Installation User Manual

MC908

(4CH&8CH)

Contents

Product introduction

The device is an intelligent terminal product that combines various advanced features such as GPS/Beidou positioning monitoring, local SD card recording, 4G remote real-time video surveillance, IP voice, DMS/ADAS/BSD, and more. It seamlessly integrates real-time monitoring, production operation management, command dispatch, and other functionalities. It is a cost-effective and highly expanded device specifically developed for vehicle video surveillance and remote monitoring. It utilizes a high-speed processor, embedded Linux operating system, and incorporates state-of-the-art technologies including H.265 video compression/decompression, network technology, and GPS/BD positioning. It supports up to 8 channels of high-definition video surveillance recording and playback (with 8 channels of real-time 1080P AHD high-definition input). It also features 1 video output (1 video output, 1 VGA output). The device employs an exclusive pre-allocated car-specific file system technology to address issues such as file fragmentation caused by repeated erasures, storage system crashes, data loss, inability to locate storage, and file corruption, ensuring stable and complete data. It records vehicle driving information and supports wireless data uploads. When used with central software, it enables central monitoring, remote management, and playback analysis based on a centralized database, with alarm integration capabilities. The product features a sleek design, strong vibration resistance, flexible and convenient installation, powerful functionality, and high reliability.

Notice

In order to ensure the safe use of the device and extend the service life of the equipment, the user should fully consider the following factors during installation:

1) After receiving the product, please check the packages of the device and accessories in time. If you find any parts are missing, please contact the dealer in time.

2) When installing and operating the equipment, comply with the specifications of relevant electronic products and the requirements of vehicles and other connected equipment.

3) The installation and construction shall comply with the specifications, which can refer to the relevant national or local standards.

4) Please check the connected power supply voltage, which should fall within the range of 9-36V. To prevent equipment abnormalities due to voltage mismatch, it is recommended to use an operating voltage of 12V or 24V.

5) The hard disk-type terminal should be installed and secured horizontally, ensuring that the inclination angle does not exceed 45 degrees. This precaution is necessary to avoid compromising the terminal's shock absorption capability and reducing the hard disk's lifespan.

6) To receive best positioning signal, ensure that the receiving surface of the GPS antenna faces upward without any metal objects above it. The antenna's bottom should be kept flat, with an inclination angle not exceeding 30 degrees. It is recommended to position the GPS antenna at the junction of the dashboard and windshield for optimal performance.

7) The MDVR device should operate within the temperature and humidity range specified by the technical indicators.

8) The external wires of the devices should have sufficient intervals and the protection of the jacket flame-retardant tube to ensure that the wires will not cause electric leakage due to wear or aging.

Product Specifications

ITEM		PARAMETER	
		4CH	8CH
OS	Language	English	
	OS	Linux	
	Operation interface	Graphic menu operation interface (OSD menu), character superposition function	
	GUI	Support mouse and remote control operation to set system parameters	
Processor and CPU	CPU	ARM Cortex CA9 Duel Core@1.4GHz	
	Memory	1GB DDR3	
Video System	Video input	4 CH CVBS , 1.0Vp-p, 75Ω	8 CH CVBS , 1.0Vp-p, 75Ω
		Camera resolution : 1080P、720P、D1	
	Video output	1 CH VGA , 1CH CVBS, 1.0Vp-p, 75Ω, Support full screen and 4 / 9 channel segmentation	
	Video standard	PAL Standard、NTSC Standard	
	Video compression format	H.264/H.265 Compressed format	
	Preview function	Single CH、4 / 9 picture mosaic Preview , Support manual / event triggered full screen display function	
	Video resolution	Support 1080P、720P、D1、HD1、 CIF option, The total encoding resource is 1080p 150 frames	
	Video quality	Level 1 to 8, best level 1, lowest level 8	
	Video rate	PAL: 100 frame/s , CCIR625 line,50 NTSC: 120frame/s, CCIR525 line,60; CIF: 256Kbps ~ 1.5Mbps, Multi level image quality HD1: 600Kbps ~ 2.5Mbps, Multi level image quality D1: 800Kbps ~ 3Mbps, Multi level image quality 720P: 1Mbps-4Mbps, Multi level image quality 1080P: 1Mbps~8Mbps, Multi level image quality	
	Video recording mode	Default automatic recording, support ignition recording, alarm recording, etc	
Audio System	Audio input	4-channel analog audio	8-channel analog audio
	Audio output	1 channel, with built-in power amplifier. Internal and external options available.	
	Compressed format	G. 711a compression format	
	Recording mode	Simultaneous recording of audio and video	

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Alarm input		6-CH input	
Alarm output		1-way output, linkage sound and light alarm, oil and power cut, etc.	
communication interface		1*USB interface	
		1*RS232 interface, which can expand to connect the ID card reader, oil sensor, etc.	
		1*RS485 interface,expand to connect PTZ	
		1*10M/100M Adaptive network interface , Support TCP / IP, FTP, DDNS network protocol.	
Extension interface		1 voice intercom interface, which can be connected to microphone.	
		Multi function control panel can be connected (support 12V power-supply and RS232 communication)	
Wireless transmission		Built in 4G wireless transmission function, TDD-LTE, FDD-LTE	
		WiFi: wireless 802.11b/g/n communication module	
GPS location		Support built-in GPS / BDS module	
G sensor		Built in 3-axis acceleration and 3-axis gyroscope sensor	
HDD	HDD	Built in hard disk with SATA interface, supporting up to 4T	
	SD card	1 large capacity SD card video, maximum support 512G, can support synchronous sub-stream recording	
	Upgrade mode	Support U disk upgrade, SD card upgrade, FTP remote automatic upgrade	
	Storage mode	Proprietary bare disk storage mode	
	USB	Front USB interface, U disk can be used to upgrade backup data; Support USB mouse	
	SIM slot	1 SIM slot	
Video replay	Video search	Video data can be searched by recording time, recording method, etc.	
	Replay	Support 4-way synchronous playback, support 2, 4, 8, 16x fast forward or backward	Support 8-way synchronous playback, support 2, 4, 8, 16x fast forward or backward

AI Functions	ADAS	Lane departure, Pedestrian detection, vehicle distance detection, etc.
	DSM	Fatigue driving test, smoking, and unsafe driving habit detection.
	BSD	Left blind spot detection, right blind spot detection
Power supply and power consumption	Power management	Adaptive wide power input, with overload, under voltage, short circuit, reverse connection and other protection functions; Support timing on-off, delay shutdown function.
	input voltage	DC:+9V ~ +36V
	output voltage	+12V@1A，+5V@1A
	power consumption	Normal working state < 8W (exclude external sensor)
work environment		-10℃ to +70℃
		20% to 80%
security management		Two level management of user password and administrator password
Platform access		JT/T808-2011, JT/T808-2019
		JT/T1076-2016, JT/T1078-2016
Appearance size		195mm*183mm*60mm
Net weight		1.6kg

Definition of accessories and interfaces

4.1 Inspection of products and accessories

Before using this product, please check whether the product is damaged and whether the accessories are complete. If there is any missing, please contact your supplier. The lists of products and accessories are as follows:

Table 1. Product accessories

No	ITEMS	PHOTOS	Quantity
1	Main Device		1
2	Power cable		1
3	24pin I/O Extension Cable		1
4	WIFI antenna		1
5	4G antenna		1
6	DS/GPS antenna		1
7	KEY		1
8	Remote control		1
9	Mounting screw		1
10	AV-IN(4-core)		1

11	AV-IN(6-core)		2
12	AV-OUT(4-core)		1

4.2 Panel introduction
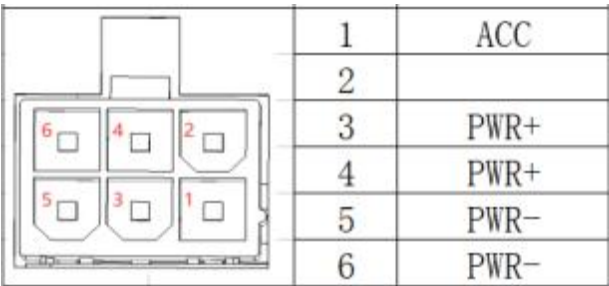
Chart 1. Front

Chart 1. Front

4.3. Interface definition

This paper mainly introduces the definition of power supply, I / O, audio and video
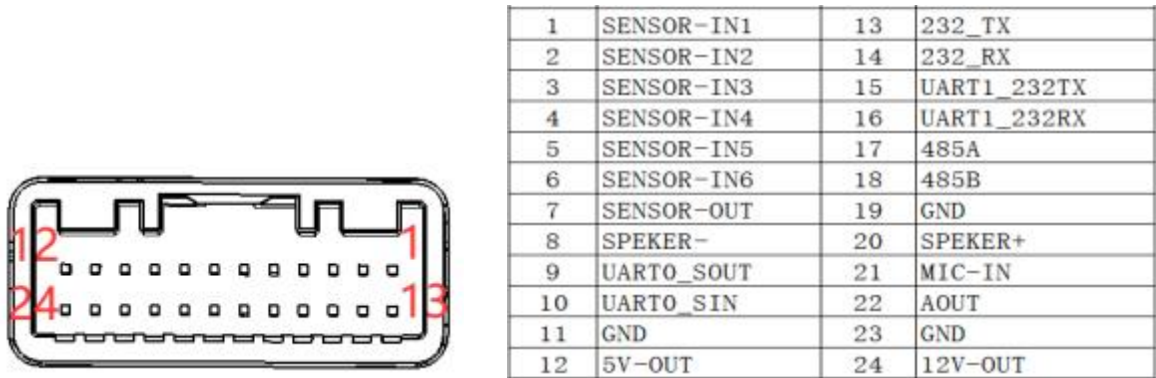
interfaces, as follows:
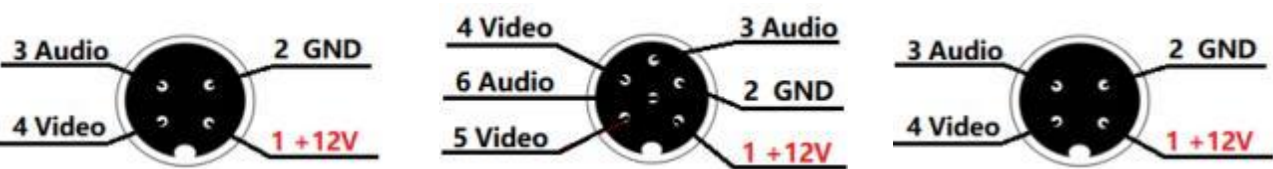
1) Definition of power interface

1	ACC
2	
3	PWR+
4	PWR+
5	PWR−
6	PWR−

Chat 3. Definition of power interface

2) I / O interface definitions

1	SENSOR−IN1	13	232_TX
2	SENSOR−IN2	14	232_RX
3	SENSOR−IN3	15	UART1_232TX
4	SENSOR−IN4	16	UART1_232RX
5	SENSOR−IN5	17	485A
6	SENSOR−IN6	18	485B
7	SENSOR−OUT	19	GND
8	SPEKER−	20	SPEKER+
9	UART0_SOUT	21	MIC−IN
10	UART0_SIN	22	AOUT
11	GND	23	GND
12	5V−OUT	24	12V−OUT

Chat 4. 24PIN

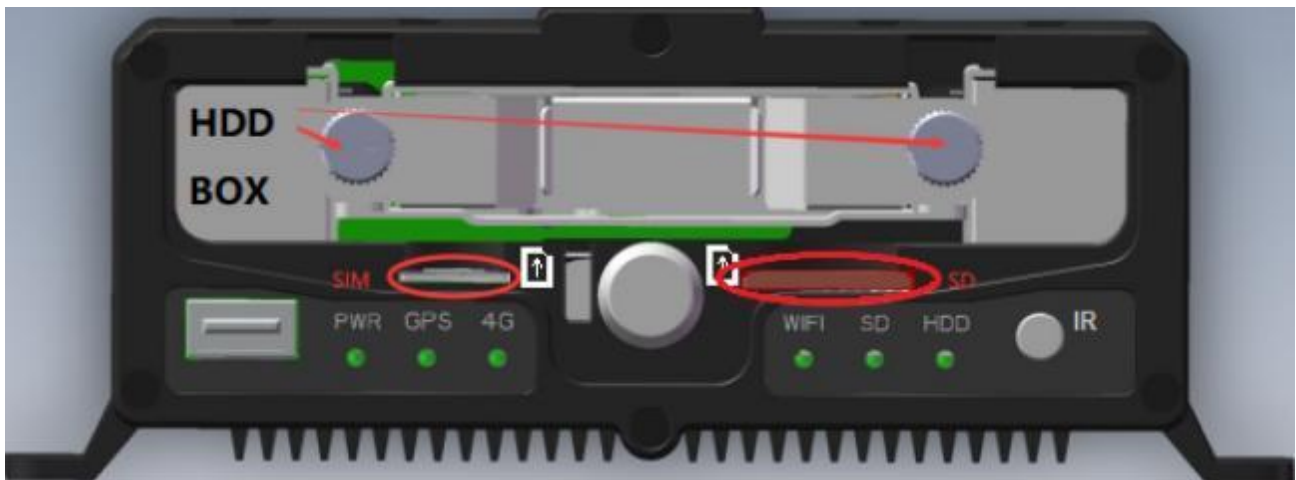## 3) Definition of audio and video interface

Av-in1 ~ 4 camera interface Av-in5 ~ 8 camera interface Av-out display interface

Installation instructions

5.1. Hard disk, SD card, SIM card

To start, use the provided key to unlock and open the front panel cover. Once opened, you will find the interface of the SIM card, hard disk box and SD card, as illustrated in the diagram below.

Hard Disk Installation: First, loosen the fixed screws located at both ends of the hard disk rack. Then, carefully pull out the hard disk box from the rack. After installing the hard disk into the box, securely fasten it with screws. Next, place the box back into the hard disk rack. Finally, tighten the fixed screws to ensure the hard disk is securely held in place.

SD card and SIM card Installation: Insert the SD card into the SD card slot with the connecting finger upward and the SIM card into the SIM card slot. Then close the hard disk cover and lock the hard disk on.

5.2. Antenna installation

Please correctly connect the 4G and GPS antennas. To achieve optimal positioning performance, the receiving surface of the GPS antenna must face upwards with no metallic objects above it. The bottom of the antenna should be flat, and its tilt angle should not exceed 30 degrees. Attempt to place the positioning antenna at the junction of the dashboard and windshield.

5.3 Debug screen connection

During the debugging process, the device requires an external display screen to assist in adjusting the camera angle and device's online parameters. The device supports two types of signal output: VGA and CVBS.

5.4. Camera Connection

First connect channel 1 to 8 audio and video cameras.

DSM / ADAS function: this function has an alarm function for fatigue driving, lane departure and other non-standard driving. When the driver is yawning, closing his eyes, smoking, playing with mobile phones, making phone calls and other non-standard driving, this function will alarm through voice and upload the alarm information.

5.5.ADAS/DMS Installation and debugging

5.5.1 DMS Installation

1) Installation position: A-pillar of the cab

2) Installation Height requirements: 10-15cm below the horizontal line of driver's eyes (the camera should have a slightly inclined upward angle to look up at the driver's eyes, which is better for fatigue detection).

3) Installation Distance requirements: within the range of 70cm-100cm from the driver's head.

4) Installation method: First drill the base of the gimbal and fix it on the A-pillar, use screws to fix the lens on the gimbal, adjust the angle to the display screen and fix the lens with the inner hexagon (the gimbal can be adjusted up, down, left, and right, and the installation will be more convenient)

5) Installation Angle requirements: adjust the camera angle through the video to make the driver's face up and down in the middle of the entire video.

5.5.2 ADAS Installation

1) Installation position: take the center of the windshield as the axis, move up and down according to different vehicle types, and generally install at the lower point (Note: do not affect the use of the wiper);

2) Installation method: there is a circle of 3M glue on the camera, which can be directly pasted on the glass after tearing off the protective film;

3) The ADAS camera is installed in the center of the windshield and fixed with 3M glue (if the windshield is very inclined, it is installed in the position a little above the center; If it is a vertical windshield, it should be installed at the position a little below the center;

4) The ADAS camera is an analog camera, which does not support hot swap. You need to connect the cable before powering on the main device. If the main device already powered, then connect it to the ADAS camera, whether it is power supply or data line power supply, then the ADAS camera will not work normally, and the display screen can not see the ADAS image; At this time,you need to restart the main device to return to normal.

5.6. Power connection

1)Connect the power to the device according to the definition of power line interface. Before connecting, please check the connected power supply voltage, which should be in the range of 9-36V, The recommended operating voltage is 12V or 24V to prevent the equipment from abnormal due to voltage mismatch.

2)The red line (positive pole) of the power supply is connected to the positive pole of the vehicle main control power supply. The black (negative) of the power supply should be connected to the negative pole or ground of the vehicle power supply. When grounding, it is necessary to ensure the good conductivity of the ground.The power supply (ignition) shall be connected to the ignition control cable, which has power only when the vehicle is running.Please connect the red line and the orange line together to the positive pole of the power supply when debugging the product with the power adapter.

5.7. Product Installation Place Requirements

The device can be embedded into the dashboard of the car through the sleeve, and it can also be fixed. Please pay attention to the following points during installation:

1) Waterproof: You should choose a location that is not suitable for water to ensure that the terminal is dry, and pay attention to keeping away from the air outlet of the air conditioner to prevent condensation from accumulating inside the terminal when the temperature difference changes.

2) Earthquake proof: the terminal cannot be suspended and installed in a position with large long-term vibration.

3) Anti interference: The terminal should be kept away from single equipment such as audio-visual and intercom in the car to prevent conduction and radiation interference.

4) The hard disk type MDVR product needs to be installed horizontally, and the inclination angle cannot be greater than 45 degrees, so as not to affect the shock absorption effect of the device and reduce the service life of the hard disk.

5.8. Product Firmware upgrade

1) First, put the upgrade software into SD card / U disk;

2) Insert SD card / U disk with upgrade file;

3) Enter the system menu "system information" to view the application program and MCU version number;

4) The upgrade version number should be different from the device current version number, and the device will be upgraded automatically if the USB flash disk or SD card is inserted;

5) Do not power off or operate the device during the upgrade.

System Main Menu Operation Instructions

6.1. Infrared remote control key description

| Button		Description	
	Main Device	This machine has no remote control shutdown function.	
	Power cable	Press login to log in to the main page (operation of main menu interface).	
	【0-9】Number key	[0-9] key: in the setting state, the number input key is used to select numbers. When previewing, keys 1, 2, 3, 4, 5, 6, 7 and 8 are used to switch to single screen of channel 1-8. When channel 8 is pressed or channel 1 is pressed up, channel 9 is reached.	
	DEC	Delete button, delete characters when editing, color adjustment value drops.	
	key number key 1,2,3	Under the monitoring screen, it is used for switching between four screens and single screen; Press the "field" key to display 4 pictures; Press the number keys 1, 2, 3 and 4 to switch to single screen CH1, CH2, CH3 and CH4 respectively. The color adjustment value increased.	
		Switch panel (only work for full video recorder Model).	
		Arrow keys, up, down, left, right, cursor direction movement keys.	
	EXIT	Return key: Return to the previous sub menu.	
		Fast forward key when playing back video files.	
	REW	Fast back key when playing back image file.	
	PAUSE/STEP	Pause playing and frame playing button when playing back the video materials (frame Playing: playing a single picture, press this button once to play the next picture), press the play image key to return to the normal playing speed.	
		Directly enter the playback interface, click this button to play when selecting a video file.	

		In the state of device information, you can go to the serial port test interface.
	INFO	In the state of device information, you can go to the automatic test interface.
	PTZ	When install PTZ camera, adjust the camera through this button.

6.2. Text input instruction

The operation could be don through remote control or USB mouse. All the parameter such as device ID, license plate number, motor No could be configured there. Here below is the instruction for your reference.

1) Operation by USB mouse.
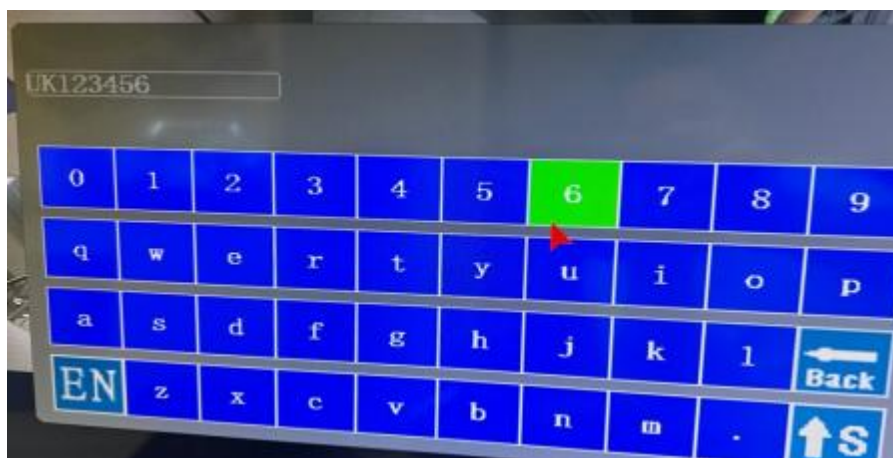
 Continuous clicking allows for toggling between different interfaces. There are three interfaces: lowercase and numeric interface, uppercase interface, and punctuation interface.

 Delete

EN: Display the current input method status.. Default value is English input method.

Right mouse button: Exit the input method interface.

2) Operation by Remote control

Step 1: Using the four arrow buttons on the remote control, move the cursor to the
the menu. And press   'OK' to the menu. After the above steps are completed, press
"exit" key to return, and then save it. For other menu text input, and so on. If you
encounter errors in the input process, please press "Dec" to delete.

6.3. User login for the configuration system

1)   When the password switch is set to "OFF": press the [login] key to directly enter the
main menu of the system.
2)   When the password switch is set to "ON": after the main device is started, press the
[login] key and put the correct password to enter the main menu of the system.

The default password of administrator is 111111 (or device number - available before
password change); The default password of the user is 000000, and only has query
permission;

After the user logs in, enter the main menu interface. The main menu includes: query,
system management, video setting, peripheral management, network setting, alarm
and peripheral, system information and equipment maintenance as shown in the
following diagram:
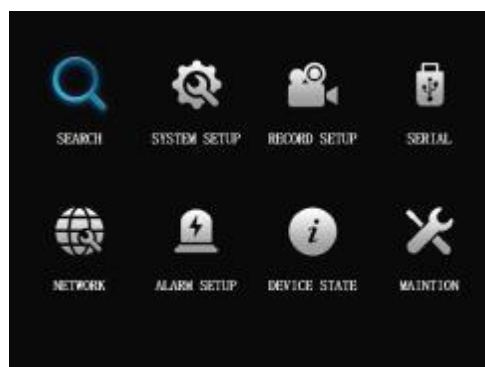
6.4. Enquiry

The query menu includes: video search, picture search and log query.

6.4.1 Video search

Search date: press the number key to enter the date, the default time is the current day.

Start time: press the number key to enter the time, and the default value is 00:00:00.

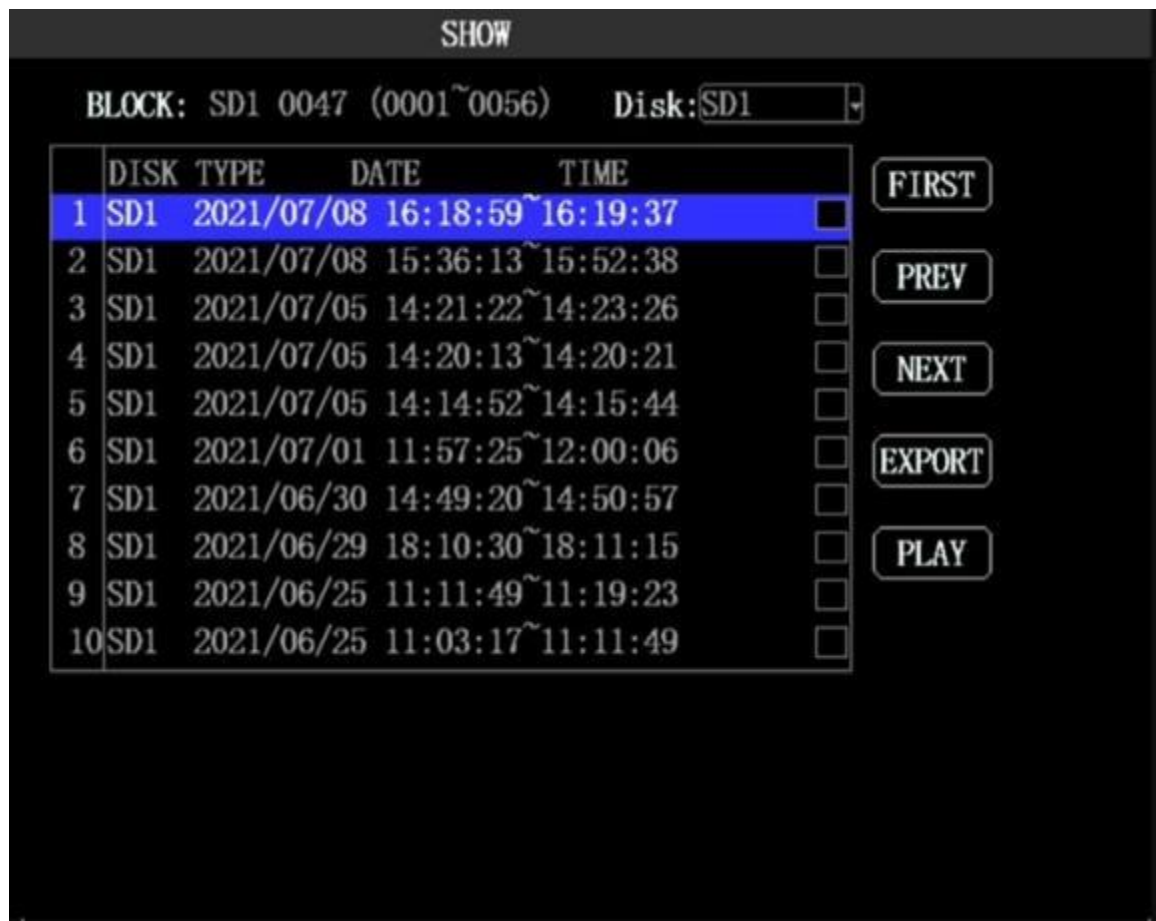End time: press the number key to enter the time, and the default value is 23:59:59.

Video type: press OK to select the query type: all videos / alarm videos. The system defaults are all videos.

Disk Type: press 'OK' button to select : MAIN, MIRROR, BACKUP'

Search: move the cursor to the "search" button and press the [OK] key to enter the search result interface.

List: search all video files on disk, not limited by search conditions

The search result interface is shown below:

```
                          SHOW

   BLOCK: SD1 0047 (0001~0056)   Disk:SD1    ▾

     DISK TYPE    DATE        TIME                     ┌─────────┐
   1 SD1  2021/07/08 16:18:59~16:19:37        ■       │  FIRST  │
   2 SD1  2021/07/08 15:36:13~15:52:38        □       └─────────┘
   3 SD1  2021/07/05 14:21:22~14:23:26        □       ┌─────────┐
   4 SD1  2021/07/05 14:20:13~14:20:21        □       │  PREV   │
   5 SD1  2021/07/05 14:14:52~14:15:44        □       └─────────┘
   6 SD1  2021/07/01 11:57:25~12:00:06        □       ┌─────────┐
   7 SD1  2021/06/30 14:49:20~14:50:57        □       │  NEXT   │
   8 SD1  2021/06/29 18:10:30~18:11:15        □       └─────────┘
   9 SD1  2021/06/25 11:11:49~11:19:23        □       ┌─────────┐
  10 SD1  2021/06/25 11:03:17~11:11:49        □       │ EXPORT  │
                                                      └─────────┘
                                                      ┌─────────┐
                                                      │  PLAY   │
                                                      └─────────┘
```

Press the direction key to select the video data to be viewed, check the file, select the playback key to start playing the video data, and press the [exit] key to return to the previous menu.

Press the direction key to select "home page", "previous page", "next page" and "last page", press the [OK] key to display the page turning information, and click export video file to U disk.

6.4.2 Log query

This menu checks device and it's operation record logs. All the operation record logs can be queried here and exported to the U disk.

6.4.3 Image search

When an alarm is generated and the capture function is selected, the captured pictures can be searched in this interface and exported to the U disk.

6.5. System settings

The system settings menu includes: registration information, menu settings, account management ,time settings, and power settings (Parameter configuration and modifications need to be saved before taking effect).

6.5.1 Registration information

6.5.1.1. Device information: Device ID: the device ID is used for cloud platform device ID. The ID number cannot be reused by multiple devices.
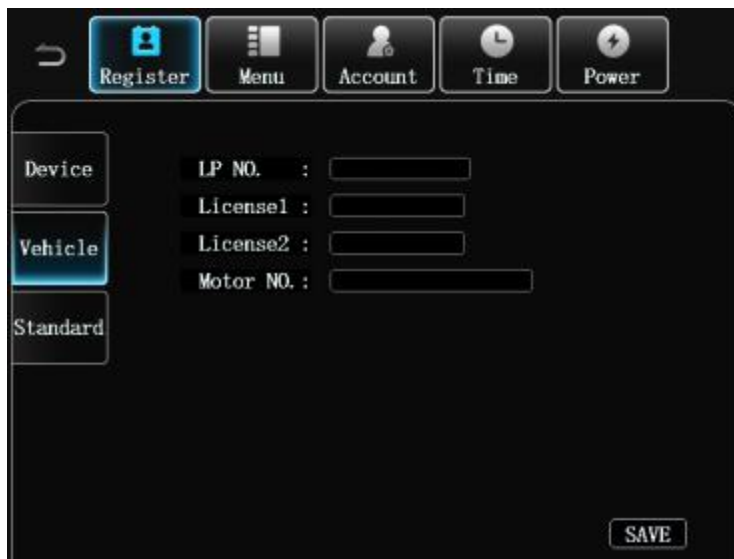

6.5.1.2 Vehicle information

Driver's license number 1 and 2: the driver's license number of the user.

License plate number: the license plate number of a vehicle.

Motor number: the number of the Motor engine.

6.5.1.3 Standard

Terminal model: fill in the terminal model

License plate color: license plate color selection

Terminal ID: fill in the ID number of the terminal.

Province ID: fill in the province ID of the vehicle.

Factory ID: fill in the Factory's ID number.

City ID: fill in the city ID of the vehicle.

License plate classification: select the type of license plate.

6.5.2 Menu settings

6.5.2.1 Display settings

GUI transparency: page transparency

Timeout exit: stay in the setting page and automatically exit to the preview interface

TTS volume: TTS volume from low to high 1-5

Volume Setting: Audio volume from low to high 1-15.

6.5.2.2 Layout: set the zoom width, height and X, y offset position information of the device menu page.

6.5.3 Account management

When the password enable is activated, both regular users and administrator users are required to use a password to log into the system's main menu.

6.5.4 System clock

This menu is used to sets parameters ,such as the device date and time. When GPS timing mode is selected, the time will be updated at the calibration time point. The default time is GM + 08:00

6.5.4.1 Basic settings(Format)：Date format: different date formats can be selected

6.5.4.2 Time synchronization (Sync)

Date: enter the date of the day by number

Time: manually input the current time according to the number

Time zone: you can set the time zone where the device is located

Time synchronization: optional timing mode: GPS, NTP, etc

6.5.4.3 Summertime (DST)

When DST is turned on, the date and time will be refreshed according to daylight saving time

6.5.5 Power management

6.5.5.1 Switch On and Off

Power mode: press the number key to select the type. The default is ignition mode, which can be set to timing mode.

Power off Delay: Main power, standby power delay shutdown ": press the number key to enter the time, the default is 1 minute, can be set to 1-14400 minutes.

Power On time: according to the digital input time, set the timing power on time (the power on time needs 1 minute)

Power off time: input the time according to the number to set the timing shutdown time.

LowPoweroff: OFF/ON. Default : OFF. when the voltage is too low from 9.0V to 11.5V, it will automatically shutdown,device will enter sleep mode.

Sleep Report: OFF/ON. Default : OFF

6.6. Record settings

The record setting menu includes: video input, video output, bitstream setting, IPC setting, timing recording and storage setting, PTZ setting.

6.6.1 Basic settings

Video format: select PAL / NTSC according to the image format of the camera, and restart automatically after saving the changed format.
Camera type: support AHD, CTI, TVI.
Audio input: support PCM, G711a

6.6.2 Video output

6.6.2.1 Preview settings :
Resolution: 720 * 576,1024 * 768,1280 * 720,1920 * 1080.
View Mode: 1-5 modes are available
View Channel: check the preview channel of the foreground. If not, it cannot be saved

6.6.2.2 Preview OSD

Set preview interface display: channel name, video status, video status and resolution, GPS, time,alarm, customized X,Y coordinates

6.6.3 Transcode settings

6.6.3.1 Main stream
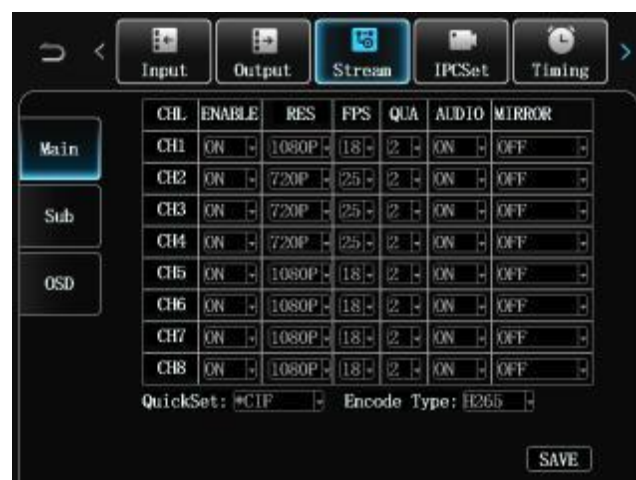
Enable: turn on or off channel recording function.

Resolution: 5 video resolutions can be selected:D1, HD1, CIF, 720P, 1080P

Frame rate: the channel video frame rate of 1-25 frames can be selected.

Picture quality: Set the video quality under different resolutions, it can be set from 1 to 8. best quality level is 8, lowest quality level 1.

Recording: set the recording sound On or Off. This only work for the recording camera.

Mirror: sets the mirror, flip, mirror flip, or off mirror functions of the video.

Shortcut: you can set the resolution of 4-channel camera at the same time.

Coding type: H264&H265 coding type can be selected

6.6.3.2 Sub stream
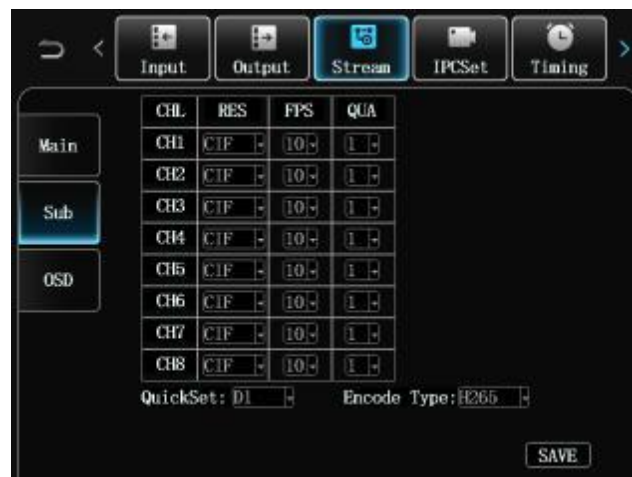
Resolution: can be set to D1, HD1, VGA, CIF

Frame rate: 1-25 frame rate can be selected.

Picture quality: set the level of picture quality, you can choose the level of 1-8.

Shortcut option: the resolution of 4-channel cameras can be set at the same time.

6.6.3.3 Information overlay

On the lens, you can open the overlay date and time, license plate + channel, GPS, user-defined text information and corresponding X, Y axis-coordinates, such as playback video channel.

6.6.4 Time recording

To set a timed recording, you need to set the time period below through the remote control, and you can set 4 time periods for recording in a day.

The time interval in a time period must be greater than 2 minutes or more. The time between segments can overlap, and the time segment setting of each day is higher than that of other days.

6.6.5 Storage setting

6.6.5.1 Video settings

Record mode: it supports 4 modes: power on mode, timing mode, alarm mode and manual mode. .

Engine-off delay recording: the recording time after the ACC is disconnected must be less than the flame-off delay time.

Engine-off recording: check the recording channel after ACC disconnection

6.6.5.2 Alarm settings

"Alarm pre-record": when the alarm is triggered, the video can be pre-recorded for 0-60 seconds.

"Alarm delay": when the alarm is disconnected, the alarm can be delayed for 0-3600

seconds.

"Alarm file upload": After the alarm is triggered, the alarm video file picture file can be uploaded or not uploaded by FTP, CMS.

"Alarm file protection": the number of protection days for alarm files can be set.

6.6.5.3 Disk usage

Users can configure the storage content for each storage card, such as recording videos, mirroring videos, backing up videos, or choosing not to use it. When a USB card is used for recording, then choose SD3. If it is set to none, it becomes USB, and can export video, picture, log and other files.
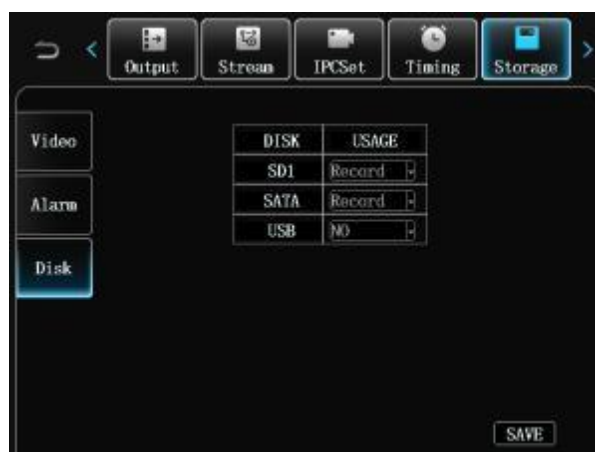
6.6.6 PTZ control

"Protocol type": select the protocol type supported by pan-tilt-zoom (PTZ) camera, and press the [OK] key to enter the modification.
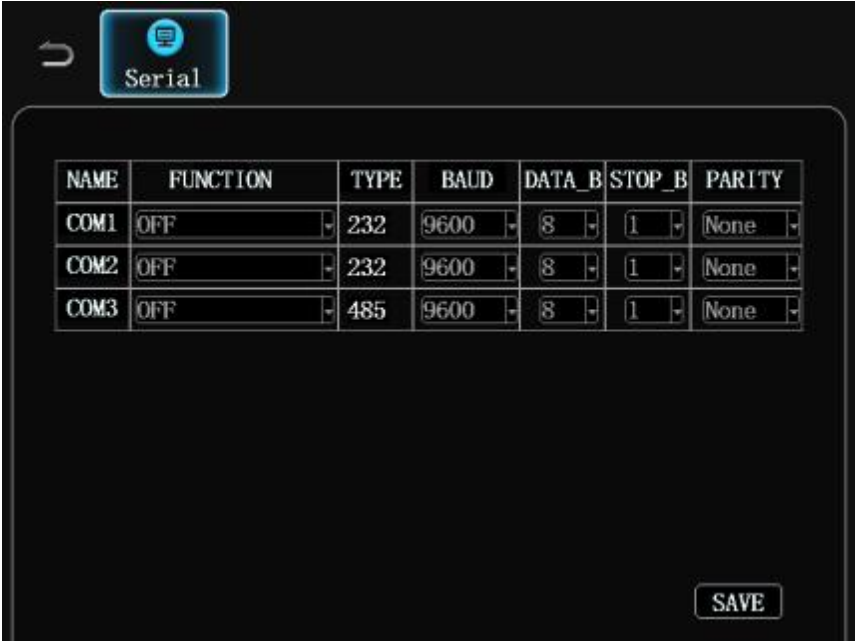
"Address code": select the address code of the ball machine (0-63), and press the number key to input and modify.

"Preset position": select the preset position code of the ball machine (0-255), and press the number key to enter and modify.

External Sensor management

7.1 Serial port setting

This is for the serial port parameter setting of the external sensor. The external sensors include: LED advertising screen, TTS voice module, oil meter, G-sensor external sensor, card reader, etc

"External sensor": select the type of device connected to the serial port, and press the [OK] key to input and modify. The types of external sensor include: PTZ, external GPS, self-defined 1, 2, 3, 4, 5, 4, TUB fuel sensor, DS fuel sensor, long-run fuel sensor, DAV fuel sensor, LLS fuel sensor, OBD, credit card machine, Xiongdi credit card machine, people statistics sensor, fatigue detection, Ruiwei ADAS, Zhonganxin ADAS, Tengshi ADAS, Tengshi DMS, Hangda TTS, TTX transparent transmission, 808 transparent transmission, third-party transparent transmission 1, third-party transparent transmission Transmission 2, third-party transparent transmission 3, THII temperature and humidity, driving recorder, Junzhu passenger flow detection, Boanying passenger flow detection, business transparent transmission 1, 2, 3, 4, card reading maine, ZWY fingerprint detection, Yixun Weight sensor, Yixun dome light, Yixun Android screen, ANNA tire pressure monitoring, R21C card reader.

Baud rate: select the baud rate of the serial port of the external device.

Data bit: select the data bit of the serial port of the external device.

Stop bit: the selection of the stop bit of the serial port.

PARITY: select the check bit of external device serial port.

Network settings

This menu includes: Center settings, Ethernet, 3G/4G settings, WiFi settings, FTP settings

8.1 Center settings

Set the IP and parameters of the reported central server
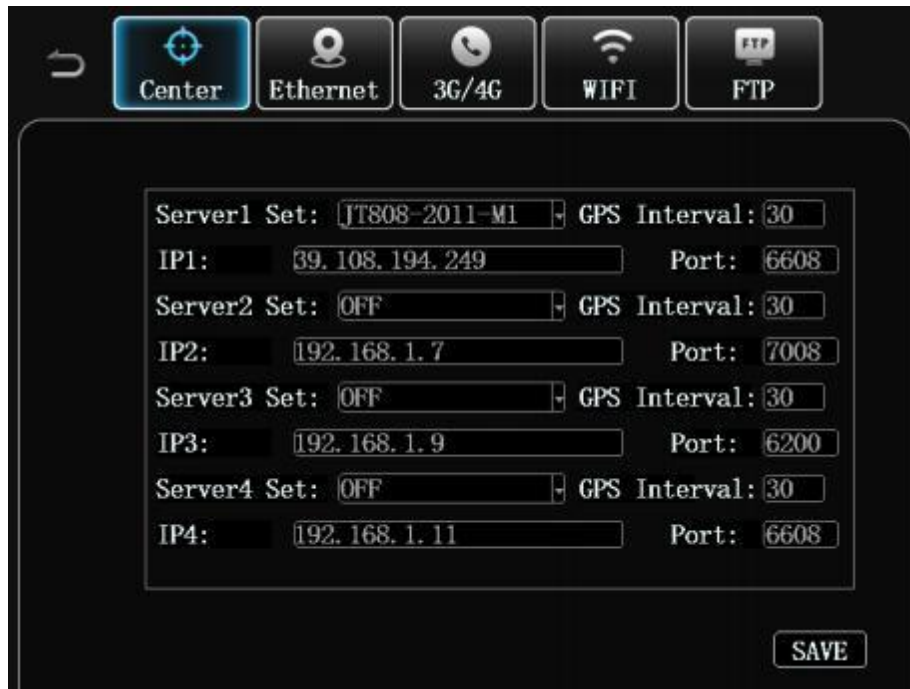
Center IP: set the IP address or domain name of the center monitoring center server. Use the [OK] key to input, then enter the keyboard interface, input the number through the remote control, move the cursor, press the [OK] key to select the corresponding letter and symbol input;

Port: set the port number for communication between 3G device and server. The port configuration must be consistent with the server configuration.

Protocol standard: JT808-2011-M1, JT808-2011-M2, OFF, CMSV6, JT808-2019-M2, JT808-2019-S1

Transparent transmission protocol: connection is achieved through the transparent transmission protocol.

Network settings

8.2 Ethernet settings

This menu is used to set up a local network connection

Set the network segment with the same IP and gateway as the connection network to connect to the local network. When there is a conflict between IP and other networks, the IP conflict will be displayed.

8.3 3G/4G Settings

This menu is used to set the configuration information of 3G / 4G network

This menu is used to set the configuration information of 3G / 4G network, which should be consistent with the SIM card used.

Enable: set to turn on or off the wireless communication function, and press the [OK] key to input.

Type: set the type of wireless module, and press [OK] key to input WCDMA, EVDO, TD-SCDMA, TD-LTE and FDD-LTE.

APN: set the data access point, use the [OK] key to input, then enter the keyboard interface, move the cursor and press the [OK] key to select the corresponding letter to input.

User name and password: set the user name and password of the wireless service, input them with the [OK] key, then enter the keyboard interface, move the cursor, and press the [OK] key to select the corresponding letter to input.

8.4 WIFI Setting

WiFi enable: set to turn WiFi function on or off, press [OK] key to input.

Encryption enable: set to turn on or off the WiFi encryption function, and press the [OK] key to input.

Authentication mode: set the authentication mode of WiFi, please select the same as WiFi router, and press OK to enter.

Encryption type: set the encryption type of WiFi, please select the same as WiFi router, and press OK to enter.

IP, mask and gateway: set the IP address, mask and gateway of WiFi module or device

SSID: set the SSID of the WiFi network, please select the same as the WiFi router, and

press the [OK] key to enter.

Password: set the WiFi network access password, please select the same as the WiFi router, and press the [OK] key to enter.

Get SSID: when WiFi is used in station mode, click Get SSID to search for nearby WiFi When accessing usb-wifi, the WiFi of usb-wifi will be used, and the parameters set by WiFi will not change. After disconnecting usb-wifi, the original mode will be restored.

8.5 FTP Setting

FTP settings: you can set the IP address of the FTP server, and the alarm files and photos of the device can be uploaded by the setting IP, user name, password and port of the FTP server. Remote upgrade and parameter setting also need the help of FTP function.

IP address: FTP server address.

Port: FTP server port.

User name and password: the user name and password set by FTP server

Audio and video: select the file type to upload audio and video, audio, audio and video and audio.

WI: select the current network type.

Alarms and peripherals

This menu includes IO alarm, speed alarm, attitude alarm, motion detection, voltage alarm,AI alarm and position alarm.

9.1 IO alarm

The enable, alarm level, delay time, anti shake time and alarm linkage setting of each alarm input can be set.

Enable: whether to turn on the alarm function and select the alarm type
Level: select alarm trigger level, high level alarm and low level alarm
Delay: when the alarm is triggered, whether it is necessary to extend the recording time can be set to delay recording. Press the [OK] key to input the modification.
Wait: when the alarm is triggered, it can alarm after the set wait time to prevent false alarm. Press [OK] to input the modification.

9.2 Speed alarm

You can set the speed of the vehicle (overspeed, low speed) and illegal driving behavior alarm. When the speed exceeds the threshold, the speed alarm will be triggered.

9.2.1 Speed setting
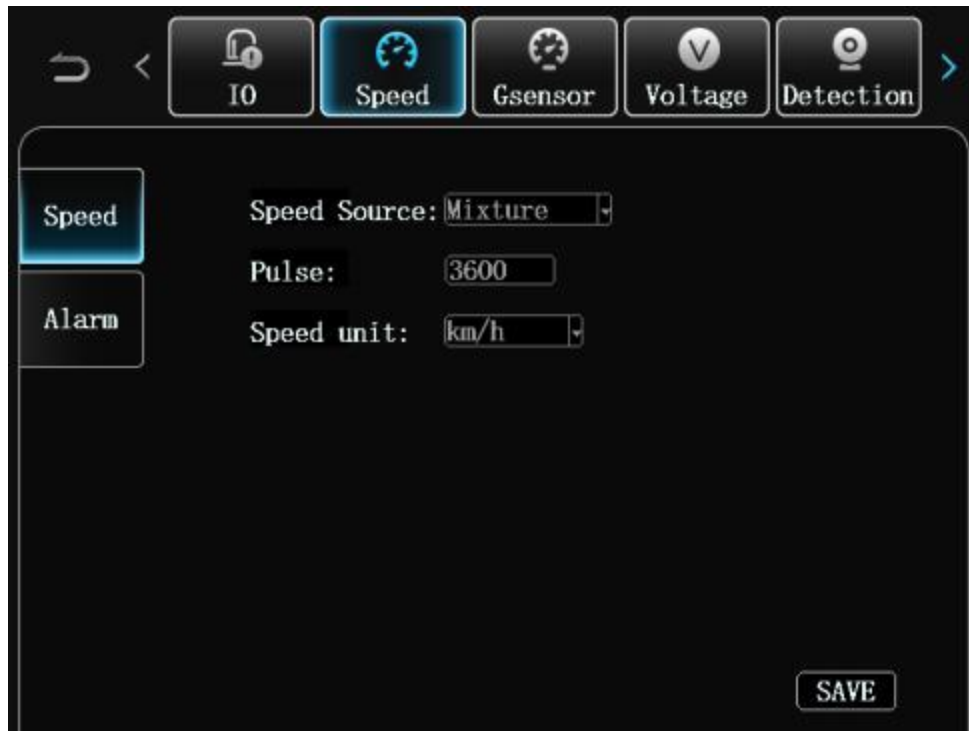
Speed source: information source of vehicle speed, GPS and vehicle pulse signal can be selected.

Pulse coefficient: when obtaining speed signal through vehicle pulse, the pulse system must be set as the standard for testing vehicle speed. Press the number key to input and modify to find the vehicle data, or the correct number can be obtained through constant speed driving of the vehicle and multiple setting of the value.

Speed unit: sets the unit of speed.

Enable: whether to turn on the alarm function and select the alarm type

LIMIT: can set speed value, time (Overtime parking). Once the threshold is exceeded, it will trigger an alarm.. Press the [OK] key to input the modification.

Delay: when the alarm is triggered, whether it is necessary to extend the recording time can be set to delay recording. Press the [OK] key to input the modification.

Wait: When an alarm is triggered, it can alarm after the set wait time to prevent false alarms. Press【OK】key to enter modification.

9.3 Vehicle status alarm

This menu sets the threshold value of vehicle status alarm and alarm linkage related to the attitude alarm.

Adjust: First of all, the coordinate of attitude alarm needs to be corrected, and the vehicle can be cleared and calibrated by parking on the horizontal ground.

Note: before setting,you need to calibrate the current state, and then set the threshold value of acceleration alarm。

9.3.2 Alarm settings

Enable: Whether to turn on the alarm function and select the alarm type
Threshold value(Limit): High, medium and low can be selected. When X, Y and Z are higher than the threshold value, an alarm will be given.

Delay: When the alarm is triggered, whether it is necessary to extend the recording time can be set to delay recording. Press the [OK] key to input the modification.

Wait: When the alarm is triggered, it can alarm after the set anti shake time to prevent false alarm. Press the [OK] key to input the modification.

9.3.3 Installation direction

Select the up, down, left and right directions to save. After saving, the X, Y and Z axes change and need to be manually calibrated on the attitude alarm page.

9.4 Detection

This menu sets the change degree of the image in the video and the related alarm linkage, including motion detection and occlusion detection. Motion detection is the alarm when the camera image deviates and changes and exceeds the threshold value. Occlusion detection is the alarm when the camera is blocked by an object and reaches the set threshold value.
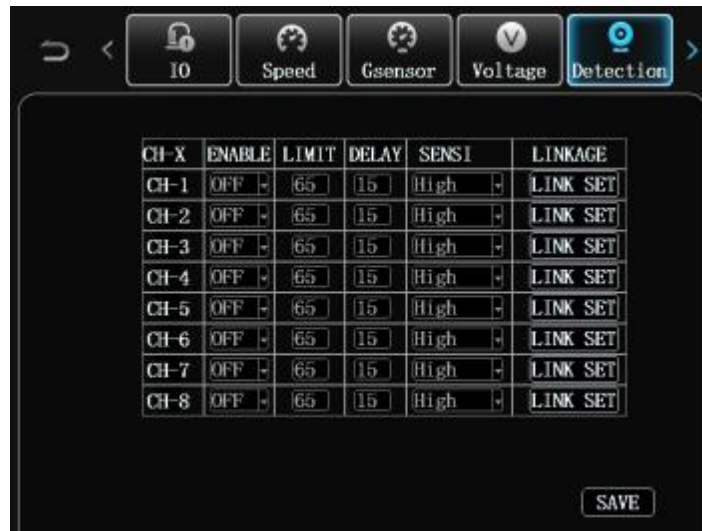
Enable: Whether to turn on the alarm function and select the alarm type

Threshold value(limit): Set the threshold value to trigger mobile detection

Delay: When the alarm is triggered, whether it is necessary to extend the recording time can be set to delay recording. Press [OK] to input the modification

Sensitivity(sense): High, General, Low.

9.5 AI Setting

9.5.1 Built in AI-algorithm software

Built in AI-algorithm: automatically read the algorithm of AI upgrade software, which cannot be changed.

DMS setting: select the corresponding channel, select the resolution as VGA, and start the algorithm.

ADAS setting: select the corresponding channel, select the resolution as VGA, and start the algorithm.

Left and right blind area setting: select the corresponding channel, select the resolution as VGA, and start the algorithm.

ADAS calibration: the camera is fixed on the vehicle, and the cross is aligned with the front vehicle for calibration.

Left and right blind area calibration: aim at the person and calibrate.

9.5.2 DMS/ADAS

AI alarm: through the camera to detect abnormal driving report, connect the camera then can trigger the alarm
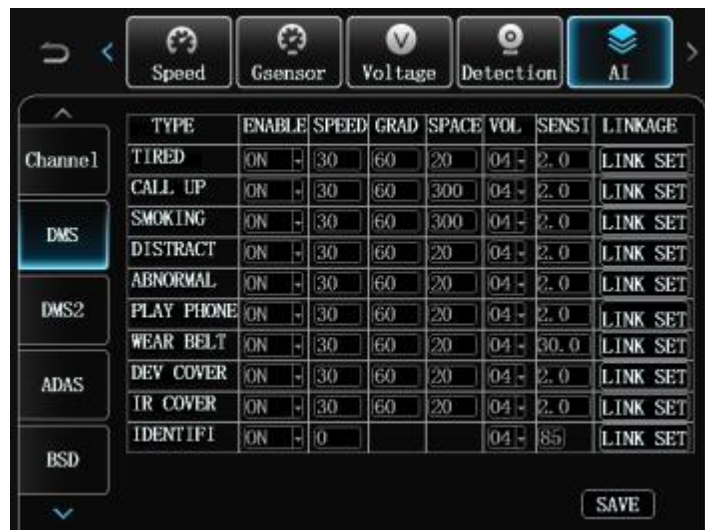
Speed and classification: the value of speed should be less than the value of classification, "speed" can be set by 30KM/H by default, and "classification" can be set by 50KM/H by default.

Interval: the interval of broadcasting voice, in seconds (s), 10s by default;

Volume: can set the level from 1-8 ; Level 8 is the loudest sound.

Sensitivity: can set the level from 1-10 level; Level 1 is the most sensitivity, Level 10 is the lowest sensitivity. Setting the appropriate sensitivity can effectively prevent false positives and false positives.

9.5.3 BSD

Consistent with DMS / ADAS page, please refer to (9.6.2)

9.5.4 Driver

9.6 Voltage alarm

Set the voltage alarm related parameters and alarm linkage

Low Voltage means that the current input voltage is lower than the set voltage threshold (0-2V low level), "higher" means that the current input voltage is higher than the set voltage threshold (5-12V high level) (2-5V is invalid value)

Threshold value(Limit): set the high and low threshold value of the input voltage within the normal range, which shall not exceed the normal working voltage range of 9 ~ 36V.

Delay: when the alarm is triggered, whether it is necessary to extend the recording time can be set to delay recording. Press the [OK] key to input the modification.

Anti shake time(Wait): the duration of abnormal voltage will trigger linkage alarm.

Alarm linkage: when the duration of abnormal voltage is detected to exceed the set duration, the related action of voltage time alarm is triggered.

Setting the appropriate voltage parameters, When it is detected that the duration of abnormal voltage exceeds the set duration, it will trigger the relevant actions performed by the voltage alarm. Set the appropriate voltage parameters, and the device will automatically shut down when the battery voltage is too high, which can effectively protect the car battery from over-discharge, prevent the vehicle from being unable to start due to low battery voltage, and prolong the service life of the battery.

System information

The system information is divided into 5 pages to display. The basic information, sensor information, module information, network information and disk information of the device are displayed in detail. The viewing mode can be called through the menu or directly by using the info key in the preview screen.

10.1 Basic information

Display the basic information of the device: MCU version, App version, Dev ID(Device ID), Plate No., SN(Serial Number), Ext App(Extended version), Chip ID, Module.

10.2 Sensor information

Display system voltage, acc status, Lock, I/O status, G-sensor, GPS information, CPU TEMP(temperature).

10.3 Module information

Display status information of network module (dial-up, WiFi, network cable).

10.4 network information

The network status page displays the information about the network. The IP of server 1, 2, 3 and 4 are used to connect the platform. When the connection is done, it will show that it is in the connected state.

10.5 Disk information

Disk status query, when SD card or other memory is inserted, the status information of the disk will be displayed below. As shown in the diagram:

10.6 Serial port test

This page shows extended port status information.

Equipment maintenance

11.1 Power ON / Power OFF

Set device restart time
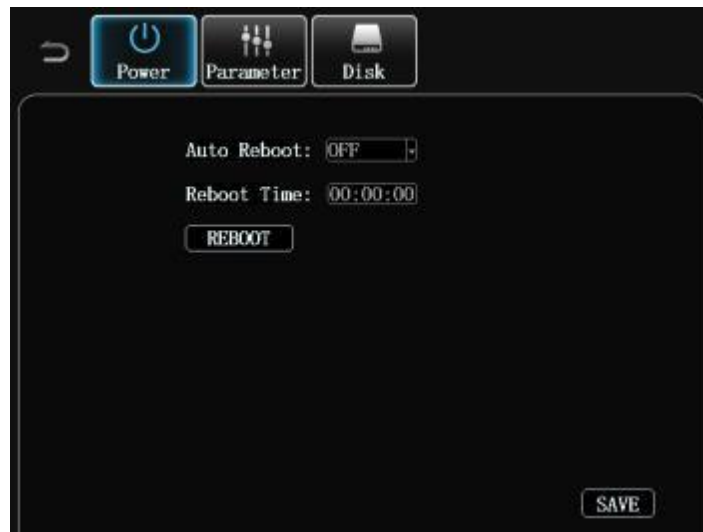
Automatic maintenance: ON, OFF

Reboot time: Device will reboot at fixed time.

Reboot: click the button to restart the device

11.2 Parameter management

Parameter import: Import the configuration information from the current memory Import the settled system configuration parameters and restore the factory settings.

Parameter export: export all configuration information of current device to memory card.

Save User setting: Save configuration.

Reset to Default:

Reset To User Settings:

Import AI parameters:

Export AI parameters:

Import AI voice:

11.3 Disk

Set the "standard partition" and "block size" of the disk. The partition cannot be set too small, so that the video files are not easy to lose.

Formatting: format the disk. The new SD card needs to be formatted for normal recording.

DISK	SIZE (GB)	STD SIZE	STD PART (GB)	BLOCK (MB)	ACTION
SD1	0	0.0	2.0	Default	FORMAT
SATA1	931	5.0	5.0	Default	FORMAT
FLASH	0	0.0	1.0	Default	FORMAT

Enter time to estimate record space (H)

SAVE
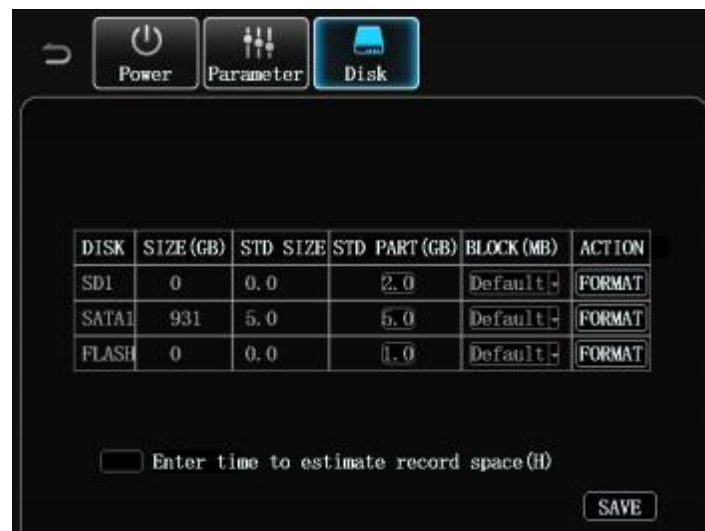
Platform connection

Set the device ID in the system, and it will be displayed on the left after setting.

Select a device, fill in the device ID.

Go to network settings, click" center",find "Server 2", fill in the platform server IP and port,then select the protocol.
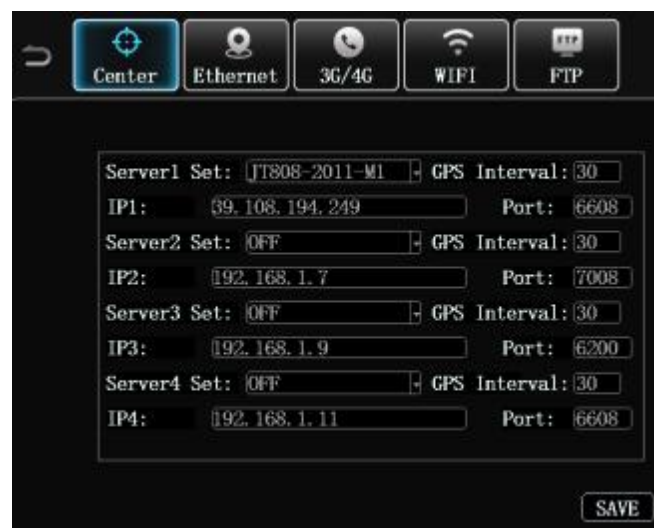
When the system information page shows that the central protocol has been connected, it means that the connection to the platform is successful. On the platform, you can monitor video, view vehicle information, view and download alarm files, remotely upgrade equipment, GPS tracking and other functions. For remote upgrade, you need to set the account password, IP address.

| Problem	Analysis	Suggested Solution
Unable to power on the device	The power connection is wrong	According to the requirements of wiring and ensure that the input voltage is within 9-36V
	The fuse of power line is burnt out	Replace the fuse with a new one
Unable to connect to the platform	Parameter setting error (server not connected)	Reset according to the user manual
	SIM card arrears (dialing or registration failure)	Recharge and Renew
	APN error (dialing or registration failure)	Check the parameters with the SIM provider then reset the APN information
	check if the SIM card inserted properly or no SIM card inserted	Re-install the SIM card
	check if the Disk locked or not(power down)	Lock the hard disk. There is a hint for the disk status in the upper right corner
No recording	Unformatted disk	Formatting the disk locally or remotely
	The disk is damaged	change a new disk
	Disk is unlocked	Lock the hard disk, and the LCD panel displays the status of the lock
Unable to locate	The vehicles are in underground parking lot and tunnel	Leave the area
	Always searching the satellite to locate	Tighten the GPS antenna and place it as required
	Antenna short circuited (the LCD will display)	Replace the GPS antenna
No image display	Wrong interface definition	Check whether the interface definition is consistent
	Mode setting error	Set camera mode in basic settings
	Camera damage	Replace the camera with a new one
Unable to upgrade	The software version is not correct	Replace different versions of software
	The software model number is not correct.	replace the correct software model
	Irregular card insertion and card removal lead to file loss	Re store the software and standardize the operation

Voice broadcast delay	fatigue driving alarm or other alarm broadcast delay	Insert sim card and connect 4G antenna

Troubleshooting of common problems

Problem	Analysis	Suggested Solution
Unable to power on the device	The power connection is wrong	According to the requirements of wiring and ensure that the input voltage is within 9-36V
	The fuse of power line is burnt out	Replace the fuse with a new one
Unable to connect to the platform	Parameter setting error (server not connected)	Reset according to the user manual
	SIM card arrears (dialing or registration failure)	Recharge and Renew
	APN error (dialing or registration failure)	Check the parameters with the SIM provider then reset the APN information
	check if the SIM card inserted properly or no SIM card inserted	Re-install the SIM card
	check if the Disk locked or not(power down)	Lock the hard disk. There is a hint for the disk status in the upper right corner
No recording	Unformatted disk	Formatting the disk locally or remotely
	The disk is damaged	change a new disk
	Disk is unlocked	Lock the hard disk, and the LCD panel displays the status of the lock
Unable to locate	The vehicles are in underground parking lot and tunnel	Leave the area
	Always searching the satellite to locate	Tighten the GPS antenna and place it as required
	Antenna short circuited (the LCD will display)	Replace the GPS antenna
No image display	Wrong interface definition	Check whether the interface definition is consistent
	Mode setting error	Set camera mode in basic settings
	Camera damage	Replace the camera with a new one
Unable to upgrade	The software version is not correct	Replace different versions of software
	The software model number is not correct.	replace the correct software model
	Irregular card insertion and card removal lead to file loss	Re store the software and standardize the operation
Voice broadcast delay	fatigue driving alarm or other alarm broadcast delay	Insert sim card and connect 4G antenna

	The device number which in the platform is not the correct device number	correct the device number
Unable to connect to the platform	Server IP and port error	Fill in the correct IP and port
	The computer or device is not connected to the Internet	Connect a computer or device to a network cable
No recording	center Settings--Extended Settings FTP account and password, port number and FTP server settings are inconsistent	Write the same account password and port number
	The upgrade file is not in the root directory	Put the upgrade file in the root directory
	Upgrade file has no prefix	MCU prefix should be : 06_ 5656_ 5656_ 7878_ Application prefix should be: 01_ 5656_ 5656_ 7788_
	Check the URL format	

Version record

Version	date	Explain
V1.0	2021-5-31	Initial production version
V1.0	2021-7-7	Modify the specification parameter list and packing list, and add English description
V1.0	2021-6-26	Replace the latest image

Notice:

This device complies with Part 1 5 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 . Changes or modifications not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment .

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 1 5 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 aparticular 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.

Note:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.