S500 A mobile SD CARD/HDD DVR

Directory

Before the speech

Release notes

This manual is applicable to the -S500 multi-function vehicle video model。

About the book

This manual introduces an integrated surveillance video "4 channel", "wireless data transmission (optional)", which integrates the characteristic of vehicle electronic equipment - -, detailed specifications, describes in detail the function of each module of equipment and the use matters needing attention, describes in detail equipment connectors in the signal definition, detailed describes the equipment interface definition and the user operation。

The book is divided into six chapters。

The first chapter Product introduction.This paper briefly introduces the function, main features and typical applications of products。

The second chapter Equipment specifications. Detailed description of each functional module, characteristics, detailed specifications and usage notes, including surveillance video module and other functional modules。

The third chapter Host operating instructions.The use of remote control and the function and use of each display menu are introduced in detail。

Chapter 4 Introduction of equipment installation.The appearance of -S500 is explained in detail.Front and rear panel signal arrangement and connector definition;The signal definition of each external cable;Finally, product installation instructions。

Reorder the whole guard and show it

The attention:
Please read this manual carefully before installation. Safe deposit of this manual for future reference following warnings:

Before installing and using this product, be sure to read the

1. Please handle the transportation gently。
2. All installation and maintenance must be carried out by trained qualified persons。
3. This product shall not be installed on vehicles for long periods of rain or other liquid erosion。
4. Installation and all materials must be able to withstand the weight of the fuselage.
5. Keep the fuselage away from heat, dust and strong magnetic fields.
6. No weight should be placed above the equipment, and no debris should be piled up in the surrounding 50cm.
7. The vehicle shall not flush the equipment directly when cleaning.
8. Equipment output power shall not be used for the replacement of the equipment.
9. No finger or foreign material is inserted into the slot of the equipment during operation.
10. Please do not open or disassemble the equipment without professional guidance.
11. Do not change any modules under the charge of the host.

1.1 product introduction

1.2 product overview

-S500 is a cost-effective and scalable device for on-board video monitoring and remote monitoring and development.IT adopts high speed processor and embedded operating system, combining with the most advanced h.264 video compression/uncompress technology, network technology, GPS/BD positioning technology in the IT field. -S500 supports 4-way video and video. - - 4 road 720 p can be realized with the frame format of the video, car information records and wireless data upload, cooperate with the center software which can realize the alarm linkage of central monitoring, remote management and playback analysis based on a central database.The product has a simple appearance, strong anti-vibration, flexible installation, powerful function and high reliability.

The details are as follows：

USES the international mainstream h. 264 coding format, high compression ratio, image is clear, of disk space is little;

using SD CARD/HDD as storage medium, easy to read data, fast;

video using general FAT32 / special file format, support the market mainstream H264 player play;

+ 8 v ~ + 36 v wide voltage design, suitable for all kinds of models;

support 4 road 12 v / 0.5 A power output, for A peripheral power supply;

support four-way alarm input;

professional replay analysis software, GPS/BD to track, the car status, speed and sound view as synchronous playback;

centralized management software, support the vehicle image and alarm information real-time transmission, etc.

small size: the whole machine size (167) x (55) x (150) mm, weight 0.77 KG

The basic working parameters of the -S500 are like tables1。

Table 1 -S500 basic working parameter list

projects	Working parameters	Said Ming
The power input	8—36V	The input voltage is +12V ~ + 36V, the voltage is lower than 6V for a long time, or long-term higher than 36V, the device automatically shutdown, enter protection mode, and have abnormal power loss protection function
Output voltage	12V	Output voltage 12V (+ /-0.2 V), maximum current 2A。
Car key signal	≤6V	Engine key off。
	≥7. 5V	Engine key open。
Video input impedance	75Ω	Each video input impedance are 75 Ω road。
Video output	1Vp-p	Output a 1p-p CVBS analog signal。
Video output	The I/O interface	0 minus 2V is low level。
		Above 5V is high level。
	The AD interface	Enter 0-36 v。
SD CARD/HDD interface		1． Compatibility with common brands。 2． Double SD bayonet 3． Live unplug is not supported.When the panel is locked on the control switch, it can lock the SD CARD/HDD and prevent the plug
The USB interface		1． Compatible with various commercial usb drives。 2． Live out plug.When the device file is transferred, unplugging the usb key may break the data in the U disk。
Working temperature	-25----80℃	Refers to the ambient temperature under good ventilation conditions。

1.2 main functions of products

Main functions of -S500: video monitoring.Its main function list is shown in table 2.

-S500 main function list

systems	function	instruction
Video subsystem	Video channel	1 to 4 channels are optional
	resolution	Supports CIF, HD1 AHD720P resolution video
	Image quality	It is divided into 1-5 level and the highest quality
	OSD	Can overlay various characters, such as date, time, GPS latitude, channel ID, etc
	Loop recording	Support double SD CARD/HDD cycle or mirror recording, and cycle delete
	Video mode	Support startup video, timing video, alarm video and manual recording
	preview	Support single screen and four screen preview
	Disk cover	Support disk auto coverage
Playback subsystem	Video search	Support a month within any date, time - time search
		Support the alarm point search and time point search
	The playback	Supports single-channel to four-way comparison playback
		Support fast forward, fast forward, fast forward, quick return speed support 2, 4, 8, 16 times speed
alarm	inputting	4 circuit alarm input can be selected, whether to trigger the alarm video can be selected
		The alarm video supports the first 10 seconds and the video duration of the video is matched
Parameter Settings	Switch machine	Delay switching machine support
		Support key switch machine and time switch machine
Network (optional	networks	1.Automatic report of vehicle information 2.Direct video to the server via 3G/WIFI network

)		3.Remote playback through the client connection server

1.2 Product application program

-S500 products are suitable for video video surveillance and remote monitoring of all motor vehicles.The general application process of the -S500 is as follows：

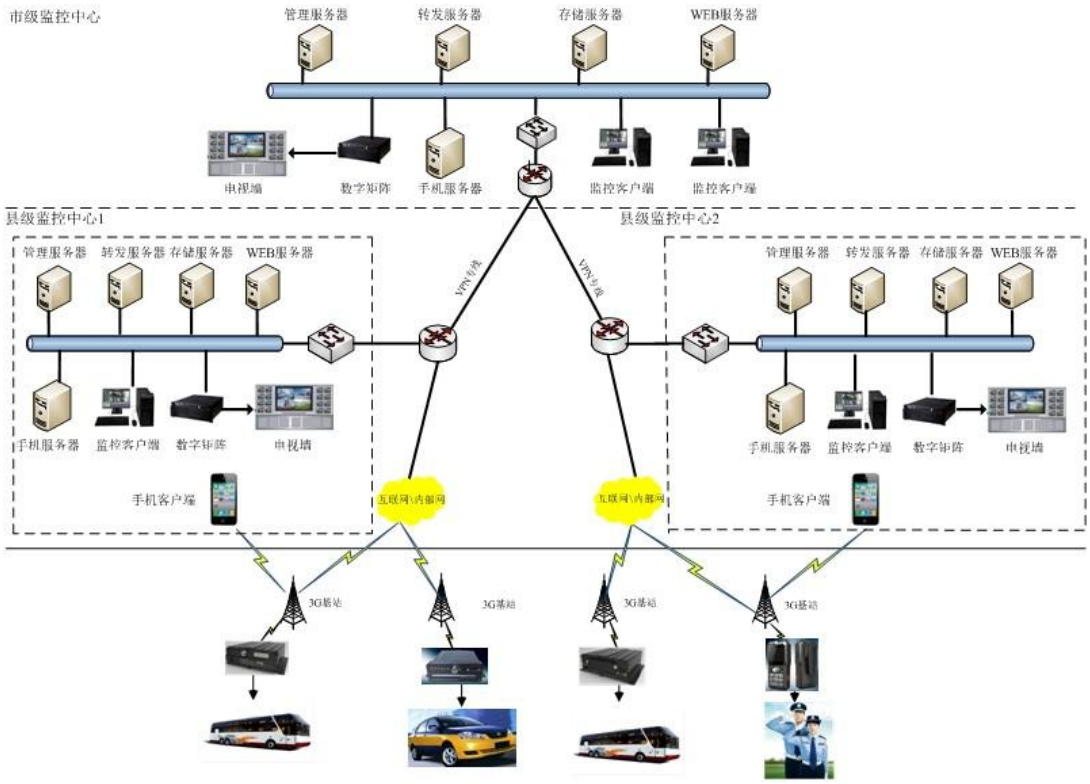


Figure 1. The -S500 application network diagram

2 Equipment specification

This chapter introduces the function overview, characteristics, detailed specifications and precautions of the equipment。

2.1.1 internal structure of equipment

The -S500 is integrated with a set of hardware video encoding chips that consume very little system resources.The video system is composed of the following：

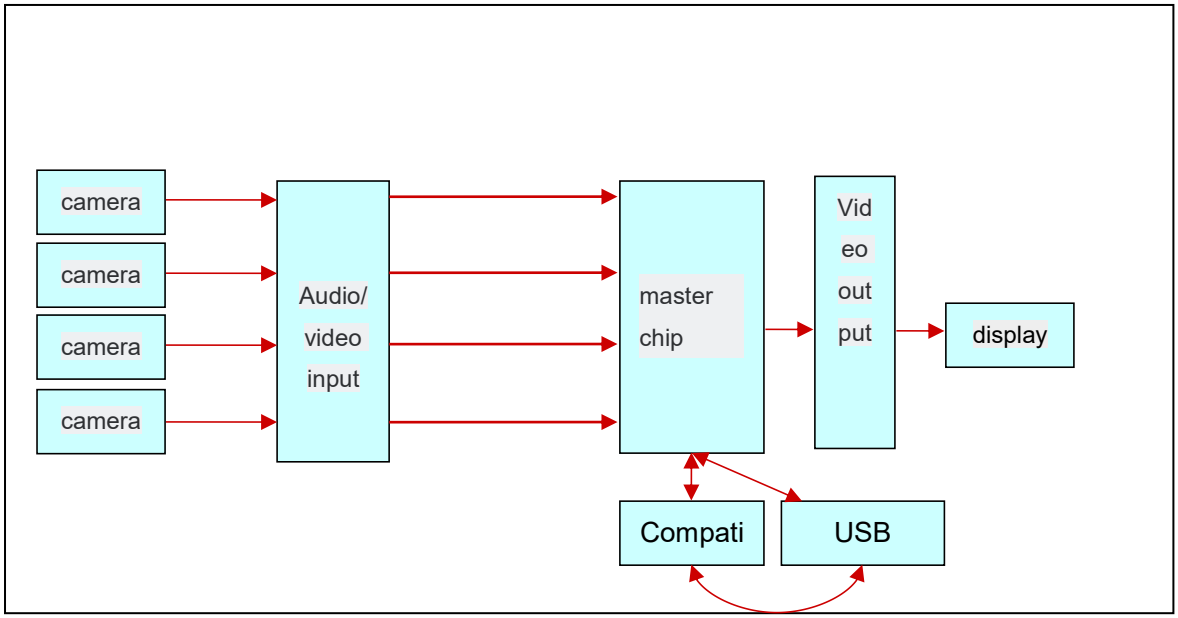


Figure 1 monitoring system diagram

Work flow is：

video recording, :

through audio and video camera input, and then in the main chip compressing storage and preview the output;

local and remote playback:

1. Local playback

master control chip from the storage device for video files;

decoding broadcast, the audio and video analog signal;

2. Remote playback

through the client connect to the server for remote playback;

2.2 front panel definition

The front panel is shown below：

2.1.2 LED indicator and status description

- 【**PWR**】Power input status indicator light.The light indicates that the system power is working properly；

- 【**SD1、SD2**】SD CARD/HDD work lamp.The light indicates that SD CARD/HDD works normally.Lamp extinguishing means no SD CARD/HDD or SD CARD/HDD abnormality
- 【**HOT**】Hard disk heat lamp, lower than 0 ℃ automatic heating, heating normally on a red light；
- 【**4G**】Network indicator light, when registered successfully, the network light is long, unregistered or registered failed lamp flicker；
- 【**ALM**】alarm light, the system has alarm lights, no alarm when the lights went out；
- 【**BD**】 positioning to BD signal lights, not positioning or lights flashing when positioning failure；
- 【**REC**】 video work indicator light.The LED light indicates that the video is currently being recorded

2.1.3 Other interface instructions

- 【Panel lock】Control the device switch machine, lock the SD CARD/HDD at the same time, prevent the plug；
- 【**SD1、SD2**】：SD CARD/HDD slot for recording video data, configuration file update and upgrade。
- 【**SIM**】3G/4G phone card slot；
- 【**IR**】Remote input to receive remote control signal。
- 【**USB 口**】： Import and export data or upgrades for the U disk。

2.2 rear panel definition

The following figure shows：

- 【**DC**】Power interface, red line to connect the vehicle power anode;The black line is connected to the negative pole of the on-board power supply, and the yellow line is ACC signal line.When you need to set up a timer or fire video, pick up the ACC line。
- 【**NET**】RJ45 network interface；
- 【**I/O**】Alarm input interface；
- 【**AV 1~4**】The four-channel audio and video input interface；
- 【**3G**】3G/4G antenna interface；
- 【**WIFI**】WIFI antenna interface；
- 【**GPS**】GPS/BD antenna interface。

2.1.4 the power cord

Figure 14 shows the power line, with a variety of color plugs on one end, and then the 14PIN connector on the rear panel of the device.Red lines and black lines are directly received from the car's battery.The red line is connected to the positive pole and the black line is negative.The yellow line contacts the fire line, the host equipment automatically opens after the car turns the key, and shuts off after turning off the car key.The yellow line picks up the gear when the car keys turn on all the dashboard lights (that's the stall before the car starts the motor).

Note:

1) make sure the voltage of the battery is between 12V -- 36V before connecting, otherwise it will burn the equipment.

2) after connecting the line, pay attention to the insulation between the power cord and prevent the power line from short-circuiting the battery.

3) the yellow line must be connected to the ignition line, otherwise the device will not support the delayed shutdown, and the final video, video, will be lost.

2.1.4GPS/BDand3Gantenna

The GPS

3 g antenna

2.2 detailed specifications

The detailed specifications of the -S500 video function are shown in table 3.

-S500 video features detailed specifications

projects		describe
The operating system		Linux
Graphical operation interface		The remote control sets the system parameters through the external display screen
Support language		Chinese, English, traditional (optional)
Safety management		User password, administrator password two level management
Video and preview	Video input, output	4. Video input, 1 VGA output, 1 channel video output;1.0 the Vp - p, 75 Ω
	OSD	Character superposition function, time date, vehicle ID and other information image overlay
	Video compression format	H.264 compression coding. Use Hisilicon high performance processor.
	Double stream	support
	Preview function	Single path and 4 screen splicing preview, support event trigger full screen and splicing switch display function
	Frame rate	PAL: 100 frames per second, maximum 25 frames per second;NTSC: 120 frames per second, maximum 30 frames per second
	resolution	Can support 4CIF, 4D1, AHD720P coding fo rmat
	mass	1 to 5 video can be matched, the optimal level 1, the lowest level 5
	Bit rate	CIF: 300Kbps ~ 1200 BPS, 8-grade rate optional HD1:500Kbps ~ 1500Mbps, 8-level code rate optional D1:600Kbps ~ 2048bps, the 8-level code is optional X720p, 720-1024
audio	Audio input、	4 channel input, 1 output, 1 VGA output

	output	5
	Compressed format	Adopt g. 264 encoding
video	A storage medium	Support SD CARD/HDD, SD CARD/HDD maximum support 128G;Support USB interface for data export/mouse operation
	File format/system	H.264/FAT32，Special file system
	Video strategy	The default startup video is to support timing video, alarm and event trigger video and manual recording
	Video retrieval	It can be searched according to video time, video type, video storage device and other conditions
	Video playback	Support the native playback, the maximum support of 4 channels synchronous playback, and analysis of the vehicle information in the document
		Support fast forward, quick return, play, pause control, support 2, 4, 8, 16 times fast forward or fast back, support select time playback control
alarm	Alarm input	4 circuit switching signal alarm input
	Alarm video	Pre-recorded function, the first 10 seconds pre-recorded, the video length of the time of the police can be matched, 5 seconds ~ 3600 seconds
	Storage space alarm	Support disk space alarm function
	Alarm function	Video lost the alarm
Location (optional)		Extensible support for GPS, BD module integrated antenna
Mobile network (optional)		Can support 3G, 4G, WIFI
System upgrade		SD CARD/HDD/usb upgrade
Power supply and power consumption	Power management	1. ACC switching machine 2. Delayed shutdown 3. Time switch machine It has overload protection, undervoltage protection, short circuit protection, anti-grafting protection, etc
	Input voltage	DC:+12V ~ +36V
	Output voltage	+12V@5*0.5A；
	Power consumption	Normal working condition < 10W;0W in standby mode
Working environment	temperature	General: 25 ℃ ~ + 60 ℃
	humidity	10% to 95%

 Pay attention to：

- Reducing the number of video channels, reducing the frame rate, decreasing image quality, lowering the resolution can reduce the storage capacity, and the user can adjust the video parameters as needed。

2.2 other functions

In addition to the above main functions, the -S500 also designed other functions to make it easier for users to use.Detailed specifications for other functions are shown in table 4.

Table 1. Specifications for other functions of the -S500

class	Detailed specification
Equipment self-check (optional）	1.The screen displays the current state of the system (if the module exists), including: A) status of GPS/BDS module and whether there is a signal; B) status of 3G/4G/WIFI module, SIM card status, signal strength, dial-up status and connection status; 2.The front panel of the host has a key status indicator.The status of equipment can be judged by indicator light: Power, disk read and write with fault, video, network transmission and failure;

3. Host operation guide

function key of remote control

There is no control button on the VCRS panel at the peak hour, which requires remote control operation.The buttons and functions are as follows。

The number keys area：

【0-9】Key: select the number when setting parameters;During preview and playback, "1, 2, 3, 4" is used for channel switching。

【＋】、【－】Key: adjust the number of additions and subtracting。

【ENTER】Key: when setting parameters, it means selecting and saving。

In playback, press ENTER to display the parameters in the OSD menu as long as these parameters are set to display on the screen。

Table 4-1: detailed description of the function key of the remote control

The switch machine key	Press this button twice to restart the device (soft start button) (note: you can't use it now)
LOGIN	When you have a password, press "login" to enter your password.Please keep the password in mind since the device has no reset function.
INFO	Check the information
 Numeral 1，2，3，4，5，6，7，8	Switch between channels 1, 2, 3, 4, and 8. Press the number keys 1, 2, 3, 4, 5, 6, 7, 8, you can switch to channel 1, channel 2, channel 3, channel 4, channel 5, channel 6, channel 7, channel 8
RETURN	Return to the previous level directory, exit the Settings menu and return to the screen
PAUSE / STEP	When the video is played back, press STEP and continue to play.Press PAUSE, PAUSE PLAY, press PLAY button, PLAY normally。
GOTO	When playing, press it to jump to the specified time and play
FRAME	Press FRAME to play FRAME by FRAME
▶（PLAY）	Play button. (when paused, it will display a static image)
FWD	Video playback, fast forward, four levels: 2X, 4X, 8X, 16X
REW	Video playback is slow, 4 levels: 2X, 4X, 8X, 16X
■	Stop the manual video key
●	Open the manual video key
NEXT	Switch to the next page or the next video file when playback
PREV	Go to the last page or the last video file when playback

AUTO、PRESET、ZOOM+/-、FOCUS+/-、IRIS+/-、PTZ、PRESET、RECALL、BRUSH	Function control key of cloud platform
F1	Solid test
AUTO	An instruction display area in the command platform
F2、F3	F2 and F3 are backup keys (reserved for future use)

1.

Text input

Input methods, such as company name, license plate number, driver's name and line number, and other menus need to be used for input.Enter the input interface and take "cantonese B95886" as an example.

Step 1: under the Chinese state, as shown in figure 4-2, "yue" pinyin "make", move the cursor press "ENTER" key to ENTER the first letter in Chinese y, above shows the corresponding man pinyin combination from 1 to 5, not make pinyin, at this point in the FWD is "button" on the remote control to turn pages, pages is found after "you 2) yu (3) yuan 4. Make every 5. Yun", according to the number four on the remote control, a 1 to 5 characters, not see "yue" word, reoccupy "FWD" key to turn pages, pages after the show "read 2 key 3. Yue 4. Guangdong 5. Yue", now according to the number four can ENTER the first characters "yue".

Step 2: now ENTER the letter B, move the cursor to the arrow S, press "ENTER" to switch the input method to the English capital letter state (figure 4-3), then move the cursor to the letter "B", press "ENTER" to ENTER.

Step 3: next, you need to enter the number. Press the arrow again to switch to the Chinese input status. The number can not be entered in the Chinese input state.When you need to move the cursor to "middle", press the "ENTER" button to "EN" and ENTER the number 95886.

After the above steps are completed, press the "RETURN" key to RETURN, then save the line, and the other menu text will be followed by the other. If you encounter an error in the input process, please click "CAMCEL" to delete it.

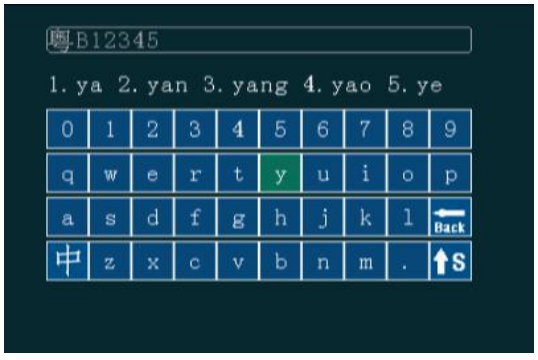


Figure 4-2

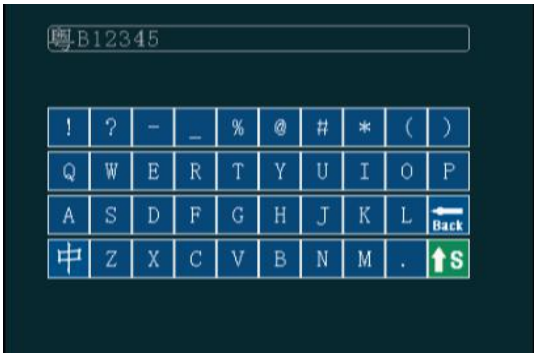


Figure 4-3

4. Video Settings

1. Switch on the video

After the new SD CARD/HDD is installed, the device is recommended to be formatted in sequence after the normal boot enters the system so that the system can be better compatible with its format.After the rebooting, the host will automatically enter the boot video.

2. Timed video

First video in the system menu - Settings - general Settings - modified into timing video video mode, and then return to the higher level menu to video program, in set the time period of video, can be set up after the completion of the keep.

3. Alarm video

First, in video system menu - Settings - general - video model modified into alarm video, in set the alarm from time range (0-30 minutes) and alarm video delay (0 to 30 minutes);Alarm output time (5s - 255s), the alarm output can be determined according to the actual external alarm equipment.

Next, the corresponding peripheral alarm input device needs to be installed, such as the emergency button of the sensor, the switch of the door power switch, the emergency brake light and other sensors.The alarm setting of the machine mainly includes the following types:

A sensor input alarm, system menu - alarm Settings - sensor Settings

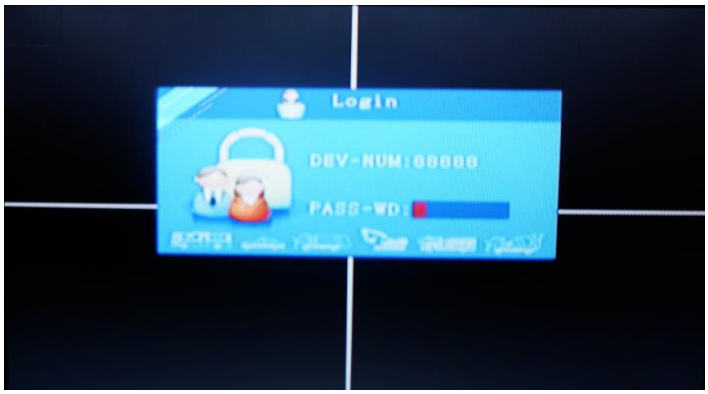
In the menu in figure 4-4, set the starting level or low, then turn the alarm on;This menu corresponding to our host six external alarm input SENSOR, IN external must meet the corresponding SENSOR switch equipment, such as door magnetic power supply, emergency switch button, turn signal switch, brake lamp, etc., roughly the connection if 4-4

System operation\

- user login

password when the switch is set to "off" : the host starts press [OK] to directly enter the system main menu.

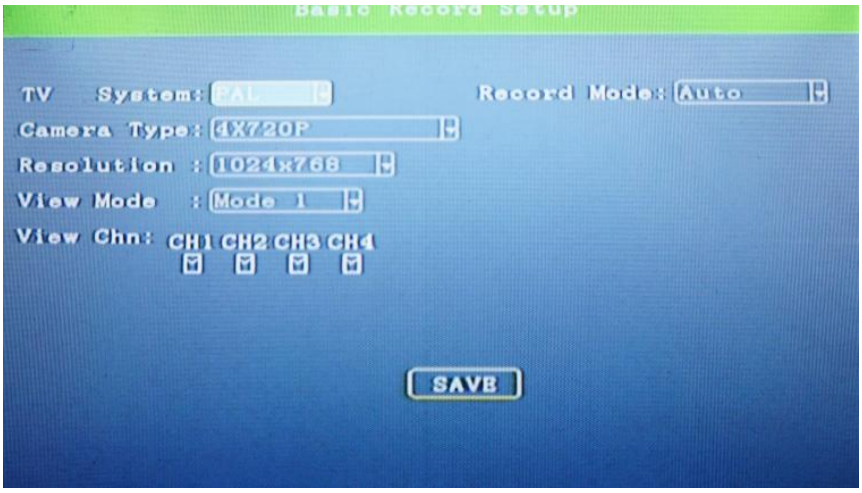
when the switch is set to "open" password: host starts press [OK], need to input the correct password, the cursor to "log in" column, press the "OK" key, can enter the system main menu.



The administrator's default password is 888888 (or device number, which is available before the password is changed);

User default password is 111111, only have query authority;

Camera type switching (only for 4-way AHD model)



When the user first makes the machine, the following operation is required (otherwise the video camera does not have the video image output).

Camera type: access to the native camera type, press [OK]

Hd mode: using the AHD camera (1.3 megapixels)

Normal mode: use analog camera.

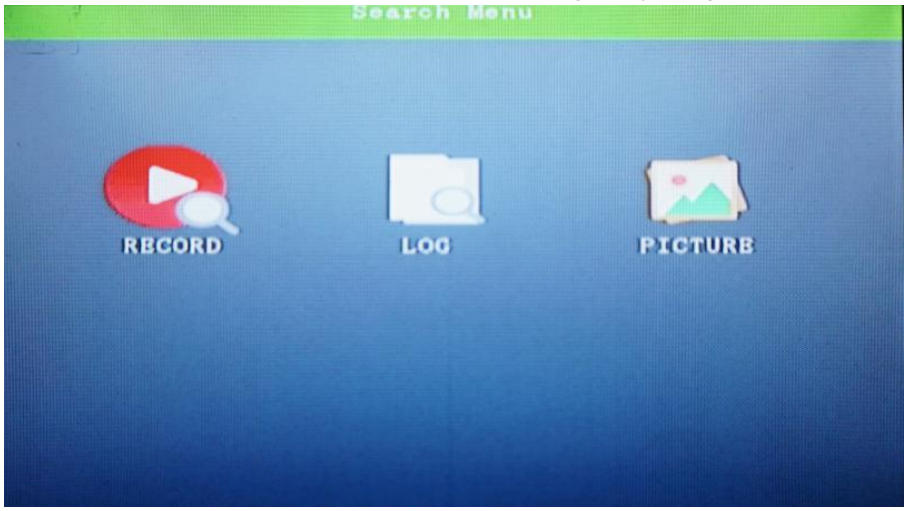
Hybrid model: CH1 and CH2 are using the AHD camera, CH3 and CH4 using analog cameras.

main menu

After user login, enter the main menu interface.Main menu includes: inquiry, system management, video setting, network setting, alarm and peripherals, system information, as shown below:

Search menu

Search menu menu includes: video search, log query, image search.



Video search

The color block indicates that the current date and current time exist video files

"Date" : enter the date by the numeric key, by default for the day.

"Start time" : press the number key input time, the default is 00:00.

"End time" : press the digital key input time, by default of 23:59:59.

"Video type" : press [OK] to select the query type: all video/alarm video.The system defaults to all videos.

"Diak Type" : press [OK] to select: all disks, disks 1, disk 2.

Search: the cursor moves to the "search" button and press [OK] to enter the search results interface.

The search result interface is shown as below:

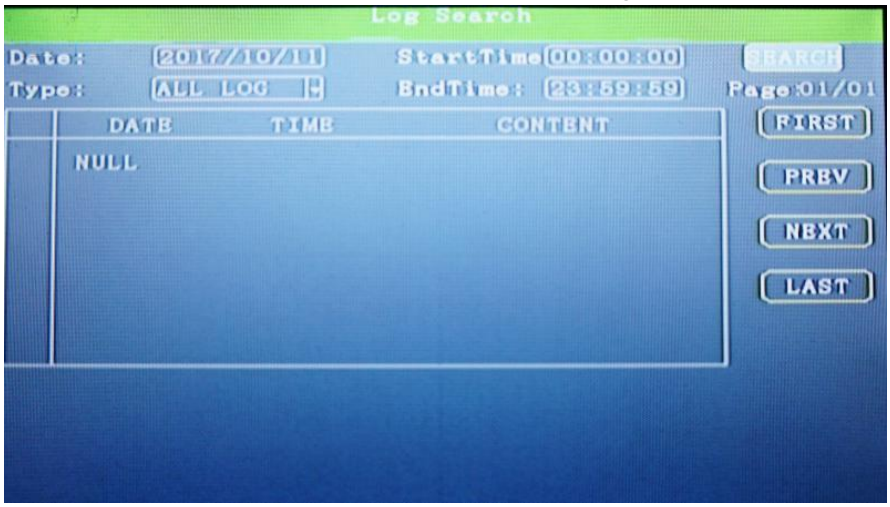
according to the direction key choose to view the video data, press + - can be fast flip, press after the play button to start playing the video information, click "EXIT" button to return to the higher level menu.

according to the direction key choose "home page", "back", "next page", "page", at the end of the press [OK] shows information page.

* special tip: after selecting the file, press the PLAY button to PLAY the playback.

Log Search

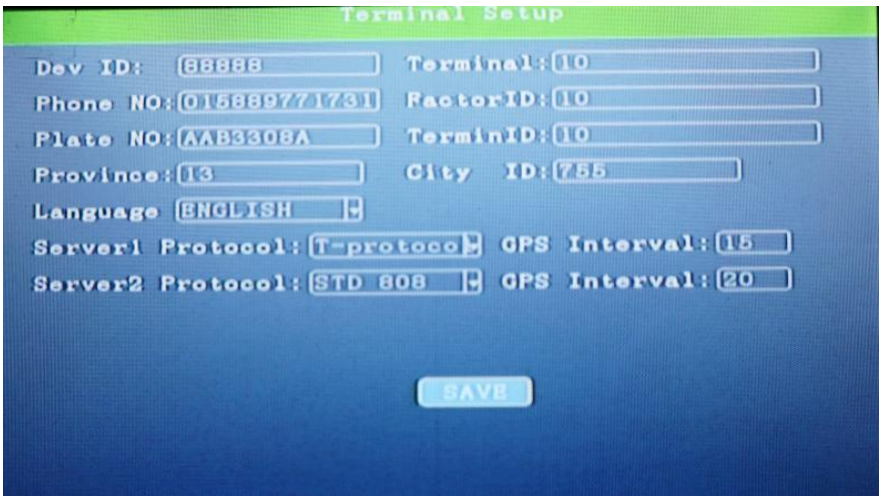
This menu queries the device operations and logs for the work



System Settings

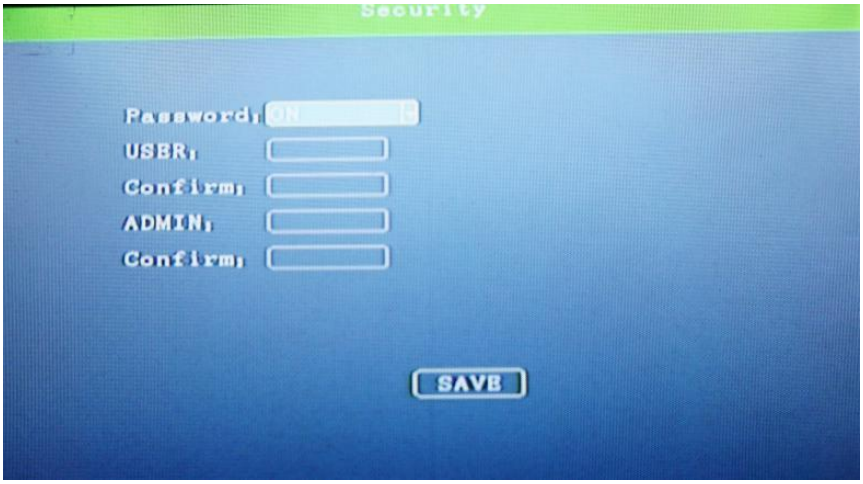
The system Settings menu includes: terminal setting, user management, system clock, power management, parameter setting, formatting (after menu setting and modification, save after selection).

Terminal Settings



Can be set up by remote control input: device number, phone number, license plate number, provincial ID ID, xiamen city, terminal model, vendor ID, ID, terminal management of equipment (data can be in accordance with the U.S. standards, can use Chinese input soft keyboard input)

Securlty

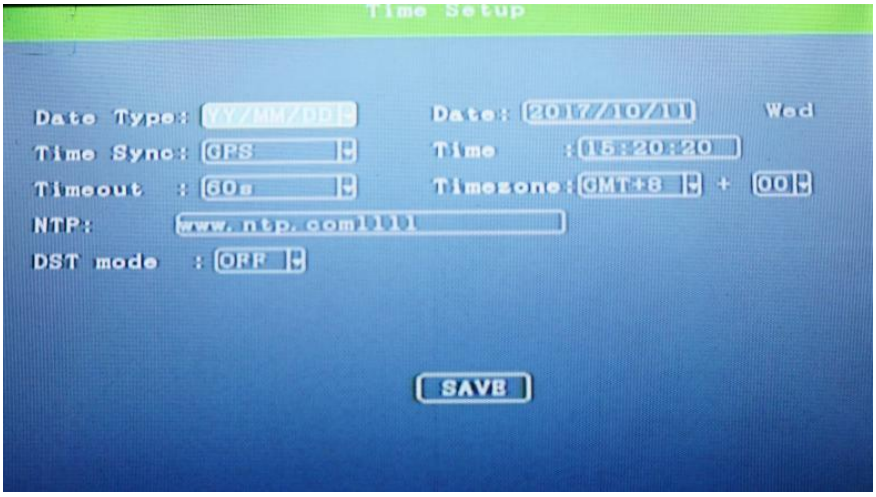


"Password " : can open or close the password verification function that enters the menu

Modify or set the user and administrator passwords by remote control

Time Setup

This menu sets the device date time and other parameters



"Date Type" : you can choose different date formats

"Date" : enter the day by number

"Time Syne" : you can choose the school mode: GPS, NTP, etc

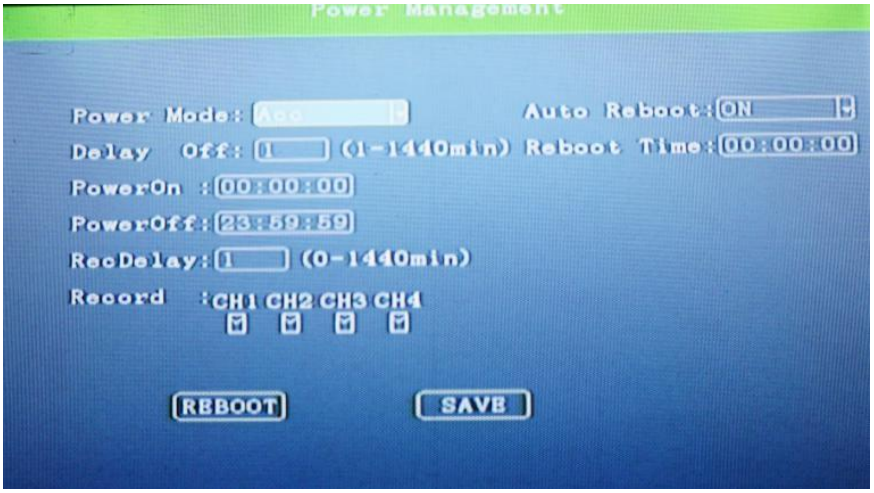
"Time zone" : the time zone that can set the location of the device

"Timeout exit" : the time to automatically exit when the remote control is not operated

"Time" : manually enter the current time by number

Power management

This menu sets the device's power management mode



"Power mode" : according to the number key selection type, the default is the ignition mode

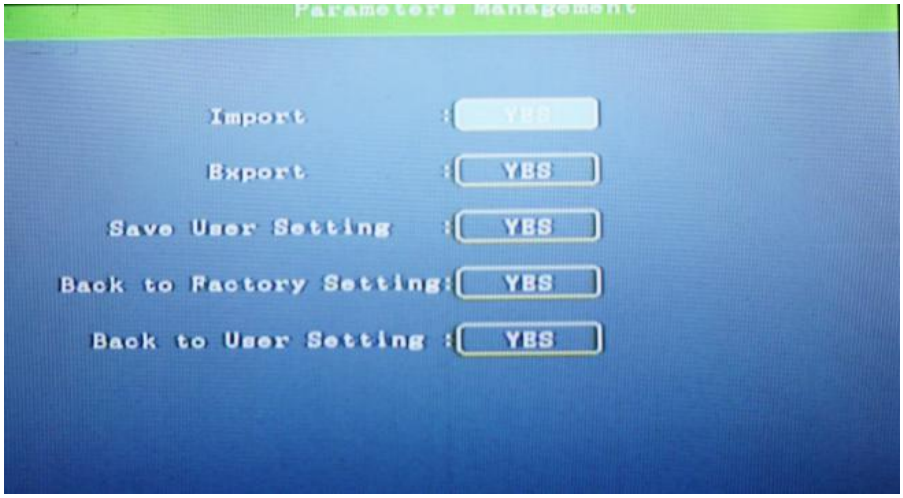
"Delayed shutdown" : press the number key input time, the default is 5 minutes, can be set to 1-1440 minutes

"Screensaver delay" : the default is 60 minutes by the numeric key input time, and can be set to 0-1440 minutes

"Boot time" : according to the number input time, set the timer time

"Turn off time" : according to the number input time, set the time shutdown time

Parameter management



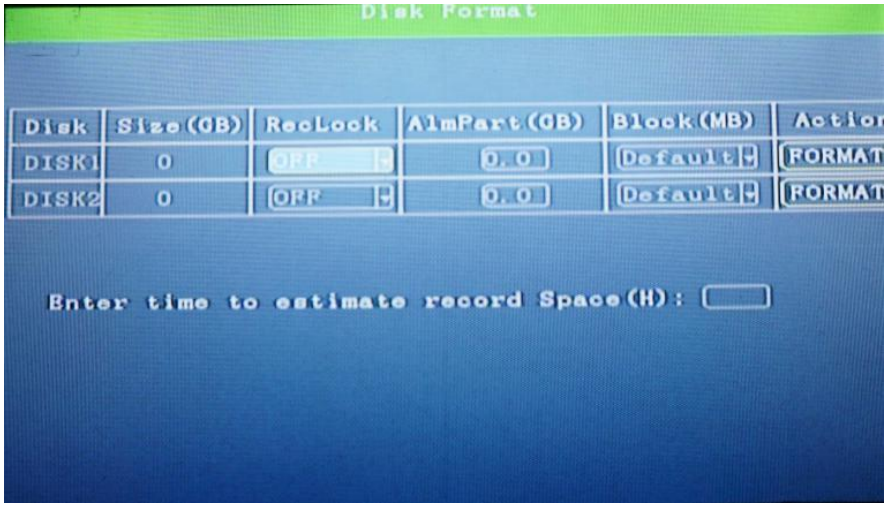
Parameter import: import the configuration information on the current memory to the current device.Import the installed system configuration parameters and restore the factory to the factory.

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

"Factory setting" : restore all Settings of the device to the default state.This action removes all Settings for the device.

Formatting

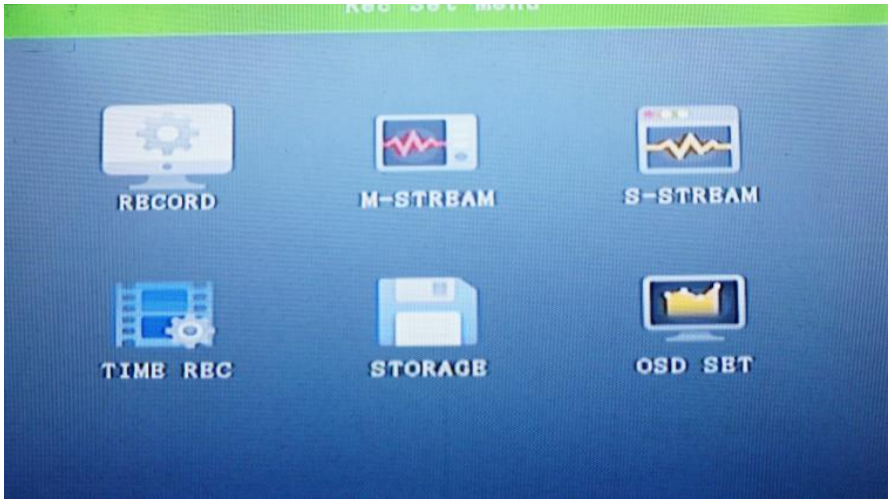
Format disk selection (the device is automatically formatted when the device is started, and no manual formatting is required)



Note: installing a number of devices and each device is set at the same time, please use the configuration of import and export, namely setting up a device, export the configuration file, and then imported into the other devices can be realized each device configuration is the same.

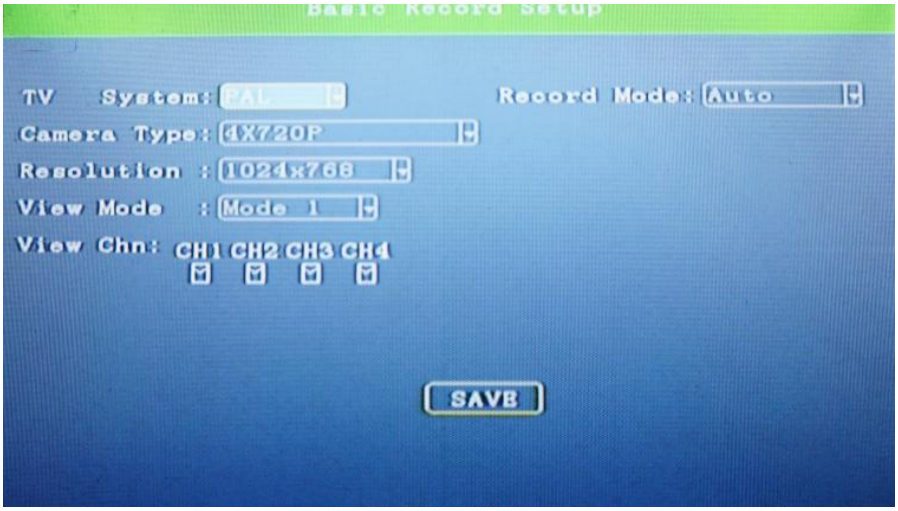
Video Settings

The video Settings menu includes: basic Settings, main code streams, subcode streams, mirror code streams, timed videos, storage Settings.



Basic setting

This menu sets basic audio and video input signals, video parameters, and power-on image segmentation mode.

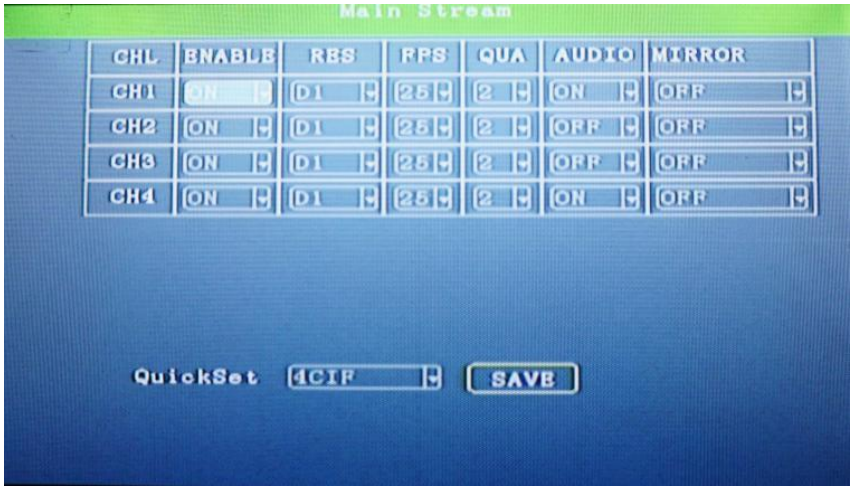


"TV Syatem" : PAL/NTSC, press [OK] to select.

"Reoord mode" : starting/timing/alarm recording, press [OK] key selection.

The main stream

This menu is used to set the code stream and clarity of the video channel



"Enable" : to open or close the channel video function, press [OK] to select.

"Resolution" : can choose CIF,HD1,D1,720P video resolution, press [OK] key selection.

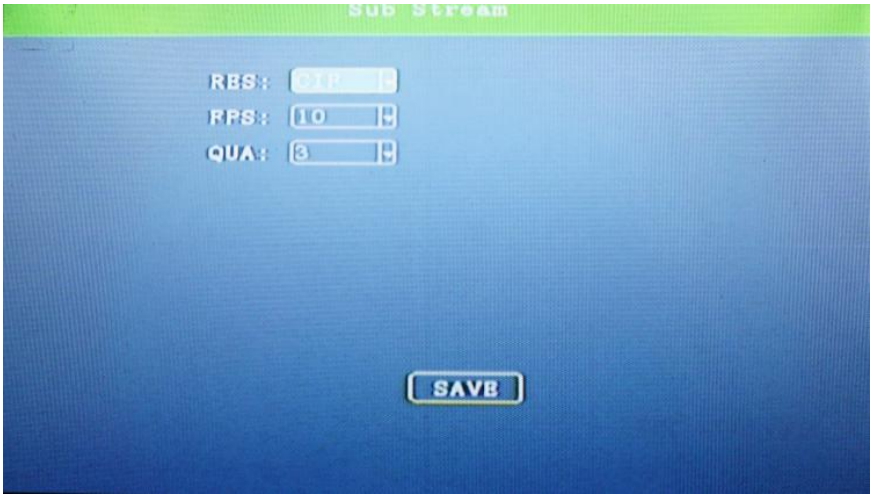
"Frame rate" : can choose 1-25 frame (P), 1-30 frame (N mode) channel video frame rate

"Picture quality" sets the video quality of different resolutions, four adjustable

"Recording" sets the recording sound on or off

Subcode flow

This menu is used to set parameters for the transport code stream



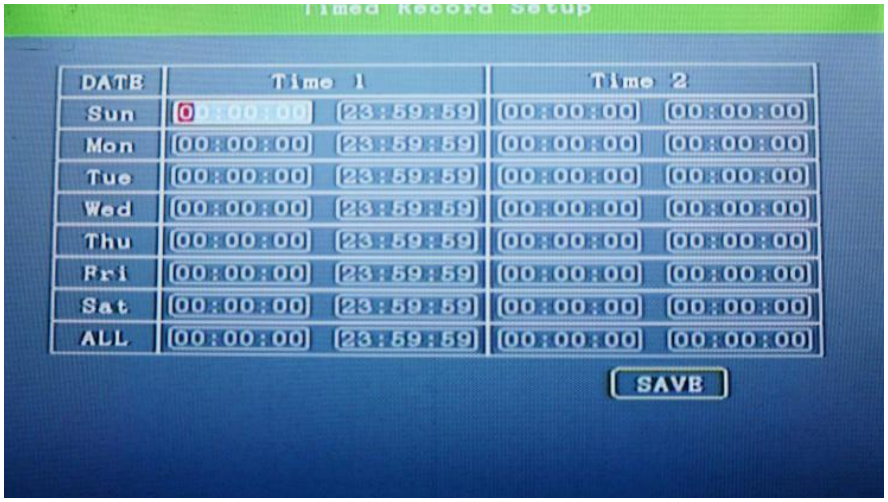
"Resolution" sets the resolution of the transmission, and press [OK] key input

"Frame rate" sets the number of frames in the transmission, and press [OK] key to enter

"Picture quality" sets the quality level of transmission and press [OK] key input

Timing video

Can set the time period of time video, can set up 2 time each day



Move the cursor to "timed video" and press [OK] to enter the following timer setting

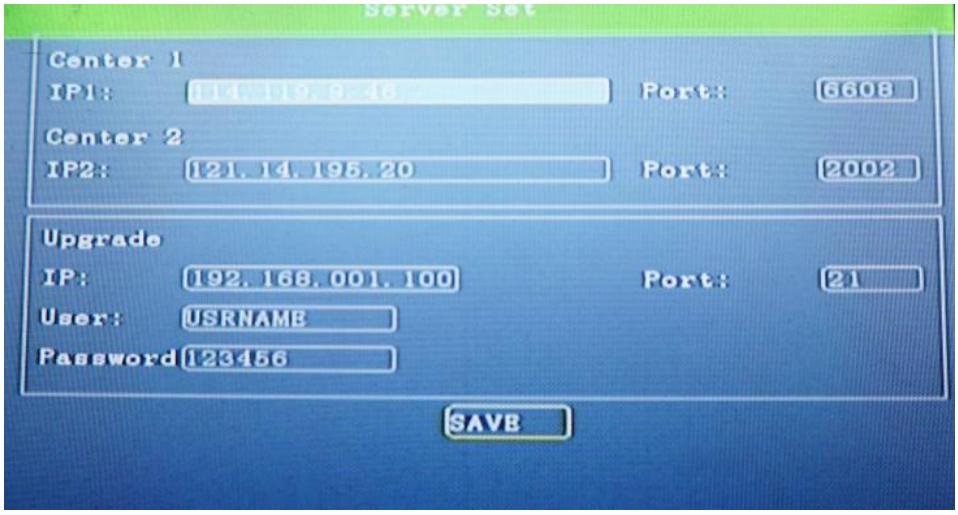
Timed recording starts before the timing video stops.

Network Settings (3/4G machine support)

This menu includes: central setting, local network, 3G setting, WIFI setting, FTP setting

Center set up

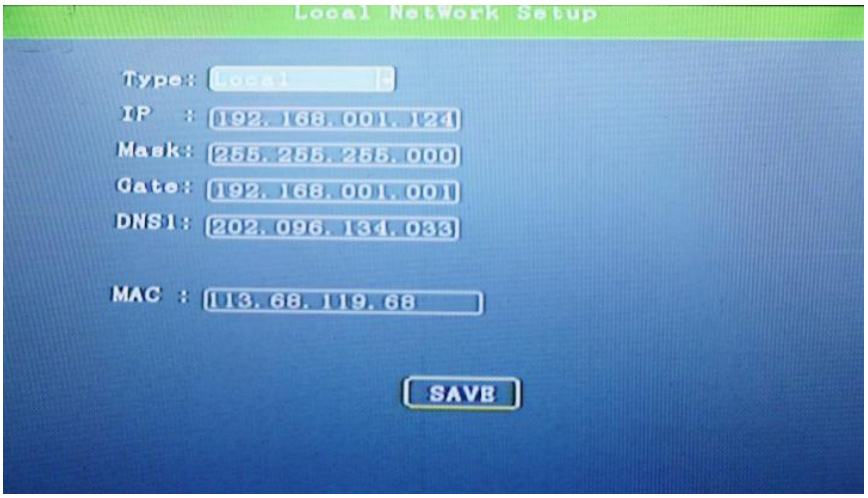
Sets the IP and parameters of the reported central server



"Monitoring center" : set up 3G video center to monitor the IP address or domain name of the server, port information, etc., and realize the 3G configuration of 3G video network function.
"Center IP" : sets the IP address or domain name of the 3G center monitoring center server.Use [OK] key input, then enter the keyboard interface, enter the number by remote control, move the cursor to select the corresponding letter and symbol input by the [OK] key.
"Control port" : set up the port number of 3G devices and servers for communication.The port configuration must be consistent with the server configuration.

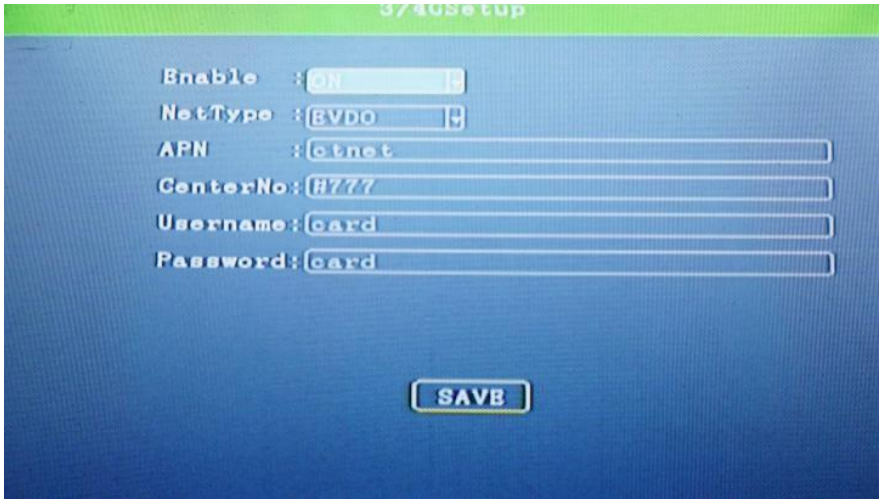
Local Settings

This menu is used to set local network connections



Dial-up Settings

This menu is used to set up configuration information for 3G/4G networks



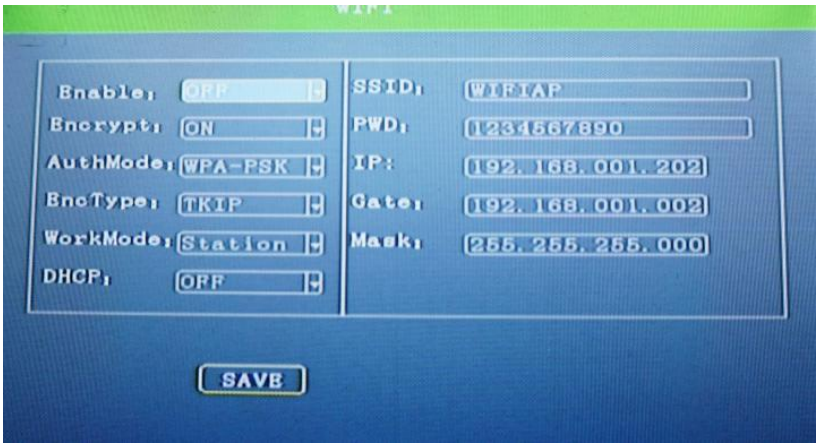
"Enable" : set up or disable the wireless communication function and press the [OK] key to enter.

"Type" : sets the type of wireless module, WCDMA, EVDO, td-scdma, td-lte, and fdd-lte press [OK] key input.

"Access point" : set up the data access point, type in the [OK] key, then enter the keyboard interface, and move the cursor to select the corresponding letter input.

"User name", "password" : set the user name and password of wireless business, with the "OK" key input, then into the keyboard interface, move the cursor press [OK] to choose the corresponding letter input.

WIFI Settings



"WIFI enabled" : set open or turn off WIFI function, press [OK] key input.

"Encryption enable" : Settings open or close WIFI encryption function, press [OK] key input.

"Authentication mode" : set up the authentication mode of WIFI, please select the same as WIFI router, press [OK] key input.

"Encryption type" : to set the encryption type of WIFI, please select the same as WIFI router and press the [OK] key to enter.

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

"SSID" : to set up the SSID of WIFI network, please select the same as WIFI router and press [OK] key to enter.

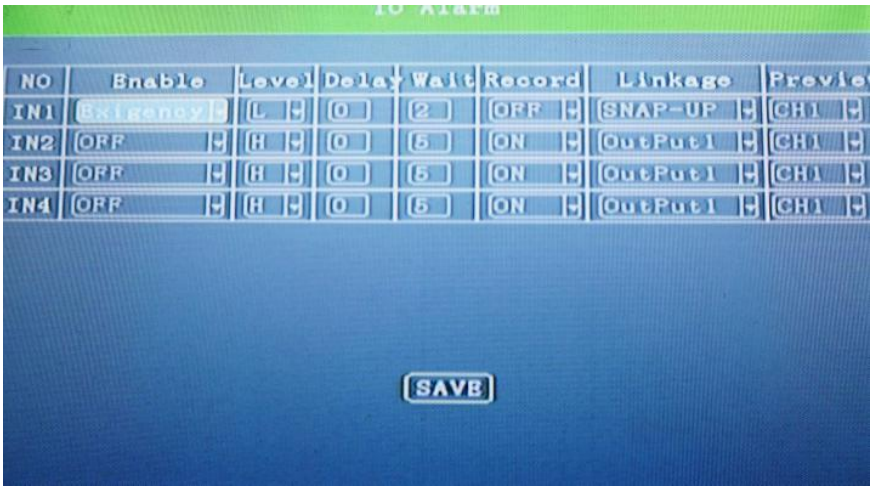
"Password" : set WIFI network access password, please choose to agree with WIFI router, press [OK] key input.

Alarm and peripherals

This menu includes IO alarm, speed alarm, acceleration, mobile detection, voltage alarm, serial port management and cloud control.

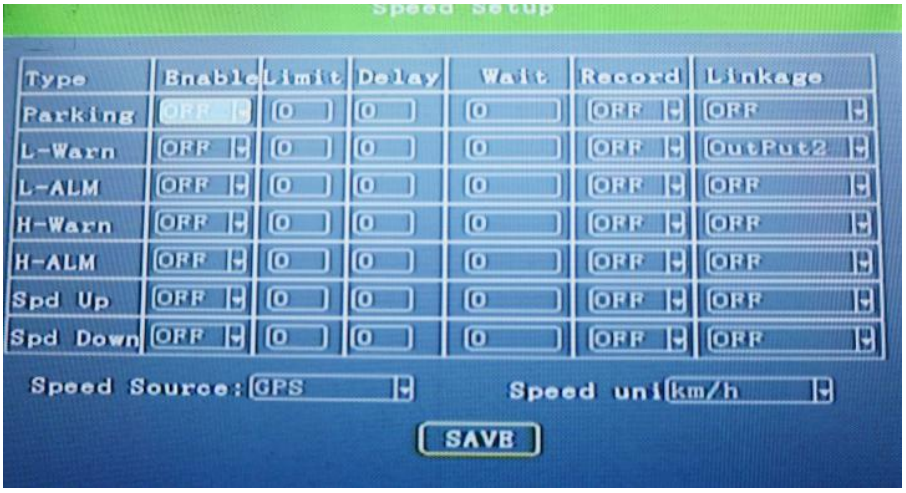
IO alarm

It can set the alarm input, alarm level, delay time and linkage information



"Enable" : whether to open alarm function, and select alarm type, press [OK] key to enter the modification.
"Level" : select alarm trigger level, select high level alarm and low level alarm, press [OK] key to enter the modification.
"Delay" : when the alarm is triggered, it is necessary to delay the alarm triggering, which can set the delay time and reduce the false alarm.Press [OK] to enter the modification.
"Video" : alarm whether to turn on video function, press [OK] key input modification.
"Alarm linkage" : if the alarm is connected, click the "OK" key to enter the change.
"Preview" : when the alarm is triggered, the selection of video preview can be used to reverse the video, open and close video and other functions as the "OK" key to enter the modification.

Speed alarm
Can set the speed of the vehicle (speeding, low speed) and the alarm of illegal driving behavior



"Source of speed" : the information source of the vehicle speed can be used to select GPS and vehicle pulse signal and input the modification according to the remote control [OK] key.

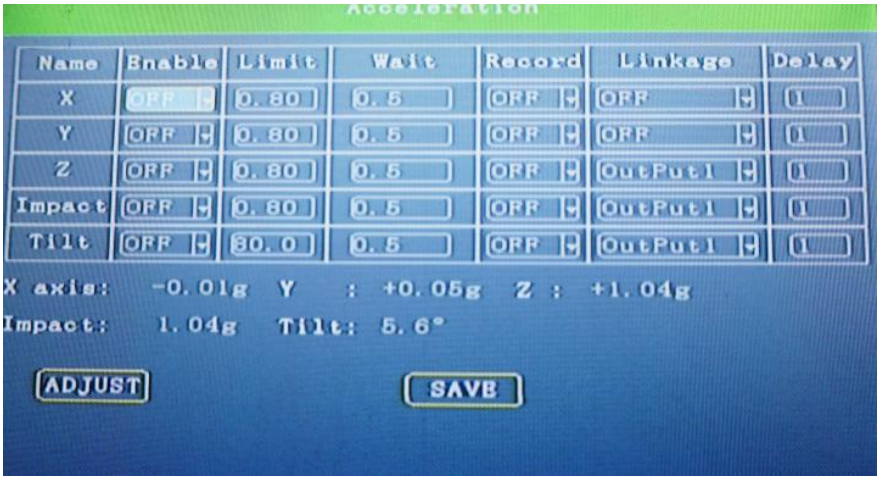
: "pulse" coefficient by pulse acquisition vehicle speed signal must be set when the pulse system as a standard of testing speed, press the number keys input change, searchable vehicle data or by a vehicle moving at a constant speed, by numerical setting for many times in the right number.

"Speed unit" : the unit of speed use, press [OK] key to enter the modification.

Parking "timeout", "low speed alarm", "low speed warning", "high alert", "high speed alarm" : by making can open and close, start alarm functions, gate value set alarm trigger speed and time;Duration, setting alarm duration;Whether the video was recorded when the video was set up for alarm;Alarm linkage, set alarm when the alarm output.

The acceleration

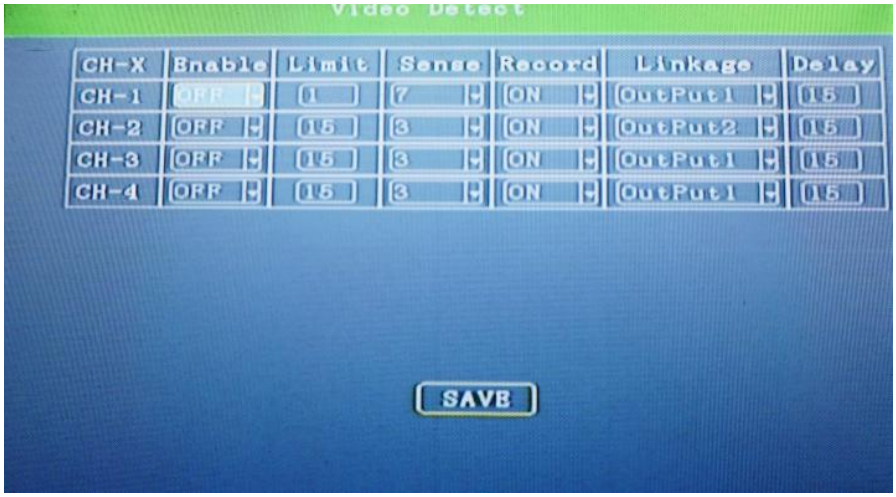
This menu sets the acceleration alarm threshold and the alarm associated with the acceleration alarm



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

Motion detecting

This menu sets the degree of change of image in video and related alarm linkage



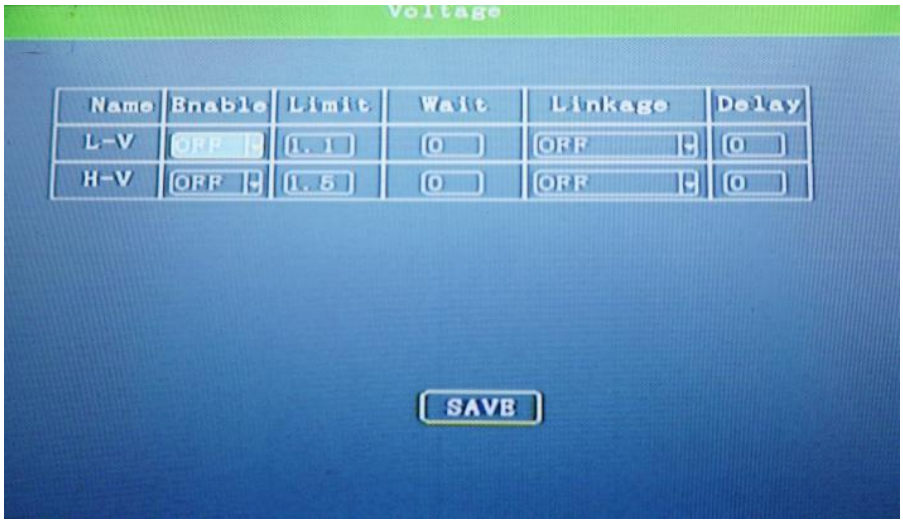
"Threshold value" : sets the threshold value that triggers the motion detection

"Sensitivity" : 0-7 optional, level 0 is the lowest level, level 7 is the highest level.The default setting is level 1, the higher the level, the lower the sensitivity, and the low sensitivity will not trigger the alarm.

In order to achieve the best results, you need to set the appropriate parameters according to the actual environment.

Voltage alarm

Set voltage alarm correlation parameters and alarm linkage



"Low voltage" means that the current input voltage is below the set voltage threshold, "above" means that the current input voltage is above the current set voltage threshold.

"Threshold value" sets the threshold value of the input voltage in the normal range, which shall not exceed the normal working voltage range of the device.

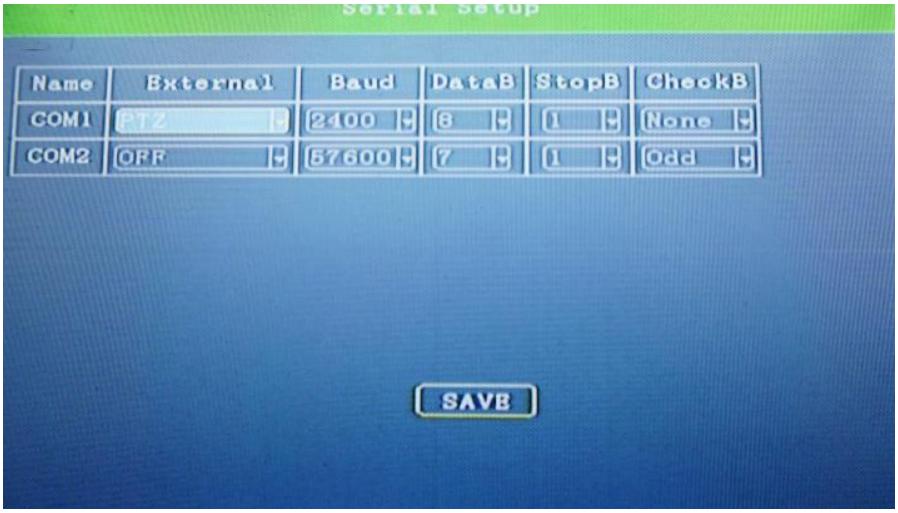
The duration of the "duration" voltage anomaly

When the "alarm linkage" detects that the duration of the abnormal voltage exceeds the set duration, the corresponding action of the trigger voltage is triggered.

Set the appropriate offer voltage parameters, outdated equipment when the battery voltage automatic shutdown, can effectively protect the car battery discharge, avoid vehicles could not be started because the battery voltage is too low, and can prolong the service life of the battery.

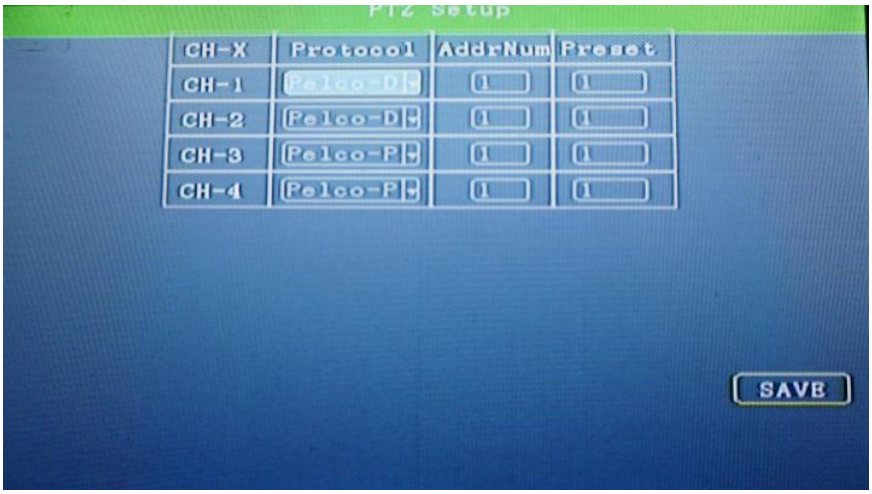
Serial port Settings

The serial port parameter setting of serial port extension device can be used for external LED advertisement screen, TTS speech module, oil meter, g-sensor external SENSOR, card reader, etc



"Peripheral" : the selection of the device type of the serial port, press [OK] key to enter the modification.
"Baud rate" : select the baud rate of the serial port of the external device, and press [OK] key to enter the modification.
"Data bits" : select the data bits of the external device serial port, and press [OK] key to enter the modification.
"Stop bit" : select the stop position of serial port of serial port, press [OK] key to enter the modification.
"Check bit" : select the test bit of the serial port of the external device, and press [OK] key to enter the modification.

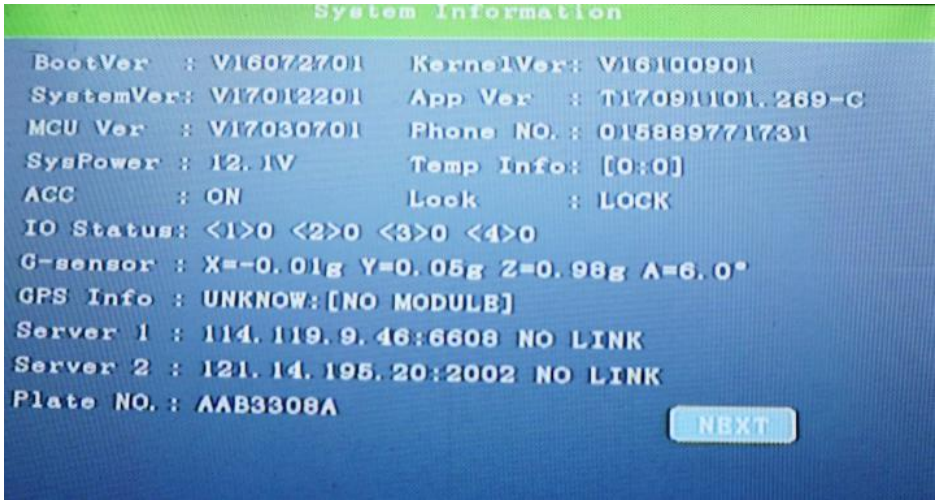
Yuntai control
The cloud control is used to control the parameters of the control cloud billiard machine

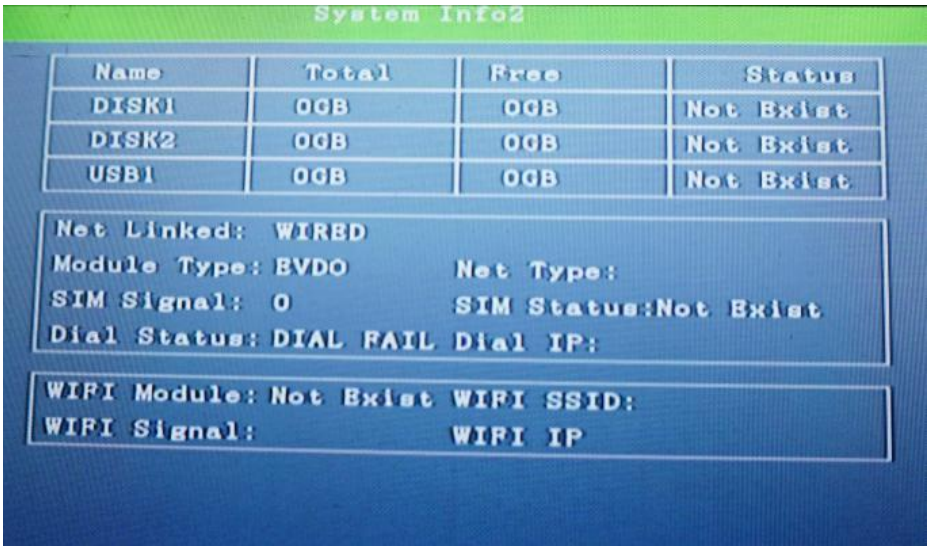


"Protocol type" : the selection of the type of protocol supported by the ball machine, and press the [OK] key to enter the modification.
Address code: select the address code of the ball machine and enter the modification according to the digital key.
"Preset position" : select the preset bit code of the ball machine and enter the modification according to the digital key.

System information

The system information is shown in 2 pages, which shows the state of the device, disk information and network information.In addition to menu calls, you can also use the INFO key directly in the preview screen.





Pay attention to:

Installing a number of devices and each device is set at the same time, please use the configuration of import and export, namely setting up a device, export the configuration file, and then imported into the other devices can be realized each device configuration is the same。

5.installation of equipment

The -S500 ADAPTS to a complex vehicle environment.Specific indicators are as table 1:

Table 1 list of environmental performance indicators of -S500

projects	index	example
High temperature working limit	＋60℃	Ventilation condition
Low temperature working limit	-25℃	
Relative humidity	10%~95%	
Maximum temperature gradient	20℃/小时	
Vibration limit (non-current state)	No more than 5mm p-p (5-22hz) 49m/s2 (5.0G) (22-500hz)	Belt packing, transportation, handling
Vibration limit (normal work)	No greater than 1.0mm p-p (5-22hz) 9.8 m/s2 (1.0 G) (22-500 hz)	Installation of equipment is good.The vibration energy in the main frequency domain of the vehicle is generally within 0.5 Grms.
Impact limit (non-current state)	Not greater than 2000G (19,600 m/s2) (duration 1 ms, half sine wave)	Pack, free of hard disk, transport, and drop, equivalent to 1.5m height, fall on cement surface
Impact limit (normal work)	No more than 1000G, (9,800 m/s2) (duration 2 ms, half sine wave)	Install the good

Installation considerations

 considerations：

To ensure the safe use of -S500 and obtain satisfactory performance and extend the service life of the equipment, please consider the following factors when installing the equipment:

1) comply with the specifications of all electronic products and the requirements of vehicles and other connecting equipment when installing and operating equipment.

2) power supply and grounding:

A) the VCR USES dc power, and please pay attention to positive and negative polarity when connecting the power supply.

B) the VCR input voltage range is 6V ~ 36V, do not connect to the power source beyond this range.Too low voltage will cause the VCR to work, and excessive voltage will damage the VCR.
C) it is recommended that the VCR be directly connected to the battery power output.Please note, do not take the generator power output from the car, because the generator output may produce instantaneous high voltage at startup, damaging the VCR.
D) when the camera is connected to the camera, the start-up power is over 60 W (the power consumption varies depending on the external equipment).The power supply must be capable of providing over 60 watts of power (for example, when the power output voltage of the car is 12V, the power cord must be able to withstand the current of more than 5 A).
E) even if the device is shut down, the machine is electrically charged and should avoid short circuit.Disconnect between the device and the power supply before connecting to other external devices.
F) the external output voltage of the device is 12V, which is only used to power the camera. Do not attach any equipment that is not allowed to be used on the device.
G) the input mode of the equipment sensor is in the mode of level. The external voltage is lower than 2V, which is considered as low level and is in the range of 5V ~ 30V, which is considered to be high level, over 30V, which can lead to equipment damage.When the voltage is greater than 2V less than 5V, it is illegal.
H) properly connect the ground wire of the equipment to the circuit of the vehicle.
I) if the machine is not used for a long time, it is better to completely disconnect the equipment to extend the service life.
J) it is recommended to wear resistance, heat resistant, waterproof, and oil - proof sleeve outside the power cord to prevent the short circuit or break of the line due to the long vibration in the car.
K) the power cord is close to the power output of the car, and the box must be installed with 10 ampere.In case of a short circuit on the power line, burn the power of the car.
3) humidity requirements:
A) in the dry environment installation equipment, avoid wet, water, water and other places.Do not install the equipment in the place where the sag is or the wet ground where the liquid will drip.
B) do not touch the equipment with wet hand touch, nor stand in the water or contact with other water sources.
4) installation location:
A) to extend the life of the equipment, please install the equipment as far as possible in the weaker parts of the vehicle, such as the rear of the driver's seat.
B) the equipment shall be installed in the ventilated parts of the vehicle: the equipment installed in the plane shall be 6 inches (15cm) away from other objects to facilitate air circulation and heat dissipation;Cannot be installed in enclosed Spaces (e.g. car trunk).
C) the external wire of the equipment shall have sufficient intervals and jacket flame retardant protection to ensure that the wires are not bent or the shock wears away.
D) ensure that the equipment is far from the heat source on the vehicle, and there is no clutter around the equipment, and no items should be placed on the equipment.
E) equipment can only be vertical or lateral horizontal installation (if you have other direction installation requirements, please consult factory), may damage the equipment in any other installation Angle, are forbidden.
5) equipment safety:
A) ensure that passengers or drivers are unable to intervene and damage equipment parts, cameras, wire and other accessories, and do not install equipment in places close to other restricted vehicle components.
B) when installing equipment components, cameras, accessories and wires, the vehicle may cause damage to the equipment and ensure that the vehicle is still during the installation to prevent the equipment from falling.

2.2 open box inspection

Please check if the host has any deformation or other property damage after opening the box, please stop using it and contact your supplier if there is any phenomenon.

2.3 installation instructions of the main engine

A) installation of the whole machine

The installation mode of the main engine has horizontal installation and side installation.

1. Horizontal installation: the machine is placed on the mounting surface, and the screw is fixed to the fixed hole of the four machines to tighten the machine on the mounting surface;

2. Side installation: when the machine is not able to be installed horizontally, it can be installed on the side, such as on the vertical wall or on the side of the bus.When the side installation is adopted, the host can only have one side facing up, and the other three sides cannot be up, and must be installed according to the instruction icon of the rear panel of the host.

B) power cord connection

The VCR USES dc power input, and the normal working range of input voltage is 6V~ 36V.

A) alarm input connection

The device has 9 sets of alarm input interfaces.The detection of alarm input is a level test, which can be used in various vehicles, such as braking, steering, etc.As shown in the diagram below, the device can detect the high level of the brake when the brake pedal is under, otherwise it will detect a low level

a） The alarm output is the output of the level, the driving capacity is 200MA. If the power is to drive the larger device, the external relay must be connected.

b) SD CARD/HDD and SIM card installation

SD CARD/HDD is installed in the position of SD1 and SD2 in the figure above;

The SIM card is installed in the position of SIM in the figure above.

c) mounting bracket

The host and installation integrate together to reduce the user installation process.

2.4 equipment upgrade

A) first, COPY all the upgrade files to the SD CARD/HDD root.The upgrade file contains applications, file systems, and UBOOT;

B) insert the SD CARD/HDD with the upgrade file to boot;

C) enter the system menu "system information" to view the application, file system, boot program, kernel, single chip version number;

D) the version number is different from the current version, which does not need to be selected in the equipment management, and the equipment will be automatically carried out;
E) do not use power without power during the upgrade process. Do not do any operation on the equipment.