MOB 9944HDD-G4W

User Manual

For more information visit www.sieraelectronics.com

Content

1. Overview

This manual is the instruction manual for MOB 9944HDD-G4W as below: Please read the manual before you using the product.
The manual will be updated from time to time without prior notice.

2. Cautions

2.1. Installation Environment

1. To extend equipment life, please install the equipment in locations with little vibration.

2. To ensure normal heat dissipation, do not install the device in a poorly-ventilated area (such as trunk), and also keep about 15 cm away from other objects on the same level.

3.The device shall be horizontally installed and protected against water, humidity and lightning; in addition, keep the vehicle still during installation to prevent damage to the device due to falling off.

4. To ensure safe operation, keep the device, camera, cables and other accessories out of reach of passengers and driver.

2.2. Avoid electric shock and fire

1. The machine uses 9V-36V DC power supply, notice the polarity when wiring to avoid short circuits.

2. Please power off the device when connecting accessories with device.

3. Do not touch the power and the device with wet hands.

4. Do not spray liquid on the device to prevent internal short circuit or fire.

5. Do not put any other equipment on top of camera.

6. Do not disassemble the housing without authorization to avoid damage or electric shock.

2.3. Transport and operation

1. Please use the original package in transport to avoid damage in transport.

2. Please keep power off in moving the device or replacing components.

3. Product introduction

The MOB 9944HDD-G4W supports IP camera recording and playback with network function.
The product adopts ARM DSP fast dual-core processor running on the Linux embedded OS, and also integrates the most advanced H.264/H.265 video encoding/decoding in IT industry, 3G/4G network, GPS and Wi-Fi, as well as power-failure protection, HDD shock absorption, wide voltage features.
It is extensively applied in public buses, logistics vehicles, school buses, police cars, financial convoy cars and fuel tankers.

Main Features:

- Supports 8/12 IP cameras
- Industry leading CPU with powerful processing ability
- Supports HDD/SSD/SD CARD for recording. Max. 2TB HDD.
- “Plug and Recording” Hard disk: innovative hard disk mounting design, no need to mount screws
- Robust design: Cast aluminum enclosure. Patented design
- Selected industrial power chip-sets, support 9-36V wide range power input, adapt to harsh environment
- Support UPS
- Support low/high temperature environment
- Support external Fireproof box, to backup data in extreme scenarios
- Support backup recording
- Dual streams for local recording and network transmission
- Support 3G/4G, Wi-Fi, GPS modules.
- Built-in G-sensor for harsh acceleration/deceleration detection
- Data self-protection, save data when shut down abnormally

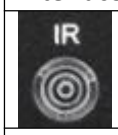
4. Product Specification

Power input	DC: +9V ~ +36V	9V～36V, Check the supply voltage of the vehicle battery before use; If it is supplied with more than 36V for a prolonged period, the device may be damaged.
Power output	+12V@1A，+5V@1.5A	
ACC detection	≤4V	Power off
	≥5V	Power on
Video input impedance	75Ω	Each video input impedance: 75Ω
Video output voltage	2Vp-p	2VP-P CVBS output analog signal which should be adapted by 75Ω of input impedance from the display unit.
I/O interface	<1V	Low level alarm
	>5V	High level alarm
Operating temperature	-20℃～70℃	In a well-ventilated place

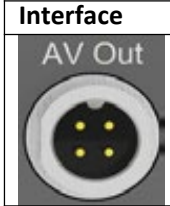
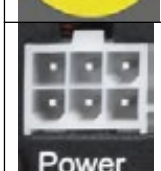
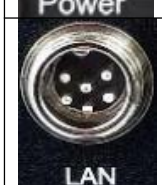
5. Mainframe

5.1. Interface

5.2. Front panel

Interface	Name	Description
	IR	Infrared Receiver
	Front panel	2.5 inch SATA HDD slot. Please unlock the lock with the key. You can also see SD card slot and SIM card slot with HDD slot together.
	Lock&Open	Open and lock the door for HDD/SD card/SIM card slot; On/off switch for device power;
	USB	For USB mouse,USB flash drive,etc.
	LED	LED Indicators. Green is on status. SD/HDD LED blinking means it's recording.Alarm blinking means there is an alarm.

5.3. Rear panel

Interface	Name	Description
	AV Out	4pin aviation connector; Connect with monitor; The port will output audio and video to screen.
	3G/4G LTE	Connect with 3G/4G LTE antenna.
	GPS	Connect with GPS antenna.
	WIFI	Connect with WIFI antenna.
	Power	Connect with power adapter/battery
	LAN	Connect with network cable for network
	I/O&Serial	For IO cables; Including sensor input,sensor output,DC power output, RS232, RS485, sensor

	USB Storage	Fireproof box

5.4. Pin definition of IO&Serial port

The port contains below interfaces:
DC12V OUT;
DC5V OUT;
RS232;
RS485;
Sensor Input;
Sensor Output;
Audio Out;
MIC;

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VCC12V-OUT	GND	RS232-RX1-Debug	RS232-TX1-Debug	N/A	SENSOR-IN-6	RS485B	RS232-RX2	SENSOR-IN-7	SNESOR-OUT-1	SENSOR-IN-3	GND	VCC12V	MIC-	RS232-TX1
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
VCC5V-OUT	GND	GND	N/A	SENSOR-IN-8	SENSOR-OUT-2	RS485A	RS232-TX2	SENSOR-IN-5	SNESOR-IN-4	SNESOR-IN-2	SENSOR-IN-1	AUDIO-OUT	MIC+	RS232-RX1

5.5. Remote control

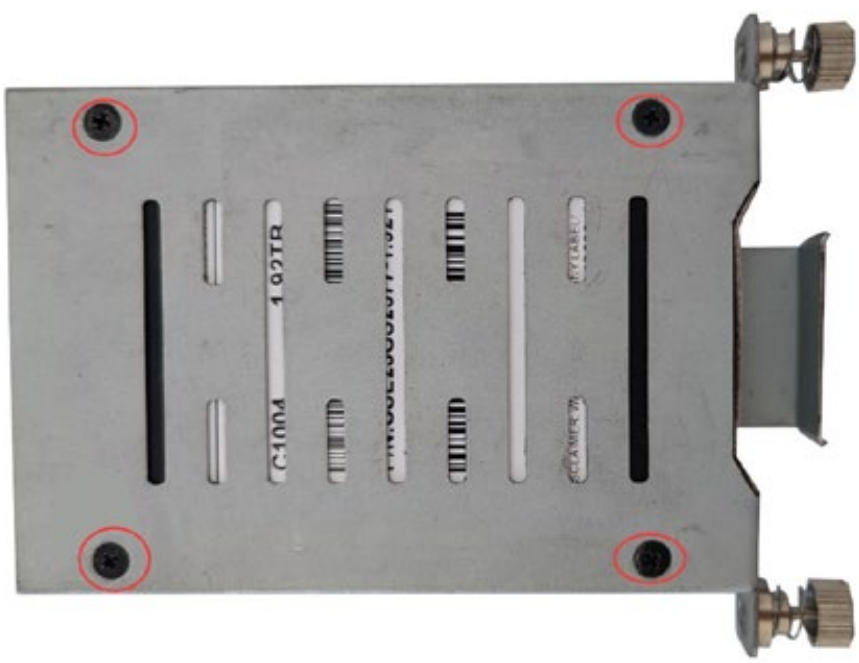
Login	When the recorder is set with a password, press the Login key to input your password. As the system is not provided with recover and reset features, always keep your password in mind.
INFO key	Short-cut for check the device's information.
Quad View key Number key 1, 2, 3, 4	On the monitoring interface, used to switch between quad view and single view; press the Quad View key to display 4 screens. You can press number 1/2/3/4 to display channel 1, channel 2, and channel 3 and channel respectively.
Return key	Return to the previous menu, and finally exit from the setup menu to the monitoring interface.
DEL key	Delete when input the numbers by remote.
PAUSE/STEP key	Used to pause playing or play images at a single step. Press the key again to recover normal play speed.
Frame key	Press this key to play a video in a frame rate.
Play key	Press this key to start playing (search the video file to be played and select, then press the key to play it).
FWD key	Forward key in four grades: 2X,4X,8X,16X

REW key	Rewind key in four grades: 2X,4X,8X,16X
NEXT key	Page down or roll to the next file.
PREV key	Page up or roll to the previous file.
PTZ key	Auto, preset, call, zoom +, zoom -, focus +, focus -, aperture +, aperture -, PTZ, PRESET, RECALL, BRUSH.
F1, F2, F3	F1 is a key to start functional test

6. Device and installation

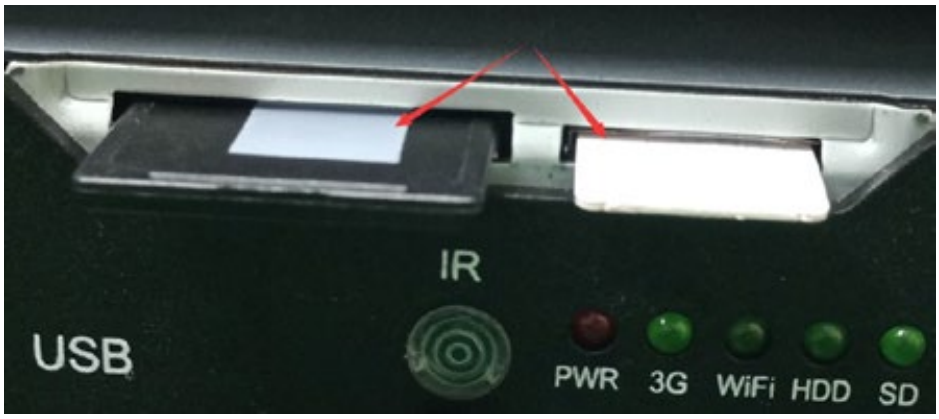
1. Unlock the electric lock and screw on front panel

2. Install disk
A. Take the tray out, Fix the HDD/SDD via screw.



B. Install the tray back, screw it tightly.

3. Install SIM card and SD card.
Install SIM card and SD CARD.

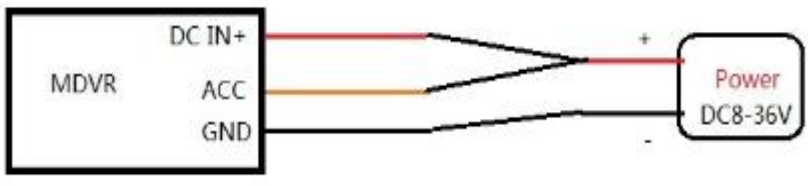


4. Lock the electric lock, and fix the front pane's screw.

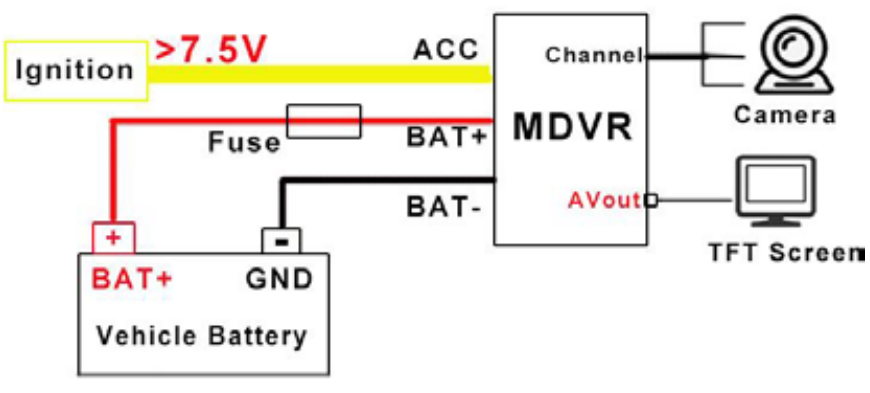
5. Connect 4G/WIFI/GPS antennas
Connect 4G/WIFI/GPS antennas according to labels on antennas and connectors.

6.Connect power with MNVR
Use DC12V, 3A(at least) or higher(5A is better) power adapter in office test.

MDVR Power connection for test



For the vehicle, must install like this.



7. Connect TFT monitor

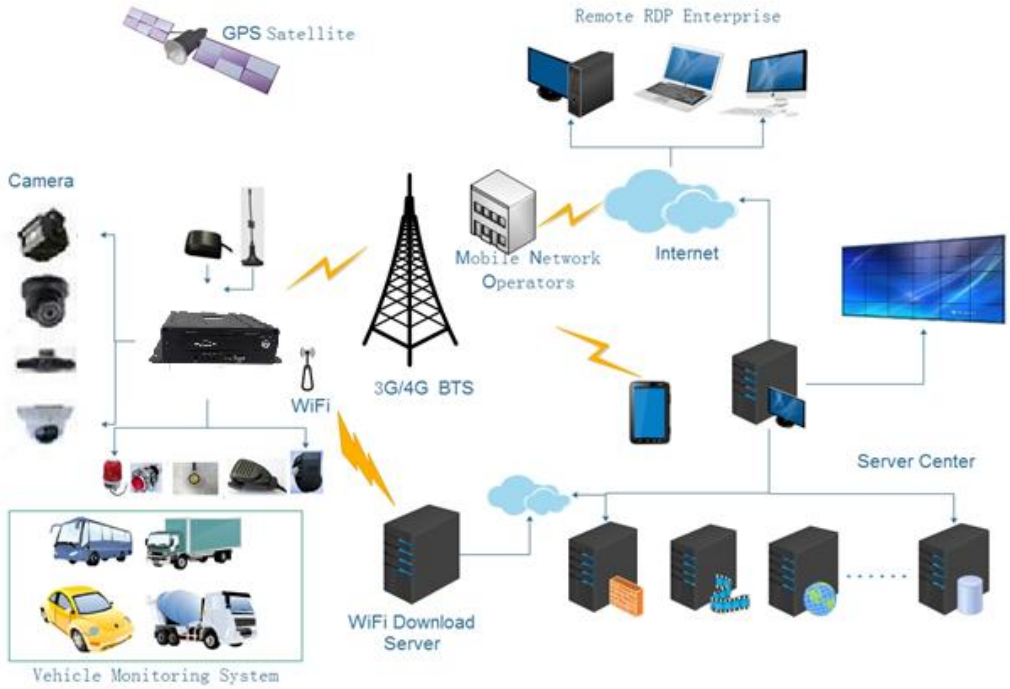
Connect a TFT monitor with AVOUT port on the rear panel of MNVR.

Attention：The MNVR will provide power and image to TFT screen by Avout port, so don't connect any external power for the TFT screen, or else, it will destroy the MNVR.

7. System diagram

This product is suitable for video monitoring or remote monitoring and applicable for general or special vehicles. It mainly uses the special designed vehicle camera to acquire the front video signal, then transmits the signal via a special video cable to the MNVR mainframe for video compression and image processing and finally stored in the HDD.

It can also locate where the vehicle is in real time via GPS module, and then upload the location information to the remote server via 3G/4G module. You can download video files from the remote client to realize real-time remote monitoring of the vehicle. The following shows the actual application model of this product that may be different depending on vehicle type and peripherals.



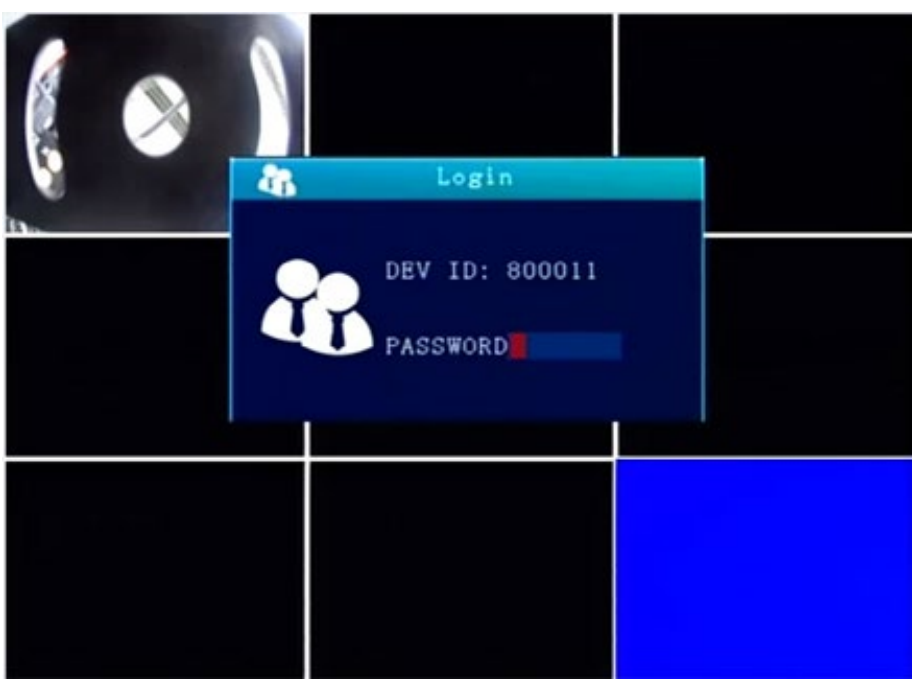
8. System operations

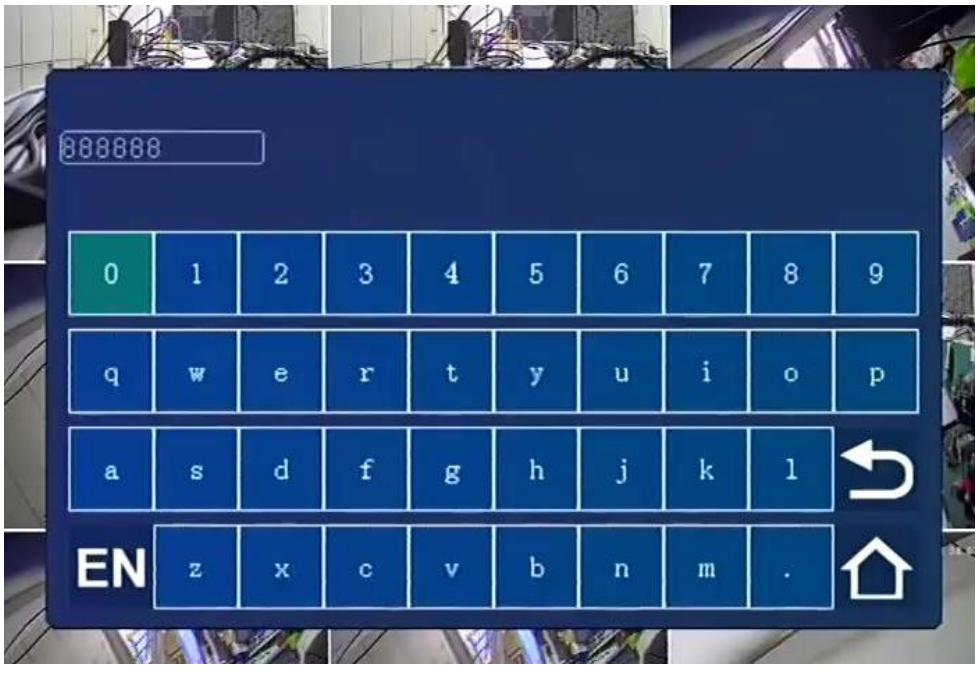
8.1. User login

For all devices, the default password for admin is 111111; user is 666666 **TIP**:
Admin account is able to change the setting.

With remote:

Press 【**LOGIN**】button to login MNVR.
Press【**Enter**】button to call the keyboard page to input password.
If any err while inputting ,press【Delete】button to delete.

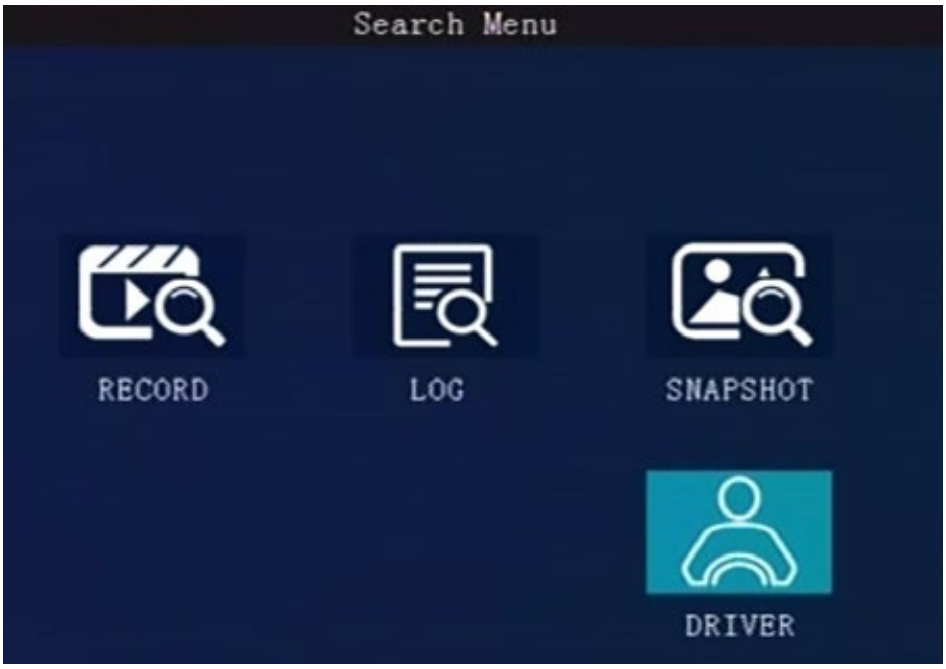




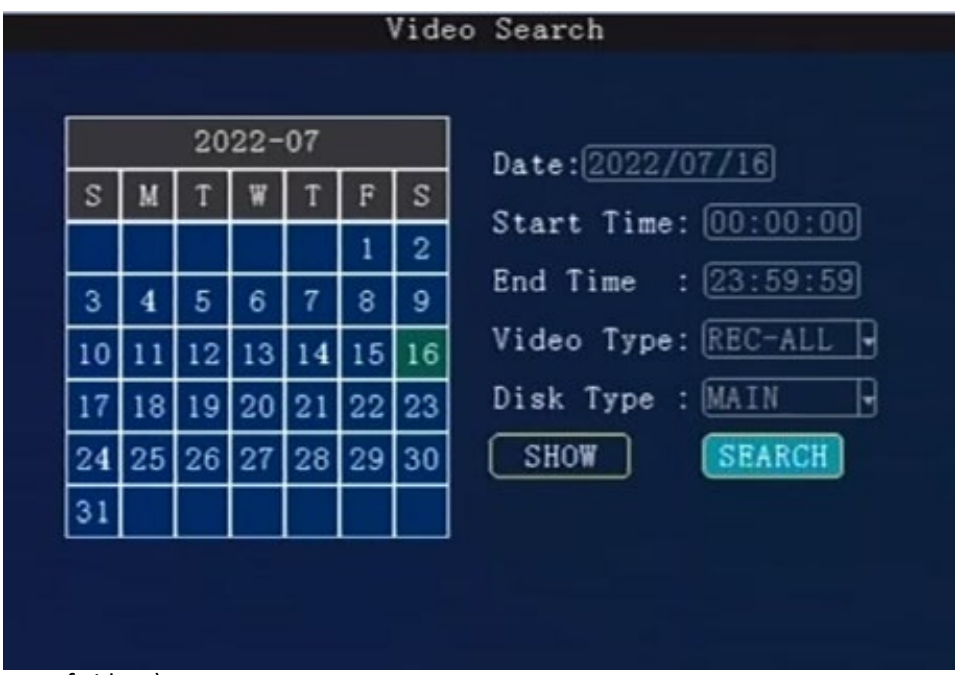
8.2. Main menu

8.2.1. Search

Searching menu includes: video search, log search, picture and driver search.



8.2.1.1. Video Searching

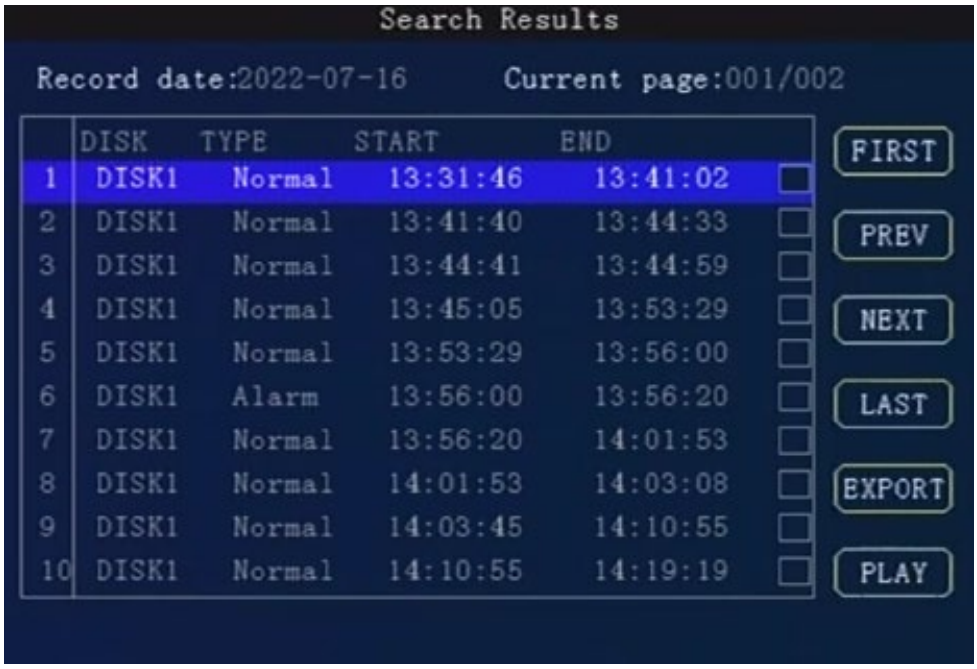


REC-ALL (all type of videos)
REC- ALM(alarm videos) contains: **IO**(I/O recording), G sensor, Speed ,Move, Fatigue,OCC type. Need set in the Alarm menu first.

Disk Type： press【Enter】to select: **main disk** / **mirror disk** / **disk backup**. it defaults for main disk. Regarding the difference , please check [**8.2.3.5 Storage setting**].

Search：Move to the "**Search**" button， press【Enter】, then enter the search results interface.

The interface contains **record date**, **the current page** number , **menu for browsing**, search contents. In the search contents, it contains: **DISK**(the file's location), **Type** (which you have selected) ,**start** and **end** time.

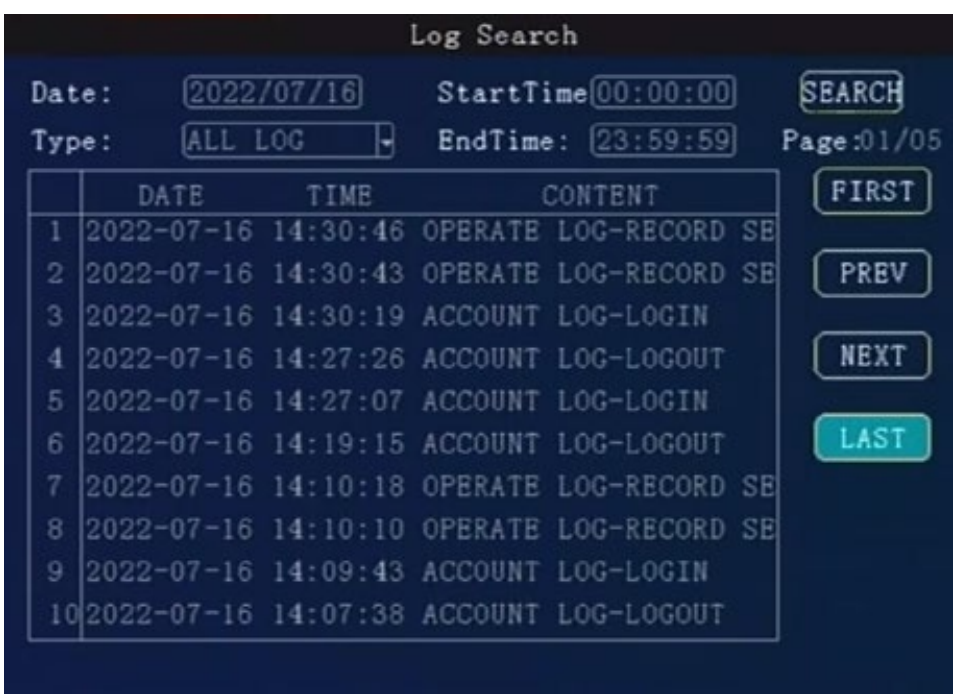


Play: Select the video list, then click【Enter】key to playback the footage.

Export: Selected videos will be exported to an external USB drive .

Note: If the selected period there is no video file and interface prompt: "! This day has no video file''

8.2.1.2. Log search

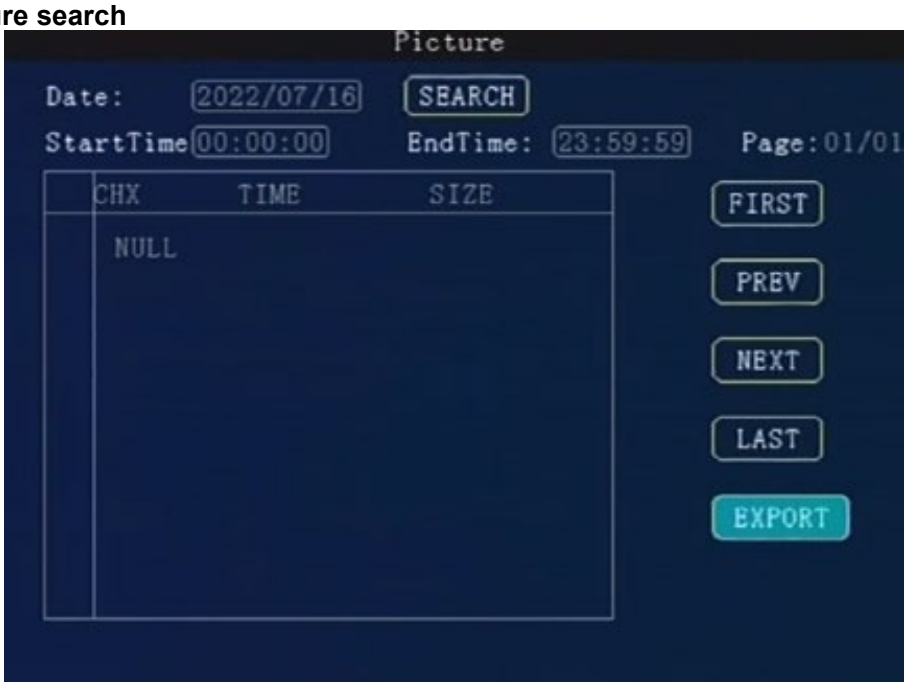


Log management record : Power on/off, GPS timing, alarm event information, including event date, event time, and event name.

Date Search: Press number keys on remote to enter the date, default setting is today.

Log Type: Press【Enter】to select: **All log/ System log /Configuration log/ Alarm log / Record log/Clear log/Operation log/Manage log**. Default is all log.

8.2.1.3. Picture search



Pic search is used for checking the snapshot when alarm is triggering(I/O alarm and Video detect), should set in the alarm menu first.

Export: Press【Enter】key on remote control, the selected pictures will be exported to an external USB storage device .

8.2.1.4. Driver search

The driver info which released from Server platform via RFID.

8.2.2. System setting

System setup menu includes: **Register info**, **User**, **Time**, **Startup**, **Config** and **Format**.

8.2.2.1. Register info

The platform manage the vehicle by **Device ID**.

Device ID、**Plate No.**, **Province ID**, **Terminal Model**, **Factor ID**, **Terminal ID**, **City ID**：Press number keys to input.

Device ID

Set a number(12 digital at most) ,but must be unique, It's very important , since we will add this device to the server by these numbers.

Plate NO.: It will display on the OSD of live streaming.It's better set as Plate number.
Language： press【Enter】to select and system will reboot automatically.
Mileage: Set the current mileage, or **Reset** it.
Position Mode:GPS, GLONASS, BeiDou, GPS+BD, GPS+GL. **License1 &2**: Reserved function.

8.2.2.2. User

Password： press【Enter】:On/Off

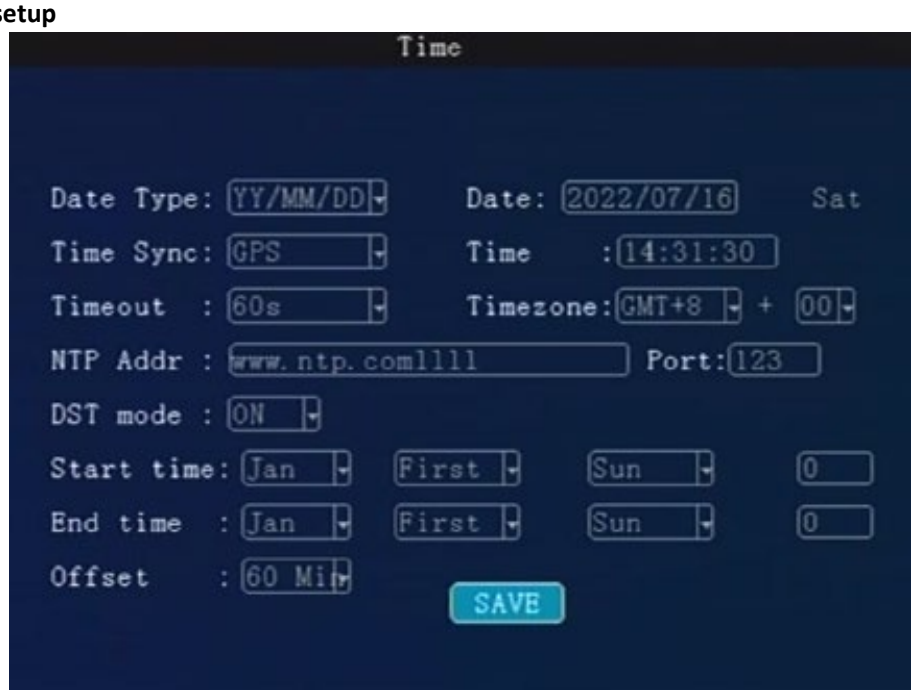
ON: Login with Admin password can setting the User &Admin password; login by user password can only set a user password, password must be the same with **confirm** below .

The administrator ***can set or change the parameters,*** so if you need to set some parameters, login with this account.

The user can search and view the files only.

OFF: Without password. When entering the menu, access the main menu directly .

8.2.2.3. Time setup



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

Time Sync: Off / GPS / NTP for option, default is GPS.

Time out: Setup Menu Waiting Time, once overtime, it will automatically log off the current user,back to the monitoring mode. Press【Enter】 to select: 1 minute / 2 minutes / 5 minutes / 10 minutes,Default is 1 minute.

Date: To modify current system date, press number keys to enter.

Time: To modify current system time, press number keys to enter.

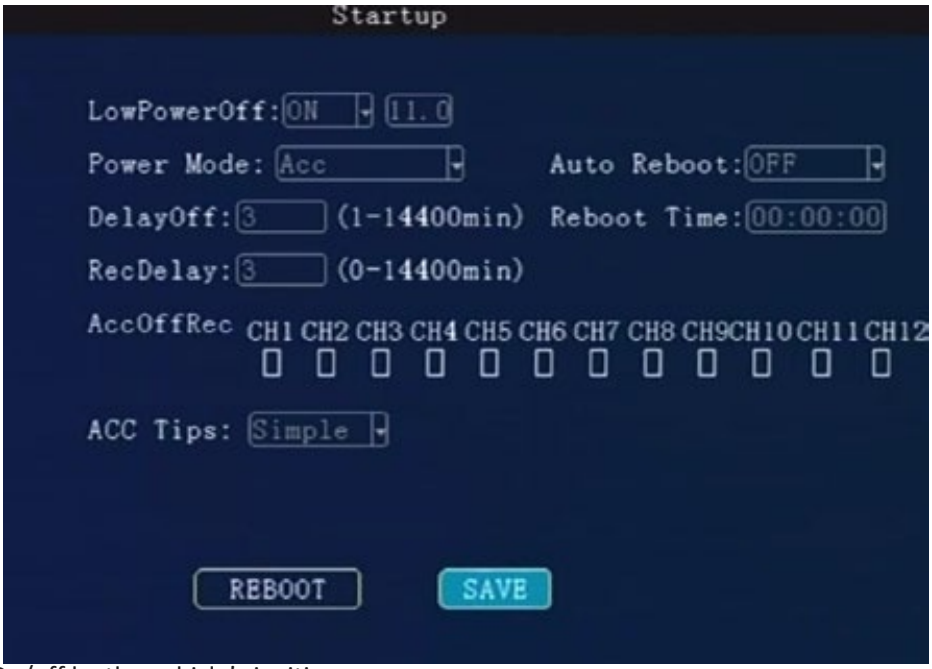
Timezone: Please set according to your local time zone, default is GMT + 08.

DST mode: Daylight Saving Time , set it according to your local area requirement.

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

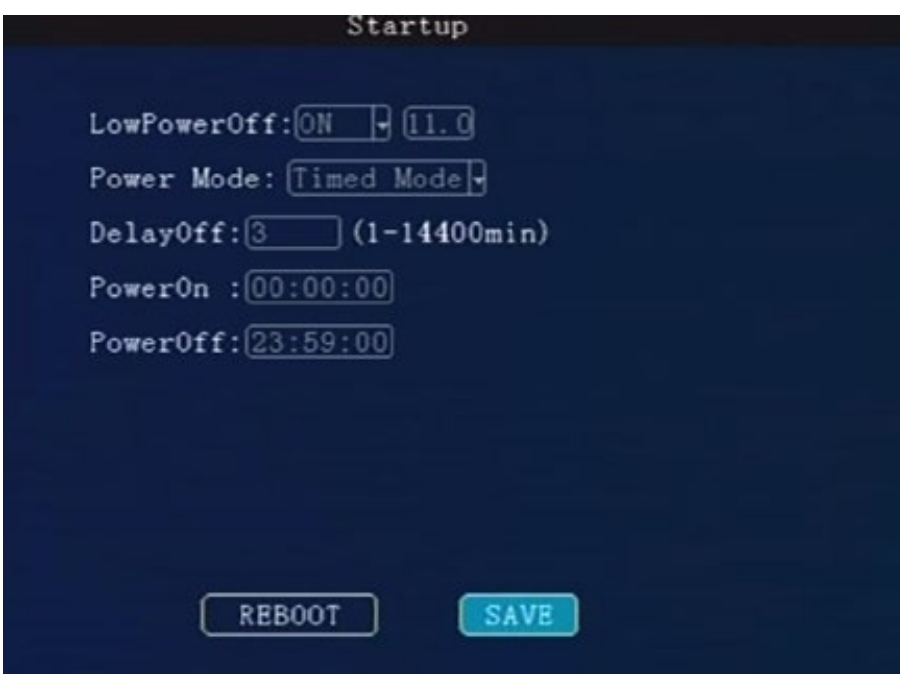
8.2.2.4. Startup

Power Mode：To set Power ON/Off mode, press【Enter】to select. Acc mode / timing mode.
Low Poweroff： You can set a voltage for prevent draining battery, MNVR will power off automatically when less than this setting.



Acc mode: On/off by the vehicle's ignition.
Delay off: Set the device delay off time.MNVR will still work after the vehicle is power off , then turn off after **Delay-off** time, press 【**DEL**】 to clear the current number, press the number keys to change. 14400 minutes means the device will work 10 days if the battery can support that long time. So please set a available parameter for it.
RecDelay: When the vehicle is power off, set the record delay time, it will continue recording during this time .This time can't exceed the **Delay off** time .
AccOffRec: Choose the channels for delay recording.

Auto Reboot: ON/OFF. The default is OFF. If it's **ON,** it will reboot at the **Reboot Time**.
If the device is running all the 24 hours, please set it **ON**.



Timing mode: on/off according to the user's setting period.

Power on: Setup power on time under timing mode.
Power off: Setup power off time under timing mode.

8.2.2.5. Config

Parameters import: Import configuration information in the USB drive to the current device.
Parameters Export: Export all the configuration information of the current device to the USB flash drive. If there is no USB drive, it will saved in the existed HDD/SD card.

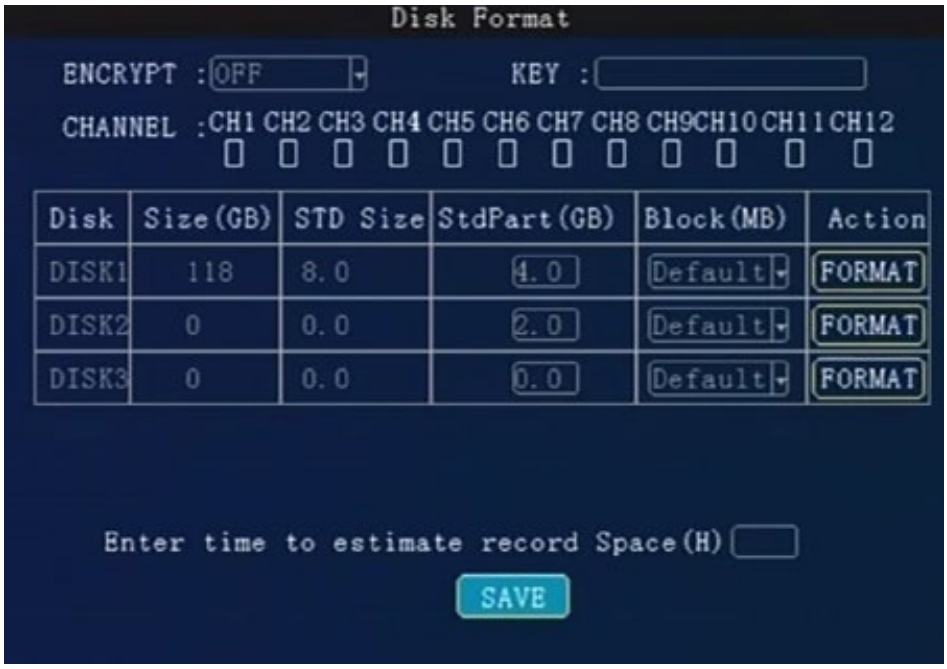
Tips:
If you had set the whole parameters in one device already, you can export it first, and then import to other devices by this function. After the import, it will reboot automatically.

Save User Setting: Save all configuration information for the current user, it will store this information in the SD/HDD.

Factory settings: Restore some device parameters to factory default, such as Alarm, Record. It will not change the Device ID and Network setting items.

Back to User settings: Restore all device parameter setting to saved user's setting.

8.2.2.6. Format



Press the arrow keys to select **DISK1 / DISK2 / DISK3**(Fireproof box).

It will display the whole available disks. Size/Std size/Block setting.
Encryption: For safe concern of videos,we can set a password(KEY) for the dedicated channels. When play by our player, it will ask the user to input the password.

STD size: The area for saving Alarm pictures, debug Logs, system file, Alarm videos. This area is which you can check on the PC. For example, if you need more space for saving alarm videos and upload to FTP server, should change it . Just input a new value in **StdPart(GB)** and **SAVE** it.

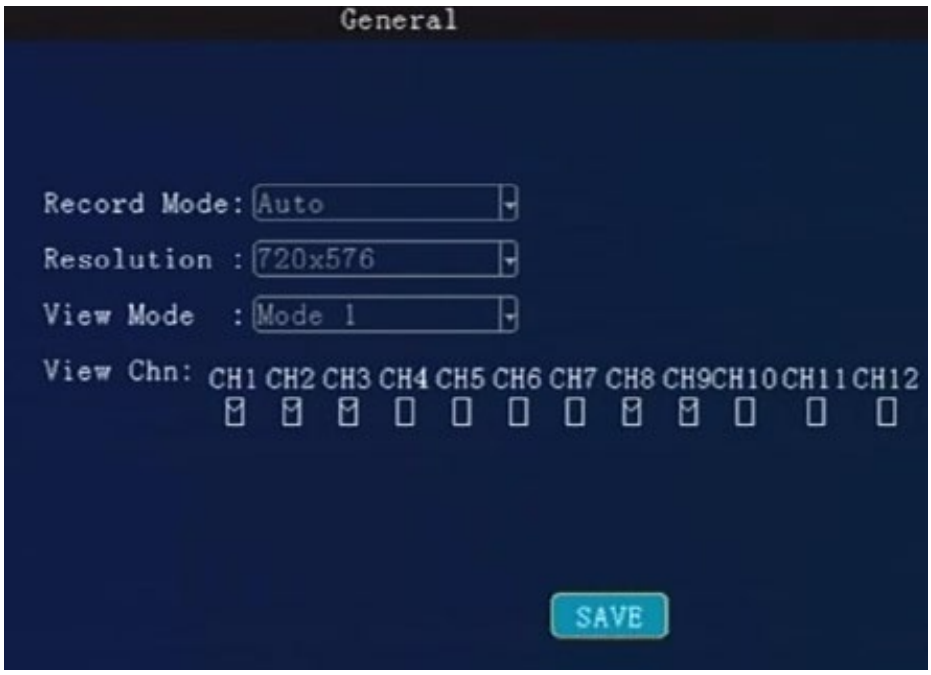
Block(MB): All videos are saving by block read&write technology. It's not recording by time length. So if you need save a long time period video, change a bigger value for it.

Format: If there is some err with the disk, format it. It will take about some minutes.

8.2.3. Record

Recording setup including：**General, Record, IPC, Time recording, Storage, OSD set.**

8.2.3.1. General



The General info contains the basic setting for camera.
Record Mode: Auto / time recording / alarm recording, default is Auto.
Auto: it will record all the time.
Time recording: Need set the time in **[8.2.3.4 Timed Record]**.
Alarm: Only record when alarm is triggering, should set in the Alarm menu first.

Display Resolution: This is set the TFT screen display resolution.Press【Enter】to select: 720 × 576/1024 × 768/1280 × 720.

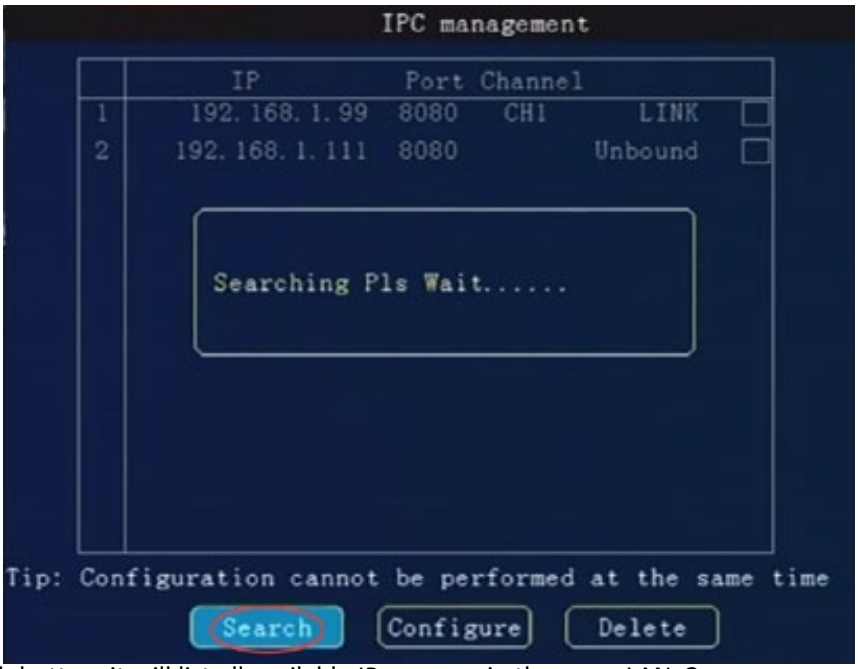
View Chn: Select the channels you need ,default setting is 8 channels.

8.2.3.2. Record

Enable: Press【Enter】to select: On / Off.
AUDIO: Press【Enter】to select: On / Off. **ON** means the audio will be saved with video together.

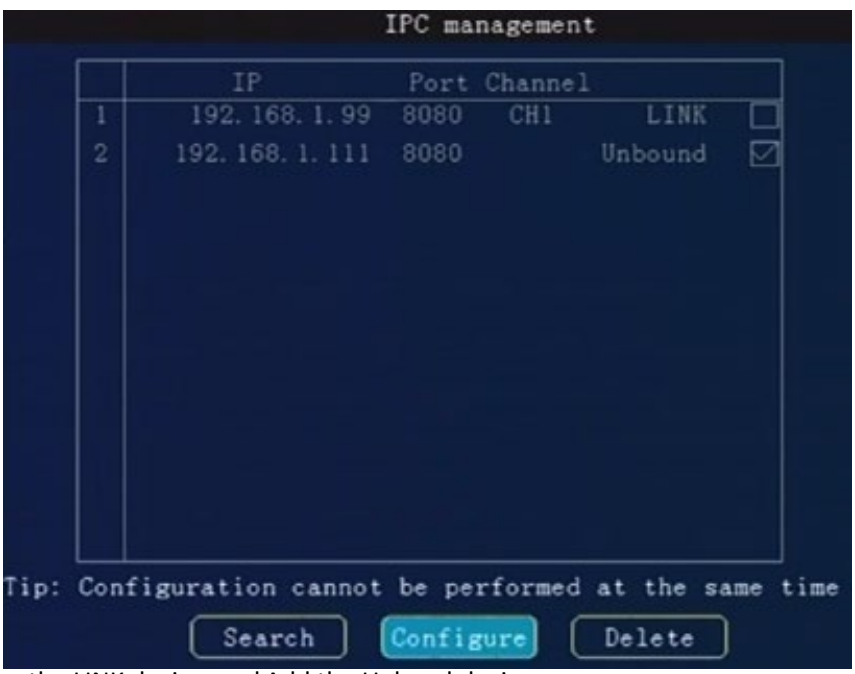
8.2.3.3. IPC Management 1.

Search



Click the search button, it will list all available IP cameras in the same LAN. **2.**

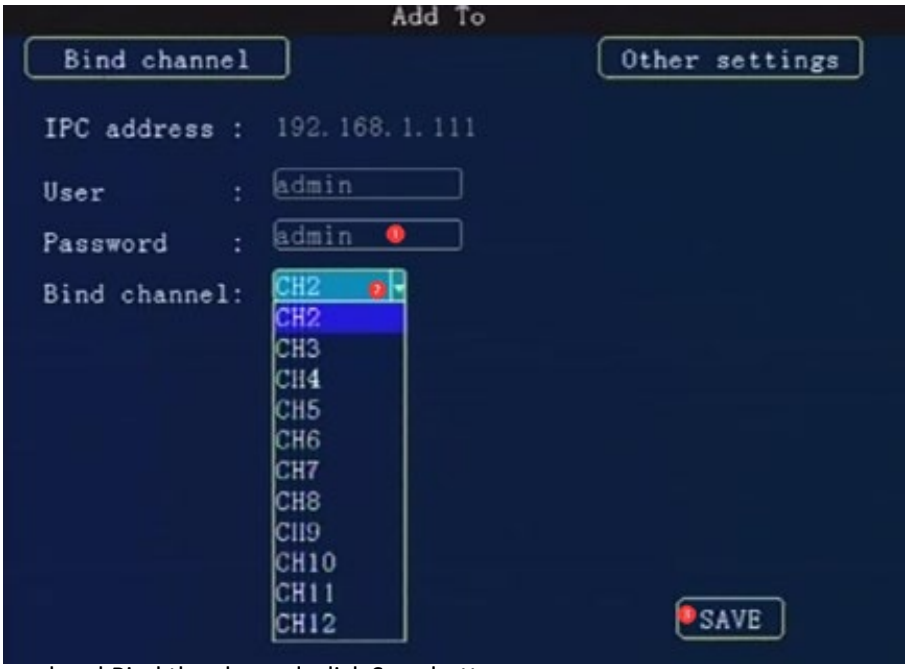
Configure



You can configure the LINK device, and Add the Unbond device.

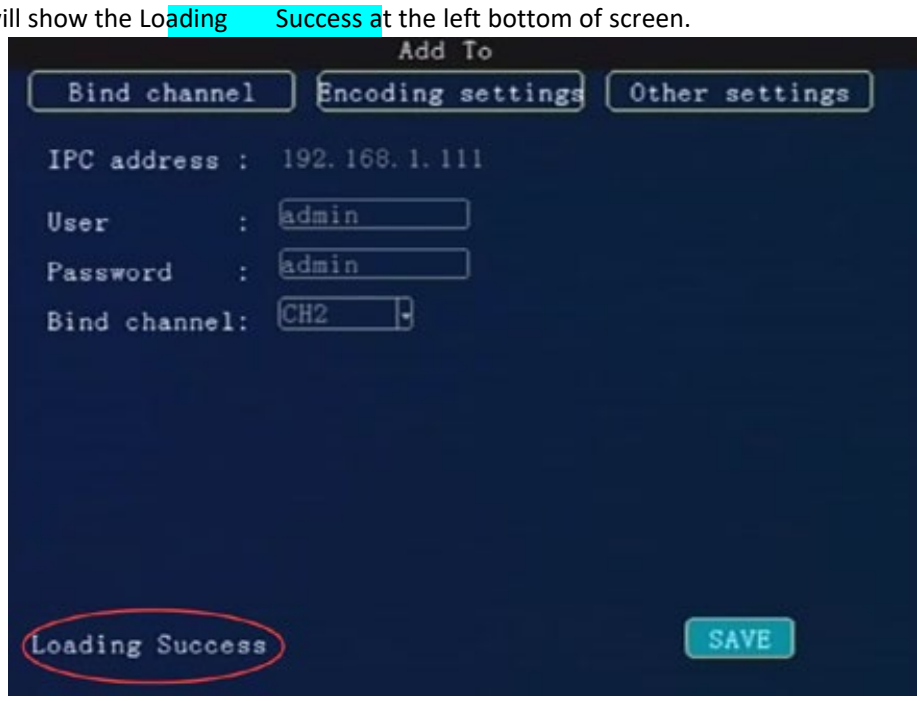
A. Add device

Select the Unbond device , then click Configure button.



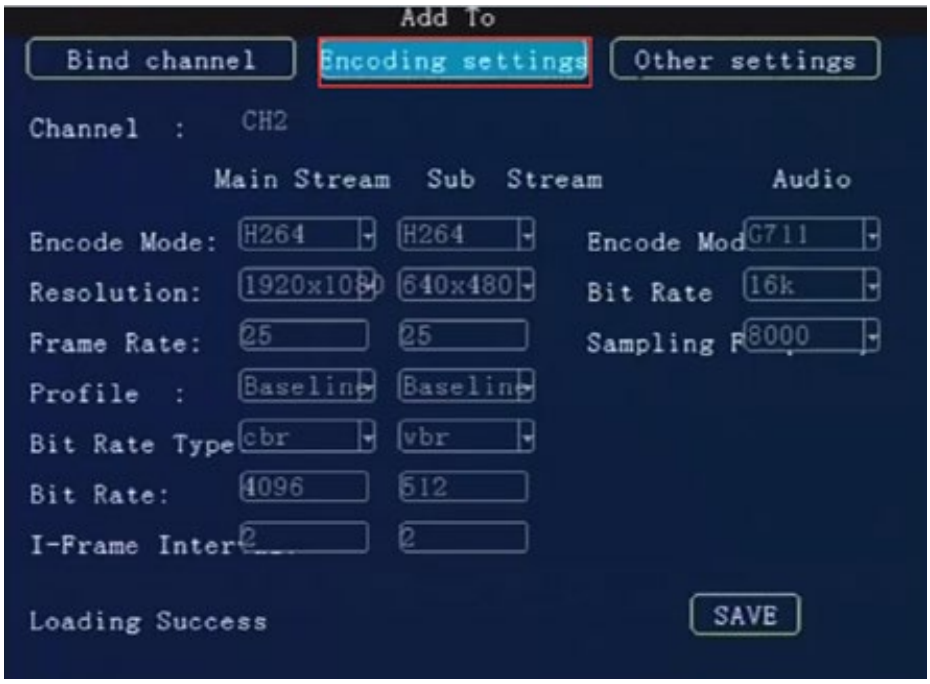
Input the password and Bind the channel, click Save button.

If success, it will show the Loading Success at the left bottom of screen.



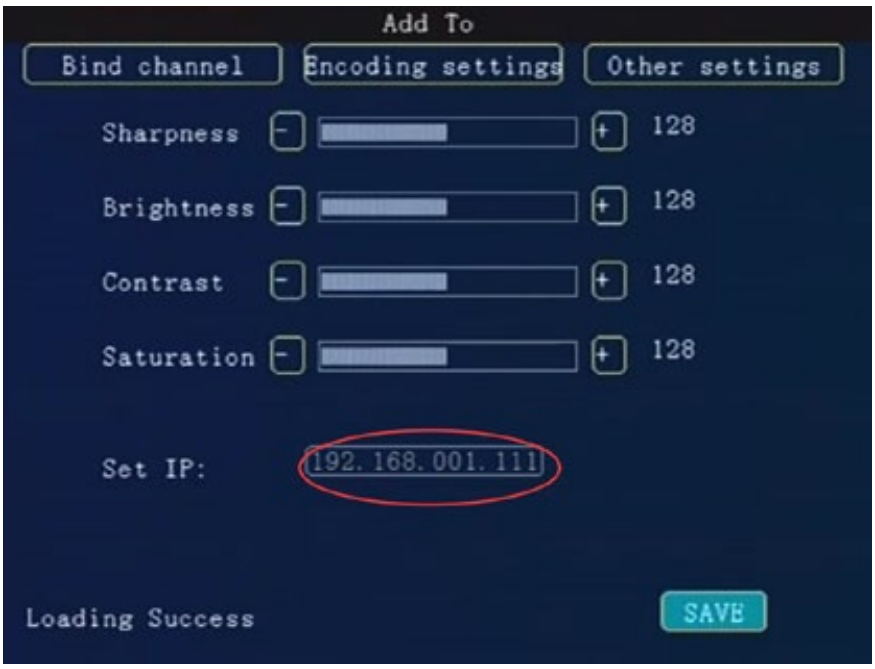
B. Configure

Switch to the Encoding Settings, could configure the settings, such as Main-stream, sub-stream, Bit-rate.

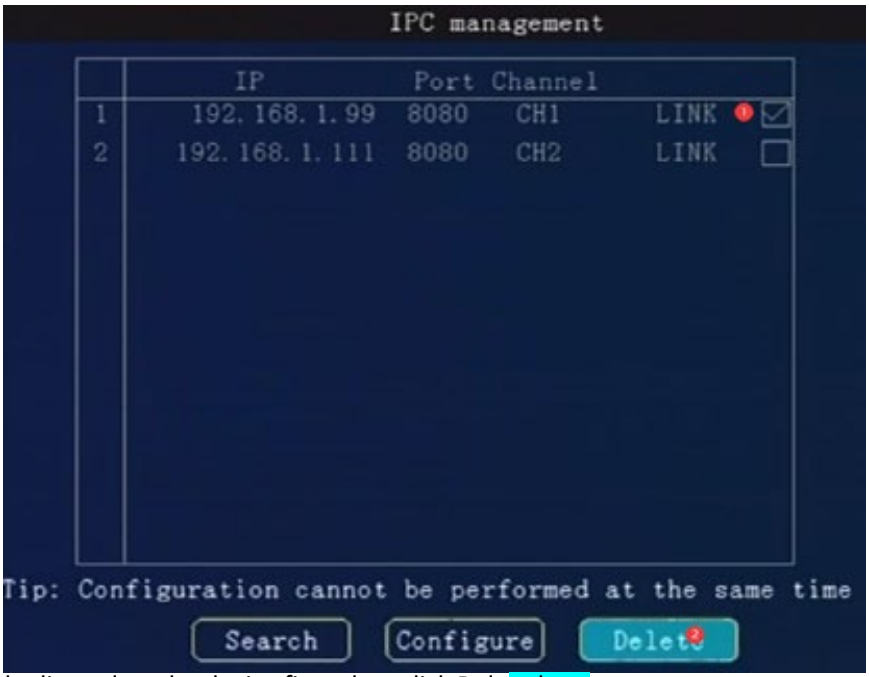


C. Other Settings

You can change the IP address via this menu.

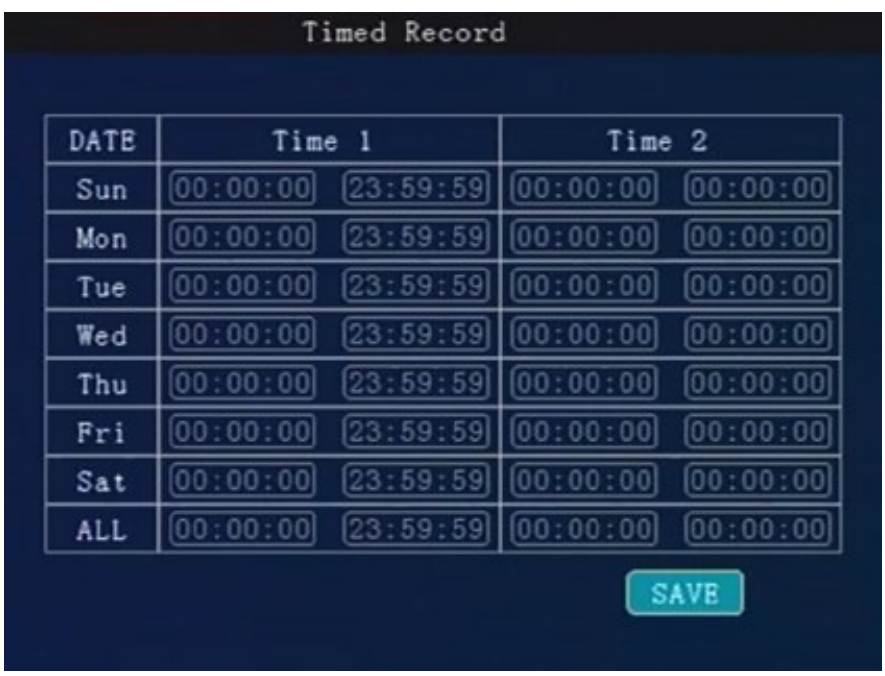


D. Delete



Remove from the list, select the device first, then click Delete button.

8.2.3.4. Timed recording

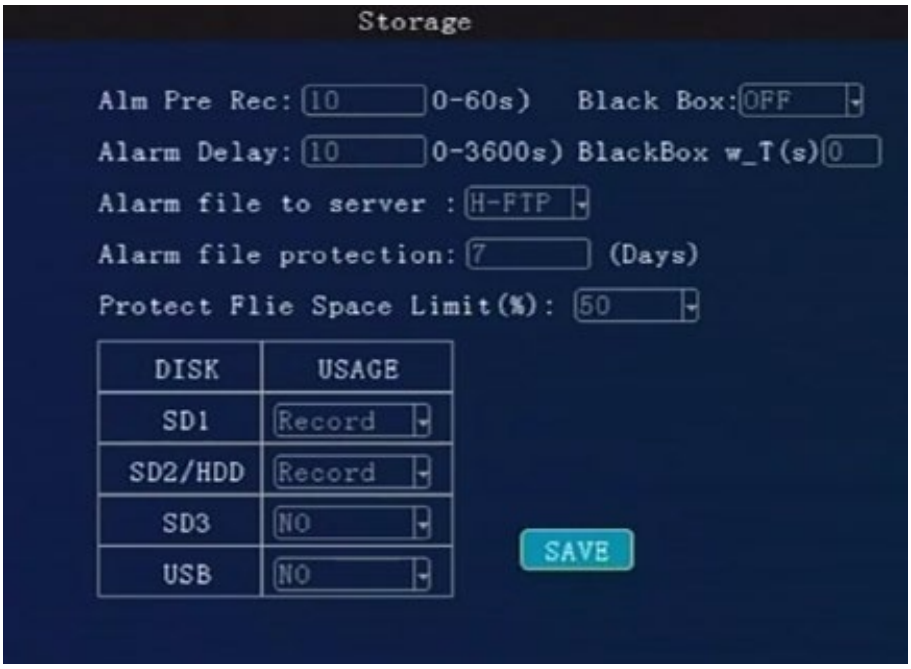


Setting the **start time** and **end time** of timing record, press number keys to enter. During the setting time, it will start recording automatically.

Attention:

1. Need turn on the **Time** mode first, in the **MENU**--**General**--**Record Mode**
2. 2.Set the **ALL** as **00:00:00-00:00:00, or else, the timed recording will not work!**
3. Set the recording plan for every day.

8.2.3.5. Storage setting



Alarm Previous Rec: Set the previous recording time before the alarm happens. Press number keys to enter, 0 to 60 seconds for selection.
Alarm delay: Set the delay recording time after the alarm happened. Press number keys to enter, 0 to 3600 seconds for selection.

Alarm file to server: Alarm file save to HFTP or FTP. All alarms file will be uploaded at real-time. So pay attention if it's linked by 3G/4G, since it will cost data of SIM card.
HFTP: It will be saved in the **Storage Server** of Server Software.
FTP: It will upload to your own FTP server(need build it first).

Alarm file protection: ***The alarm videos will also be backup in the invisible area of HDD/SD card***. Set the alarm file protection time, this files will be not deleted during the setting days. Press number keys to enter, 0 to 45 days.

Protect File Space Limit: 50%~95% for option. The space limit for saving the alarm files in the invisible area of HDD/SD card, which you can see it directly when you connect the HDD/SD card to PC.

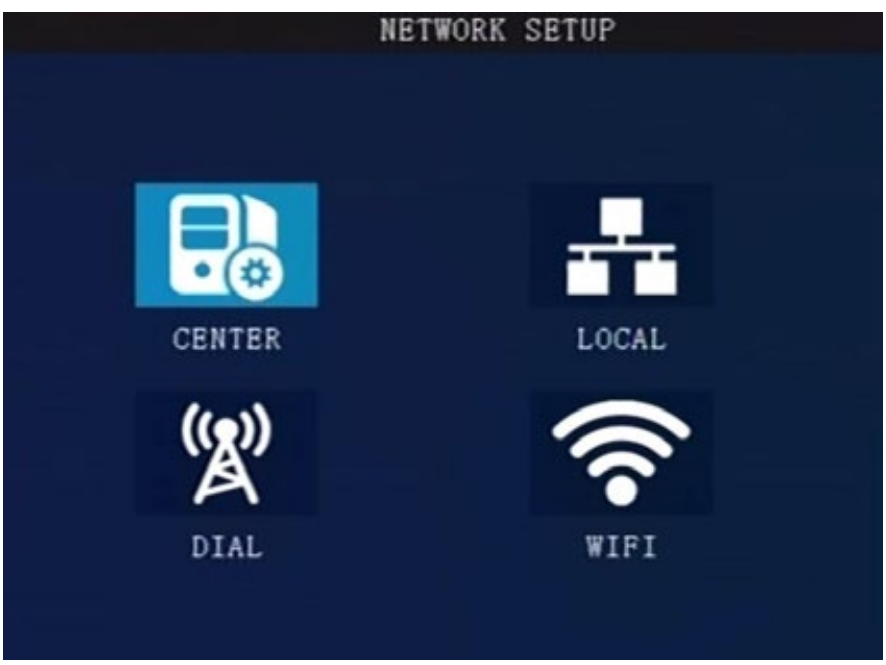
Disk and Usage: Press【Enter】to select: No / Record / mirror / Backup.
No: No recording;
Record: Recording the file by main-stream.
Mirror: Recording by the sub-stream.
Backup: When the current recording disk is failed, the system will save the video in this disk.

8.2.3.6. OSD Set

Set the stamp information on the image , and location to be displayed on the image.

Time: Press【Enter】 to select Enable: on / off, press number keys to enter the X and Y coordinates. **Plate:** Press【Enter】 to select Enable: on / off, press number keys to enter the X and Y coordinates. **GPS:** Press 【Enter】 to select Enable: on / off, press number keys to enter the X and Y coordinates. **USR DEF:** Press【Enter】to select Enable: on / off, press number keys to enter the X and Y coordinates. **USER Define**: You can define every channel a name by yourself, press【Enter】to call out the keyboard, and input the characters ,**12 characters at most**.

8.2.4. Network Setting



Network Setup menu includes: **Center** settings, **Local** settings, **Dial** settings and **WiFi** settings. The device access the server Software or third party platform by these method.

Network priority is **WIFI>3G/4G>LAN**, it will switch automatically according to the network status.

8.2.4.1. Center settings

Device supports 2 system platform at the same time. You can choose one of them to test.

Server1/2: H-protocol or OFF.

Server3/4 : Transport server. For uploading the raw data of external devices via RS232 or RS485.

Server Protocol: **H-protocol** if you need to link the Server Software or the third party FMS platform.

GPS Interval: The time interval for sending the GPS data package(contains GPS, speed, alarm ,time&date and so on. The device will send the data package to platform.
If you need save the data of SIM card, set a long time.

E-Center

Input the FTP server IP address, port .User and password. You can build your own FTP server. **StatePort** is for maintenance(still under development).
If you have set in **9.2.3.5 Storage setting** and choose the FTP, all alarms file will be uploaded to FTP server.

For **FTP** : You can deploy your own FTP server and input the login info.

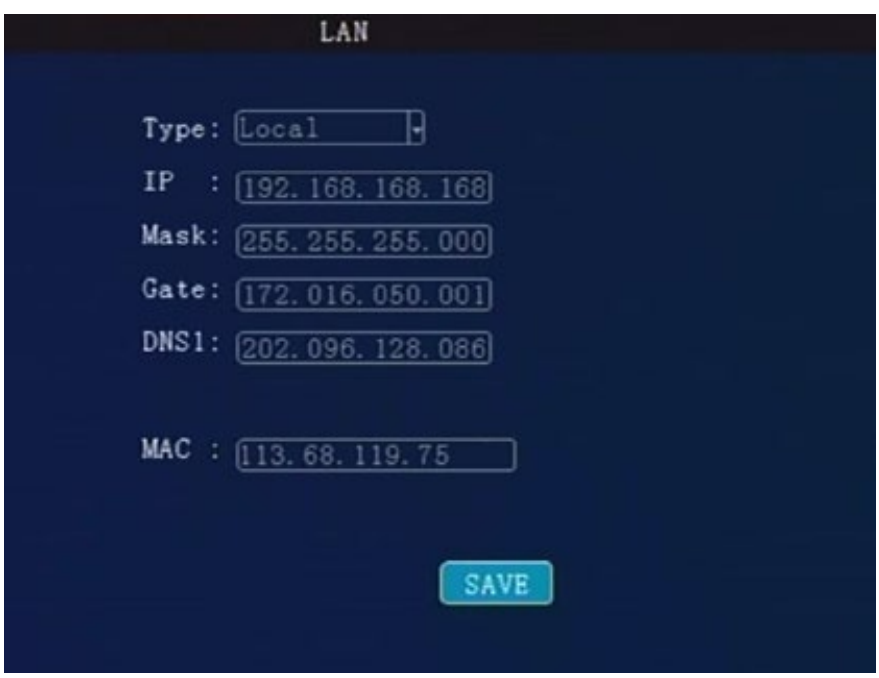
Timing captured

Snap Type: OFF, Main-stream or Sub-Stream.
Snap interval: The interval for taking the pictures.
Snap Chn: The channels need to take snapshot.
Those pictures will save in the HDD/SD Card. You can upload to Server Software or your own platform by H-protocol.

GPS Angle

When vehicle turn the corner and over the setting angle, it will upload one GPS message. The unit is degree.

8.2.4.2. Local Network Setup



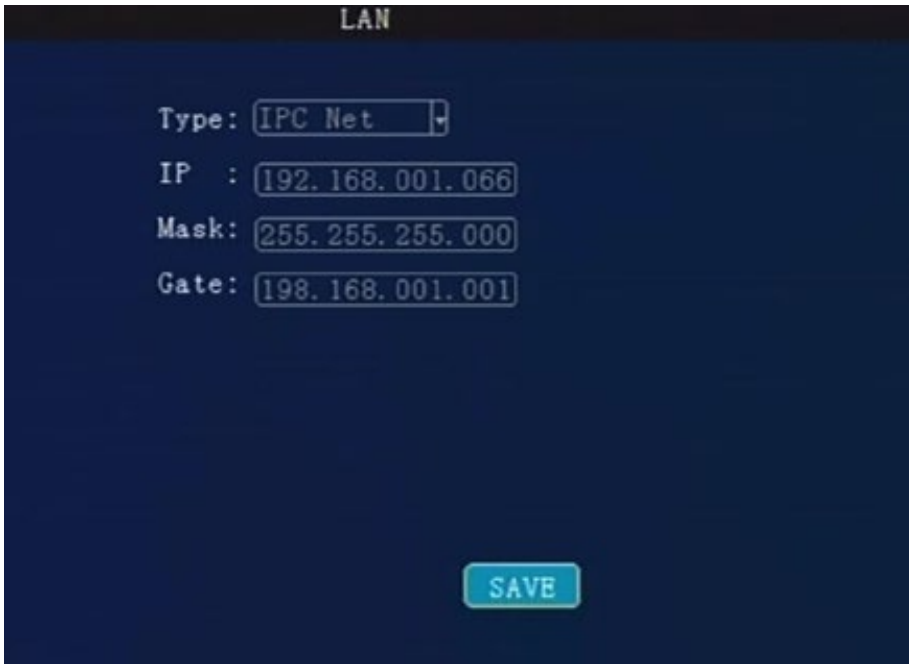
Local network IP

LAN is used for connect local IP device via LAN port, such as AI BOX, IP camera in the router

The device supports LAN connect directly like as your PC. Set the same IP segment with your PC 's address(include IP, Mask, Gate, DNS address. For MAC, just use our default setting address,don't change),

Attention: Local mode can not access public internet, only for LAN mode.

IPC Net



When connect the IPC cameras at the rear panel of 8 cables, make sure the IPC's address in the same segment with IPC Net.

Attention: We suggest IPC net not in same IP segment with the above Local.

8.2.4.3. Dial settings

Enable: Press【Enter】to select: On / Off.

Net Type: Press【Enter】to select: WCDMA / EVDO / TD-SCDMA / TDDLTE / TDDLTE-1 / TDDLTE-2. **APN.:** Set for access the internet, it will not transmit the video if set wrong .

Notice: ***Each telecom supplier has a different APN , please ask the local supplier first***.

Center No. : Default setting is ***99#**. Please inquiry your supplier if any change.

User name, Password: set up a 3G/4G service user name and password. Also should inquiry your SIM card supplier!

8.2.4.4. WiFi settings

WIFI Enabled: Press【Enter】to select: On / Off.

Enable Encryption: Press【Enter】to select: On / Off.

Authentication Mode: Press【Enter】to select: Open / Shared / WPA / WPA-PSK.

Encryption Type: Press【Enter】to select: NONE /WEP/ TKIP / AES.

Work Mode:Station or AP. Station is default setting ,which enable the device link the internet or router 's wireless signal.

AP: Access point mode, the device will share a hot-spot for other devices .

Besides, user can set the parameters by our APP or mobile checker.

DHCP: Dynamic Host Configuration Protocol. **OFF**: Input the IP address manually. **ON**: Get the IP address automatically.

SSID, password : Input your own router's wireless signal name and password.You can click **Search SSID**.
IP, Gate, Mask : If the DHCP is off, you need to set this manually.

WIFI IP segment should be different with LAN IP.

8.2.5. Alarm

Alarms include: I/O alarm, speed alarm, G-sensor, motion detection, alarm voltage, serial port and PTZ control management.

8.2.5.1. IO Alarm

Enable: Press【Enter】key to select: off / emergency / front door / middle door / back door / driver door / other doors / low beam light / high beam light / turn right light / turn left light / brake / back / Customer definition(Press **Info** key to call out the keyboard for new firmware).

Level: Press 【Enter】to select: High, no need to change normally.

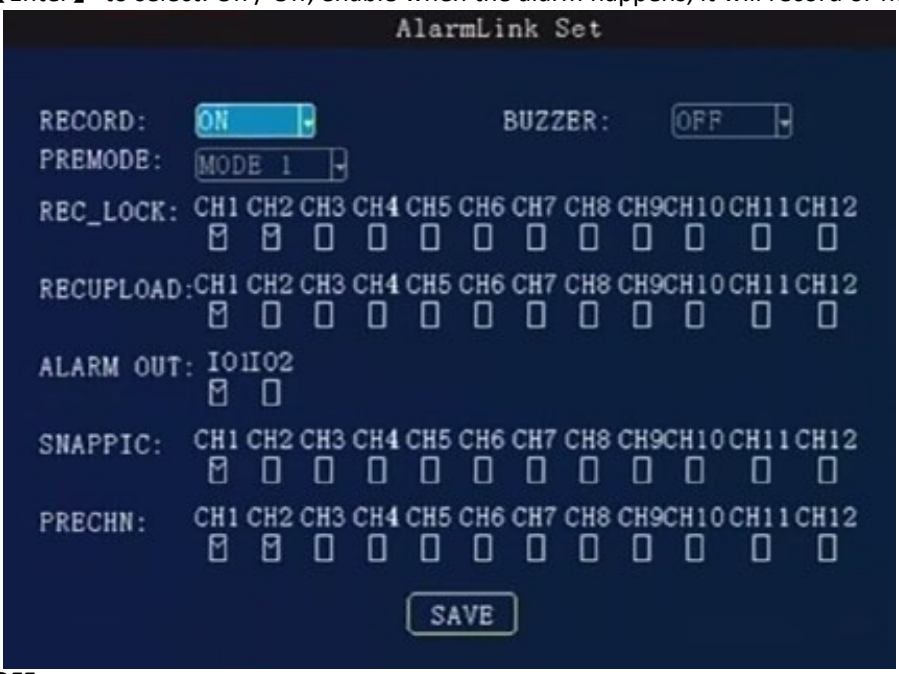
High means it will trigger sensor alarm when the voltage of sensor input is changed from 0 to a high voltage[DC 4V - 12V].

Attention: Low, need connect external resistors, please contact us first if you need.

Delay: The alarm duration time after trigger source is removed, it is used for setting linkage's duration time. During this period, it will not response the new alarm if there is a continuous triggering on the I/O port.

Wait: The waiting time for trigger alert in case of mistaken touch.

Record: Press【Enter】 to select: On / Off, enable when the alarm happens, it will record or not.



RECORD: ON/OFF

REC_LOCK: The alarm files will be also been saved in the invisible area of HDD/SD card(there is a REC-AlARM folder), and be locked in case of been deleted.

RECUPLOAD: The files will be uploaded to Server software or FTP server. Just select the channel you need to upload.

ALARM OUT: Choose output1, output2.

SNAPPIC: Take a snapshot. The picture will be saved in the invisible area of HDD/SD card, .which you see directly(There is a folder named picture) when you connect the HDD/SD card to PC.

PRECHN: Preview channel when the alarm is triggered.

8.2.5.2. Speed Alarm

It contains **Parking**(parking time setting), **L-Warn**(low-speed warning), **L-ALM**(low-speed alarm), **H-Warn**(high-speed warning), **H-ALM**(high-speed alarm), **Spd Up**(speed up) ,**Spd Down**(speed down) these seven items.

Set the parameters refer to the following text. When it break the rule ,it will trigger an alarm.
For example , **L-ALM**(low-speed alarm), set it **ON** and the **Limit** value and other settings. If the vehicle run a speed lower than the **Limit** value , it will trigger the alarm.

Enable: Press【Enter】to select: On / Off.

Limit: Set a speed value for system judgement.
Delay: Linkage's duration time. Press number keys to set. **During this period, it will not response the new alarm if there is a continuous triggering**.
Wait: The waiting time in case of mistaken judgement or just wait.Press number keys to set. **Record:** Turn on/off recording function.Press【Enter】to select: On / Off.
Alarm link: Click it and set it.

Speed Source: Press【Enter】to select: GPS / Vehicle[OBD] / Mixture.
Speed unit: km/h, MPH, nm/h for option.

For **Parking,** the Limit is also speed, you need set a speed first, if the vehicle under this speed, the device will deem it's parking.
For **speed up/down**, set a value for it. If the vehicle harsh-accelerate or harsh-brake, the system will compare the current speed with the previous second's speed all the time. If the change value more than the setting parameter, It will trigger an alarm.

8.2.5.3. Acceleration

The acceleration alarm first need to get coordinate correction, the vehicle may be parked on level ground to clear calibration.
Tilt: it refers to a device rollover angle, unit is degree.

Enable: Press【Enter】to select: ON/OFF.

Limit: Set a limited positive value for system judgement. Press the number keys to enter. **Wait :** The waiting time in case of mistaken judgement . Press the number keys to enter. **Record:** Turn on/off recording function. Press【Enter】to select: On / Off.

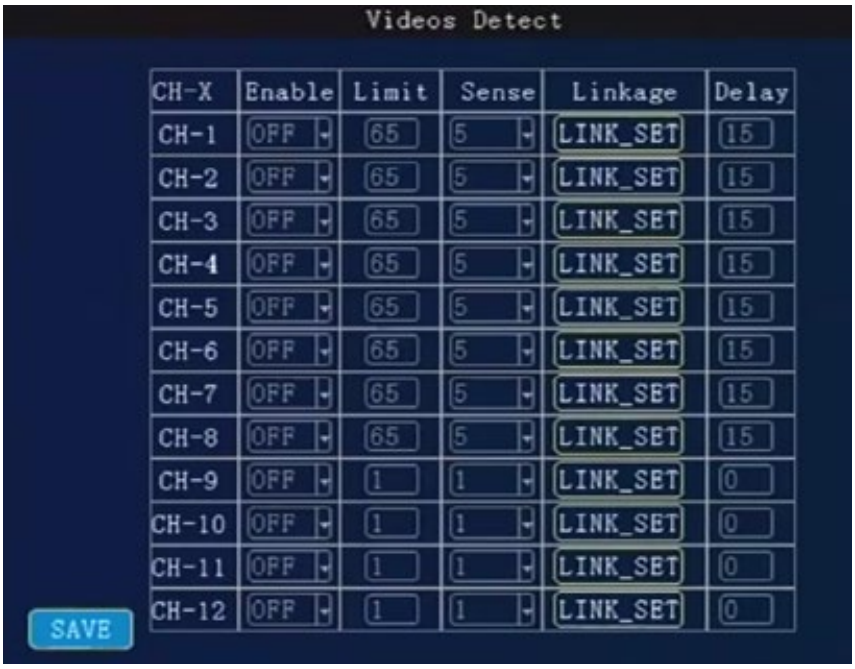
Alarm link: Click it and set it.

Delay: Linkage's duration time. Press number keys to set.

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

8.2.5.4. Motion Detection

For saving the space of the disk, you can turn on the motion-detect function. It will record only when camera has detected the movement objects or actions.



Enable： Press【Enter】 select: ON/MOVE.

Limit: Set the threshold of video area/detection area percentage . Suggest 65.

Sense: Sensitivity , it decides the detection sensitivity level .Press【Enter】 to select: 1-8.

1 is the highest level. Suggest to use 3.

Record: Turn on/off recording function.Press【Enter】to select: On / Off.

Alarm linkage: Press【Enter】to select: **OFF/Output 1 / Output 2 / Buzzer/snap-up**.

Delay: Linkage's duration time. Press number keys to set.

Attention:

1.Regarding the motion detect function. We suggest choose 4 channels at most.

2 After you set the parameter, please restart the device.

8.2.5.5. Voltage alarm

If the operation voltage is low, it will trigger the alarm. The system can work at 9-36V (The lower voltage, the more current demanding), it's better work at 12/24V. So you can set a **Limit** value first.

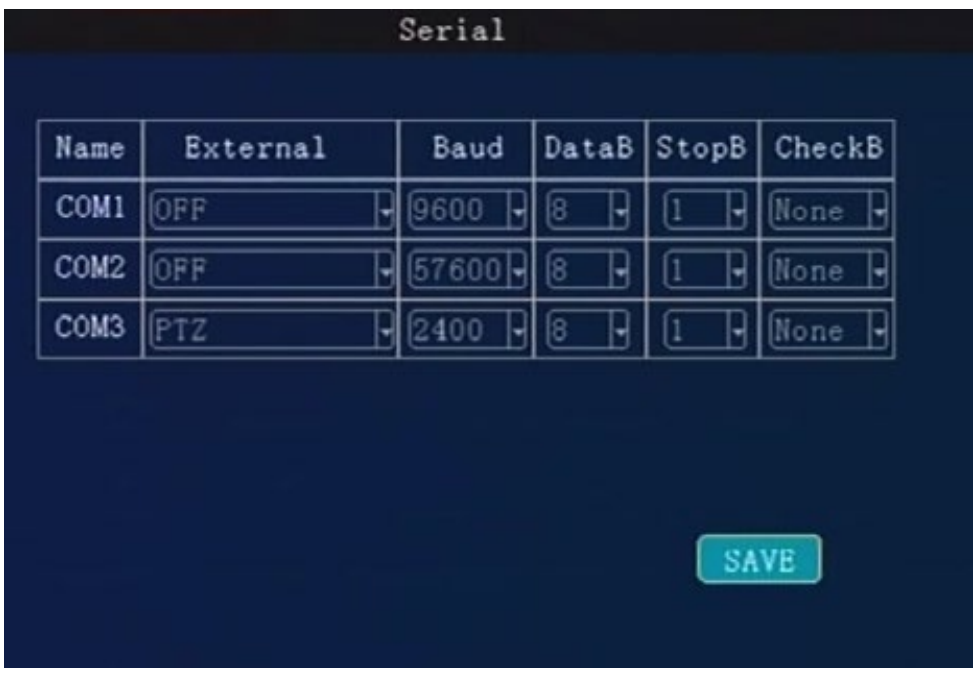
Enable： Press【Enter】to select: ON/OFF.

Limit: Set the threshold of voltage level .Press the number keys to enter.

Wait: The waiting time in case of system mistaken detection . Press the number keys to enter.

Alarm linkage: Click it and set it.
Delay:Linkage's duration time. Press number keys to set.

8.2.5.6. Serial



Com port means the RS232 and RS485 communication ports, it's used for connecting the accessory, such as fuel level detection, IC card reader, fatigue driving camera, people counting etc.
Attention: COM1 & COM2 is RS232, COM3 is RS485.

For different external device, the setting is different. We will provide the corresponding installation manual for reference.

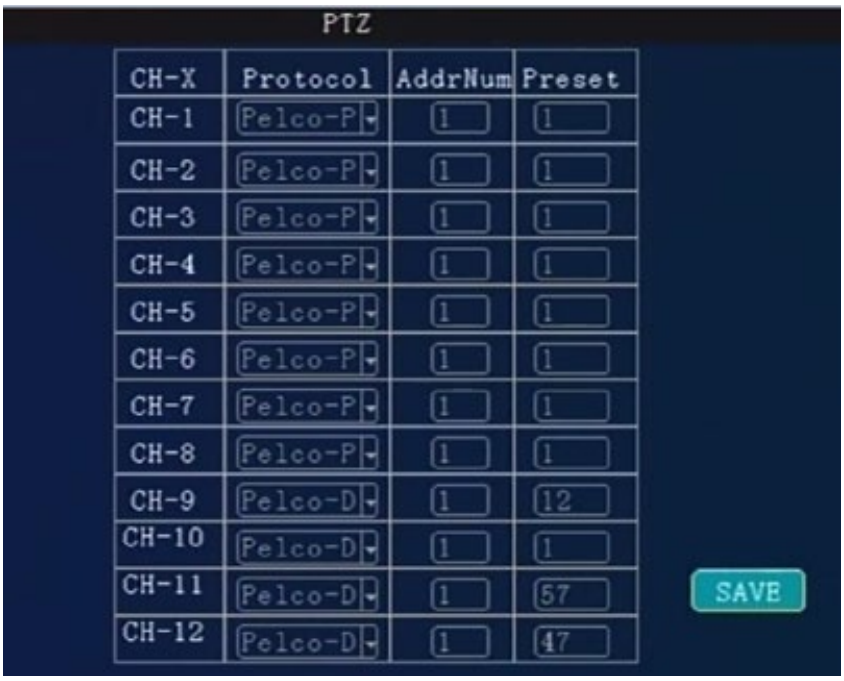
External: Press【Enter】to select accessory type.

Baud Rate: Press【Enter】to select: 600/1200/1800/2400/4800/9600/19200/38400/57600/115200 **Data Bit:** Press【Enter】to select：6/7/8

Stop Bit: Press【Enter】to select: 1/1.5/2

Check Bit: Press【Enter】to select: Even/Odd/None/Mark/Space

8.2.5.7. PTZ Control



It's used for setting the PTZ device when control a PTZ camera(Press the **PTZ** button on the remote, then press **+** /- button).

Protocol type: Pelco-D/Pelco-P for option.

Address code: Set a different address code for each channel, the MNVR will recognize this address and control it. Press number keys to enter.

Preset: Preset location when the system start-up. You can set the PTZ lots of the location first, and then choose one of them as the preset location.

8.2.5.8. Ext Alarm

Alarm 1: Geo Fence switch, if you have released the GEO fence from Software, need turn it On. **Alarm 2/3**/4 is reserved.

AIBOX ADAS&DMS ALM: For making alarm linkage when device connect to AI BOX.

8.2.6. System Info

The shortcut key is **info** key on the remote, press **UP** or **DOWN** key to switch the information interface. It

will show the whole information about the device status.

The important information as following:

MCU version : MCU chipset version

APP Version: The current firmware version.

System power: The device current operation voltage.

Dev ID.: Device ID.

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

G-**sensor**: It shows the G-sensor value. Move the MNVR check if this value is changing.

GPS info : It will show as **GPS[*N] + Location** data, **N** is satellite numbers, more than 3 is normal.

No work: there is no GPS signal.

None/Not exist:GPS module is not detected by device.Please restart device or update firmware to try.

Plate No.: The current plate number. Mileage info: Current day: Total mileage.
SN: The encryption IC code.

Temp Info: It will show the temperature info.

3/4G Ver: Show the 3G/4G module and IMEI code.

AI Box: When connect AI box, it will show the AI BOX firmware version and IP address.

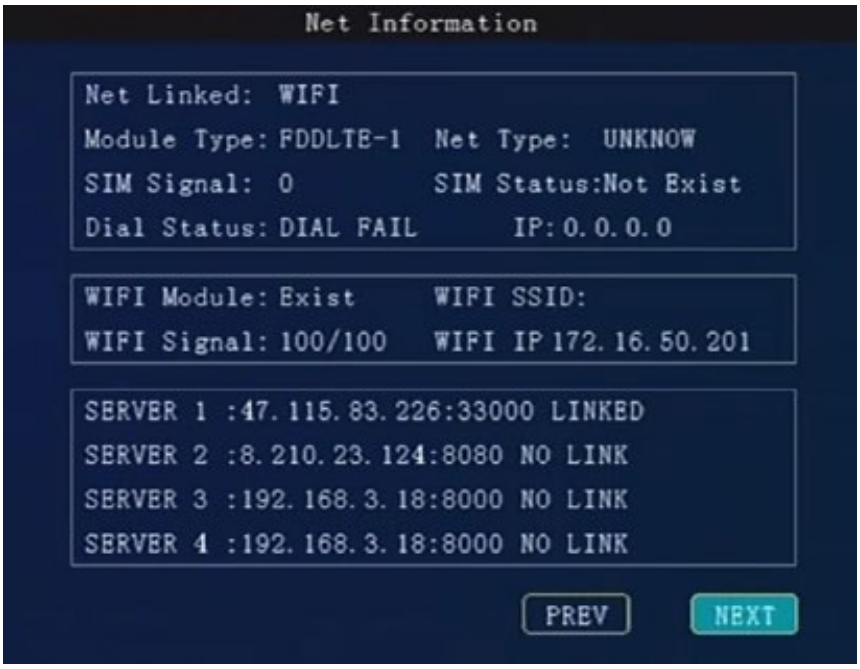
Click **NEXT**, it will display the Net information

In the info2 interface :

Net linked : Show the current connection method :

Inner WIFI (the device is linking with WIFI) , **3G**(the device is linking with 3G).

Wired(the device is linking by net cable)



3G/4G:

Module Type :WCDMA/FDD-LTE/TD-LTE

SIM Signal： Signal intensity.

SIM status： If there is no SIM card or the system have not detected the SIM card, it will show **Not exist. Dial status**: Dial Fail or success.

Dial IP: If dial success, it will show the dial IP address. If failed, you should check the **10.2.4.3 Dial setting.**

WIFI:

WIFI module :Exist or not exist.

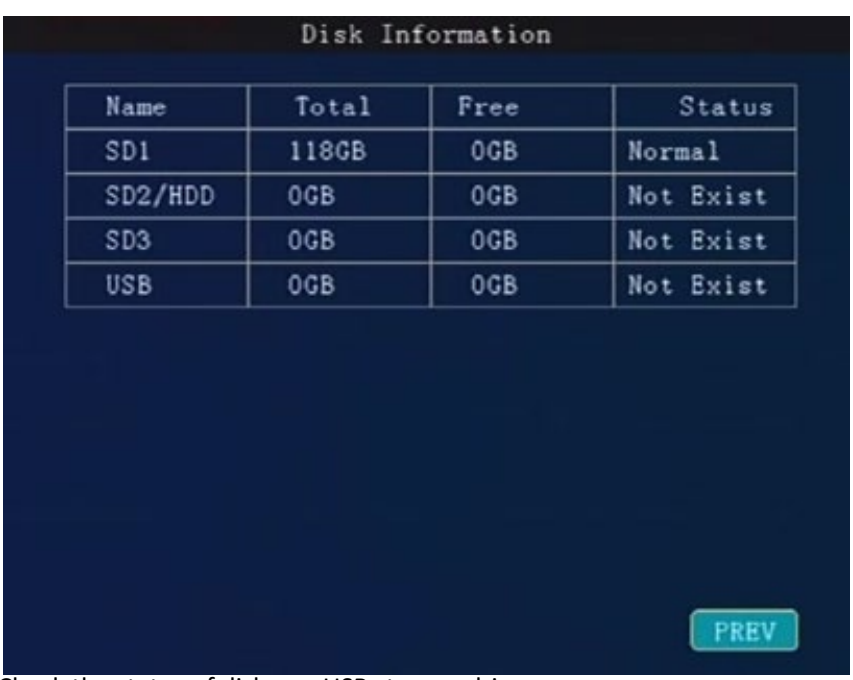
WIFI SSID： Show the current linked WIFI SSID.

WIFI signal: WIFI signal intensity ,100/100 is best.

WIFI IP: If the device had linked the wireless network, it will get a IP address.

Server 1/2: Check if the server IP has linked. If it show **NO LINK** , the device will not be online.Then you need to check the **10.2.4 Network Setting** menu, include the center IP and port, and WIFI/LAN/3G/4G menu.

Click **NEXT**, it will display the disk information;



Disk storage : Check the status of disk or a USB storage drive .

If there is problem with device , please check these information interface first .

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