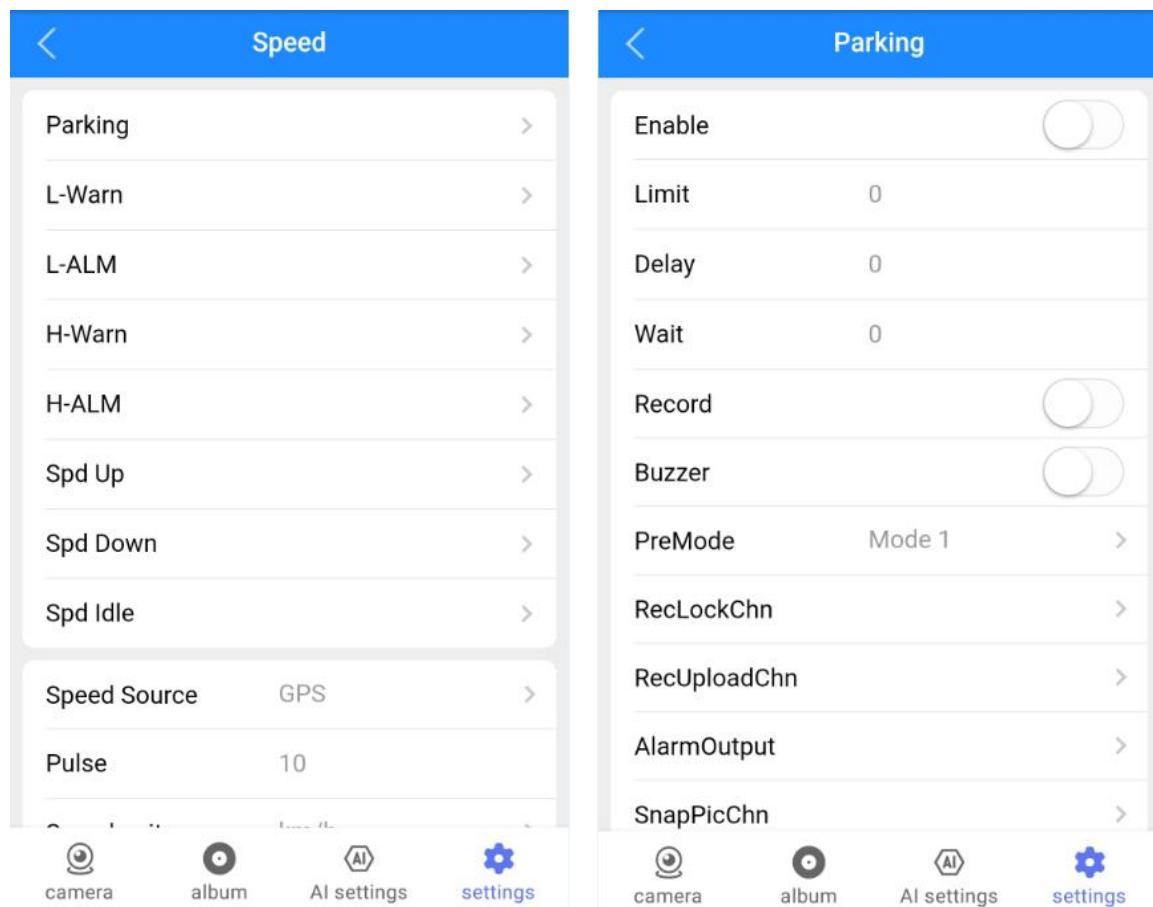


Fig.6.25 Speed

6.4.4 G-sensor

The acceleration alarm contains X, Y, Z, impact, tilt, HC (Hard Cornering), HA (Harsh Acceleration), HB (Harsh Brake).

Enable: Select ON/OFF.

Limit: Set a limit value.

Wait: The delayed response for false triggering could be set to prevent false alarm.

Delay: Linkage's duration time. During this period, it will not respond to new alarms if there is continuous triggering.

Record: Turn on/off recording function.

Install: LED-Front or LED back. Select according to your installation direction.

Adjust: *After you install the device, press this button to restore all parameters to zero.*

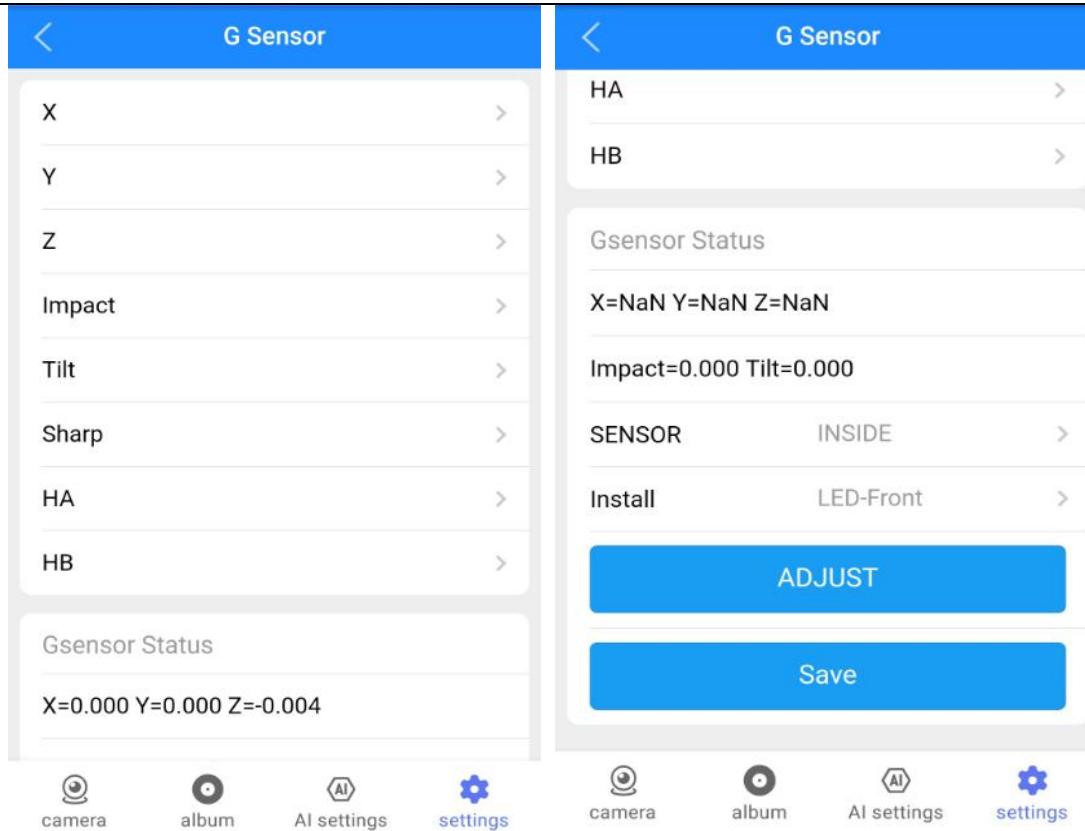


Fig.6.26 G-sensor

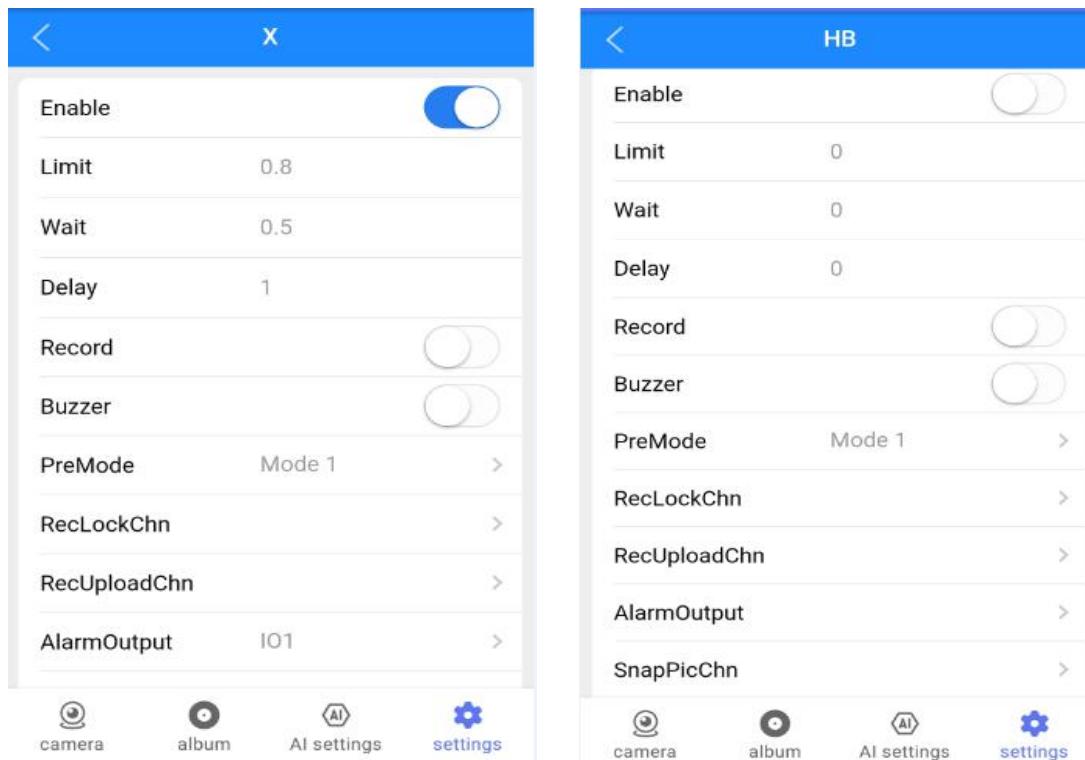


Fig.6.27 X and HB

6.4.5 Voltage

When the operation voltage is low, alarm will be triggered. Device's operational voltage is 8-36V (Lower the voltage, higher the current will be drawn), 12V/24V input is recommended. You could set a Limit value first.

Enable: On/Off.

Limit: Set a threshold of voltage.

Delay: The alarm duration time after triggering source is deactivated, it is used for setting linkage's duration time.

Wait: The delayed response for false triggering could be set to prevent false alarm.

Record: Turn on/off recording function.

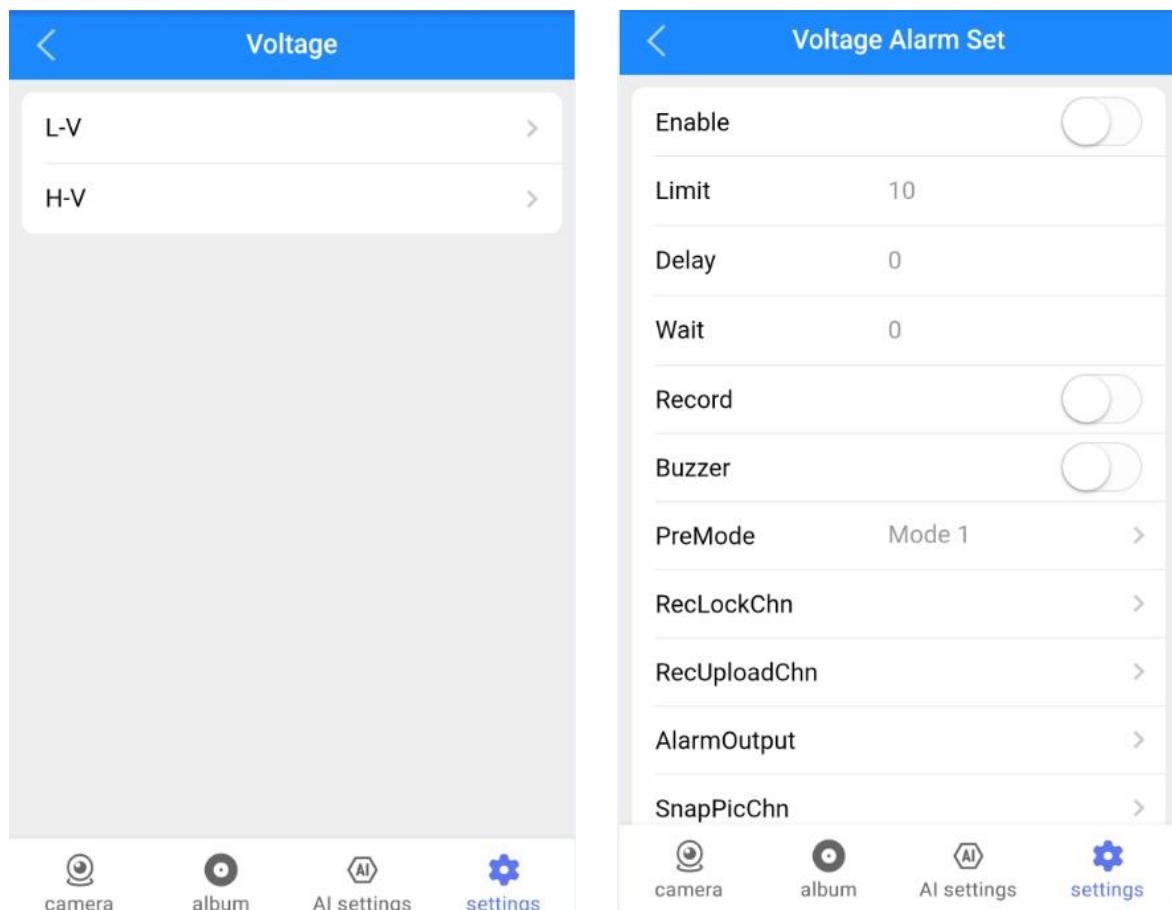


Fig.6.28 Voltage

6.4.5 DMS

DMS supports Smoking, Phone call, Eye closing, Yawning, Distracted driving (look right and left), Absent (No driver), Infrared sunglasses and Camera Coverage detection.

Camera Chn: CH3 for connecting DMS.

Enable: Turn on/off this alert.

Sensitivity: High, Middle (default), Low.

Speed: You could set the alert speed threshold (km/H or m/H, switch in Speed menu)

Pre-Recording: Recording time (Unit: Second) before alert, could set it as 1 to 5 seconds.

TriggerHold: The threshold time to trigger this alert.

Interval: The trigger interval (Unit: Second) for the following same alert.

Alarm Linkage items

Record: Record video for this alert.

Buzzer: Turn on /off alert announcement of speaker.

RecLockChn: Select the channels which you need alarm files to be saved in TF card as well (REC-Alarm folder).

RecUploadChn: The files will be uploaded to server. Just select the channels you need to upload.

SnapPicChn: Select the channel for snapshot. Snapshots will be saved in TF card, and upload to server.

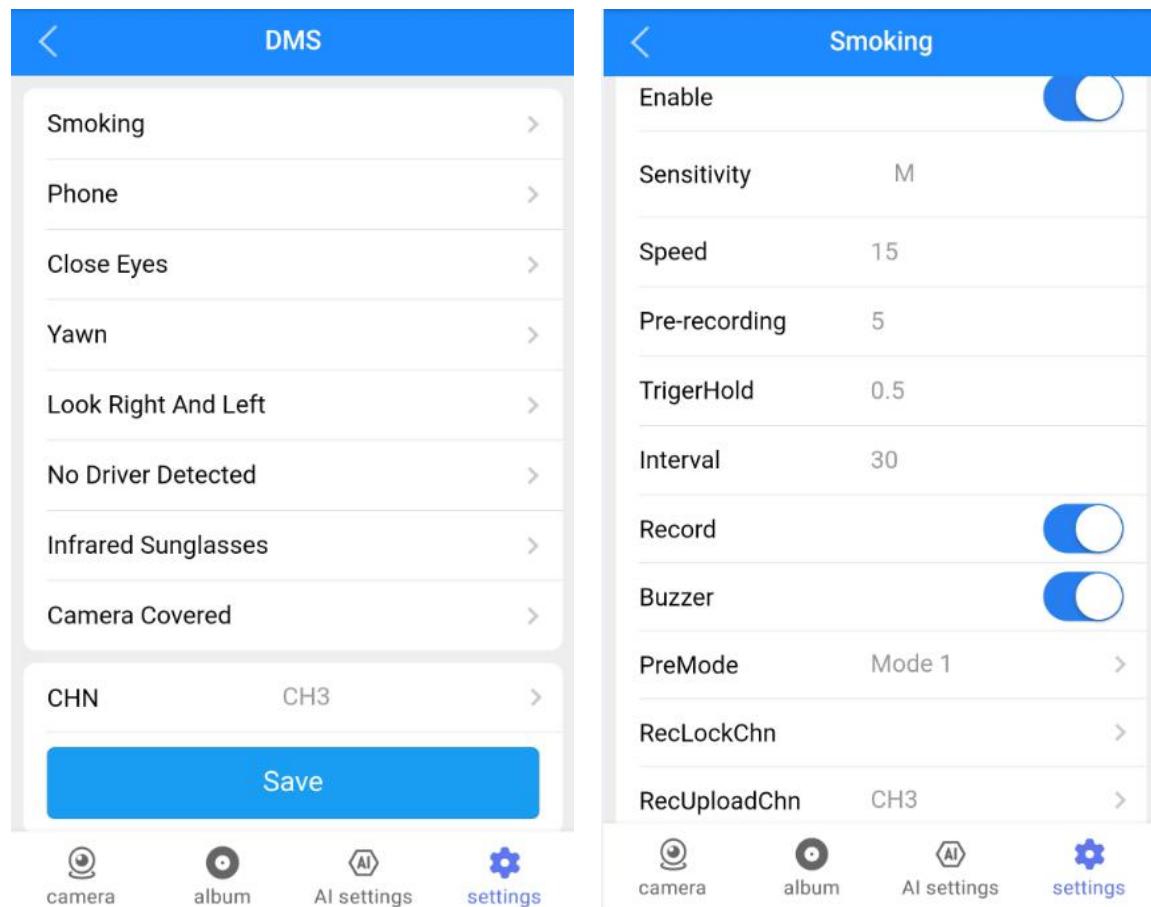


Fig.6.29 DMS

Just tick the corresponding channel for **RecUploadChn** and **SnapPicChn**, then AI video/picture will be uploaded to VSS.

6.4.6 ADAS

ADAS supports FCW (Forward Collision Warning), HMW (Headway Monitoring Warning), LDW (Lane Departure Warning) and PCW (Pedestrian Collision Warning).

Camera Chn: CH2 for ADAS.

Enable: Turn on/off this alert.

Speed: The alert triggering speed (km/H or MPH, switch in **Speed** menu), which you can configure it.

Pre-Recording: Recording time (Unit: Second) before alert, could set it as 1 to 5 seconds.

Interval: The trigger interval (Unit: Second) for the following same alert.

Sensitivity: High, Middle (default), Low.

Alarm Linkage items

Record: Record video for this alert.

Buzzer: Turn on /off alert announcement of speaker.

RecLockChn: Select the channels which you need alarm files to be saved in TF card as well (REC-Alarm folder).

RecUploadChn: The files will be uploaded to server. Just select the channels you need to upload.

SnapPicChn: Select the channel for snapshot. Snapshots will be saved in TF card, and upload to server.

Just tick the corresponding channel for **RecUploadChn** and **SnapPicChn**, then AI video/picture will be uploaded to VSS.

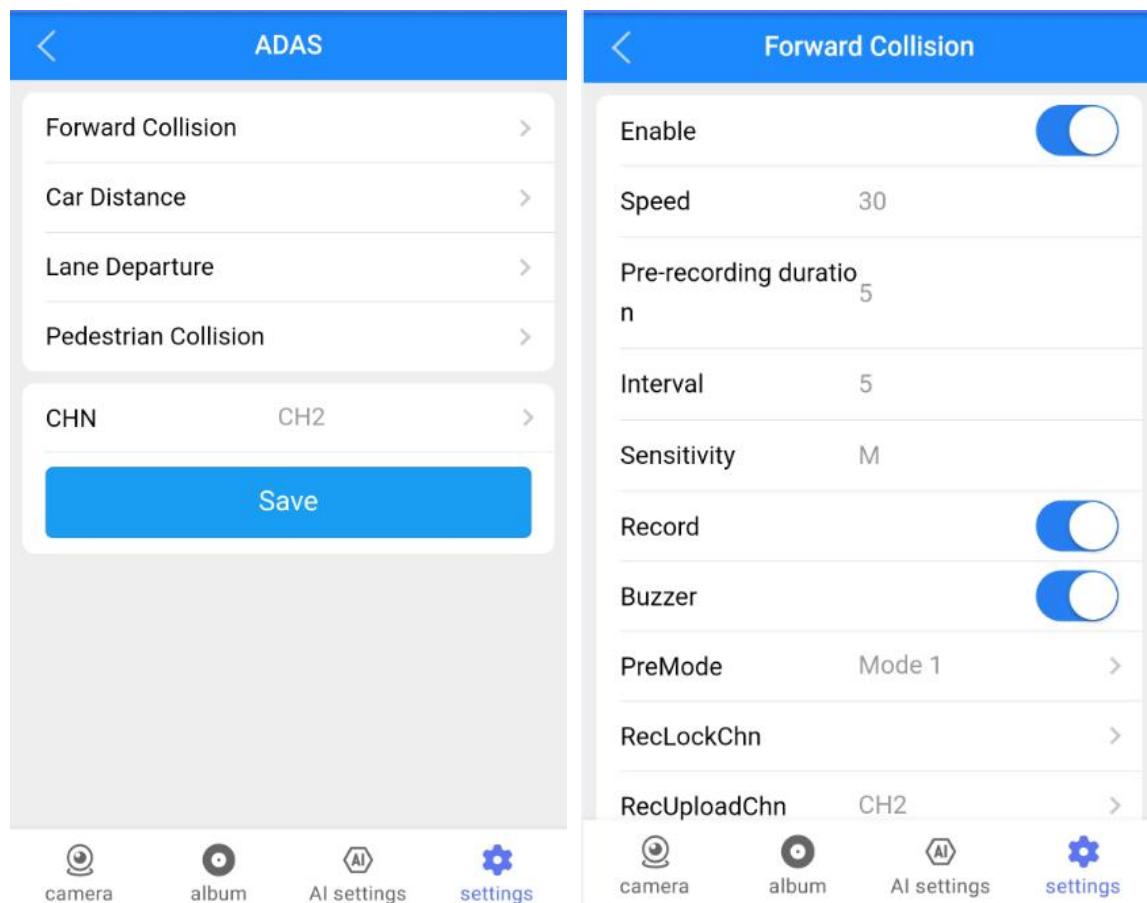


Fig.6.30 ADAS

6.4.7 Face Setting

Driver Back / Change, the system will detect and analyze if there is a different driver operating the vehicle.

Auth successful /Failed: It will detect if the driver is an authenticated personnel, if not, an alert will be sent to platform.

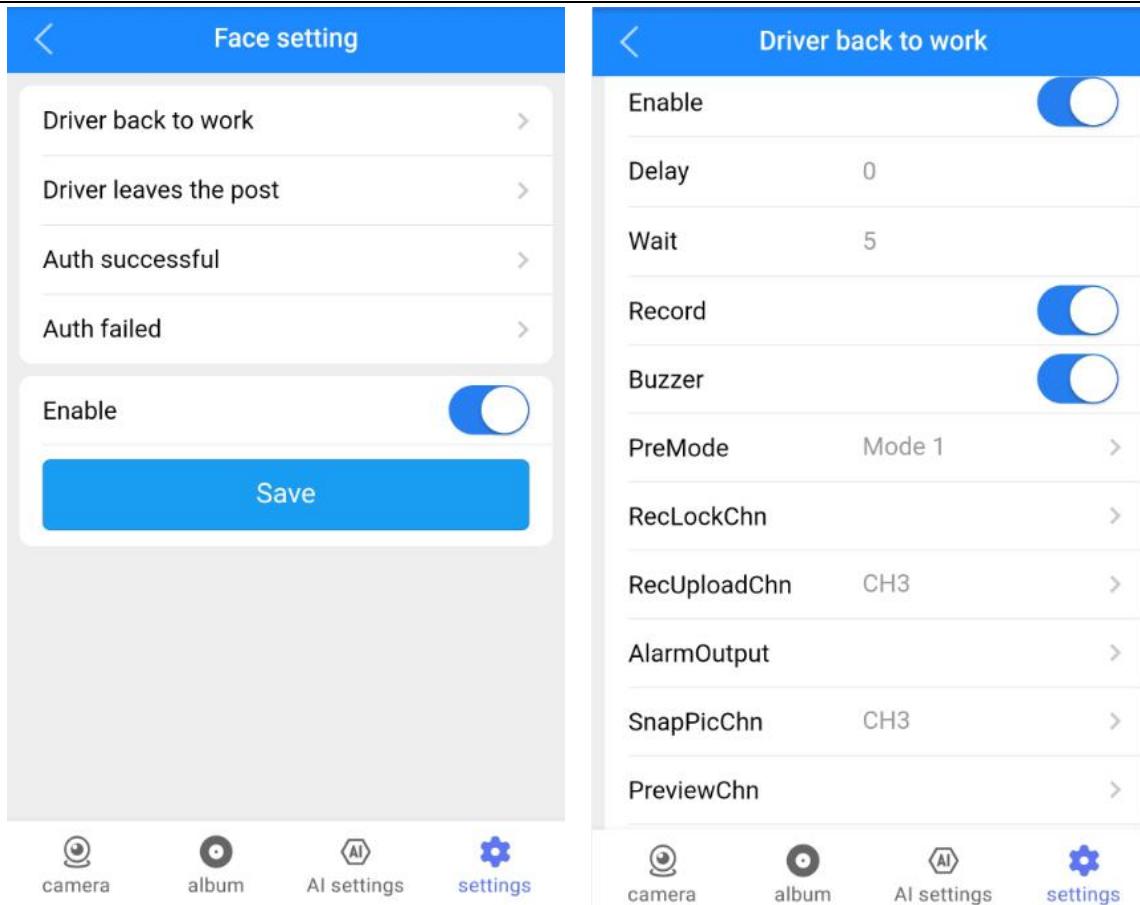


Fig.6.31 Face setting

6.4.8 Other

Face info: Which is used for searching the driver info which has been saved in the device.

Speed test:

For office testing (demo mode), need to input a speed value for it. The unit same as you set in [6.4.3 Speed](#) menu.

Input a demo speed which should be larger than ADAS&DMS threshold speed, then click [Start](#).

To stop it, click [end](#).

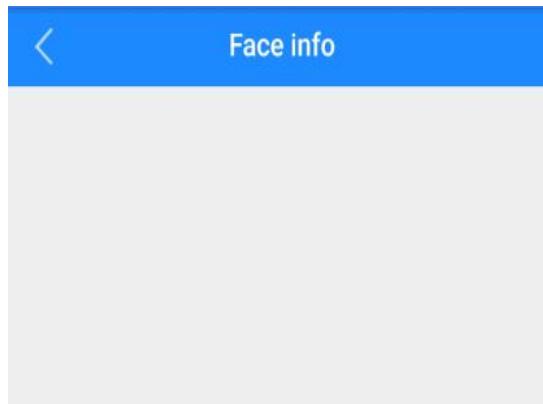


Fig.6.32 Face info

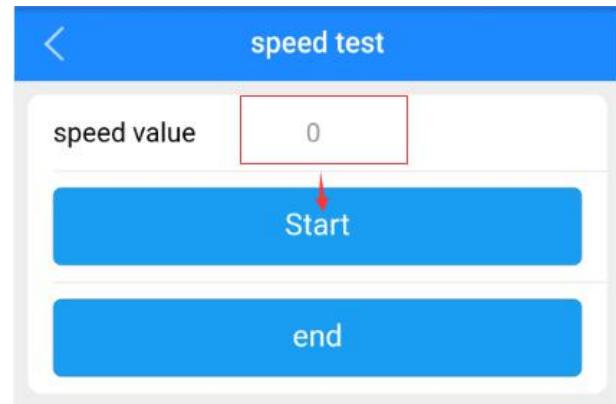


Fig.6.33 Speed test

FCC Warning Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Statement

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance of 20cm the radiator your body. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.