Mobile Digital Video Recorder
User's Manual

V 1.0.0

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Welcome

Thank you for purchasing our product!
This user’s manual is designed to be a reference tool for your system.
Please open the accessory bag to check the items one by one in accordance with the list below.
Contact your local retailer ASAP if something is missing or damaged in the bag.

Cybersecurity Recommendations

Cybersecurity Recommendations
Mandatory actions to be taken towards cybersecurity

1. Change Passwords and Use Strong Passwords:
The number one reason systems get “hacked” is due to having weak or default passwords. It is recommended to change default passwords immediately and choose a strong password whenever possible. A strong password should be made up of at least 8 characters and a combination of special characters, numbers, and upper and lower case letters.

2. Update Firmware
As is standard procedure in the tech-industry, we recommend keeping NVR, DVR, and IP camera firmware up-to-date to ensure the system is current with the latest security patches and fixes.

“Nice to have” recommendations to improve your network security

1. Change Passwords Regularly
Regularly change the credentials to your devices to help ensure that only authorized users are able to access the system.

2. Change Default HTTP and TCP Ports:
● Change default HTTP and TCP ports for systems. These are the two ports used to communicate and to view video feeds remotely.
● These ports can be changed to any set of numbers between 1025-65535. Avoiding the default ports reduces the risk of outsiders being able to guess which ports you are using.

3. Enable HTTPS/SSL:
Set up an SSL Certificate to enable HTTPS. This will encrypt all communication between your devices and recorder.

4. Enable IP Filter:
Enabling your IP filter will prevent everyone, except those with specified IP addresses, from accessing the system.

5. Change ONVIF Password:
On older IP Camera firmware, the ONVIF password does not change when you change the system’s credentials. You will need to either update the camera’s firmware to the latest revision or manually change the ONVIF password.

6. Forward Only Ports You Need:
● Only forward the HTTP and TCP ports that you need to use. Do not forward a huge range of numbers to the device. Do not DMZ the device's IP address.

● You do not need to forward any ports for individual cameras if they are all connected to a recorder on site; just the NVR is needed.

7. Disable Auto-Login on SmartPSS:

Those using SmartPSS to view their system and on a computer that is used by multiple people should disable auto-login. This adds a layer of security to prevent users without the appropriate credentials from accessing the system.

8. Use a Different Username and Password for SmartPSS:

In the event that your social media, bank, email, etc. account is compromised, you would not want someone collecting those passwords and trying them out on your video surveillance system. Using a different username and password for your security system will make it more difficult for someone to guess their way into your system.

9. Limit Features of Guest Accounts:

If your system is set up for multiple users, ensure that each user only has rights to features and functions they need to use to perform their job.

10. UPnP:

● UPnP will automatically try to forward ports in your router or modem. Normally this would be a good thing. However, if your system automatically forwards the ports and you leave the credentials defaulted, you may end up with unwanted visitors.

● If you manually forwarded the HTTP and TCP ports in your router/modem, this feature should be turned off regardless. Disabling UPnP is recommended when the function is not used in real applications.

11. SNMP:

Disable SNMP if you are not using it. If you are using SNMP, you should do so only temporarily, for tracing and testing purposes only.

12. Multicast:

Multicast is used to share video streams between two recorders. Currently there are no known issues involving Multicast, but if you are not using this feature, deactivation can enhance your network security.

13. Check the Log:

If you suspect that someone has gained unauthorized access to your system, you can check the system log. The system log will show you which IP addresses were used to login to your system and what was accessed.

14. Physically Lock Down the Device:

Ideally, you want to prevent any unauthorized physical access to your system. The best way to achieve this is to install the recorder in a lockbox, locking server rack, or in a room that is behind a lock and key.

15. Connect IP Cameras to the PoE Ports on the Back of an NVR:

Cameras connected to the PoE ports on the back of an NVR are isolated from the outside world and cannot be accessed directly.

16. Isolate NVR and IP Camera Network

The network your NVR and IP camera resides on should not be the same network as your public computer network. This will prevent any visitors or unwanted guests from getting access to the same network the security system needs in order to function properly.

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The product must be grounded to reduce the risk of electric shock.
This device is to be connected only to the unit whose power feeding meets the requirements for SELV (Safety Extra Low Voltage) and complies with Limited Power Source according to IEC 60950-1.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Keep upwards. Handle with care.
Do not apply power to the DVR before completing installation.
Do not place objects on the DVR.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

The DVR should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
This series product shall be transported, storage and used in the specified environments.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

Before your operation please read the following instructions carefully.

- **Installation environment**
  - ✧ Keep away from extreme hot places and sources；
  - ✧ Avoid direct sunlight；
  - ✧ Keep away from extreme humid places；
  - ✧ Avoid violent vibration；
  - ✧ Do not put other devices on the top of the DVR；
  - ✧ Be installed in well ventilated place; do not block the vent.

- **Accessories**

Always use accessories recommend by the manufacturer.

 DANGER

FOR YOUR DEVICE SAFETY, PLEASE CHANGE SYSTEM DEFAULT PASSWORD AFTER YOU FIRST LOGIN IN!

Icon	**Note**
 DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazard with a middle or low level of risk, which if not avoided, could result in personnel slightly or middle injury.
 CAUTION	Indicates a potentially hazardous situation, which if not avoided, could result in device damage, data loss, performance degradation, or unexpected results.
 Anti-static	Indicates it is the static sensitive device.
 Eletric shock risk	Indicates presence of dangerous high voltage. There is a risk of electric shock to persons.
 High power laser radiation risk	Indicates presence of high power laser radiation.
Tips	It is intended to help you to fix a problem or save your time.
Note	Provides additional information to emphasize or supplement important points of the main text.

1 Features and Specifications

1.1 Overview

This series mobile product is a mobile video surveillance product based on our new platform.

- It Integrates image process technology, wireless network technology, GPS technology, structure technology and vehicle information sampling and process technology together.
- Uses strong aluminum alloy case and adopts two 2.5-inch HDDs(max thickness 7mm+9mm) and one SD card as the storage media. It supports built-in 3G/4G, Wi-Fi wireless transmission mode and GPS module（optional）.
- Installed on the vehicle, it can realize local audio/video storage and vehicle information sampling, at the same time it can transmit real-time video and vehicle information to the remote management center and establish real-time remote wireless surveillance management system.

This series product can be widely used in many vehicle areas or mobile surveillance areas such as long-distance passenger transport, city public transportation, public security system, road administration, logistics vehicle.

1.2 Function

Note

- Slight difference may be found due to different series products.
- GPS, Wi-Fi, 3G/4G/Beidou/GLONASS function are optional. Please make sure you purchased product support these functions.

Main Function	Details
Storage	Special data format to guarantee data security and can avoid vicious data modification.
Video output	Analog AV output port, VGA port. Use monitor or displayer, video wall to realize surveillance function. Support VGA output.
Compression format	Multiple-channel audio and video signal. An independent hardware decodes the audio and video signal from each channel to maintain video and audio synchronization.
Backup	Two backup modes: ● Backup on the flash disk. ● Backup on SD card.
Record and playback	● Support each channel real-time record independently, and at the same time it can support search, forward play, network monitor, record search, download and etc. ● Support various playback modes: slow play, fast play, backward play and frame by frame play. ● Support time title overlay to view event accurate occurred time ● Support specified zone digital zoom function.
Network operation	Support network remote real-time monitor, remote record search and remote PTZ control.

Alarm activation function	● Several relay alarm outputs to realize alarm activation and on-site light control. ● The alarm input port and output port has the protection circuit to guarantee device safety.
Communication port	● Alarm input and output port, RS485 port can realize alarm input and PTZ control. ● RS232 port can connect to keyboard, PC COM and matrix control. ● Standard Ethernet port can realize network access function.
PTZ control	● Support PTZ decoder via RS485 communication. ● Support various decode protocols to allow the PTZ to control the speed dome.
GPS/Beidou/GLONASS	Device can record longitude and latitude information and trigger record function. The search operation can trigger vehicle running path.
3G/4G, Wi-Fi network function	The latest wireless network communication technology to enhance device management level.
Removable HDD	Professional removable shockproof design. It supports fix and removable operation and can connect to PC to realize fast and convenience data backup.
Record vehicle state	Seven peripheral alarm output ports. NO/NC alarm input type.

1.3 Features

- Aluminum alloy case, small and sound ventilation, high stability.
- Built-in power module, convenient installation.
- Abundant functions support various alarm modes, record mode and support multiple information, vehicle status sampling and record function.
- Built-in 3G/4G, Wi-Fi wireless transmission module, and GPS/ Beidou/GLONASS module.
- Support VGA output at the same time.

Slight function differences may be found due to different series.

1.4 Specifications

	Parameter	**4-channel series**	**8-channel series**
System	Main Processor	High-performance industrial embedded micro controller	
	OS	Embedded LINUX	
	System Resources	Multiplex operations: Multiple-channel record, multiple-channel playback and network operation simultaneously	
	Interface	User-friendly graphical user interface	
	Input Devices	Mouse, remote control	
	Input Method	Arabic number, English letter, donation	

	Shortcut Function	Copy/paste operation, USB mouse right-key shortcut menu, double click USB mouse to switch screen.	
Compression Standard	Video Compression	H.264	
	Audio Compression	G711A, G711U, PCM, AMR (For bidirectional talk only)	
Video monitor	Video Input	4-ch composite video (NTSC/PAL), aviation port ($1.0V_{P-P}$ 75Ω)	8-ch composite video (NTSC/PAL), aviation port ($1.0V_{P-P}$, 75Ω)
	Video Output	1-channle NTSC/PAL, aviation port (1.0VP-P，75Ω) composite video signal output. Support TV video output at the same time. Support VGA output.	
	Video Standard	Support PAL/NTSC.	
	Record Speed	Real-time Mode: PAL 1f/s to 25f/s per channel and NTSC 1f/s to 30f/s per channel	
	Video Partition	1/4 window(s)	1/4/8/9 window(s)
	Monitor Touring	Support monitor tour functions such as alarm and schedule auto control.	
	Resolution (PAL/NTSC)	● 4-channel 1080P (make sure the connected HDCVI camera is 1080P) ● When connect to analog camera, device supports 4-channel 960H camera. Do not support audio.	● 8-channel 1080P (make sure the connected HDCVI camera is 1080P) ● When connect to analog camera, device supports 8-channel 960H camera. Do not support audio.
		Support dual-stream function. Sub stream max supports D1.	
	Image Quality	6-level image quality (Adjustable)	
	Privacy mask	Support one privacy mask of user-defined size in full screen mode Support max 4 zones.	
	Image Information	Channel information, time information and privacy mask zone.	
	TV Adjust	Adjust TV output zone suitable to anamorphic video.	
	Channel Lock	Cover secret channel with black screen though system is encoding normally.	
		Screen-lock function to prevent unauthorized user seeing secret video.	
	Channel Information	Channel name, recording status, screen lock status, video loss status are shown on the bottom left of display screen.	
	Color Setting	Hue, brightness, contrast, saturation and gain setup for each channel.	

Audio	Audio Input	4-ch aviation port input 200mV～2000mV 10kΩ. 2-ch pickup input (1-channel bidirectional talk, and 1 reuses the first audio input channel)	8-ch aviation port input 200mV～2000mV 10kΩ. 2-ch pickup input (1-channel bidirectional talk, and 1 reuses the first audio input channel)
	Audio Output	1-ch bidirectional talk audio output. 1-ch aviation port audio output 200 mV～3000 mV 5kΩ.	
	Bidirectional Audio	Support bidirectional talk, mobile two-way radio, full-duplex bidirectional talk terminal.	
Hard disk	Hard Disk	Two built-in 2.5-inch SATA ports (Max 2TB). One SD card (Max 128GB)	
	Ventilation Mode	Built-in fan to guarantee device temperature.	
Record and playback	Recording Mode	Manual recording, schedule recording and alarm recording Priority: Manual recording>alarm recording>schedule recording.	
	Recording Length	1 to 120 minutes single record duration (Default setup is 60 minutes)	
	Playback Repeat Way	When hard disk is full, system can overwrite previous video file.	
	Record Search	Various search engines such as time, type and channel.	
	Playback Mode	Various fast play, slow play speeds, manual frame by frame playback and reverse play mode.	
	Various File Switch Ways	Can switch to previous or next file or any file in current play list. Can switch to file on other channel of the same time. (If there is a file) Support file continuous play, when a file is end system auto plays the next file in the current channel	
	Multi-channel Playback	1/4-channel playback.	
	Window Zoom	Switch between self-adaptive screen/full screen when playback	
	Digital Zoom	When in one-window full-screen playback mode, you can select any zone to zoom in or zoom out.	
Backup function	Backup Mode	Support peripheral USB backup device. (Flash disk.)	
		Support network download and save	
GPS	-	Built-in GPS module. Customized GPS/Beidou/GLONASS.	
Network Function	Network Control	View monitor channel remotely.	
		Device configuration through client-end and web browser	
		Upgrade via client or browser to realize remote maintenance.	
		View alarm information such as external alarm, and video loss via client.	
		File download backup and playback	
		Multiple devices share information via corresponding software such as professional surveillance software (PSS)	
		Duplex transparent COM	
		Network alarm input and output	

		Bidirectional audio.
		3G/4G module.
Motion Detection and Alarm	Video Loss	Alarm can activate external alarm or screen message prompt.
	External Alarm	Support record activation function or activate external alarm or screen message in specified period.
	Manual Alarm Control	Enable or disable alarm input channel Can simulate alarm signal to specific alarm output channel.
	Alarm Input	7-ch alarm input（NO/NC）, alarm input voltage 8-25V. 2-channel pulse input.
	Alarm Output	2-channel relay output: One on-off signal output, one is controllable 12V power output.
Interface	USB Interface	Two USB 3.0 port and one USB 2.0 port (Two USB 3.0 port at the front panel and one USB 2.0 port at the rear panel via extension cable)
	Network connection	RJ45 10M/100M self-adaptable Ethernet port
	RS485	Two RS485 ports. It is the PTZ control port Support various PTZ control protocols.
	CAN	1 port. (For customized applications)
	RS232	One RS232 port. It is the general COM to debug and etc.
	VGA	Support VGA function (Use customized cable), can work with mobile touch screen.
System Information	Hard Disk Information	Display HDD current status
	Data Stream Statistics	Data stream statistics for each channel (in wave mode)
	Search Log	Backup to 1024 log files. Support various search engines such as time and type.
	Version	Display version information: channel amount, alarm input and output amount, system version and release date.
	On-line User	Display current on-line user
User Management	User Manageme nt	Multi-level user management; various management modes Integrated management for local user, serial port user and network user. Configurable user power.
		Support user /group and its corresponding rights modification. No limit to the user or group amount.
	Password Authenticati	Password modification Administrator can modify other user’s password.

	on	Account lock strategy Five times login failure in thirty minutes may result in account lock.
Upgrade		WEB, client or network update tool.
Login, Logout and Shutdown		Password login protection to guarantee safety
		User-friendly interface when login. Provide the following options: Logout /shutdown/ restart.
		Right authentication when shut down to make sure only those proper people can turn off device.
General Parameter	Power	DC +6V~+36V built-in power module (60W).Built-in UPS, support proper power off protection.
	Power Consumption	Net device (basic version) ≤12W
	Working Temperature	-30℃－+65℃
	Working Humidity	10%－90%
	Air Pressure	86kpa－106kpa
	Dimension	1DIN case，front panel 190*60mm(W*H), rear panel 180*50mm(W*H)，Depth:190mm
	Weight	2.65Kg (With full packages)
	Installation Mode	Desktop/front installation

2 Front Panel and Rear Panel

2.1 Front Panel

The front panel is shown as in Figure 2-1.

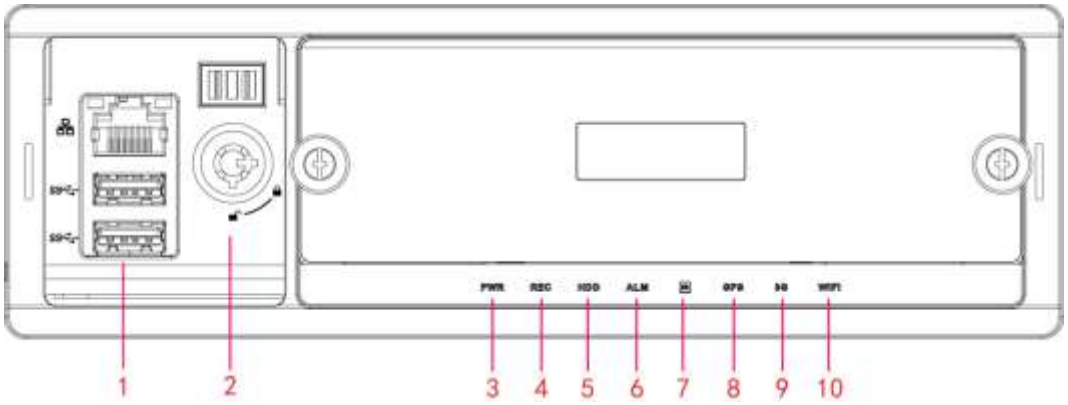


Figure 2-1

Please refer to the following sheet for detailed information.

SN	Name	Port and Indicator Light
1	RJ45 Ethernet port	1 network port.
	USB port	2 USB ports to connect to mouse or flash disk to backup data.
2	Door lock/unlock (Device on/off button)	● Please unlock the device before you remove the HDD box. Otherwise system is going to shut down automatically. ● System cannot boot up once the button is unlock. Please lock the device first and the boot up the device. It is to protect the HDD.
3	PWR	Power indicator light. ● The red light is on when the device is running. ● The light is off when the device is off.
4	REC	Record indicator light. ● The blue light is on when system is recording. ● The light is off when system is not recording.
5	HDD	HDD indicator light. ● The blue light is on when there is HDD. ● The light is off when there is no HDD.
6	ALM	Alarm indicator light. ● The blue light is on when there is an alarm. ● The light is off when there is no alarm.
7	IR	It is to receive the signal from the remote control.

SN	Name	Port and Indicator Light
8	GPS	GPS indicator light. ● The blue light is on when GPS function is OK. ● The light is off when GPS function is disabled. **Note** Only the device of GPS module supports this function.
9	3G	3G indicator light. ● The blue light is on when 3G connection is OK. ● The light is off when 3G connection is offline. **Note** Only the device of 3G module supports this function.
10	Wi-Fi	Wi-Fi indicator light. The blue light is on when Wi-Fi connection is OK. The light is off when Wi-Fi connection is offline. **Note** Only the device of Wi-Fi module supports this function.

2.2 Rear Panel

2.2.1 Rear Panel

The rear panel is shown as in Figure 2-2.

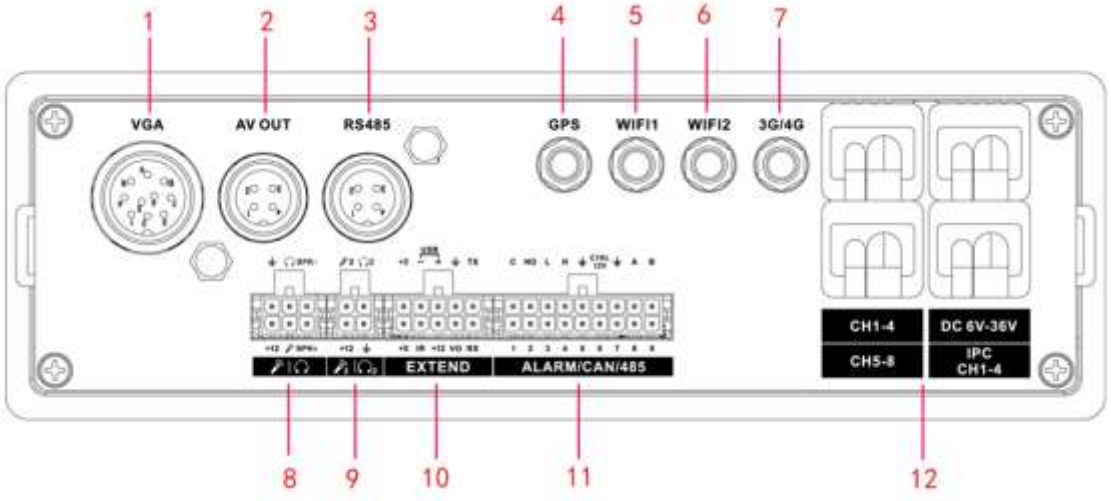


Figure 2-2

Please refer to the following sheet for front panel button information.

SN	Name	Function
1	VGA	VGA port, including VGA all kinds of signal ports.
2	AV OUT	Audio/video output port. Connect to mobile screen.

SN	Name	Function
3	RS485	Reserved port
4	GPS	GPS antenna port **Note** Only the device of GPS module supports this function.
5	Wi-Fi 1	Wi-Fi antenna port **Note** Only the device of Wi-Fi module supports this function.
6	Wi-Fi 2	Reserved port.
7	3G/4G	3G/4G antenna port **Note** Only the device of 3G/4G module supports this function.
8	Bidirectional talk input and output port.	Bidirectional input and output port. Refer to chapter 2.2.2 Bidirectional talk port for detailed information.
9	Bidirectional talk input and output port 2.	Connect to pickup. Refer to chapter 2.2.3 Peripheral pickup for detailed information.
10	EXTEND	Extension port. Each port has specified function. Refer to chapter 2.2.4 Extension port for detailed information.
11	ALARM/CAN/485	● Alarm input/output port. It includes alarm input port, alarm output port, GND cable and 12V output/ ● CAN BUS port: Reserved port. It is to exchange data with the vehicle CAN network and other devices of CAN port. ● A,B：Control PTZ.
12	CH1-4	Connect to HDCVI mobile camera or analog mobile camera.
	CH5-8	
	DC 6V-36V	Power input port
	IPC CH1-4	Reserved function. Connect to network camera.

Note

The following contents (chapter 2.2.2 Bidirectional Talk Port to chapter 2.2.4 Extension Port) are to introduce function of each port. You can make connection cable by yourself or you can contact your local retailer to purchase.

2.2.2 Bidirectional Talk Port

The bidirectional talk port is shown as in Figure 2-3.

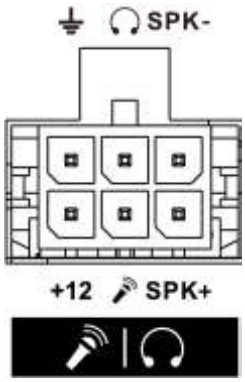


Figure 2-3

Please refer to the following sheet for detailed information.

Name	Function
+12	+12V output
⏚	GND
🎤	Mic In. Connect to speaker.
🎧	Mic Out. Connect to earphone.
SPK+	Speak positive.
SPK-	Speak negative.

2.2.3 Peripheral Pickup

The peripheral pickup is shown as below. See Figure 2-4.

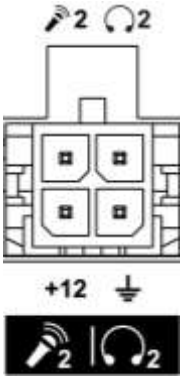


Figure 2-4

Please refer to the following sheet for detailed information.

Name	Function
+12	+12V output.
⏚	GND.
🎤2	Mic In. Connect to peripheral pickup.
🎧2	NC

2.2.4 Extension Port

The extension port1 is shown as in Figure 2-5.

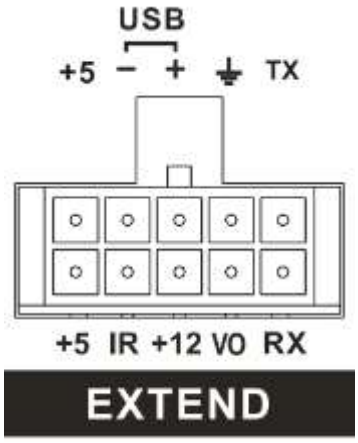


Figure 2-5

Please refer to the following sheet for detailed information.

Name	Function
+5	+5V Output (Bottom line)
+5	USB 5V (Top line)
IR	IR receiver port
-	USB data-. Connect to peripheral USB port.
+12	+12V output
+	USB data+. Connect to peripheral USB port.
VO	AV video output
⏚	GND
RX	RS232 RX. Connect to peripheral RS232 port.
TX	RS232 TX. Connect to peripheral RS232 port.

2.3 Remote Control

The remote control interface is shown as in Figure 2-6.

Please note remote control is not our standard accessory and it is not included in the accessory bag.

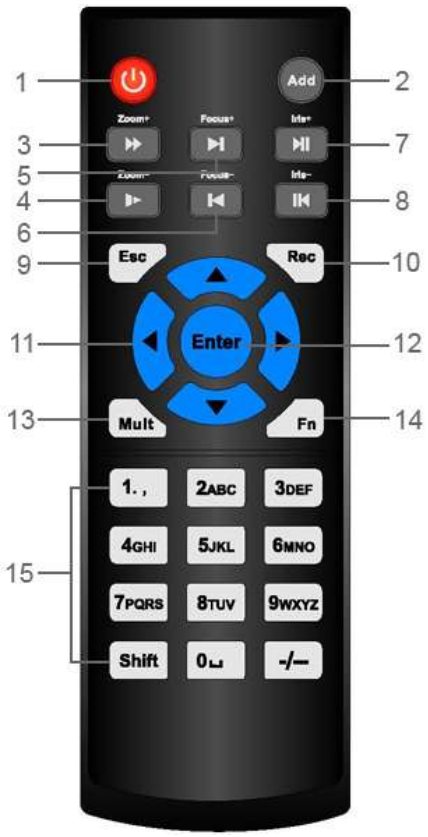


Figure 2-6

Please refer to the following sheet for detailed information.

Serial Number	Name	Function
1	Power button	Click it to boot up or shut down the device.
2	Address	Click it to input device number, so that you can control it.
3	Forward	Various forward speeds and normal speed playback.
4	Slow play	Multiple slow play speeds or normal playback.
5	Next record	In playback mode, playback the next video.
6	Previous record	In playback mode, playback the previous video.
7	Play/Pause	In pause mode, click this button to realize normal playback.
		In normal playback click this button to pause playback.
		In real-time monitor mode, click this button to enter video search menu.
8	Reverse/pause	Reverse playback pause mode, click this button to realize normal

		playback.
		In reverse playback click this button to pause playback.
9	Cancel	Go back to previous menu or cancel current operation (close upper interface or control)
10	Record	Start or stop record manually In record interface, working with the direction buttons to select the record channel. Click this button for at least 1.5 seconds, system can go to the Manual Record interface.
11	Direction keys	Switch current activated control, go to left or right. In playback mode, click up/down button to switch playback channel. In 1-window playback mode, click left/right button to control playback speed. . Aux function(such as switch the PTZ menu, enable/disable reuse button)
12	Confirm /menu key	Go to default button Go to the menu
13	Multiple-window switch	Switch between multiple-window and one-window.
14	Auxiliary key	In 1-ch monitor mode: pop up assistant function：PTZ control and Video color.
		Switch the PTZ control menu in PTZ control interface.
		In text mode, click it to delete character.
15	0-9 number key	Input password, channel or switch channel.
		Shift is the button to switch the input method.

2.4 Mouse Operation

Please refer to the following sheet for mouse operation instruction.

Left click mouse	When you have selected one menu item, left click mouse to view menu content.
	Modify checkbox
	Click combo box to pop up dropdown list

	In input box, you can select input methods. Left click the corresponding button on the panel you can input numeral/English character (small/capitalized). Here ← stands for backspace button. __ stands for space button. In English input mode: _stands for input a backspace icon and ← stands for deleting the previous character.  In numeral input mode: _ stands for clear and ← stands for deleting the previous numeral.
Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full-window. Double left click current video again to go back to previous multiple-window mode.
Right click mouse	In real-time monitor mode, pops up shortcut menu.
	Exit current menu without saving the modification.
Press middle button	In numeral input box: Increase or decrease numeral value.
	Switch the items in the check box.
	Page up or page down
Move mouse	Select current control or move control
Drag mouse	Select privacy mask zone.

3 Installation and Connections

Note

All the installation and operations here should conform to your local electric safety rules.

3.1 Check Unpacked DVR

When you receive the DVR from the forwarding agent, please check whether there is any visible damage. The protective materials used for the package of the DVR can protect most accidental clashes during transportation. Then you can open the box to check the accessories.

Please check the items in accordance with the list (Remote control is optional). Finally you can remove the protective film of the DVR.

Note

Remote control is not a standard accessory and it is not included in the accessory bag.

3.2 About Front Panel and Rear Panel

For detailed information of the function keys in the front panel and the ports in the rear panel, please refer to the appendix for detailed information.

The model in the front panel is very important; please check according to your purchase order.

The label in the rear panel is very important too. Usually we need you to represent the serial number when we provide the service after sales.

3.3 HDD/SIM Card Installation

3.3.1 HDD Installation

WARNING

- Shut down the device and unplug the power cable before install/remove the HDD.
- The e-lock on the left side of the front panel shall be unlocked when you install/remove the HDD. Please lock the button before you boot up the device.

The unit you received has no HDD. Please remove the HDD box from the device （See Figure 3-1） and then follow the steps listed below to install.

Step 1 The HDD box and the parts are shown as below. See Figure 3-1. It includes HDD box rear panel and screws.

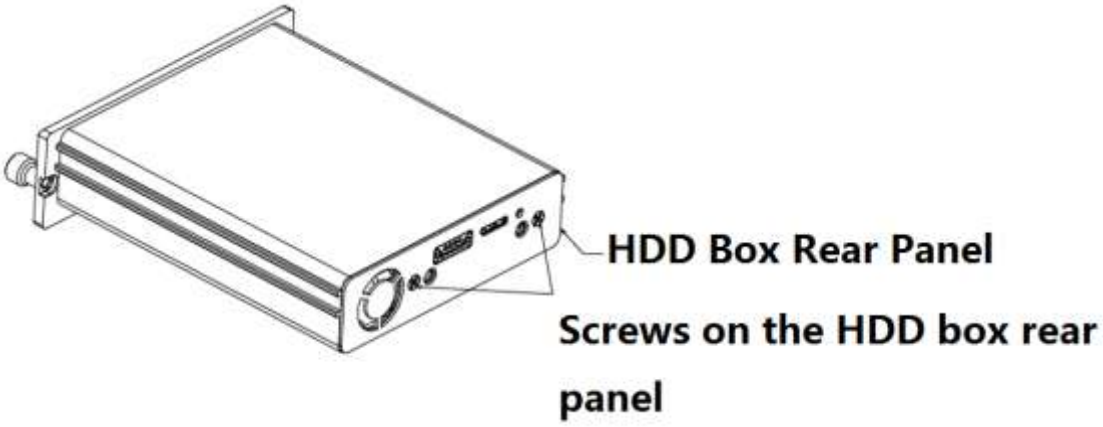


Figure 3-1

Step 2 Unfasten the two screws on the HDD box rear panel. Remove the rear panel and then remove the HDD box cover. See Figure 3-2 and Figure 3-3.

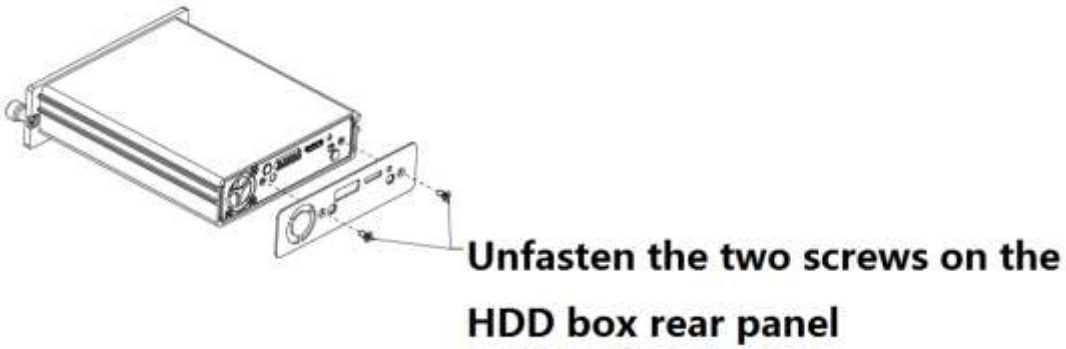


Figure 3-2

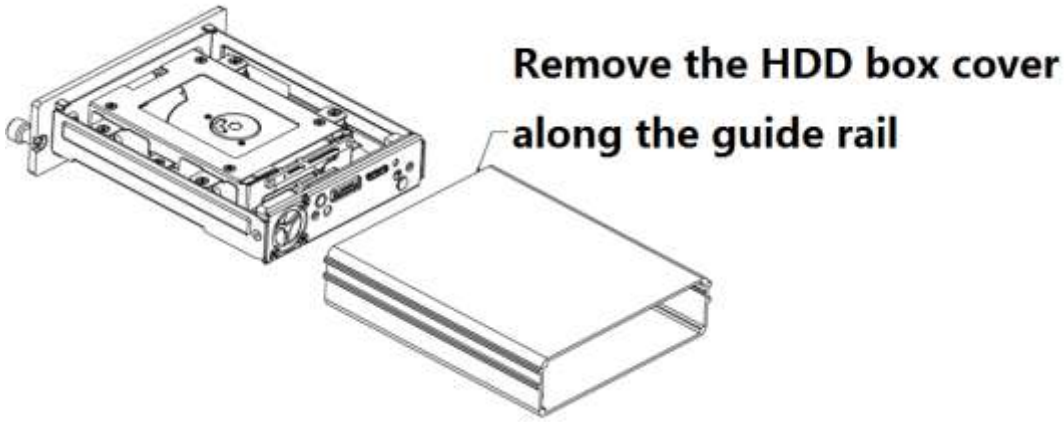


Figure 3-3

Step 3 Unfasten the two screws that secure the HDD bracket and HDD tray. See Figure 3-4.

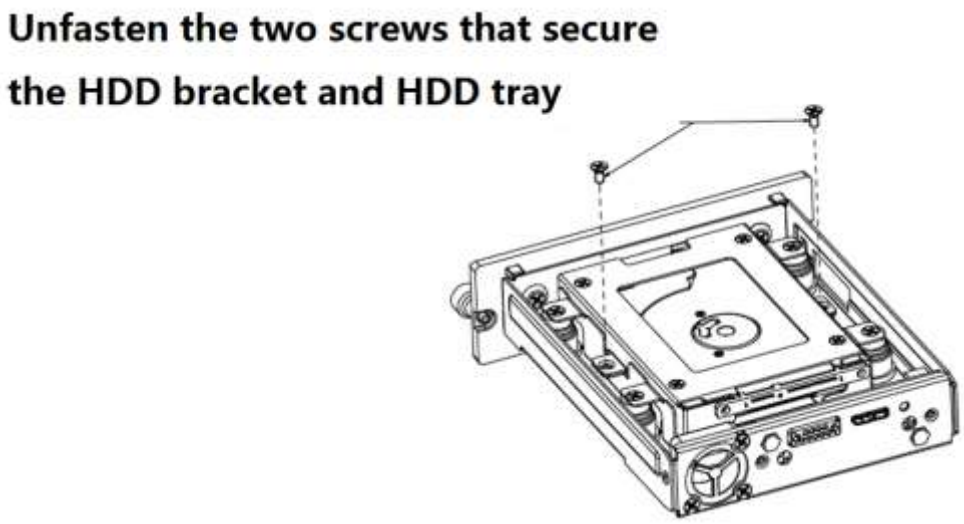


Figure 3-4

Step 4 Use eight screws to secure the HDD and the HDD bracket. Then use two screws to secure the HDD bracket and HDD tray. See Figure 3-5.

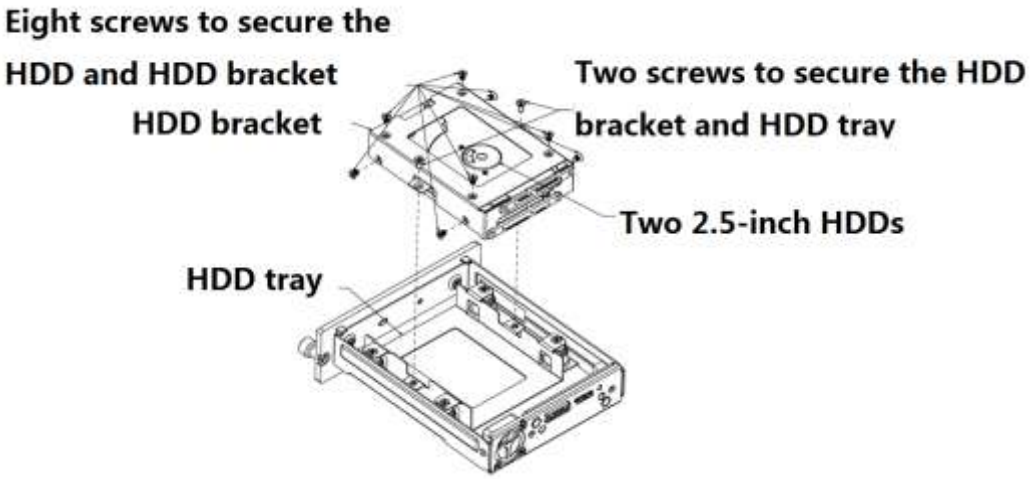


Figure 3-5

Step 5 Install the HDD box cover along the guide trail and then use two screws to secure the HDD box. See Figure 3-6.

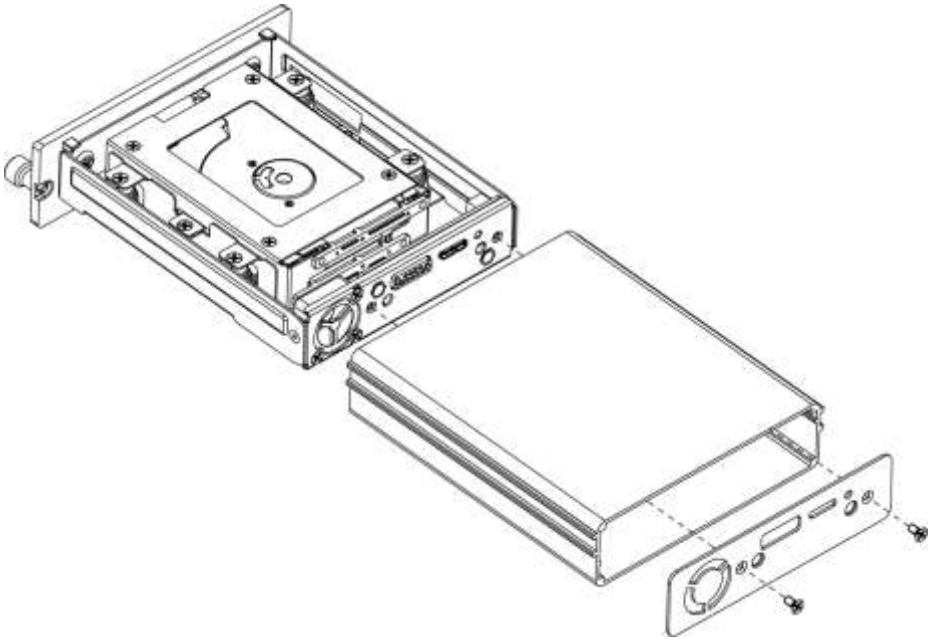


Figure 3-6

3.3.2 SIM Card/SD Card Installation

This series product supports built-in SIM card/SD card. See Figure 3-7.

Step 1 Remove the HDD box.

Step 2 Insert the SIM card and the SD card to the corresponding slot.

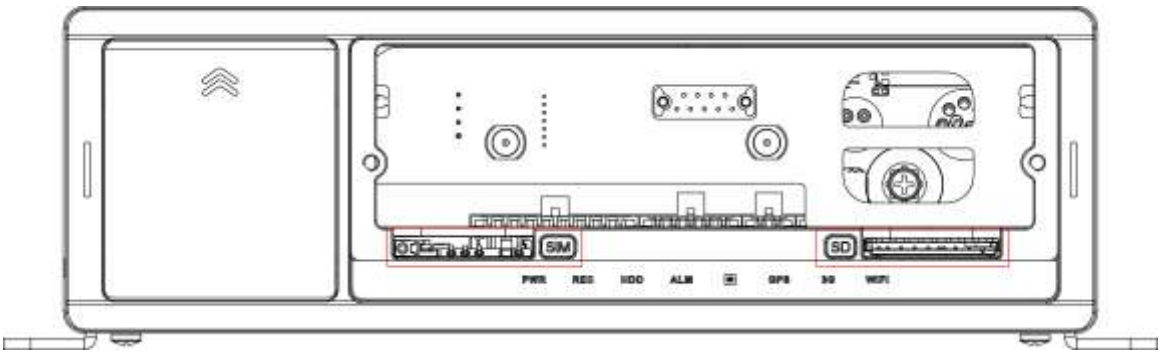


Figure 3-7

Step 3 Install HDD box.

3.4 Alarm Input and Output Connection

There are two alarm input types for you to select: normal open (NO) and normal close (NC).

1. Alarm input

a. Alarm input supports grounding alarm input.

c. When the alarm device is connecting one DVR and one other device, please use a relay to separate them,

2. Alarm output

The alarm output max load shall be less than 0.5A. It should not be connected to high power load directly to avoid high current which may result in relay damage. Please use the co contactor to realize the connection between the alarm output port and the load.

3. Please make sure the front-end device has soundly earthed.

Improper grounding may result in chip damage.

4. Alarm input type

NO/NC.

3.4.1 Alarm Input and Output Details

Alarm input and output interface is shown as in Figure 3-8.

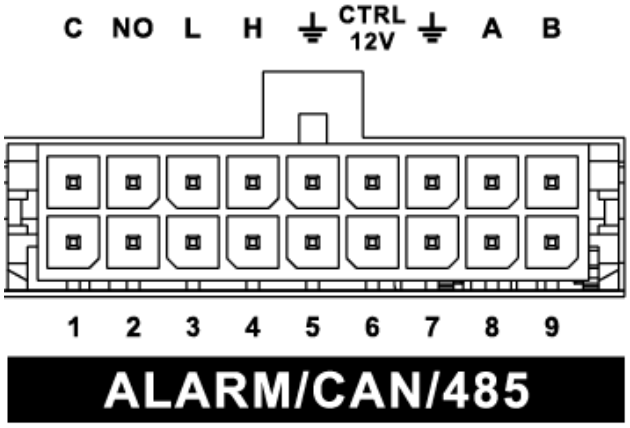


Figure 3-8

Please refer to the following sheet for detailed information.

Name	Pin Introduction
1～9	Alarm input 1～Alarm input 9. Alarm 1-Alarm 7 is the local alarm input. Alarm 8/9 is pulse input.
C, NO	NO/C of alarm output on-off signal
L, H	CAN port.
⏚	Alarm GND
CTRL 12V	Controllable 12V
A, B	485 port. Connect to the PTZ camera.

3.4.2 Alarm Input Port

Please refer to the following sheet for more information. See Figure 3-9.

- Normal open or Normal close type.
- Please parallel connect COM end and COM end of the alarm detector (Provide external power to the alarm detector).
- Please parallel connect the Ground of the DVR and the ground of the alarm detector.
- Please connect the NC port of the alarm sensor to the DVR alarm input(ALARM)
- Use the same ground with that of DVR if you use external power to the alarm device.

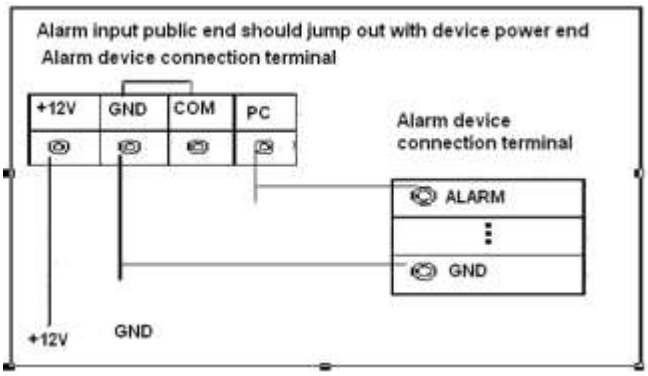


Figure 3-9

3.4.3 Alarm Output Port

- Alarm output is on-off signal alarm output (NO). Please use additional power supplying for the peripheral device.
- To avoid overloading, please read the following relay parameters sheet carefully.

Relay Specification

Model: HFD23			
Contact Parameter	Contact mode		1Z
	Contact resistance		100mΩ(0.1A 6VDC)
	Contact material		AgNi+gold-plating
	Contact		AC 125V 0.5A /DC 30V 1A
	Max switch voltage		AC 125V / DC 60V
	Max switch current		2A
	Max switch power		62.5VA/30W
	Min allowed load		1mA 5V
	Mechanical durability		$1x10^7$(300/min)
	Electric durability		$1x10^5$(30/min)
Performance Parameter	Insulation resistance		1000MΩ(500VDC)
	Media pressure	Between loop and	AC 1000V 1min
		Between separated contact	AC 400V 1min
	Operation time (Rated voltage)）		≤5ms
	Release time (Rated voltage)		≤5ms

	Bound time (Rated voltage)	About 5ms
	Loop temperature rise(Rated voltage)	≤65K
	Strike	98m/s2
	Vibration	10Hz~55 Hz 3.3mm Double amplitude
	Humidity	98% RH, 40℃
	Temperature	-30℃~70℃
	Weight	About 2.2g
	leading-out end mode	DIP
	Seal mode	Sealed
Loop	Rated Loop Power	Standard mode：200mW； Sensitivity mode：150mW

Note

All the values listed in the above sheet are initial values.

4 Local Operation

Note

The following interface is based on the 8-channel series product. Slight difference may be found on the user interface.

4.1 Boot up& Shutdown

Refer to the following sheet for commonly used button definition.

Button	Function
	Click to restore default setup.
	Click to save current setup.
	Click to cancel current setup.
	Click to copy current channel setup to other channel.

4.1.1 Preparation

- Make sure a monitor has properly connected to the video output port of the device. Otherwise there is no video output.
- Check there is a work-write HDD or not, otherwise device cannot record.

4.1.2 Boot up

Turn the key from “  ” to “  ”, the power indicator light becomes on. It may take a while for the device to boot up. It goes to multiple-window preview mode by default after booted up.

Note

The system can automatically backup video and resume previous working status after power failure.

Use ACC to boot up

Turn the vehicle key to the ACC, the power indicator light is on and device is booting up. The device is in preview mode by default. The record mode is auto. Refer to chapter 4.8.2 Schedule for detailed information.

In the default setup, the device will automatically shut down after the ACC power is disconnected.

The ACC delay value ranges from 0 to 65535 (Unit: minute). System can delay shutting down for the specified time and then turn off（Main menu->Vehicle>Auto maintenance）.

Auto record

System enables schedule record function if the boot up is within the specified period. The corresponding record indicator light becomes on and system runs normally.

4.1.3 Login

Step 1 After device booted up, right click mouse, system pops up the following dialogue box. See Figure 4-1.

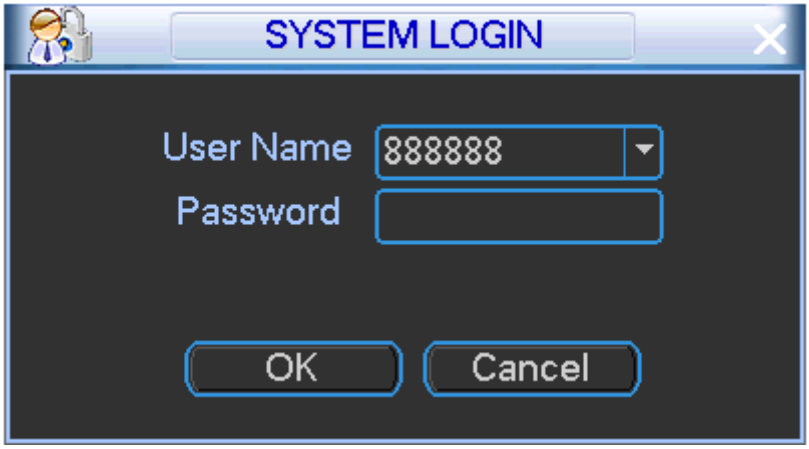


Figure 4-1

Step 2 Select a user, and then input a password.

System consists of two accounts:

- Username: **admin**. Password: **admin**. It is the admin group user.
- Username: **888888**. Password: **888888**. (It is the admin group user. For local login only. Cannot login via WEB.)

WARNING

- For security reason, please modify password after you first login.
- Continuous three times login failure will result in system alarm and five times login failure will result in account lock!
- Please reboot the device or wait for 30 minutes to try again if your account has been locked.

Step 3 Click OK to Login.

4.1.4 Startup Wizard

Note

From main menu->Setting->System->General, you can enable/disable Startup wizard function.

The startup wizard includes some general functions such as general, encode, record, record control, auto register, auto maintenance, TV adjust and network.

Step 1 After you successfully set the password, it goes to startup wizard.

Note

- Check the box Startup button here, system goes to startup wizard again when it boots up the next time.

- Cancel the Startup button, system goes to the login interface directly when it boots up the next time.
- ☑ means checked, ☐ means cancelled.

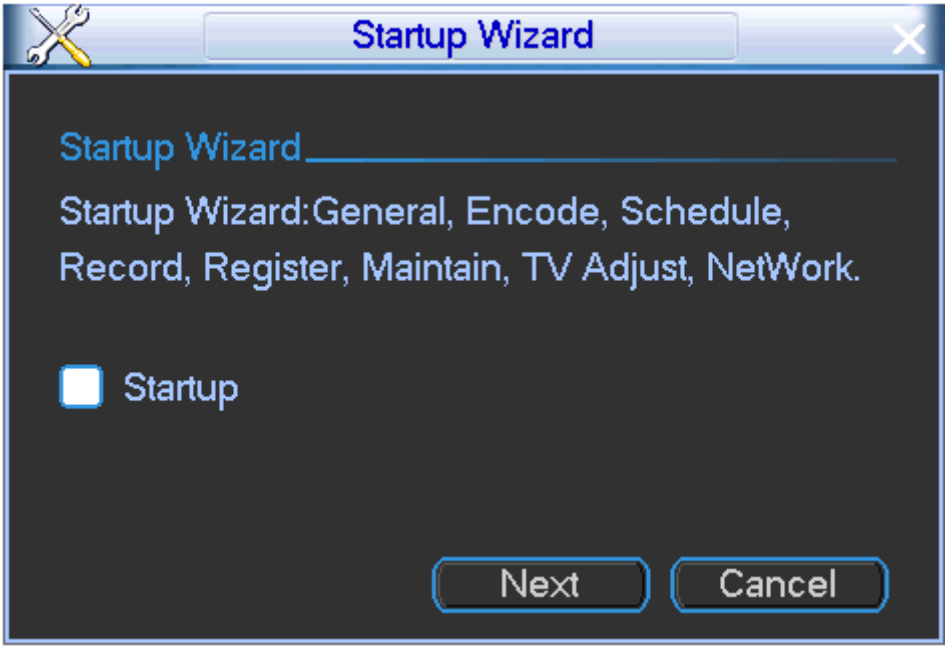


Figure 4-2

Step 2 Click Cancel/Next button, enter login interface. See Figure 4-3.

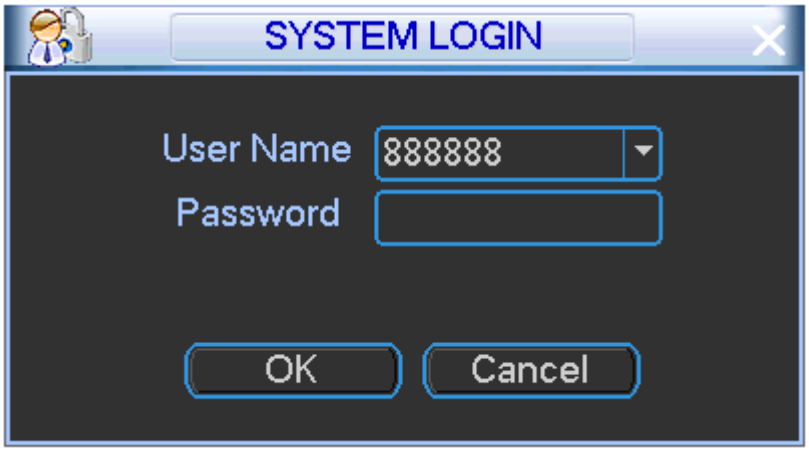


Figure 4-3

Step 3 Input user name and password, click OK to login.

System goes to the startup wizard. General interface is shown as in Figure 4-4. Please refer to chapter 4.14.1 General for detailed information.

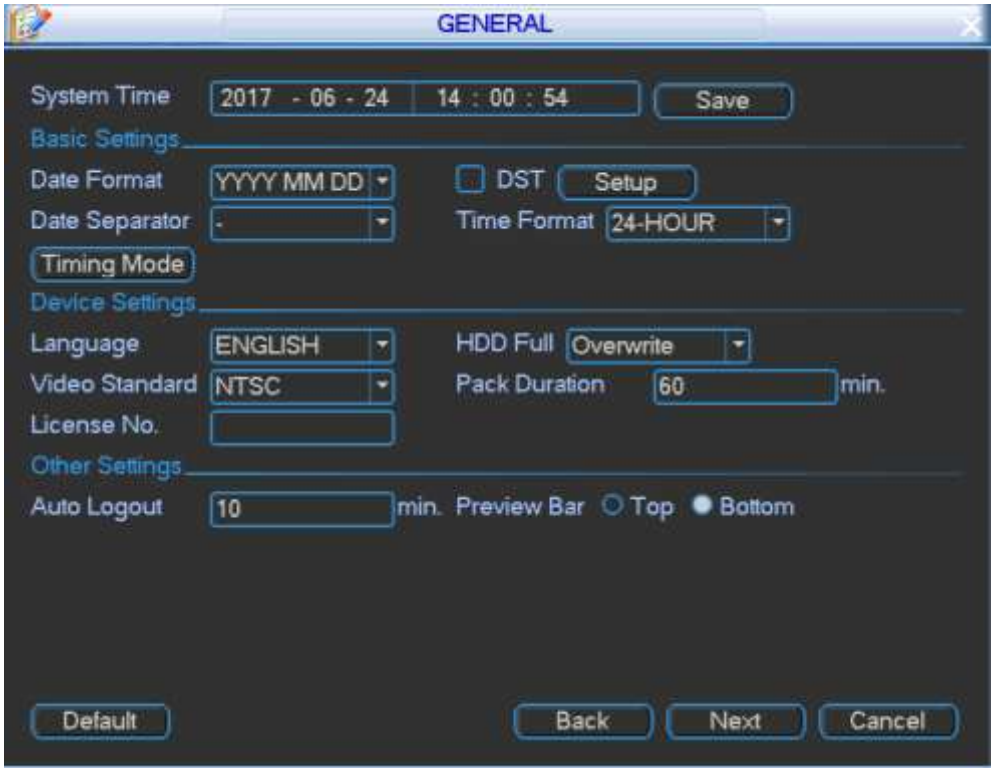


Figure 4-4

Step 4 Click Next, the encode interface is shown as in Figure 4-5.
Please refer to chapter 4.14.1 Encode for detailed information.

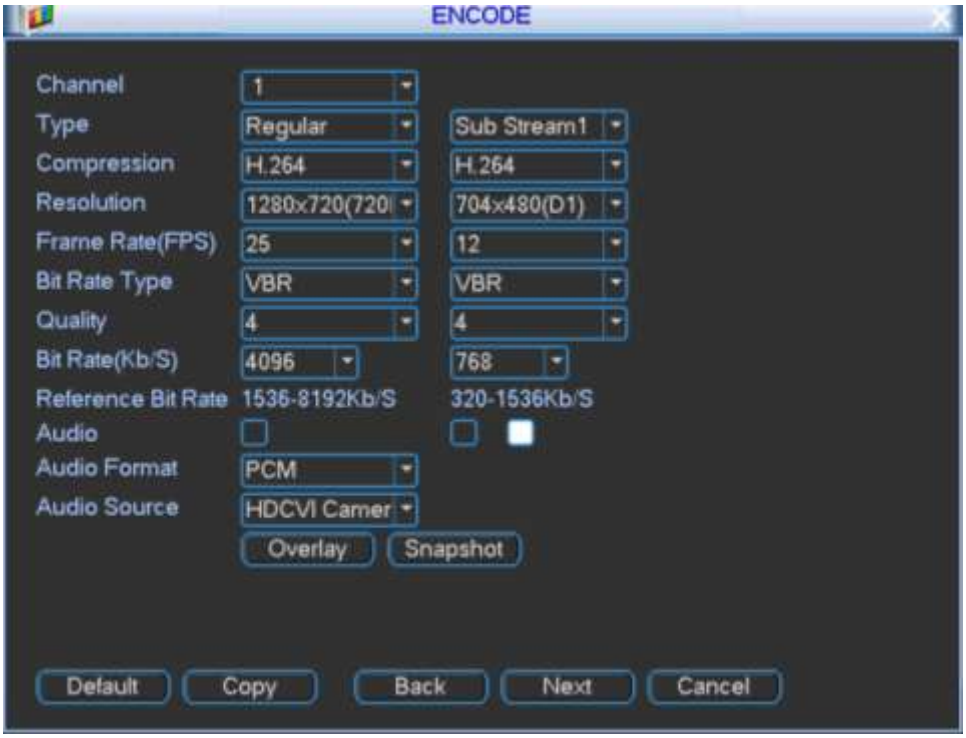


Figure 4-5

Step 5 Click Next button, enter Schedule interface. See Figure 4-6.
Please refer to chapter 4.8.2 Schedule for detailed information.

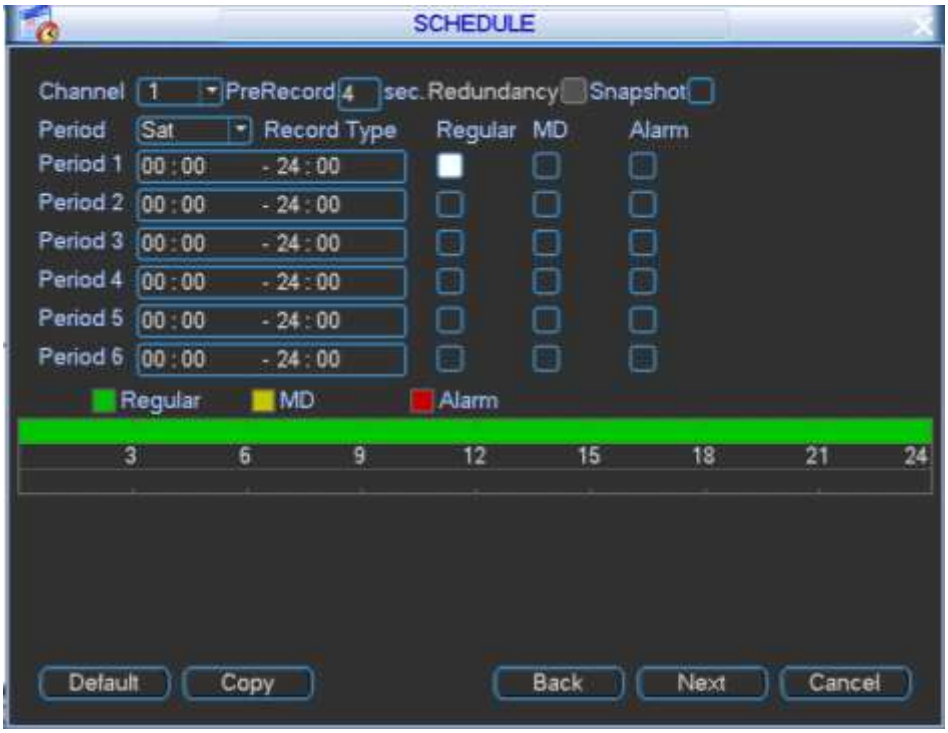


Figure 4-6

Step 6 Click Next button, enter Record Control interface. See Figure 4-7.
Please refer to chapter 4.8.3 Record control for detailed information.

Figure 4-7

Step 7 Click Next button, enter Register interface. See Figure 4-8.
Please refer to chapter 4.12.8 Register for detailed information.

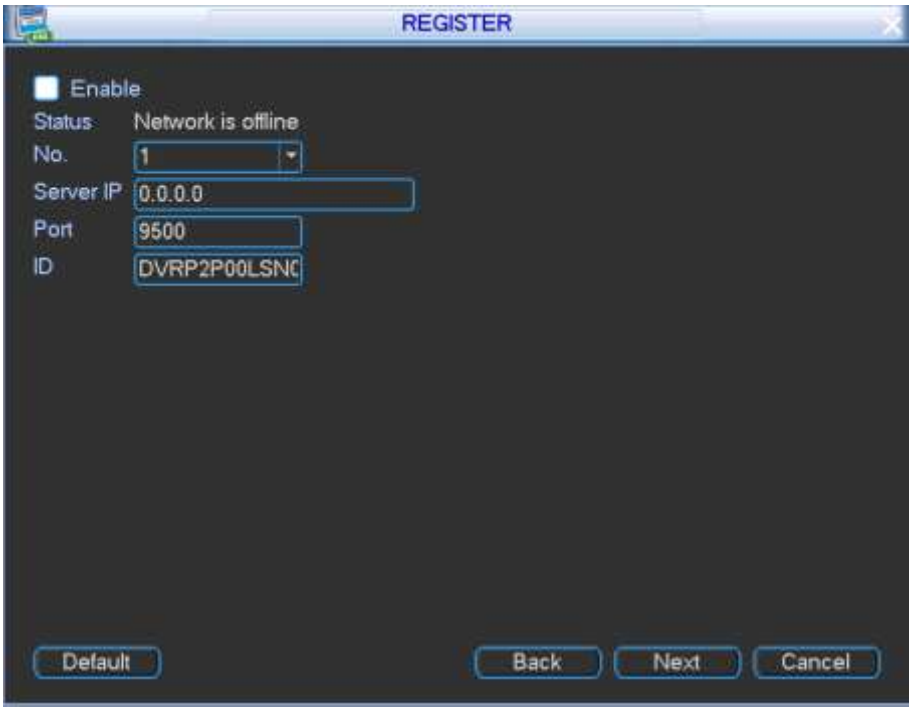


Figure 4-8

Step 8 Click Next button, enter Maintain interface. See Figure 4-9.
Please refer to chapter 4.14.5 Maintain for detailed information.

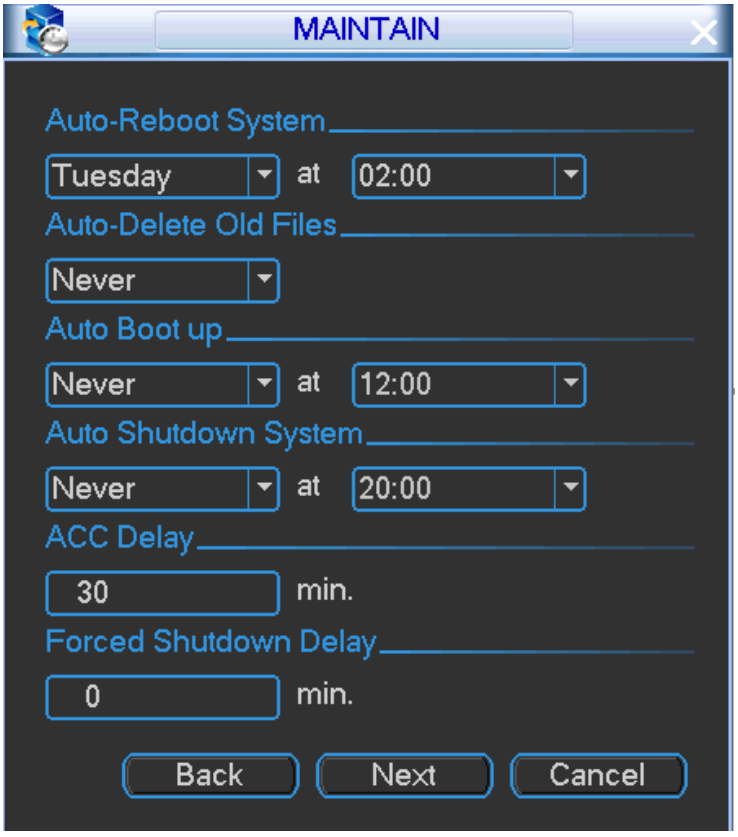


Figure 4-9

Step 9 Click Next button, enter TV adjust interface. See Figure 4-10.
Please refer to chapter 4.14.3 TV adjust for detailed information.

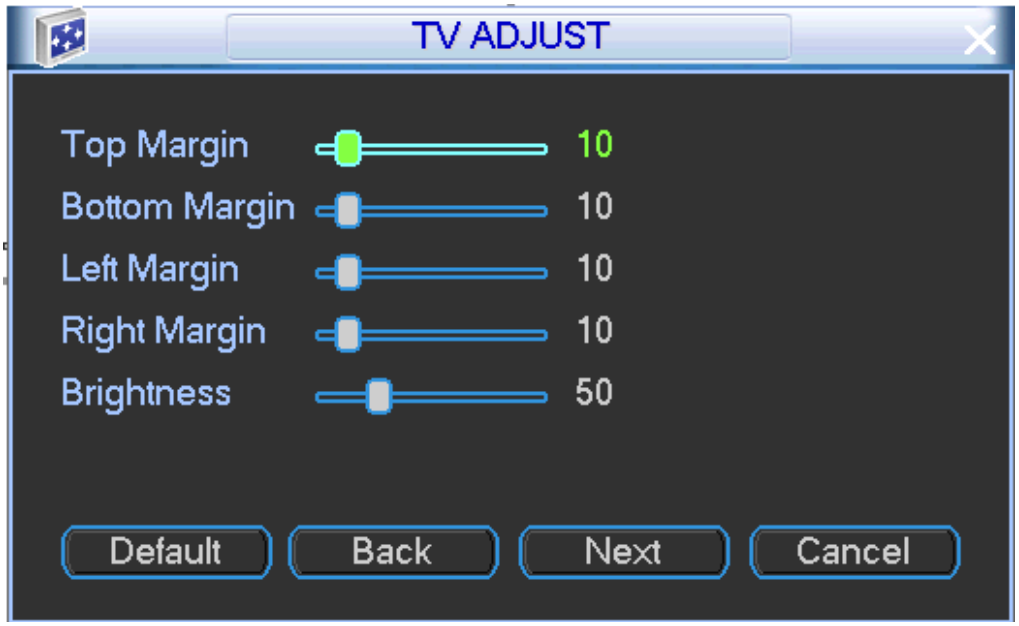


Figure 4-10

Step 10 Click Next button, enter Network interface. See Figure 4-11.
Please refer to chapter 4.12.1 Network for detailed information.

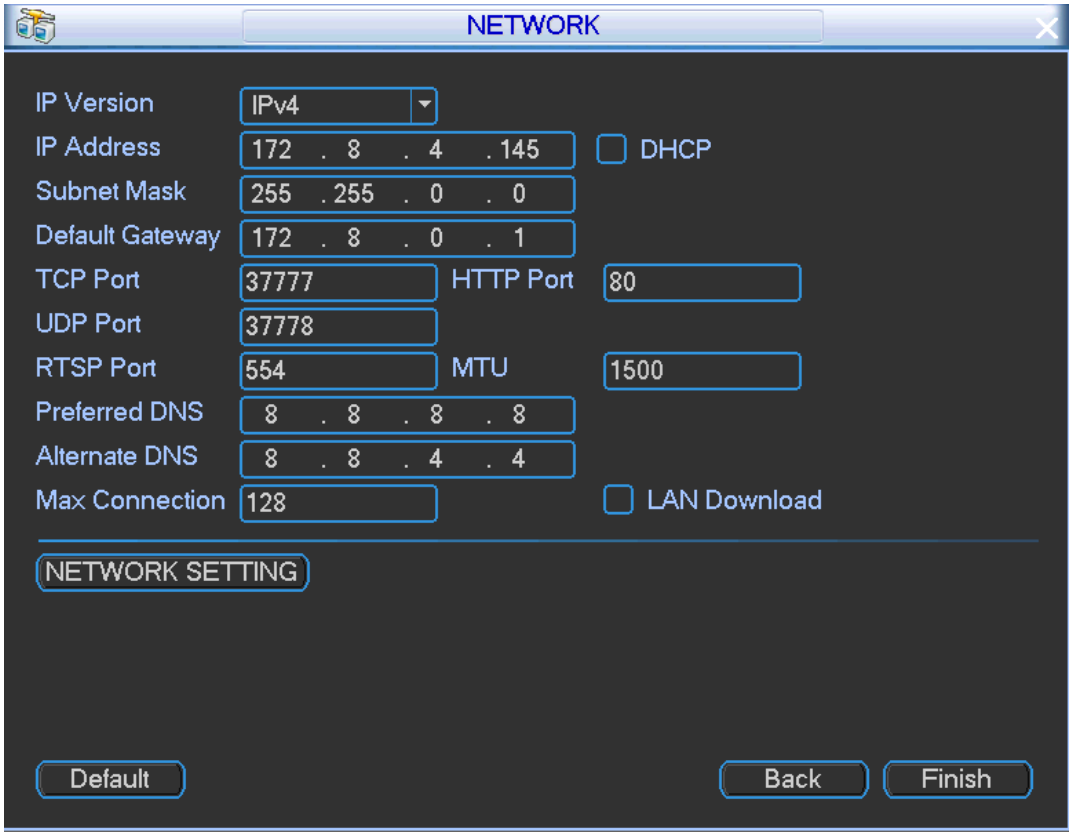


Figure 4-11

Step 11 Click Finish button, system pops up a dialogue box. See Figure 4-12.

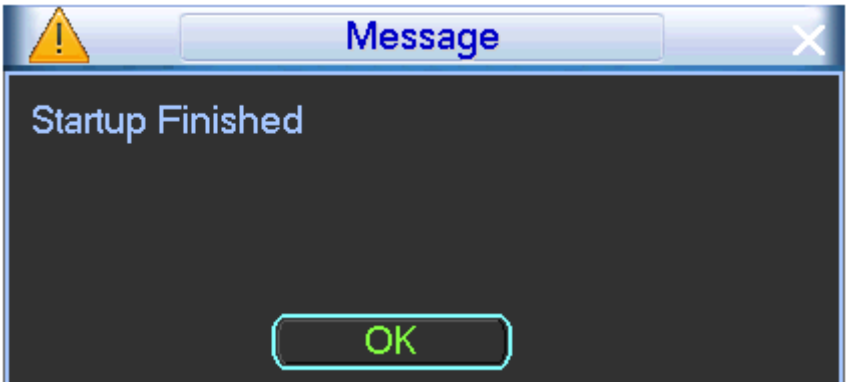


Figure 4-12

Step 12 Click the OK button, the startup wizard is complete.

4.2 Preview

After you successfully logged in, system goes to preview interface directly. See Figure 4-13. You can overlay the corresponding date, time and channel name on each screen.

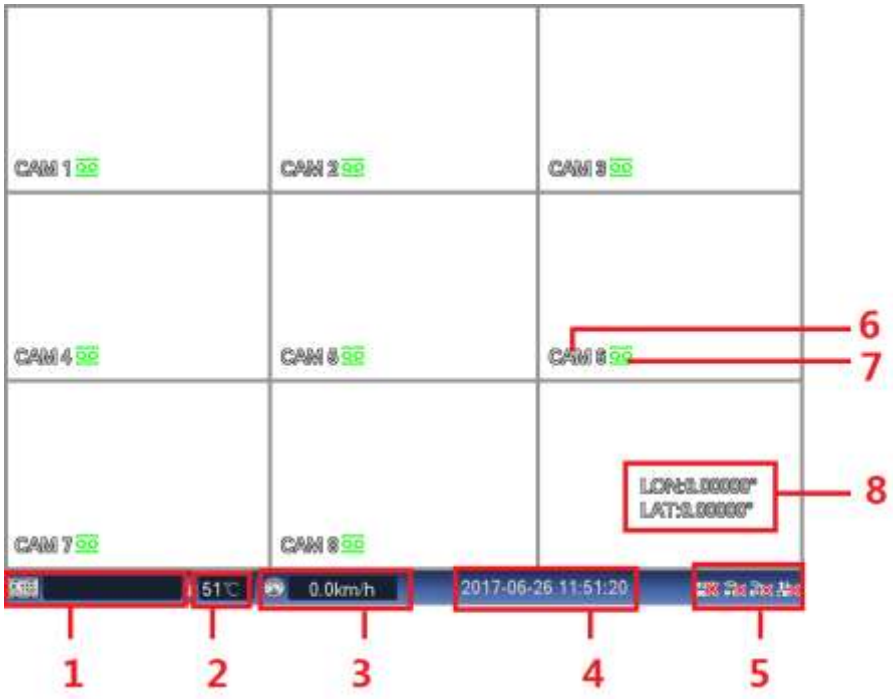


Figure 4-13

SN	Note
1	Vehicle plate number.
2	System working temperature.
3	Vehicle running speed.
4	System date and time.
5	Network connection state includes 3G/4G，Wi-Fi，GPS，DSS connection state. Red cross means disconnection. The connection is OK if there is no red cross.
6	Channel name
7	Current channel is recording properly.

8	Current longitude and latitude.

Move cursor to each channel, there are two icons.

Icon	Note
	Zoom in image.
	Flip or rotate image.

4.3 Right-Click Menu

On the preview interface, right click mouse, the interface shown as in Figure 4-14.

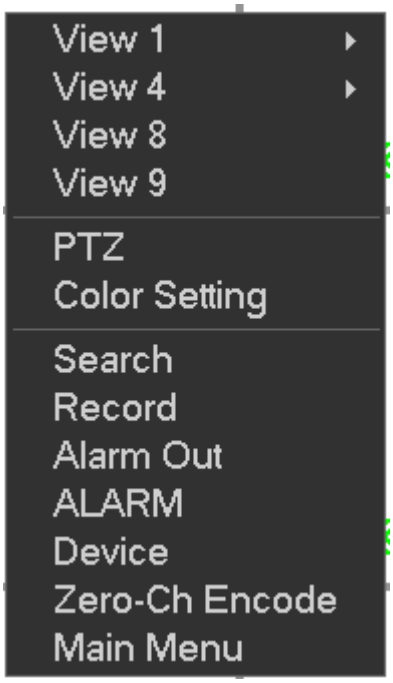


Figure 4-14

Please refer to the following sheet for detailed information.

Name	Function
1/4/8/9-window	System supports 1/4/8/9-window.
PTZ control	Click to go to PTZ control interface. Please refer to chapter 4.5.2 PTZ to set.
Color	It is to set video color. Please refer to chapter 4.3.1 Color to set.
Search	Click to go to the search interface. Please refer to chapter 4.5 Search to set.
Record control	Click to go to record control interface. Please refer to chapter 4.8.3 Record control to set.
Alarm output	Click to go to alarm output interface. Please refer to chapter 4.8.3 Alarm output to set.
Alarm state	Click to go to alarm state interface. Please refer to chapter 4.3.2 Alarm state to set.
Device	Click to go to device information interface. Please refer to chapter 4.15.4 Device state to set.

Name	Function
Zero-encode	Search and add remote device. Please refer to chapter 4.3.3 Zero-channel encode to set.
Main menu	Click to go to the main menu. Please refer to chapter 4.4 Main menu to set.

4.3.1 Color

It is to set analog channel color such as hue, brightness, contrast, saturation, gain, white level, color mode and etc.

Step 1 On the preview interface, right click mouse and then select color.

Enter color interface. See Figure 4-15.

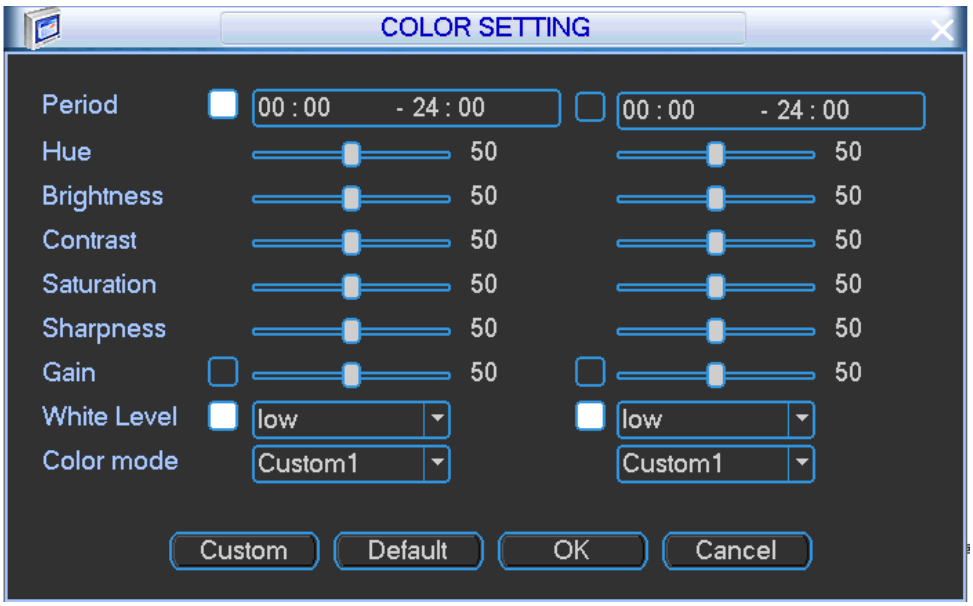


Figure 4-15

Step 2 Set parameters.

Name	Function
Period	There are two periods in one day. It is to set different sharpness, brightness, and contrast setup for different periods.
Hue	It is to adjust video red/green degree.
Sharpness	The value here is to adjust the edge of the video. The value ranges from 0 to 100. The larger the value is, the clear the edge is and vice versa. Please note there is noise if the value here is too high. The default value is 50 and the recommended value ranges from 40 to 60.
Brightness	It is to adjust monitor window bright. The value ranges from 0 to 100. The default value is 50. The larger the number, the bright the video is. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The recommended value ranges from 40 to 60.
Contrast	It is to adjust monitor window contrast. The value ranges from

Name	Function
	0 to 100. The default value is 50. The larger the number, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure .The recommended value ranges from 40 to 60.
Saturation	It is to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50. The larger the number, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The recommended value ranges from 40 to 60.
Gain	The gain adjust is to set the gain value. The default value may vary due to different device models. The smaller the value, the low the noise. But the brightness is also too low in the dark environments. It can enhance the video brightness if the value is high. But the video noise may become too clear.
White level	It is to enhance image effect. **Note** The white level setting of channel 1 and channel 5 are applied to all channels.
Color mode	It includes several modes such as standard, color, bright, gentle. Select a color mode, the sharpness, brightness, contrast and etc can automatically switch to corresponding setup.
Customized	Click Customized to set color mode. Click All to copy current settings to all channels. Click OK to complete setup.

Step 3 Click OK button.

4.3.2 Alarm Status

It is to display system alarm status and channel alarm situation.

On the preview interface, right click mouse and then alarm state.

Enter alarm state interface. See Figure 4-16.

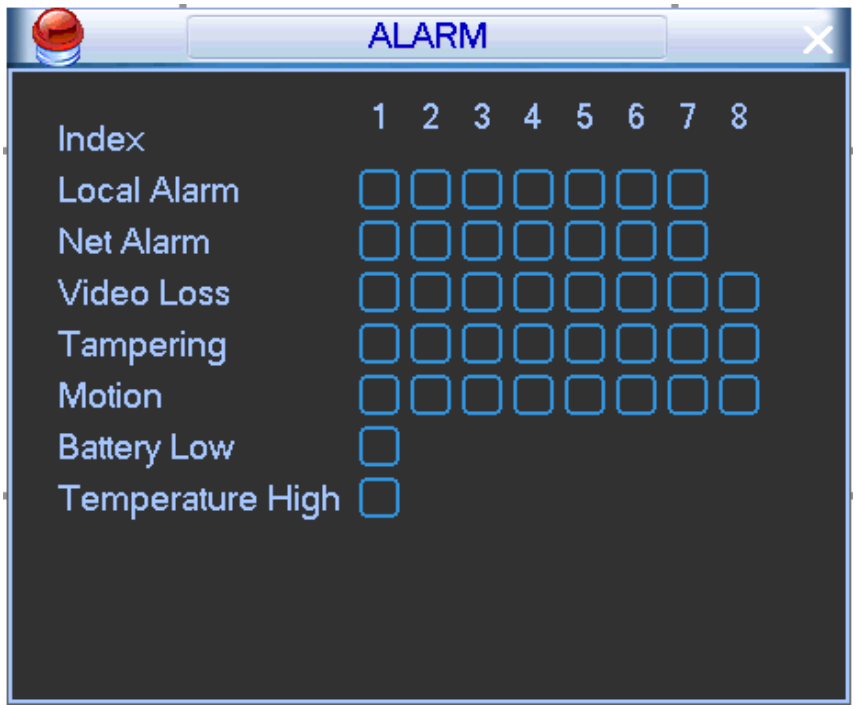


Figure 4-16

4.3.3 Zero-channel encode

After enable zero-channel encode, system can display video from several-channels on one channel at the WEB.

Step 1 On the preview interface, right click mouse and then select zero-channel encode. Enter zero-channel encode interface. See Figure 4-17.

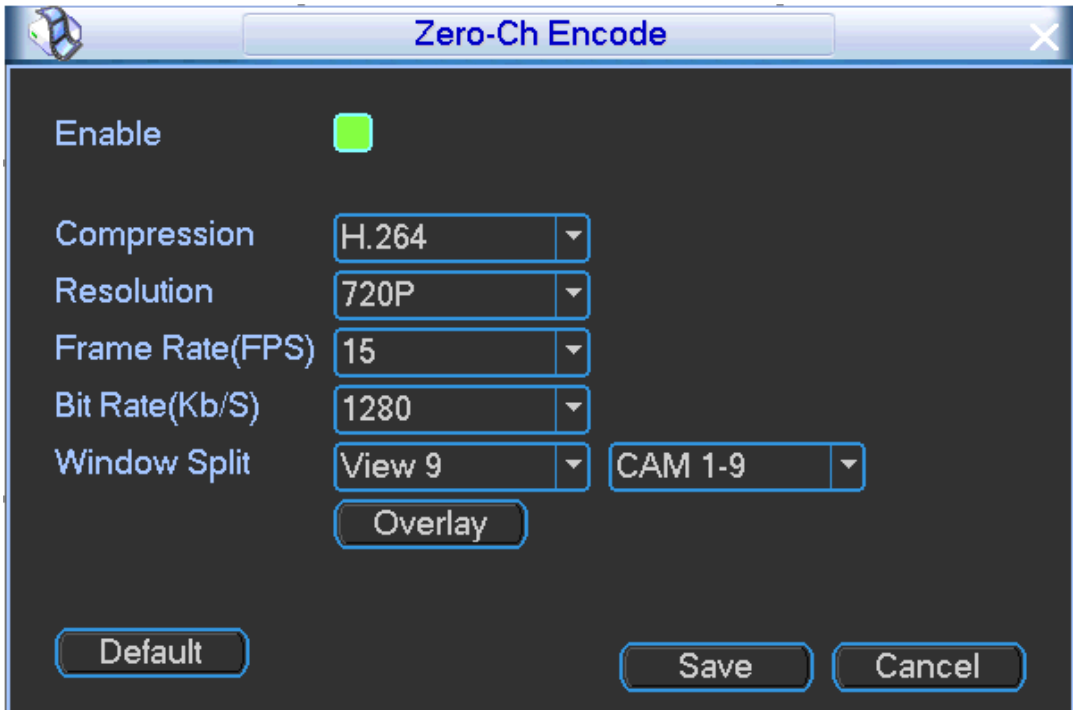


Figure 4-17

Step 2 Set parameters.

- Check the box here to enable this function so that you can control the zero-channel encoding function at the WEB.

- Compression: System default setup is H.264.
- Resolution: Please select from the dropdown list. System max supports 1080P.
- Frame rate (FPS): The frame rate value may vary due to different device capabilities. Please select from the dropdown list.
- Bit rate (Kb/S): It is to set bit rate.
- Window split: It is to set window split mode.
- Save: Click the Save button to save current setup. If this function is disabled, you cannot operate zero-channel encoding function at the WEB, the video is black or null even you operate when the function is disabled. After you enabled this function, login the Web and you can select zero-channel encoding mode at the right corner of the interface  . Select a mode; you can view the local preview video.
- Overlay: Click Overlay, the interface is shown as in Figure 4-18.

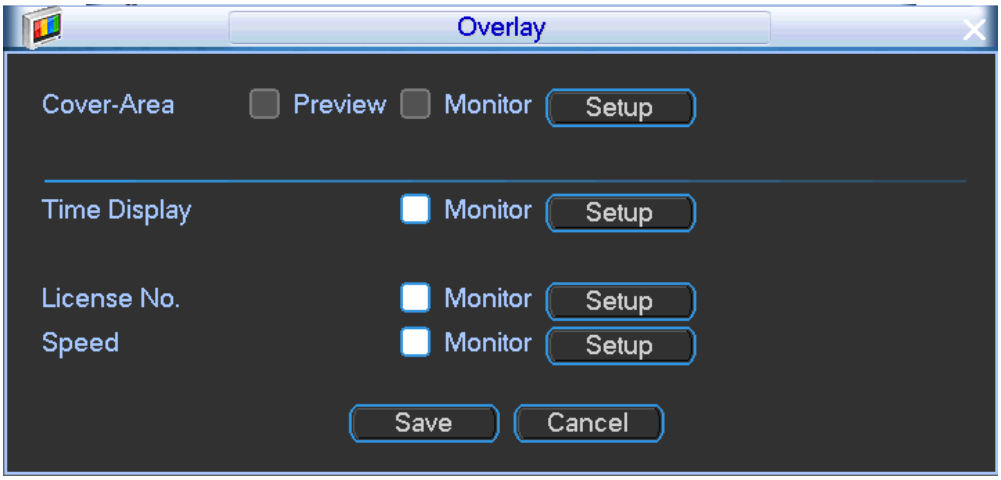


Figure 4-18

- Masking: Right now, this function is null.
- Time time/license/speed title: Select a channel to overlay title and drag the title to the corresponding position. The overlay function can overlay title on the real-time monitor video or the playback file. Click time title and then click Monitor, click Set button to drag the overlay title to the corresponding position.

Note

Plate title can control the plate and alarm title at the same time.

Step 3 Click OK button.

4.4 Main Menu

Step 1 On the preview window, right click mouse, and the select main menu, system pops up login dialogue box. See Figure 4-19.

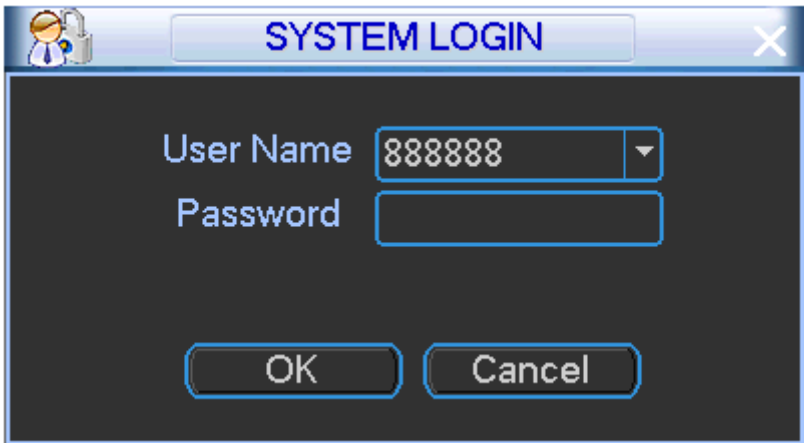


Figure 4-19

Step 2 Input user name and password, click OK button.

Enter system main menu interface. See Figure 4-20. It includes search, information, vehicle, settings, advanced, backup and shutdown.

Note

In the following setting interface, click OK (Apply, Save) button to save current setup. Otherwise, the settings are null.

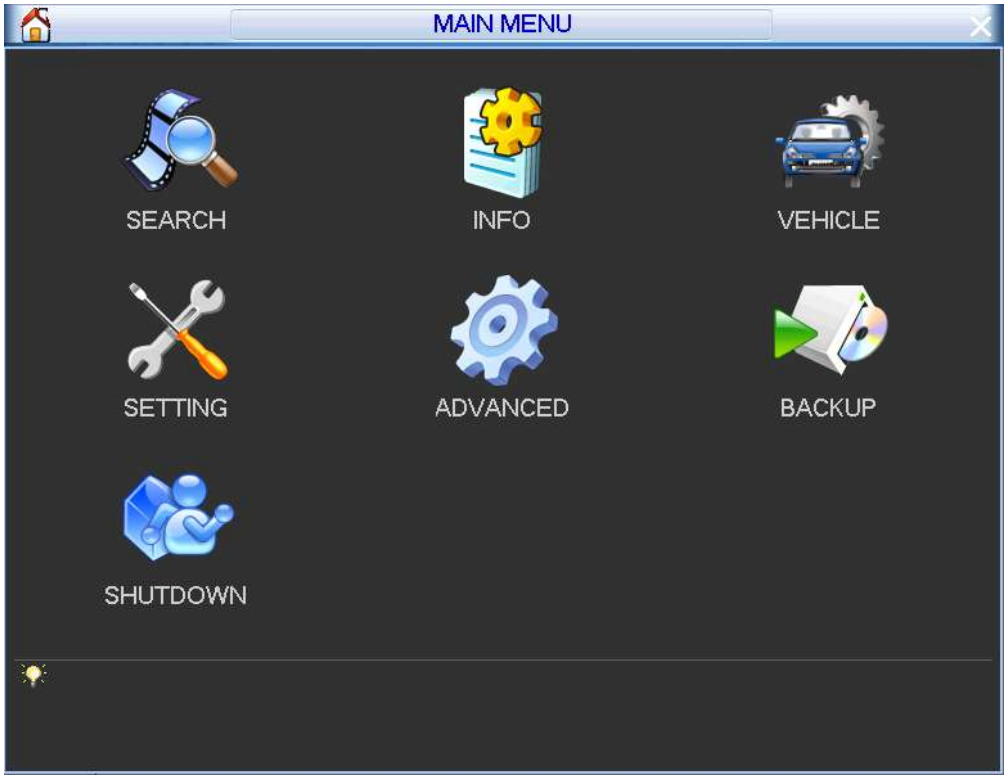


Figure 4-20

4.5 PTZ Control

Please make sure the camera supports PTZ function.

4.5.1 PTZ Settings

Cable Connection

Please follow the procedures below to go on cable connection

- Connect the dome RS485 port to device RS485 port.
- Connect dome video output cable to device video input port.
- Connect power adapter to the dome.

Step 1 In the main menu, from Setting->System->PTZ or right click mouse and then select PTZ.

PTZ interface is shown as in Figure 4-21.

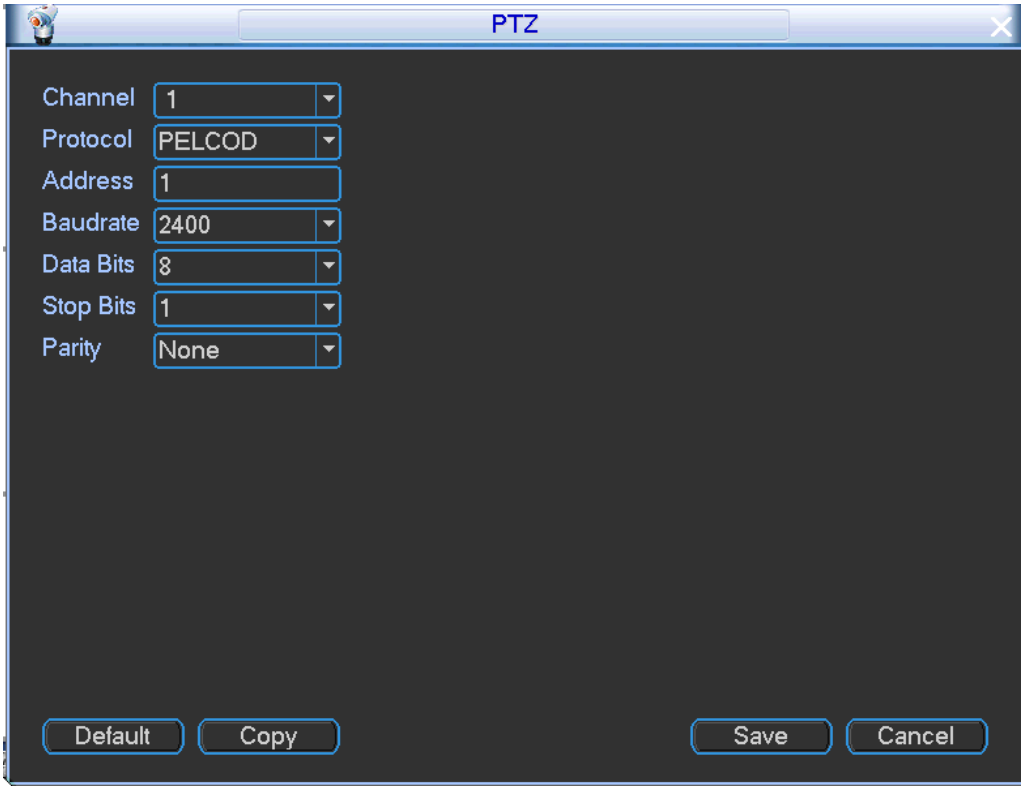


Figure 4-21

Step 2 Set parameters.

- Channel: Select the current camera channel.
- Protocol: Select corresponding PTZ protocol(such as PELCOD)
- Address: Default address is 1.
- Baud rate: Select corresponding baud rate. Default value is 2400.
- Data bit: Select corresponding data bits such as 5/6/7/8. Default value is 8.
- Stop bit: Select corresponding stop bits such as 1/1.5/2. Default value is 1.
- Parity: There are three options: odd/even/none/mark/null. Default setup is none.

Step 3 Click Save button. Go back to the preview interface to control the camera.

4.5.2 PTZ Control

After completing all the setting please click save button. Right click mouse and then click PTZ. Please note you can only go to the PTZ control interface when you are in 1-window display mode.

Click Pan/Tilt/Zoom, the interface is shown as below. See Figure 4-22.

Here you can set the following items:

- Step: value ranges from 1 to 8.

- Zoom
- Focus
- Iris

Please click icon and to adjust zoom, focus and iris.

The corresponding item is grey if current unit does not support this function.

Figure 4-22

In Figure 4-22, please click direction arrows (See Figure 4-23) to adjust PTZ position. There are total 8 direction arrows. You can use the remote control to set.

Figure 4-23

4.5.3 3D Intelligent Positioning Key

In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See Figure 4-24. Please make sure your protocol supports this function and you need to use mouse to control.

Click this key, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size. The dragged zone supports 4X to 16X speeds. It can realize PTZ automatically. The smaller zone you dragged, the higher the speed.

Figure 4-24

4.6 Preset/ Patrol/Pattern/Scan

In Figure 4-22, please click the “set” button. The interface is shown as below. See Figure 4-25. Here you can set the following items:

- Preset

- Tour
- Pattern
- Border

Figure 4-25

In Figure 4-22, click page switch button, the interface is shown as in Figure 4-26.
Here you can activate the following functions:

- Preset
- Tour
- Pattern
- Auto scan
- Auto pan
- Flip
- Reset
- Page switch

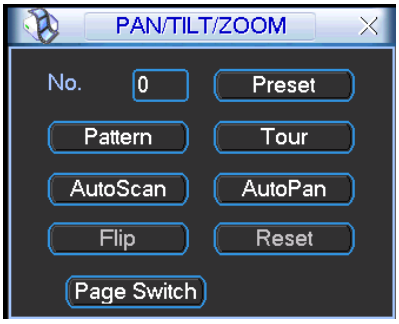


Figure 4-26

Note

- Preset, tour and pattern all need the value to be the control parameter. You can define it as you require.
- You need to refer to your speed dome user's manual for Aux definition. In some cases, it can be used for special process.
- The following setups are usually operated in the Figure 4-33,Figure 4-36 and Figure 4-37 .

4.6.1 Preset Setup

In Figure 4-22, use eight direction arrows to adjust camera to the proper position.
In Figure 4-26, click preset button and input preset number. The interface is shown as in Figure 4-27.
Now you can add this preset to one tour.

Figure 4-27

4.6.2 Activate Preset

In Figure 4-26, please input preset number in the No. blank, and click preset button.

4.6.3 Patrol setup (Tour Setup)

In Figure 4-25, click patrol button. The interface is shown as in Figure 4-28. Input preset number and add this preset to a patrol (tour). For each patrol (tour), you can input max 80 presets.

Figure 4-28

4.6.4 Activate Patrol (tour)

In Figure 4-26, input patrol (tour) number in the No. blank and click patrol button

4.6.5 Pattern Setup

In Figure 4-25, click pattern button and then click “begin” button. The interface is shown as in Figure 4-29. Then you can go to Figure 4-22 to modify zoom, focus, and iris.

Go back to Figure 4-29 and click “end” button. You can memorize all these operations as pattern 1.

Figure 4-29

4.6.6 Activate Pattern Function

In Figure 4-26, input mode value in the No. blank, and click pattern button.

4.6.7 Auto Scan Setup

In Figure 4-25, click border button. The interface is shown as in Figure 4-30.
Please go to Figure 4-22, use direction arrows to select camera left limit
Then please go to Figure 4-30 and click left limit button
Repeat the above procedures to set right limit.

Figure 4-30

4.6.8 Activate Auto Scan

In Figure 4-26, click “Auto Scan” button, the system begins auto scan. Correspondingly, the auto scan button becomes Stop button. Click stop button to terminate scan operation.

4.7 Aux function

In Figure 4-26, click Page switch button, you can see an interface is shown as below. See Figure 4-31. Here you can set auxiliary function. The aux value has relationship with the Aux button of the decoder.

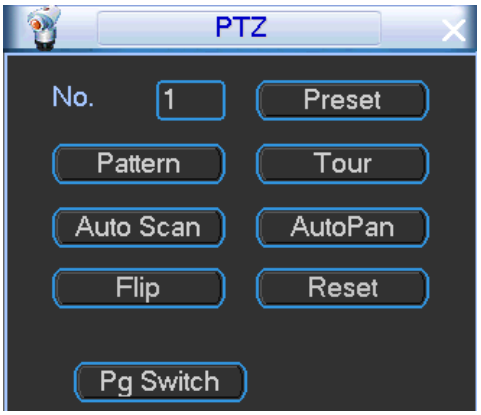


Figure 4-32

Click Page switch button, system goes to the following interface. The options here are defined by the protocol. The aux number is corresponding to the aux on-off button of the decoder. See Figure 4-33.

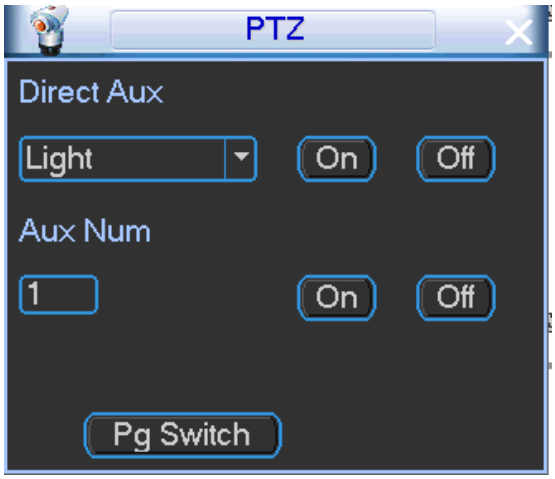


Figure 4-33

4.8 Record

4.8.1 Encode

4.8.1.1 Encode

Encode setting is to set network camera encode mode, resolution, bit stream type and etc.

Step 1 From Main menu->Setting->System->Encode.

Enter encode interface. See Figure 4-34.

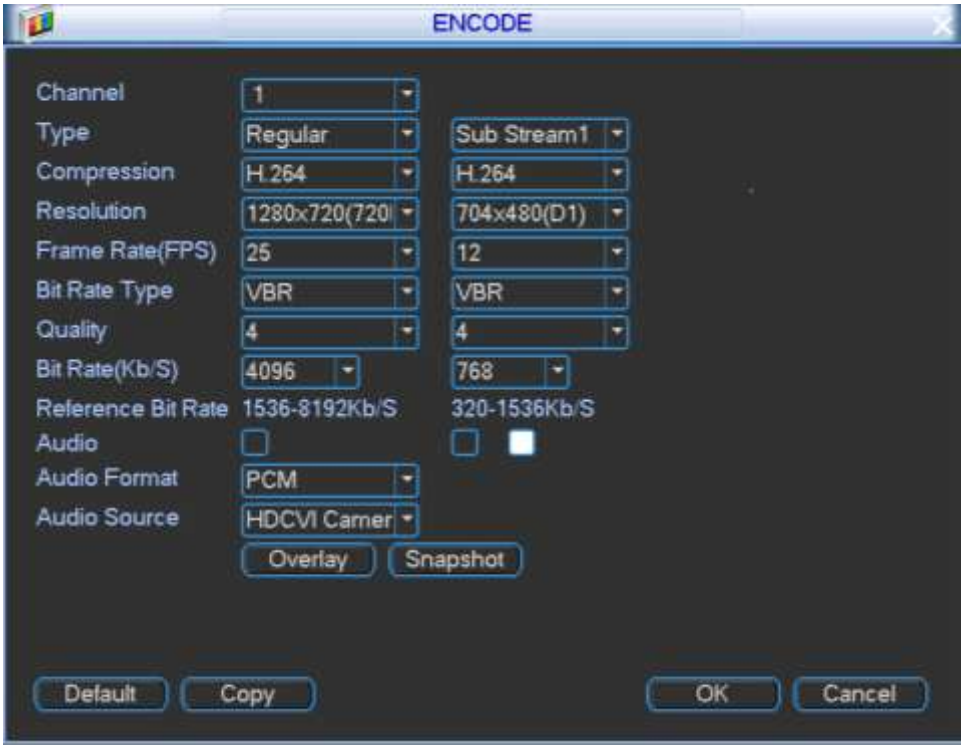


Figure 4-34

Step 2 Set parameters.

- Channel: Select the channel you want.

- Type: Please select from the dropdown list. There are three options: regular/alarm. You can set the various encode parameters for different record types.
- Compression: System supports H.264.
- Resolution: Please select from the dropdown list. System max supports 1080P.
- Frame rate (FPS): It ranges from 1f/s to 25f/s in NTSC mode and 1f/s to 30f/s in PAL mode.
- Bit rate (Kb/S): It is to set bit rate.
- Video/audio: You can enable or disable the video/audio. Please note, once you enable audio function for one channel, system may enable audio function of the rest channels by default.
- Audio format: Please select audio encode mode from the dropdown list. It includes: PCM/G711A/G711Mu/AAC.
- Audio source: It includes peripheral pickup and coaxial.

Note

This function is for the first channel.

- Copy：After you complete the setup, you can click Copy button to copy current setup to other channel(s).

Step 3 Click OK button.

4.8.1.2 Overlay

It is to set channel title, time title, plate title, and GPS title overlay position.

Step 1 From Main menu->Setting->Camera->Encode, click Overlay button, Enter Overlay interface. See Figure 4-35.

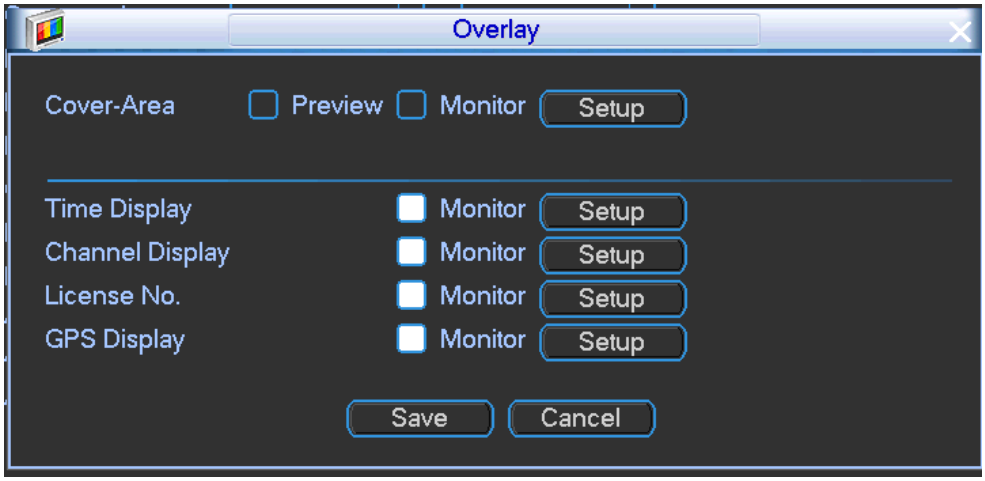


Figure 4-35

Step 2 Set parameters.

- Cover area: It is to set cover area section. Drag the mouse to set proper section size. In one channel video, system max supports 4 zones in one channel. You can set with Fn button or direction buttons.
- Preview/monitor: The cover area has two types. Preview and Monitor. Preview means the privacy mask zone cannot be viewed by user when system is in preview status. Monitor means the privacy mask zone cannot be view by the user when system is in monitor status.
- Time display/Channel display/License No./GPS display: Select a channel to overlay title and drag the title to the corresponding position. The overlay function can overlay title on the real-time monitor video or the playback file. Click time title and then click Monitor, click Set

button to drag the overlay title to the corresponding position.

Note

Plate title can control the plate and alarm title at the same time.

Step 3 Click Save button.

4.8.1.3 Snapshot

Please install HDD or set FTP. Refer to chapter 4.12.4 FTP to set FTP parameters.

The snapshot includes regular snapshot and event snapshot.

When these two modes are enabled at the same time, the event snapshot has higher priority than regular snapshot. If there is corresponding alarm, then the event snapshot is triggered. If there is no alarm, then regular snapshot is valid.

Step 1 From Main menu->Setting->System->Encode, click Snapshot button.

Enter Snapshot interface. See Figure 4-36.

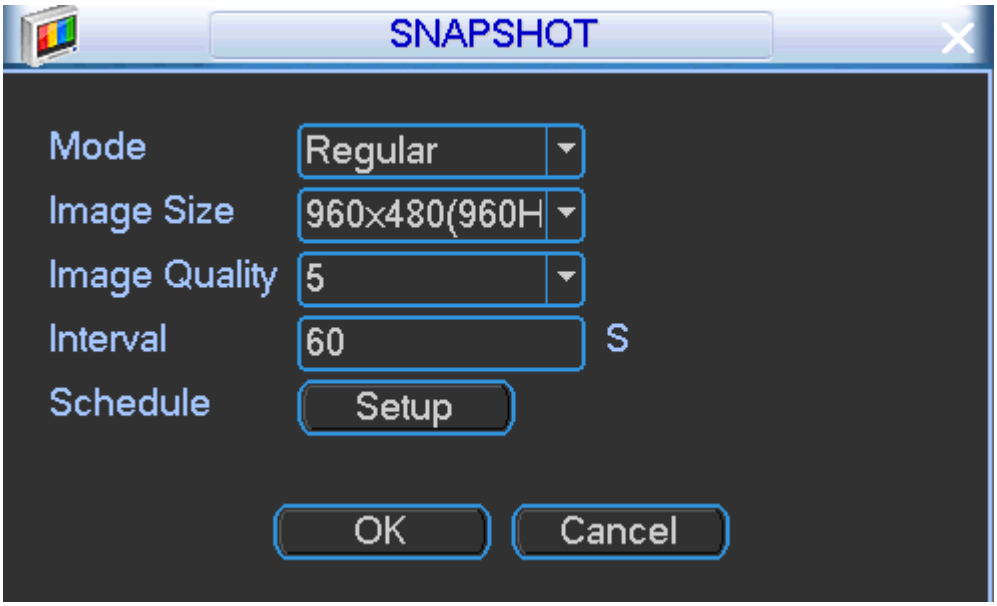


Figure 4-36

Step 2 Set parameters.

- Snapshot mode: There are two modes: regular and event. If you set regular mode, you need to set snapshot interval. If you set event snapshot, you need to set snapshot activation operation.
- Image size: It depends on the connected camera resolution. The default setup is 960H.
- Image quality: Here you can set snapshot quality. The value ranges from 1 to 6. The 6 has the highest image quality.
- Interval: It is for you to set timing (schedule) snapshot interval.

Step 3 Click Schedule setup button, the interface is shown as in Figure 4-37.

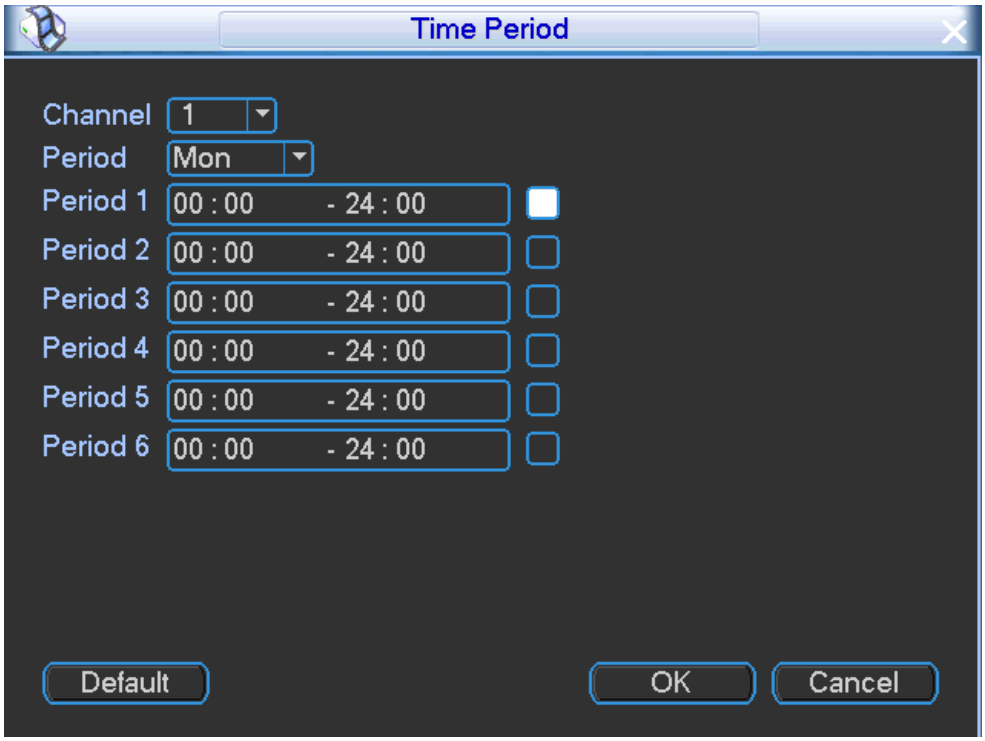


Figure 4-37

Step 4 Click OK button.

4.8.2 Schedule

It is to set record time, record plan and etc. Please note system is in 24-hour record by default after its first boot up.

Step 1 From main menu->System->Schedule, enter schedule interface. See Figure 4-38.

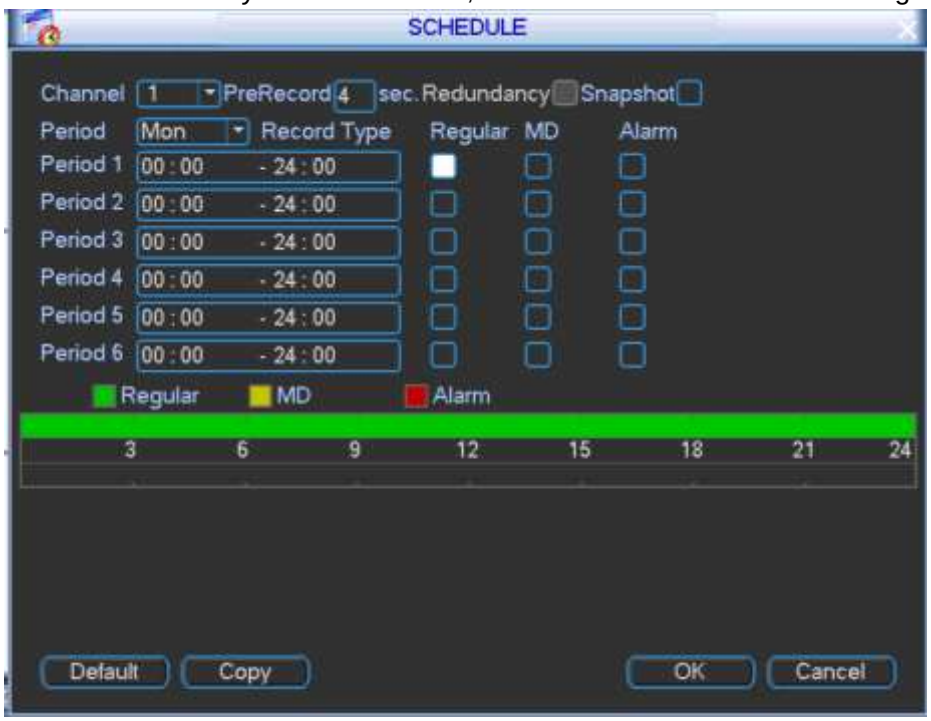


Figure 4-38

Step 2 Set parameters.

- Channel: Please select the channel number first. You can select “all” if you want to set for the whole channels.
- Week day: There are eight options: ranges from Saturday to Sunday and all.
- Pre-record: System can pre-record the video before the event occurs into the file. The value ranges from 1 to 30 seconds depending on the bit stream.
- Redundancy: System supports redundancy backup function. It allows you backup recorded file in two disks. You can highlight Redundancy button to activate this function. Please note, before enable this function, please set at least one HDD as redundant. (Main menu->Advanced->HDD Management). **Please note this function is null if there is only one HDD.**
- Snapshot: You can enable this function to snapshot image when an alarm occurs.
- Record types: There are three types: regular, motion detection (MD), Alarm.

Step 3 Click OK button.

4.8.3 Record Control

Step 1 From Main menu->Advanced->Record or on the preview interface, right click mouse and then select Record control, you can see Figure 4-39.

Figure 4-39

Step 2 Set parameters.

- Manual: The highest priority. After manual setup, all selected channels will begin ordinary recording.
- Auto: Channel records as you have set in recording setup (Main Menu->System->Schedule)
- Off: All channels stop recording.

Note

Make sure you have record right. Otherwise, this function is null.

Step 3 Click OK button.

4.9 Search & Playback

4.9.1 Search Interface

It is to search record file/image and then playback.

Step 1 From Main menu->Operation->Search, or on the preview interface right click mouse and then select search item.

Enter Search interface. See Figure 4-40.

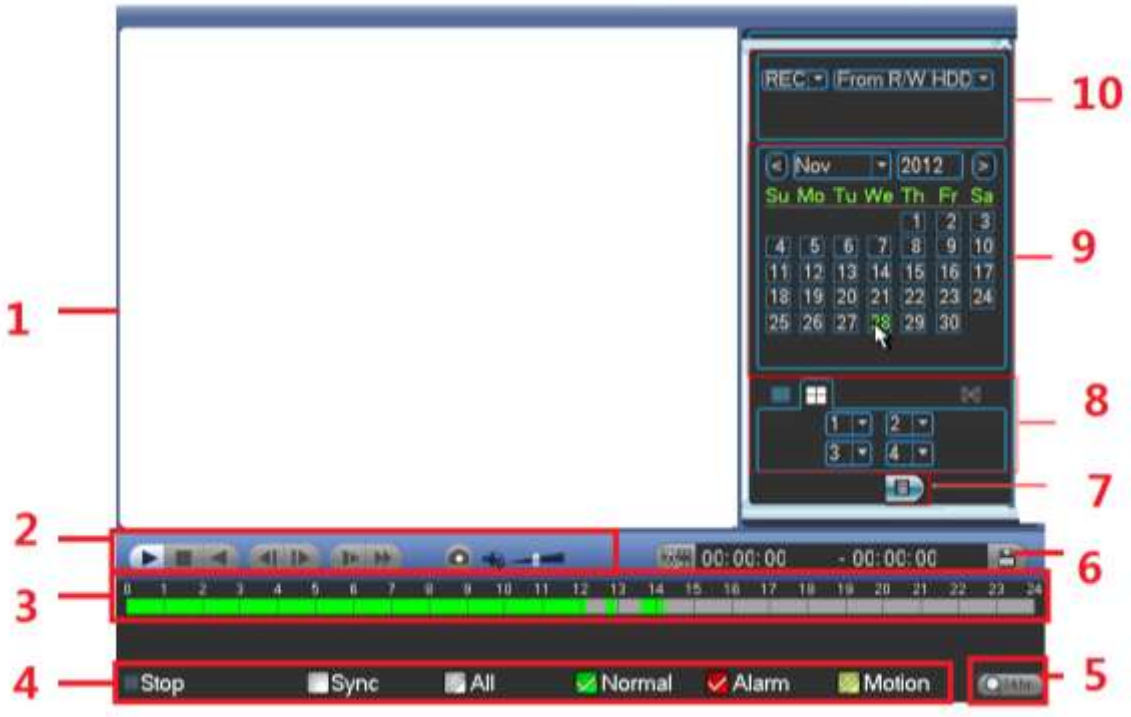


Figure 4-40

Please refer to the following sheet for more information.

SN	Name	Function
1	Display window	● Here is to display the searched picture or file. ● Support 1/4-window playback. Click  to set.
2	Playback control bar	 From left to right: play/pause, stop, backward, previous frame, last frame, slow play, fast play, volume. **Note:** All the operations here (such as playback speed, channel, time and progress) have relationship with hardware version. Some series DVRs do not support some functions or playback speeds.
3	Time bar	It is to display the record type and its period in current search criteria.
4	Playback status and record type	● Playback status: Display current play status. It includes start play, pause play, stop play, backward, fast play and slow play. ● Record type: General/alarm. Check the box to select a record type, the time bar displays corresponding file information.

SN	Name	Function
5	Time bar unit	The option includes: 24H, 12H, 1H and 30M. The smaller the unit, the larger the zoom rate. You can accurately set the time in the time bar to playback the record.
6	Clip	● It is to edit the file and save the footages you want.
7	Record type	In any play mode, the time bar will change once you modify the search type.
8	Playback mode and channel	● Playback mode:1/4-channel. ● The time bar will change once you modify the playback mode or the channel option.
9	Calendar	● The blue highlighted date means there is picture or file. Otherwise, there is no picture or file. ● In any play mode, click the date you want to see, you can see the corresponding record file trace in the time bar.
10	Search type	● Here you can select to search the picture or the recorded file. ● You can select to play from the read-write HDD, from peripheral device or from redundancy HDD. ● Before you select to play from the peripheral device, please connect the corresponding peripheral device. You can view all record files of the root directory of the peripheral device. Click the Browse button; you can select the file you want to play.

4.9.2 Clip

This function allows you to clip some footages to a new file and then save to the USB device. See Figure 4-41. Please follow the steps listed below.

a) Select a record first and then click  to playback.

b) Select a time at the time bar and then click  to start clip,

c) Select a time at the time bar and then click  to stop clip,

d) Click  , system pops up dialogue box to save the clip file.

Figure 4-41

4.9.3 Picture Playback

a) From Main menu->Search, or on the preview interface right click mouse, you can go to Figure 4-40.

b) At the top right pane, you can check the box to select picture and then select playback interval. It is to view the schedule snapshot and event snapshot images.

c) Please refer to chapter 4.9.1 to select a picture you want to view.

4.9.4 File List

Click  ,

Enter file list interface. See Figure 4-42.

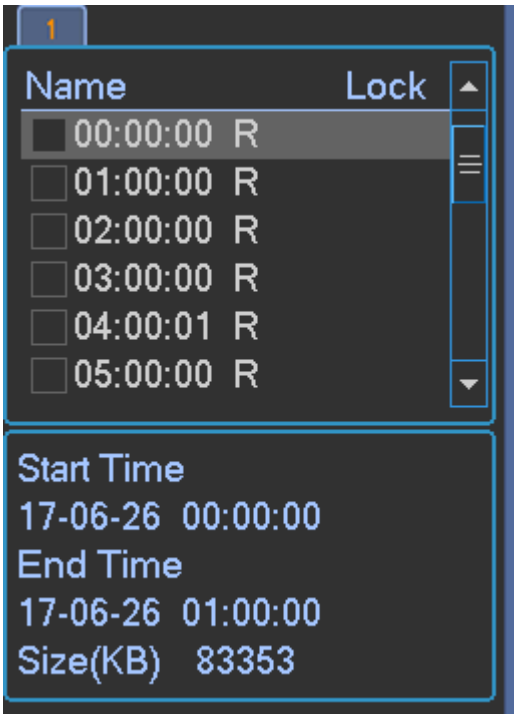


Figure 4-42

4.10 Event

4.10.1 Video Detect

In the main menu, from Setting to Detect, you can see an interface shown as in Figure 4-43. There are three detection types: Motion detect/video loss/tampering.

4.10.1.1 Motion Detect

After analysis video, system can generate a motion detect alarm when the detected moving signal reached the sensitivity you set here.

Step 1 From main menu->Setting->Video detection, enter detection interface. See Figure 4-43.

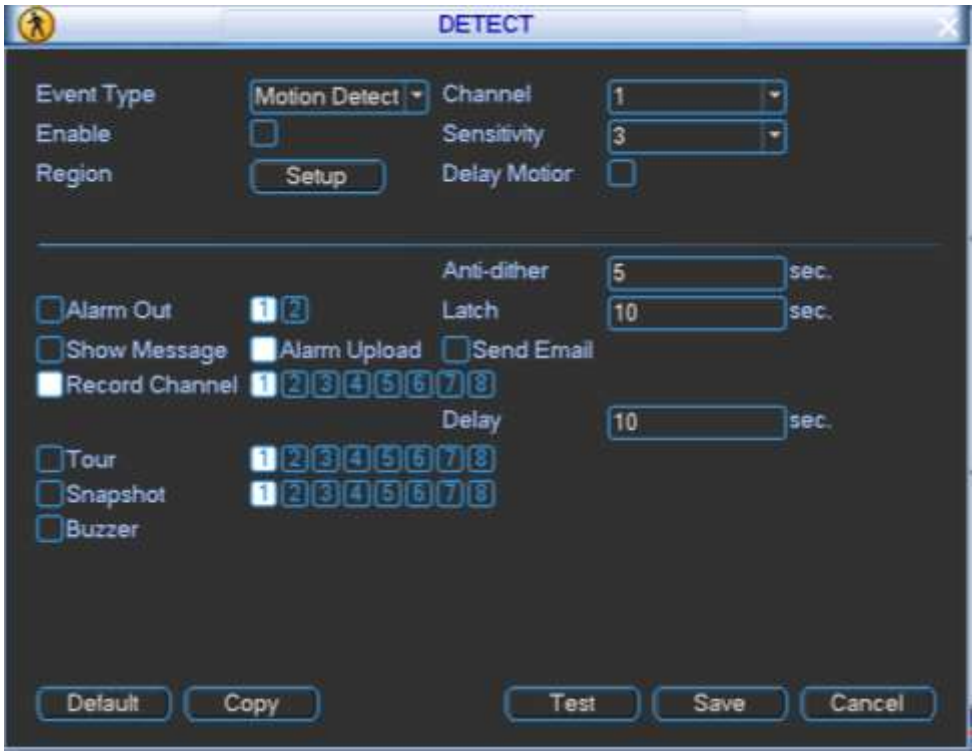


Figure 4-43

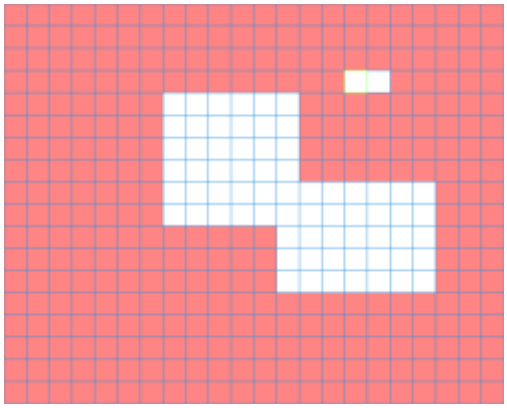


Figure 4-44

Step 2 Set parameters.

- Event type: From the dropdown list you can select motion detection type.
- Channel: Select a channel from the dropdown list to set motion detect function.
- Enable: Check the box here to enable motion detect function.
- Region: Click select button, the interface is shown as in Figure 4-44. Here you can set motion detection zone. There are 396(PAL)/330(NTSC) small zones. The green zone is current cursor position. Grey zone is the motion detection zone. Black zone is the disarmed zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current setup. If you click ESC button to exit the region setup interface system will not save your zone setup.
- Delay motion: Check the box to delay motion detect function. This function becomes valid when ACC OFF.

- Sensitivity: System supports 6 levels. The sixth level has the highest sensitivity.
- Alarm output: when an alarm occurs, system enables peripheral alarm devices.
- Latch: when motion detection complete, system auto delays detecting for a specified time. The value ranges from 1-300(Unit: second)
- Show message: System can pop up a message to alarm you in the local host screen if you enabled this function.
- Alarm upload: System can upload the alarm signal to the network (including alarm center) if you enabled current function.
- Send email: System can send out email to alert you when an alarm occurs.
- Record channel: Select the channel to activate recording function once an alarm occurred. Please make sure you have set MD record in encode interface(Main Menu->System->Schedule) and schedule record in manual record interface(Main Menu->Advanced->Manual Record)
- Record Delay: System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
- Tour: Here you can enable tour function when an alarm occurs. System one-window tour. Please go to chapter 4.14.2 Display for tour interval setup.
- Snapshot: You can enable this function to snapshot image when motion detect alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

Step 3 Click Save button.

4.10.1.2 Video Loss

This function allows you to be informed when video loss phenomenon occurred. You can enable alarm output channel and then enable show message function.

Step 1 From Main menu->Setting->Event->Video Loss to set video loss item and enable this function. See Figure 4-45.

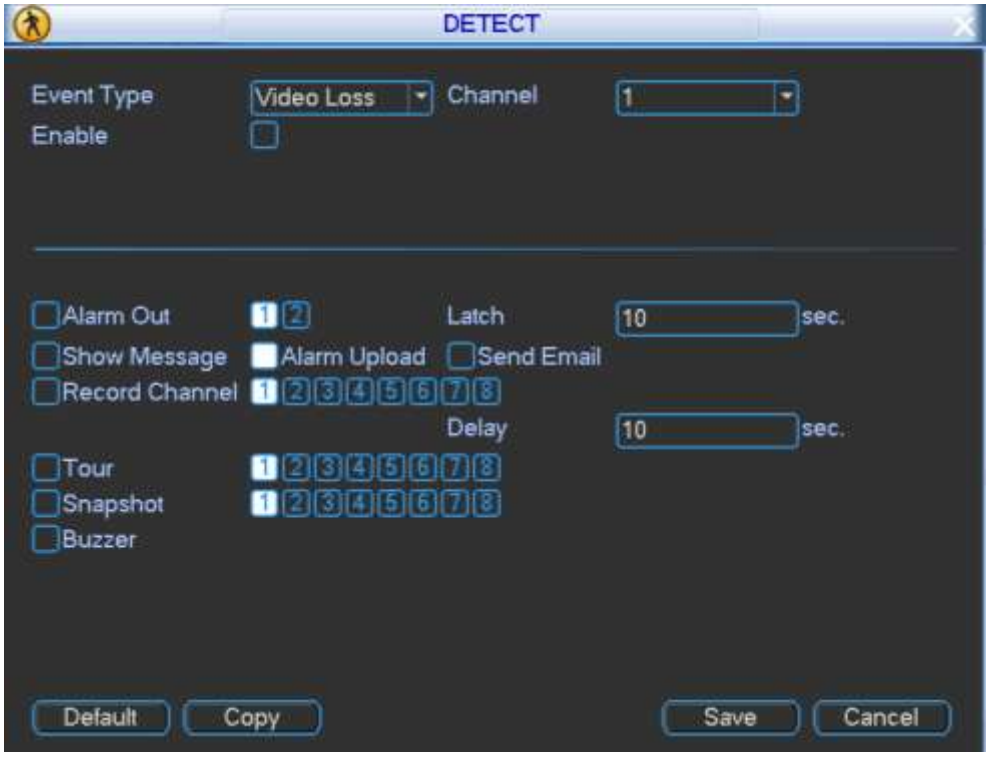


Figure 4-45

Step 2 Set parameters.

- Event type: From the dropdown list you can select video loss type.
- Channel: Select a channel from the dropdown list to set video loss function.
- Enable: Check the box here to enable video loss function.
- Alarm output: when an alarm occurs, system enables peripheral alarm devices.
- Latch: when video loss is complete, system auto delays detecting for a specified time. The value ranges from 1-300(Unit: second)
- Show message: System can pop up a message to alarm you in the local host screen if you enabled this function.
- Alarm upload: System can upload the alarm signal to the network (including alarm center) if you enabled current function.
- Send email: System can send out email to alert you when an alarm occurs.
- Record channel: Select the channel to activate recording function once an alarm occurred. Please make sure you have set schedule record in encode interface(Main Menu->System->Schedule) and auto record in manual record interface(Main Menu->Advanced->Manual Record)
- Record Delay: System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
- Snapshot: You can enable this function to snapshot image when video loss alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

Step 3 Click Save button.

4.10.1.3 Tampering

When someone viciously masks the lens, or the output video is in one-color due to the environments light change, the system can alert you to guarantee video continuity.

From Main menu->Setting->Event->Tampering, you can set tampering item and enable this function. See Figure 4-46. You can enable alarm output channel and then enable show message function. You can refer to chapter 4.10.1.1 Motion detect for detailed information.

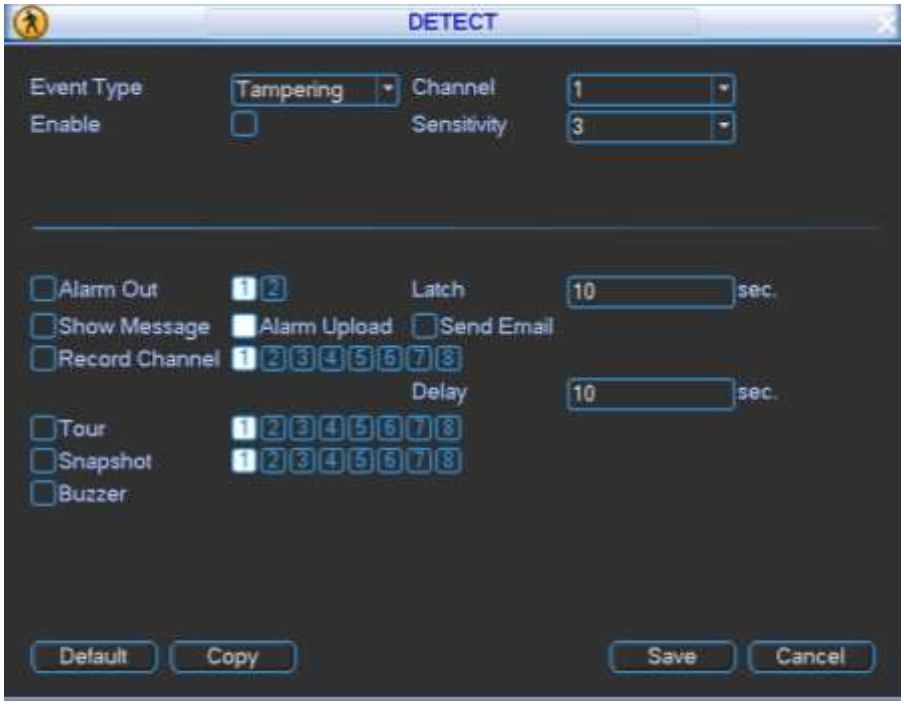


Figure 4-46

4.10.2 Alarm Setup

Connect peripheral alarm from the alarm port on the rear panel. Set its actual alarm name such as left-turn, right-turn on the Alarm Name item. Refer to chapter 3.4 Alarm input and output connection to set. Check the Overlay button; you can overlay corresponding alarm information on the record file.

Step 1 From Main menu->Setting->Event->Alarm, enter alarm interface. See Figure 4-47.

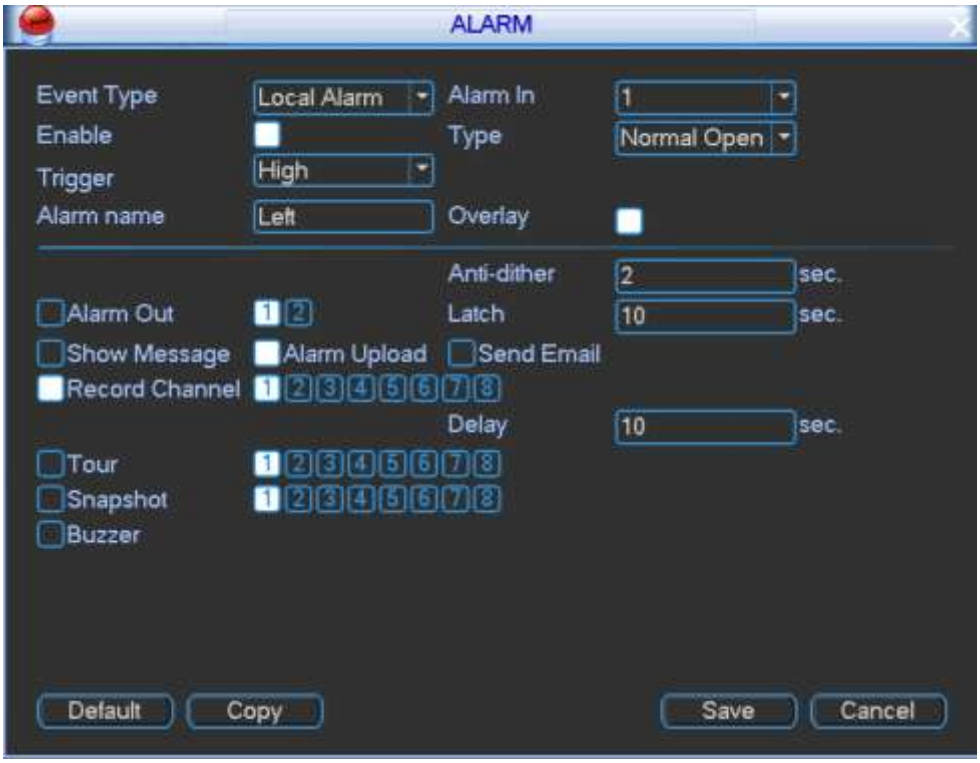


Figure 4-47

Step 2 Set parameters.

- Alarm in: Here is for you to select channel number. Set for each alarm channel on the Alarm in item if the device has connected several alarm channels.
- Event type: There are two types. Local input/IPC offline alarm.
  - ✧ Local input alarm: The alarm signal system detects from the alarm input port.
  - ✧ Network alarm: The alarm input from the remote triggered activation.
- Enable: Check the box to enable current function.
- Type: Normal open or normal close. The normal open means the alarm signal is usually disconnect, system can generate an alarm when the alarm signal closed. The normal close means the alarm signal is usually connect, system can generate an alarm when the alarm signal disconnected.
- Trigger: Here is for you to set activation mode. There are two options: High/low. Select high if the alarm signal is 12V/24V voltage. Select low if the alarm signal is the GND.
- Alarm name: Input customized name here.
- Overlay: Check the box to enable this function. It can overlay alarm information on the video screen when an alarm occurred.

Step 3 Click Save button.

4.10.3 Abnormality

System can trigger message prompt, alarm output or buzzer when abnormal event occurs.

Step 1 From main menu->Setting->Event->Abnormality, the interface is shown as in Figure 4-48.

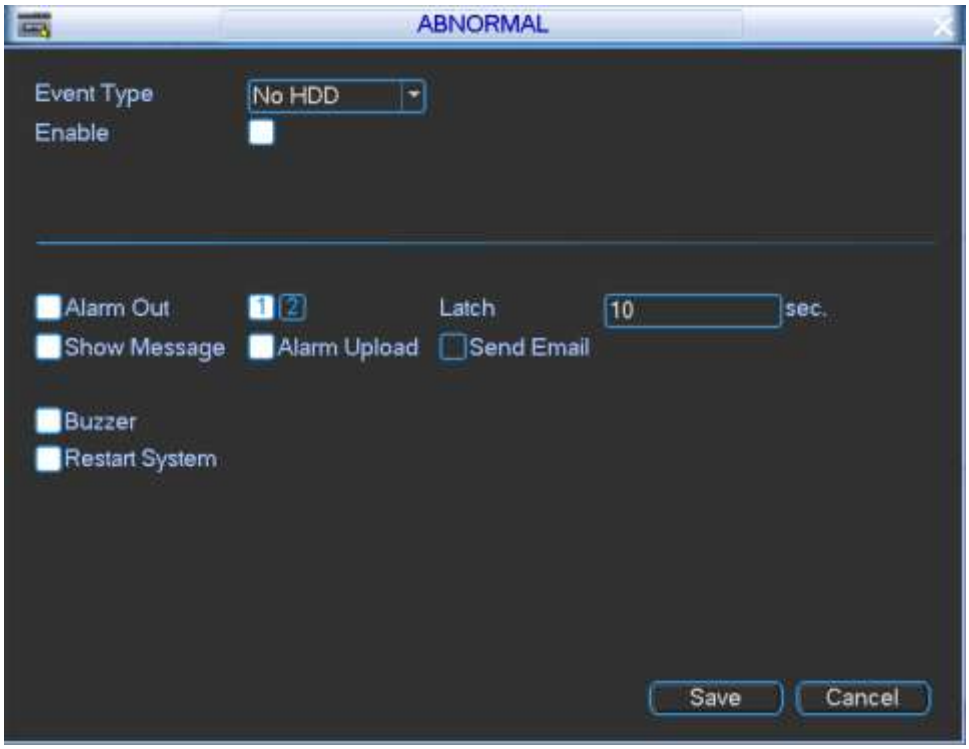


Figure 4-48

Step 2 Set parameters.

- Event type: There are several options for you such as disk error, no disk, no space, high temperature, low battery, over speed, low speed, turnover, collision and etc. (multiple choices).
- Enable: Check the box here to enable this function.
- Alarm output: Please select alarm activation output port (multiple choices).
- Less than: You can set HDD threshold here so that system can alert you once the HDD space is lower than the threshold here.
- Latch: Here you can set corresponding delaying time. The value ranges from 1s-300s. System automatically delays specified seconds in turning off alarm and activated output after external alarm cancelled.
- Show message: system can pop up the message in the local screen to alert you when an alarm occurs.
- Alarm upload: System can upload the alarm signal to the network (including alarm center) if you enabled current function.
- Send email: System can send out email to alert you when an alarm occurs.
- Restart system: If you highlight the button here, system will restart automatically if there is no HDD.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

Step 3 Click Save button.

4.10.4 Alarm Output

It is to set alarm output channel mode: manual/auto/close.

Status: Display triggered alarm.

Step 1 From main menu->Setting->Event->Alarm output, enter alarm output interface. See Figure 4-49.

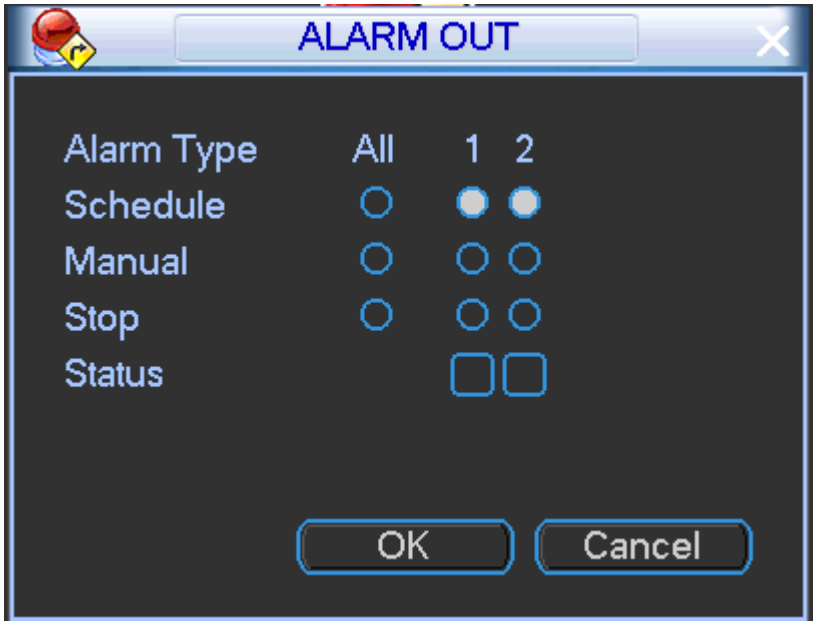


Figure 4-49

Step 2 Select alarm mode of each channel.

Step 3 Click OK button.

4.11 Storage

4.11.1 HDD Manager

It is to view current HDD information; alarm settings, alarm reset, HDD detect and report, and format HDD.

Step 1 From Main menu->Setting->Advanced->HDD, enter HDD management interface. See Figure 4-50.

- Format: Select a HDD and then click it to this button to format.
- Partition: Select a HDD and then click it to partite.

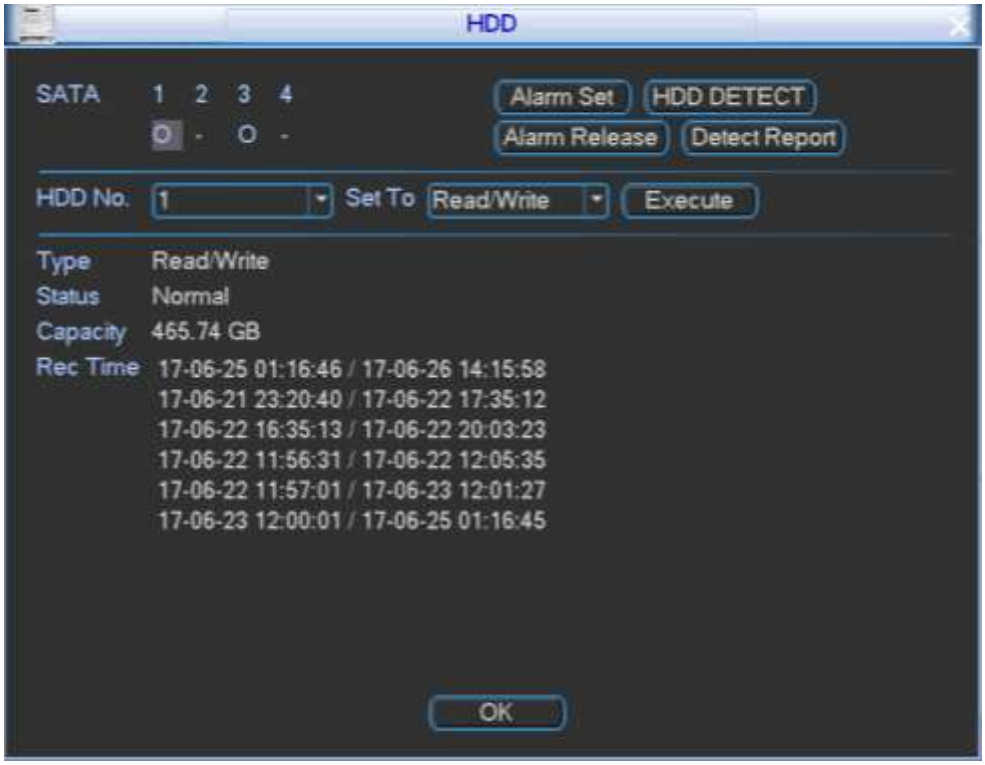


Figure 4-50

4.11.1.1 Alarm set

Please refer to chapter 4.10.2 for detailed information.

4.11.1.2 Alarm Release

Click to restore alarm output state.

4.11.1.3 HDD Detection

The HDD detect function is to detect HDD current status so that you can clearly understand the HDD performance and replace the malfunction HDD.

There are two detect types:

- Quick detect: It is to detect the storage files on the HDD. You can use format function to repair the bad track. System cannot detect the bad track if there is no record on the HDD.
- Global detect: It detects the whole HDD. The process may take a long time and may affect the HDD that is saving the record. If it detects the bad track, it may result from the damaged HDD.

4.11.1.3.1 Manual Detect

From main menu->Setting->Advanced->HDD, click HDD detect button, the interface is shown as below. See Figure 4-51.

Please select detect type and HDD. Click start detect to begin. You can view the corresponding detect information. See Figure 4-52.

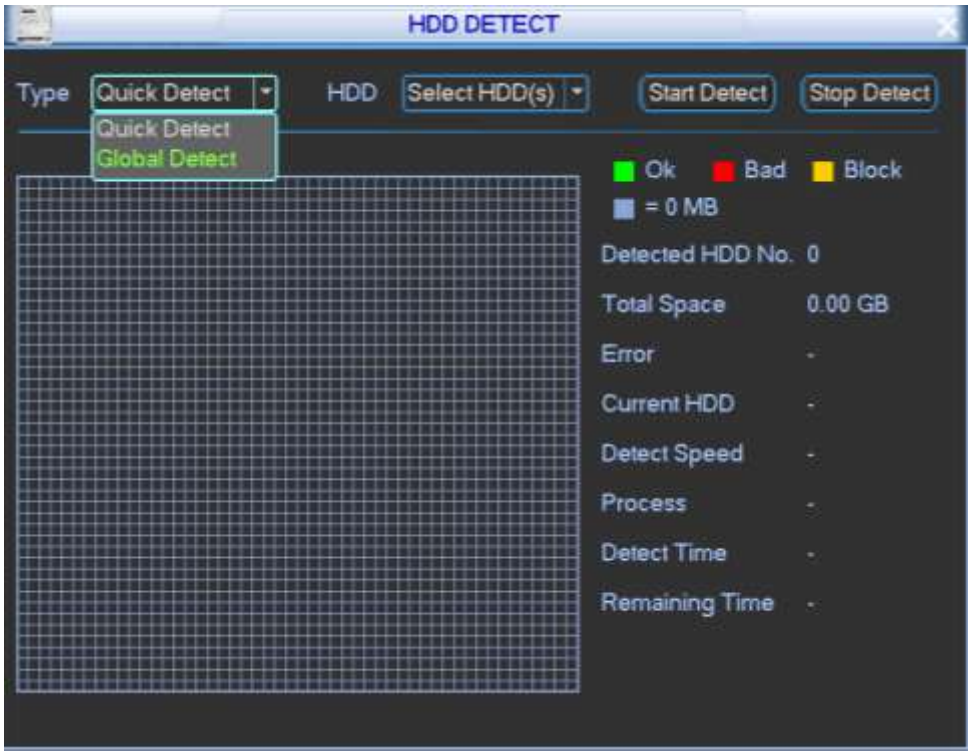


Figure 4-51

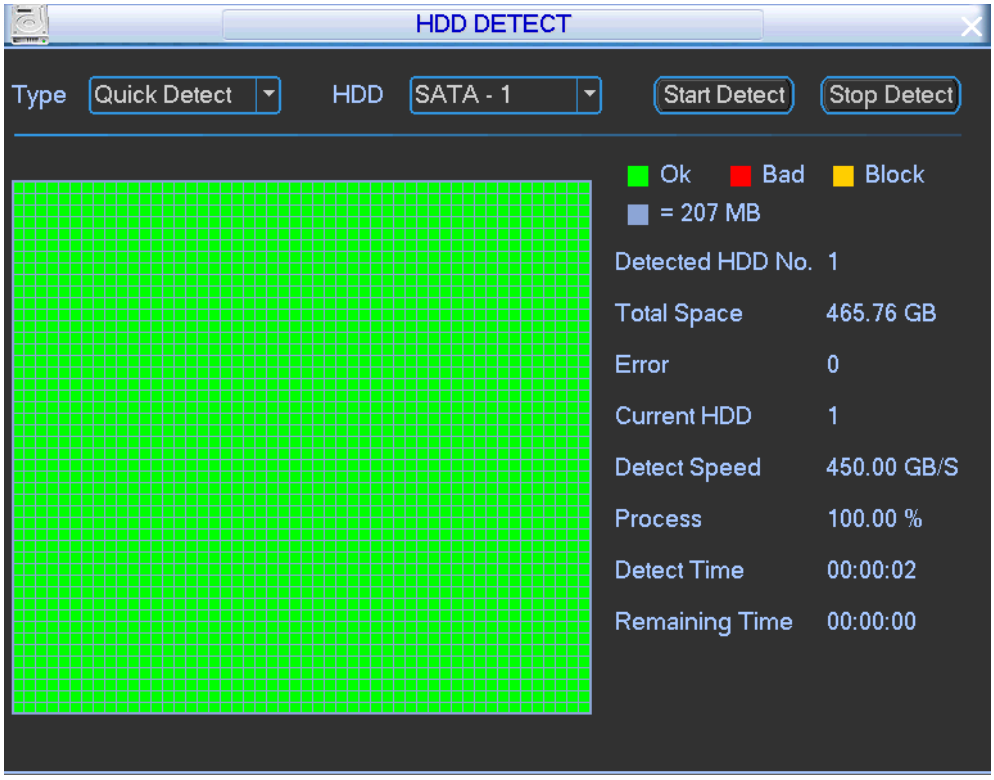


Figure 4-52

4.11.1.3.2 Detect Report

After the detection operation, you can go to the detect report to view corresponding information. Click View, you can see the detailed information such as detect result, backup and S.M.A.R.T.

4.11.1.3.3 HDD Operation

Select HDD mode from the dropdown list such as read-only or you can erase all data in the HDD. Please note system needs to reboot to get all the modification activated.
Select a HDD and then select format from the dropdown list. Click Execute button.
Click OK button to complete the setup. System needs to restart to activate current setup.

4.12 Network

4.12.1 TCP/IP

Before the operation, please set system IP and DNS so that it can communicate with other devices.

Step 1 From main menu->Setting->Network->TCP/IP, the interface is shown as in Figure 4-53.

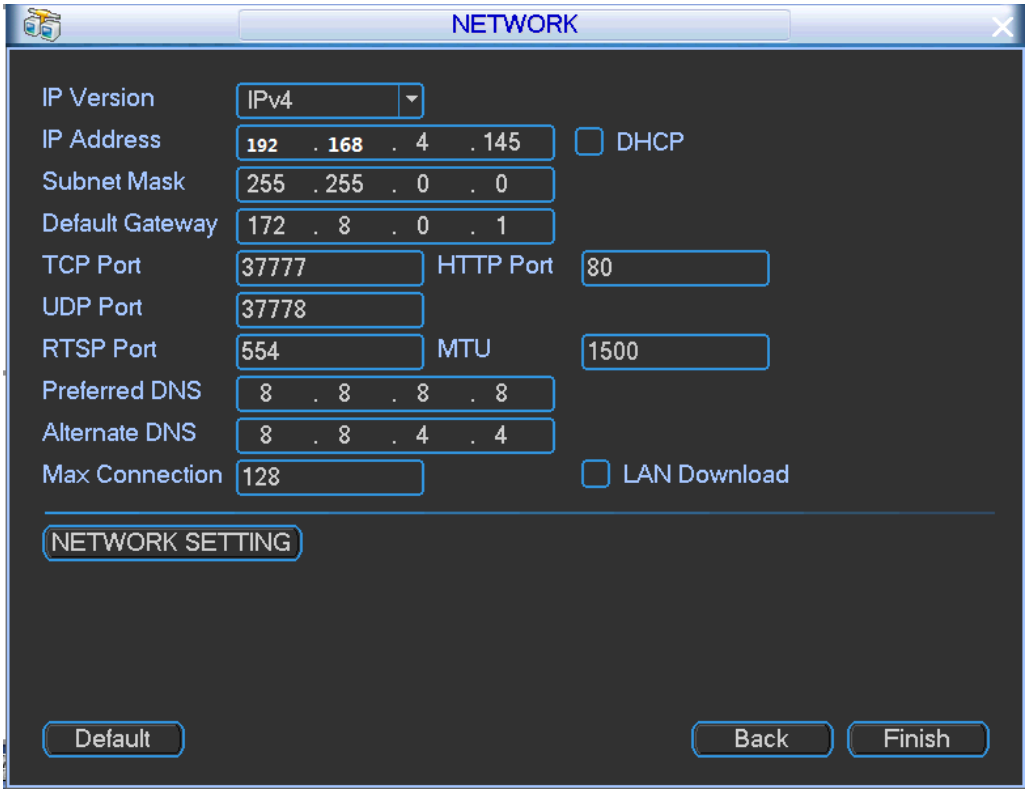


Figure 4-53

Step 2 Set parameters.

- IP Version: There are two options: IPv4 and IPv6. Right now, system supports these two IP address format and you can access via them.
- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.
- IP Version: There are two options: IPv4 and IPv6. Right now, system supports these two IP address format and you can access via them.
- MAC address: The host in the LAN can get a unique MAC address. It is for you to access in the LAN. It is read-only.
- IP address: Here you can use up/down button (▲▼) or input the corresponding number to input IP address. Then you can set the corresponding subnet mask the default gateway.
- Default gateway: Here you can input the default gateway. Please note system needs to check the validity of all IPv6 addresses. The IP address and the default gateway shall be

in the same IP section. That is to say, the specified length of the subnet prefix shall have the same string.

- RTSP port:

✧ Usually, the default value is 554. You do not need to input again if you are using the default value. When you are using QuickTime (Apple browser) or VLC play real-time video, you can use the following format to play. The Blackberry also supports this function.

✧ Real-time monitor bit stream Url format. Please specify the channel number, bit stream type in the Url if you are requesting real-time monitor bit stream Rtsp stream media service. You still need to provide user name or password if it has verification information.

✧ When you are using Blackberry phone to access, the bit stream mode shall be H.264B, resolution is CIF and the audio shall be disabled.

✧ The Url format is shown as below:

rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0

You need to input the following items manually.

Username/password/IP/port/subtype.

The IP is device IP and the port default value is 554. You can leave it in blank if it is the default value. The channel number begins with 1.

subtype: bit stream type, main stream is 0（subtype=0）and extra stream is 1（subtype=1）.

You do not need to input the user name and password if you do not need the verification. Such as:Main stream:rtsp://ip:port/cam/realmonitor?channel=1&subtype=0

- MTU: The default setup is 1500 bytes (read-only).
- Network setting: Click it, enter network setting interface. See Figure 4-54. It includes DDNS(chapter 4.12.2), email(chapter 4.12.3), FTP(chapter 4.12.4) and P2P(chapter 4.12.5).

Step 3 Click Save button.

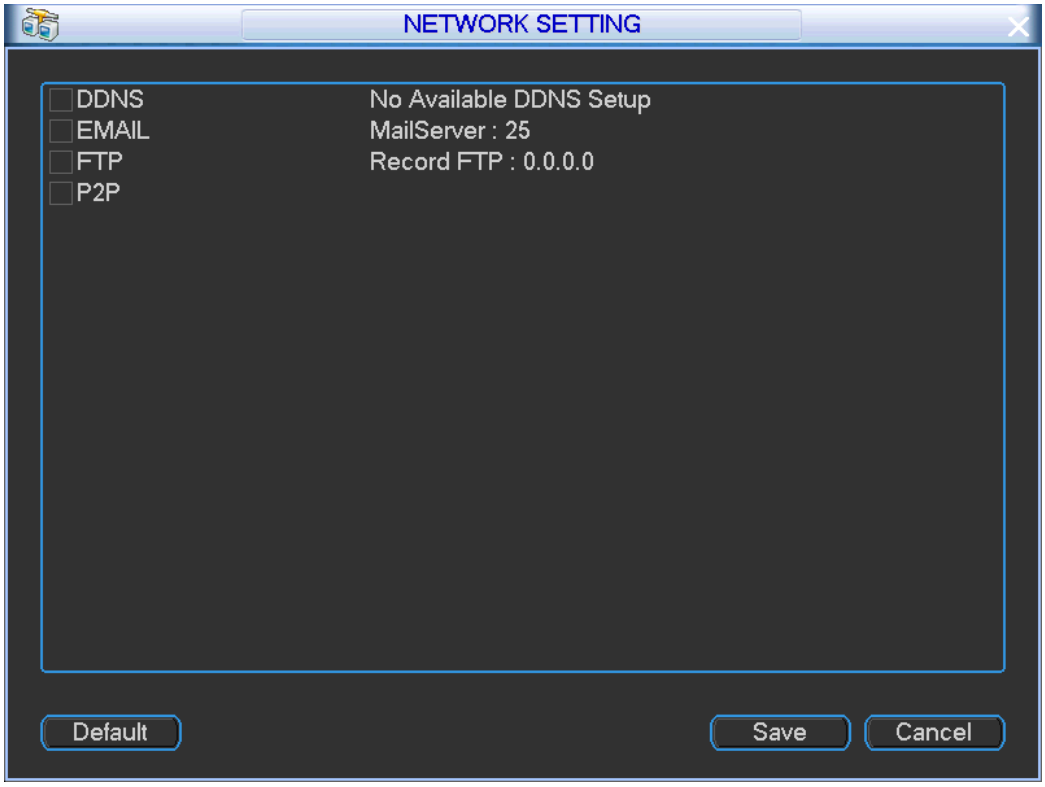


Figure 4-54

4.12.2 DDNS

You need a PC of fixed IP in the internet and there is the DDNS software running in this PC. In other words, this PC is a DNS (domain name server).

In network DDNS, please select DDNS type and highlight enable item. And then please input your PPPoE name you get from you IPS and server IP (PC with DDNS). Click save button and then reboot system.

Click save button, system prompts for rebooting to get all setup activated.

After rebooting, open IE and input as below:

http：//(DDNS server IP)/(virtual directory name)/webtest.htm

e.g.: http：//10.6.2.85/DVR _DDNS/webtest.htm.)

Now you can open DDNSServer web search page.

DDNS setup interface is shown as in Figure 4-55.

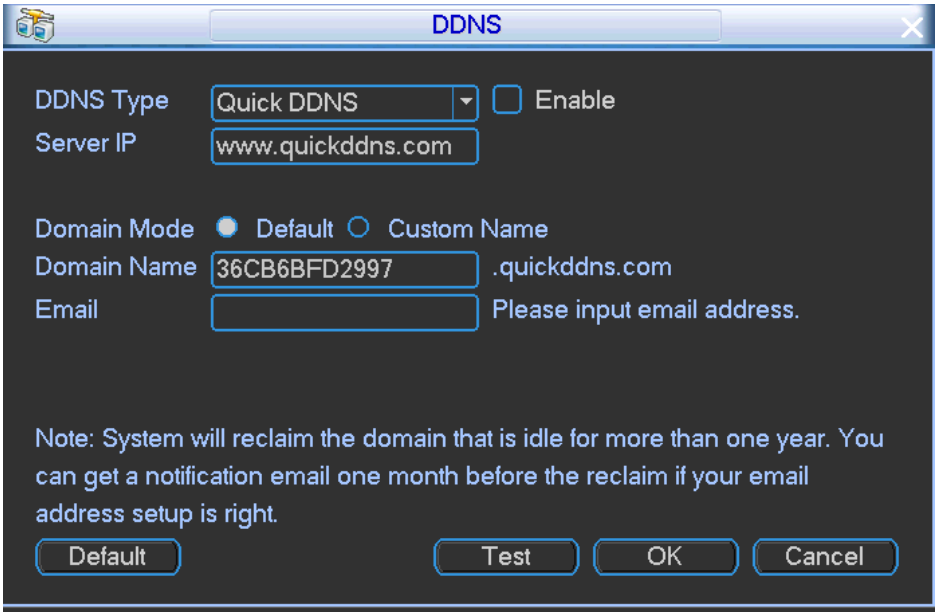


Figure 4-55

Please note NNDS type includes: CN99 DDNS, NO-IP DDNS, Quick DDNS, Dyndns DDNS and sysdns DDNS. All the DDNS can be valid at the same time, you can select as you requirement.

Private DDNS function shall work with special DDNS server and special Professional Surveillance Software (PSS).

Quick DDNS and Client-end Introduction

1) Background Introduction

Device IP is not fixed if you use ADSL to login the network. The DDNS function allows you to access the DVR via the registered domain name. Besides the general DDNS, the Quick DDNS works with the device from the manufacturer so that it can add the extension function.

2) Function Introduction

The quick DDNS client has the same function as other DDNS client end. It realizes the bonding of the domain name and the IP address. Right now, current DDNS server is for our own devices only. You need to refresh the bonding relationship of the domain and the IP regularly. There is no user name, password or the ID registration on the server. At the same time, each device has a default domain name (Generated by MAC address) for your option. You can also use customized valid domain name (has not registered.).

3) Operation

Before you use Quick DDNS, you need to enable this service and set proper server address, port value and domain name.

- Server address：www.quickddns.com
- Port number：80
- Domain name：There are two modes: Default domain name and customized domain name.

Except default domain name registration, you can also use customized domain name (You can input your self-defined domain name.) After successful registration, you can use domain name to login installed of the device IP.

- User name: It is optional. You can input your commonly used email address.

Important

- Do not register frequently. The interval between two registrations shall be more than 60 seconds. Too many registration requests may result in server attack.
- System may take back the domain name that is idle for one year. You can get a notification email before the cancel operation if your email address setup is OK.

4.12.3 Email

System can send out an email when corresponding alarm occurs.

Step 1 From main menu->Setting->Network->Network setting->email, the email interface is shown as below. See Figure 4-56.

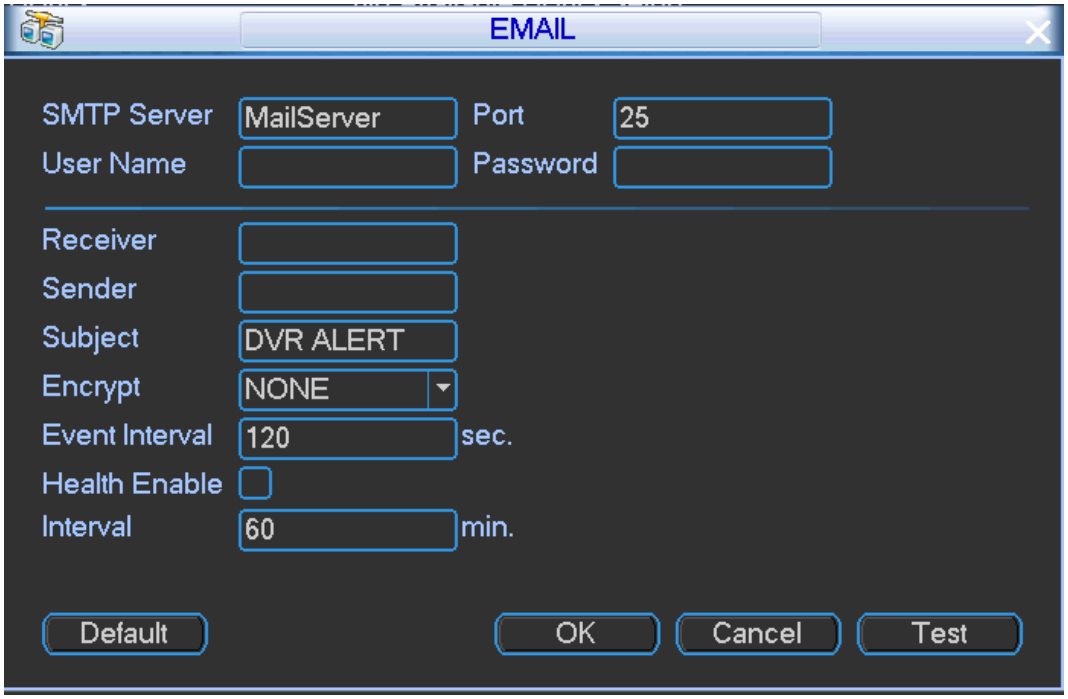


Figure 4-56

Step 2 Set parameters.

- SMTP server: Please input your email SMTP server IP here.
- Port: Please input corresponding port value here.
- User name: Please input the user name to login the sender email box.
- Password: Please input the corresponding password here.
- Sender: Please input sender email box here.

- Title: Please input email subject here. System support English character and Arabic number. Max 32-digit.
- Receiver: Please input receiver email address here. System max supports 3 email boxes. System automatically filters same addresses if you input one receiver repeatedly.
- SSL enable: System supports SSL encryption box.
- Interval: The send interval ranges from 0 to 3600 seconds. 0 means there is no interval.
- Health email enable: Please check the box here to enable this function. This function allows the system to send out the test email to check the connection is OK or not. The value ranges from 30 minutes to 1440 minutes.
- Interval: Please check the above box to enable this function and then set the corresponding interval. System can send out the email regularly as you set here. Click the Test button, you can see the corresponding dialogue box to see the email connection is OK or not. Please note system will not send out the email immediately when the alarm occurs. When the alarm, motion detection or the abnormity event activates the email, system sends out the email according to the interval you specified here. This function is very useful when there are too many emails activated by the abnormity events, which may result in heavy load for the email server.

Step 3 Click OK button.

4.12.4 FTP

It is to backup record file or image to the FTP to storage or view.

Before the operation, please download or purchase the FTP service tool and install on the PC.

Note

For the FTP user, please set FTP folder write right, otherwise system cannot upload the image.

Step 1 From main menu->Setting->Network->Network setting->FTP, enter FTP interface. See Figure 4-57.

Step 2 Set parameters.

- User name/password: It is the account information for you to login the FTP.
- File length: It is the upload file length. When setup is larger than the actual file length, system will upload the whole file. When setup here is smaller than the actual file length, system only uploads the set length and auto ignore the left section. When interval value is 0, system uploads all corresponding files.

After completed channel and weekday setup, you can set two periods for one each channel.

- Host IP: The host IP you have installed the FTP server.
- Host port: The default setup is 21.
- User name/Password: The account for you to access the FTP server.
- Remote directory: The folder you created under the root path of the FTP according to the corresponding rule.
  - ✧ If there is no remote directory, system can auto create different directories according to the IP, time and channel.
  - ✧ If there is remote directory, system can create corresponding folder under the FTP root path and then create different folders according to IP address, time and channel.
- File length: File length is upload file length. When setup is larger than the actual file length, system will upload the whole file. When setup here is smaller than the actual file length,

system only uploads the set length and auto ignore the left section. When interval value is 0, system uploads all corresponding files.

- Image upload interval: It is the image upload interval. If the image upload interval is larger than the image snapshot frequency, system just uploads the lasted image.
  - ✧ If the image interval is 5 seconds and the snapshot frequency is 2 seconds, system will send out the latest image at the buffer at 5 seconds.
  - ✧ If the image upload interval is smaller than the snapshot frequency, system will upload at the snapshot frequency. For example, if the image interval is 5 seconds and the snapshot frequency is 10 seconds, system will send out the image at 10 seconds.
  - ✧ From main menu->Setting->Camera->Encode->Snapshot to set snapshot frequency.
- Channel: Select a channel from the dropdown list and then set week, period and record type.
- Week day/Period: Please select from the dropdown list and for each day, you can set two periods.
- Type: Please select uploaded record type (Alarm/regular). Please check the box to select upload type.

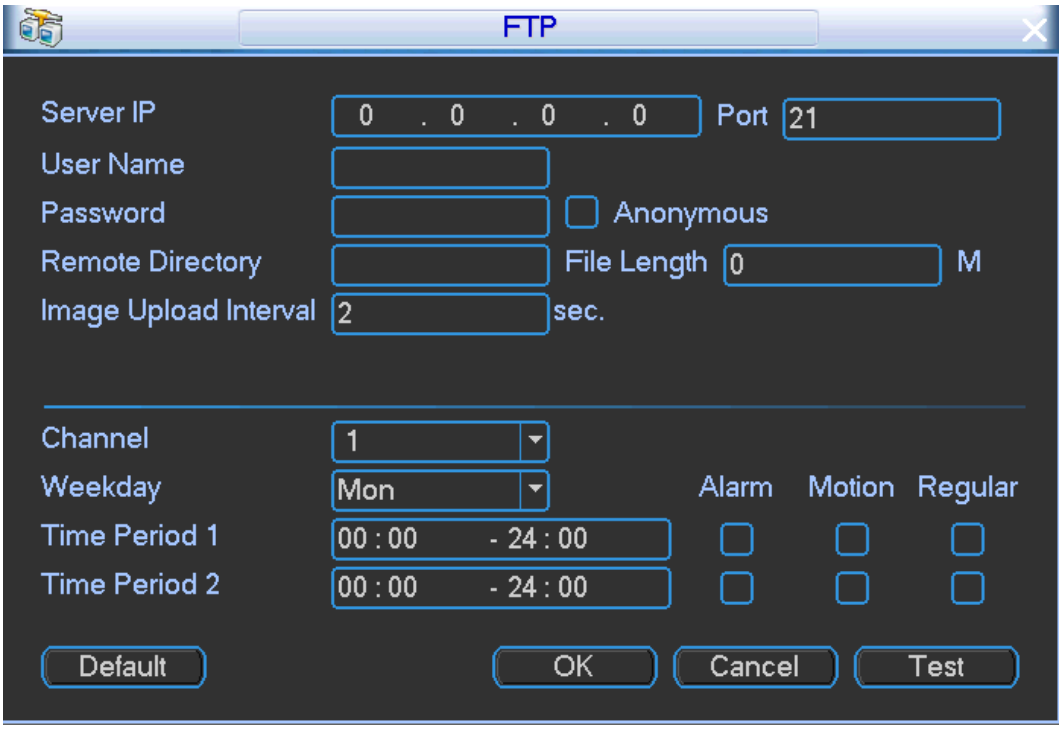


Figure 4-57

Step 3 Click OK button.

4.12.5 P2P

It allows user to use cell phone to scan the QR code and add it to the cell phone client.

Via the SN from scanning the QR code, you can access the device in the WAN. Please refer to the P2P operation manual included in the resources CD.

Step 1 From main menu->Setting->Network->Network setting->P2P, enter P2P interface. See Figure 4-58.

Figure 4-58

Step 2 Check the box to enable P2P function.
Step 3 Click Save to complete setup.
Step 4 The connection status becomes connected.

4.12.6 3G/4G

Make sure you have installed 3G/4G module.

Step 1 From main menu->Setting->Network->3G/4G, the setup interface is shown as below. See Figure 4-59.

Please follow the steps listed below to set.

a) Boot up 3G module and then check the 3G Enable box to enable this function.
b) Please set AUTH, dial number, user name, and password. Please contact the VPN administrator or your 3G service provider for detailed setup information.
c) 3G network is to connect to a platform so that you can view vehicle real-time information such as real-time video, driver status, vehicle position and etc.
d) The Wi-Fi has the higher priority than the 3G network when these two signals are available at the same. In this situation, the device uses Wi-Fi network by default and disconnect 3G network.
e) If you find the 3G module cannot connect to the platform after dial. Please refer to the FAQ or contact your local retailer for help.

Please refer to the following contents for the parameter information.

- Pane 1: Display 3G signal intensity after you enabled 3G function.
- Pane 2: Display 3G module configuration information after you enabled 3G function.
- Pane 3: Display 3G module status information after you enabled 3G function.

It is to display current wireless network signal intensity such as EVDO, CDMA1x, WCDMA, WCDMA, EDGE and etc.

- 3G network: It is to display current wireless network adapter name.
- 3G Enable/Disable: Check the box here to enable 3G module.

- Network type: There are various network types for different 3G network modules. You can select according to your requirements.
- APN: It is the wireless connection server. It is to set you access the wireless network via which method.
- AUTH: It is the authentication mode. It supports PAP/CHAP/ NO AUTH.
- Dial number: Please input 3G network dialup number you got from your ISP.
- User name: It is the user name for you to login the 3G network.
- Password: It is the password for you to login the 3G network.
- 3G wireless network: Here is to display wireless network status, SIM card status, dial status. If the 3G connection is OK, then you can see the device IP address the wireless network automatically allocates.

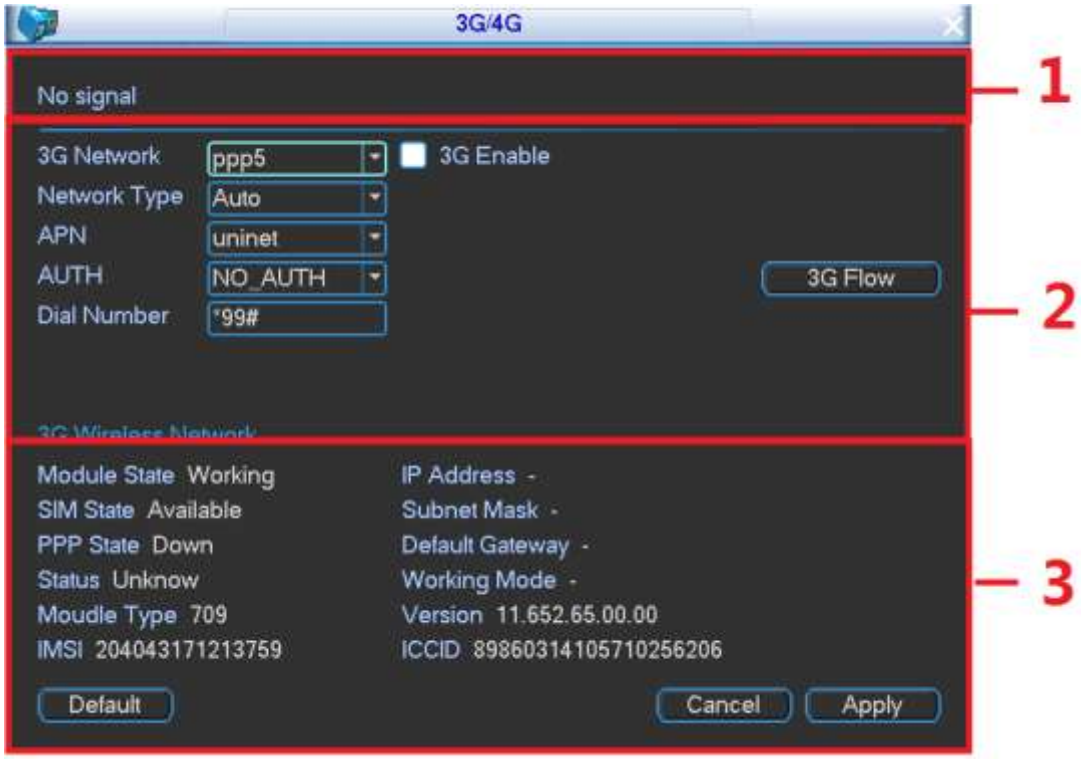


Figure 4-59

4.12.7 Wi-Fi

From main menu->Setting->Network->Network setting->Wi-Fi, the Wi-Fi interface is shown as below. See Figure 4-60.

- Auto connect Wi-Fi: Check the box here, system automatically connects to the previous Wi-Fi hotspot.
- Refresh: You can click it to search the hotspot list again. It can automatically add the information such as the password if you have set it before.
- Disconnect: Here you can click it to turn off the connection.
- Connect: Here you can click it to connect to the hotspot. System needs to turn off current connection and then connect to a new hotspot if there is connection of you selected one.

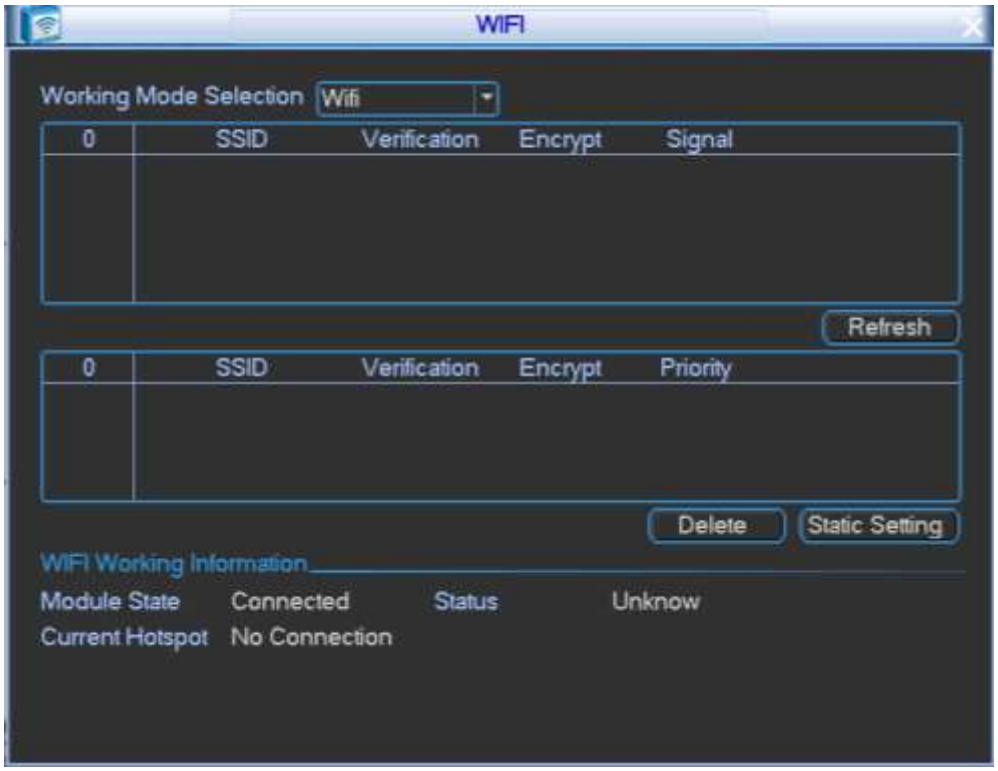


Figure 4-60

- WI-FI working status: Here you can view current connection status.

Please note:

- After successful connection, you can see WI-FI connection icon at the top right corner of the preview interface.
- When the hotspot verification type is WEP, system displays as AUTO since the device cannot detect its encryption type.
- System does not support verification type WPA and WPA2. The display may become abnormal for the verification type and encryption type.

After device successfully connected to the WI-FI, you can view the hotspot name, IP address, subnet mask, default gateway and etc.

Static

In Figure 4-60, select working mode as Static, enter static setting interface. See Figure 4-61.

Figure 4-61

AP

In Figure 4-60, select working mode as Ap.It is to open one or several hotspot. See Figure 4-62.

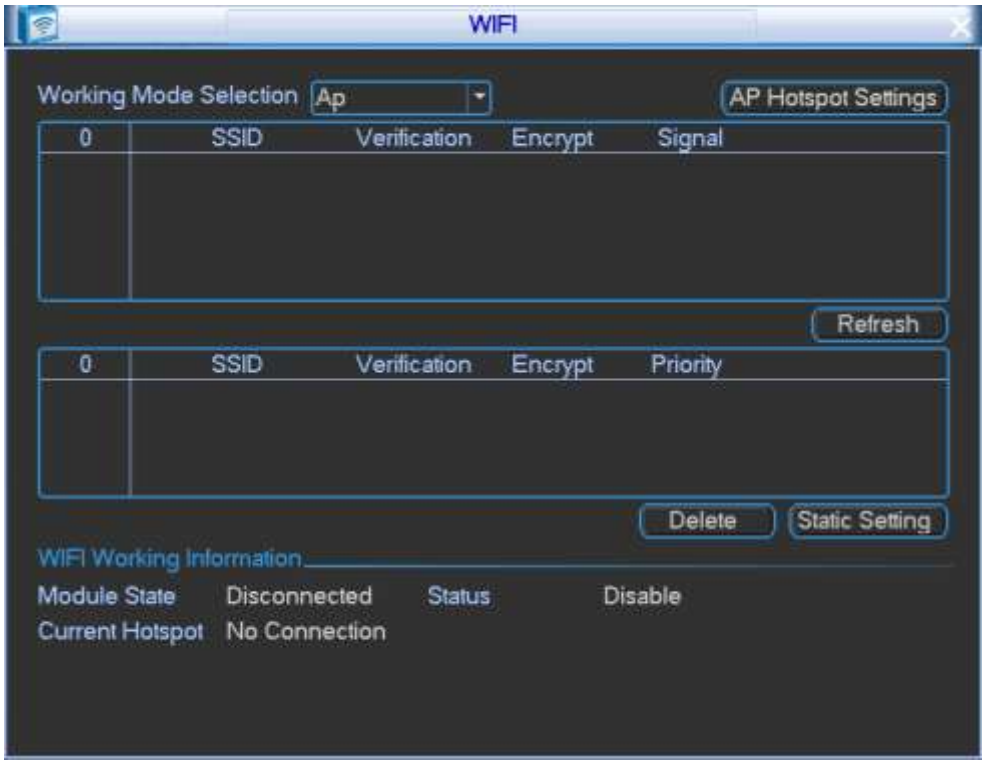


Figure 4-62

Click WI-FI Hotspare Setup button, the interface is shown as below. See Figure 4-63.

- SSID:Input SSID.
- Verification type:There is only one type: WPA2-PSK. When the type is WPA2-PSK, you need to input connection password.

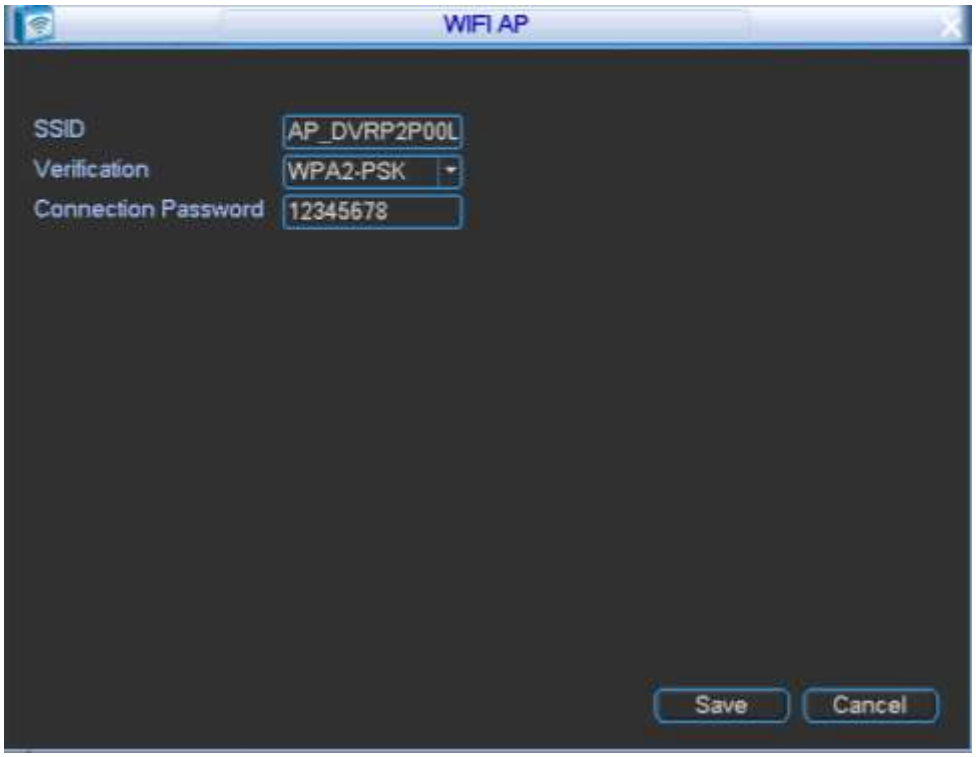


Figure 4-63

No

In Figure 4-60, select working mode as No. It means there is no WI-FI connection. See Figure 4-64.

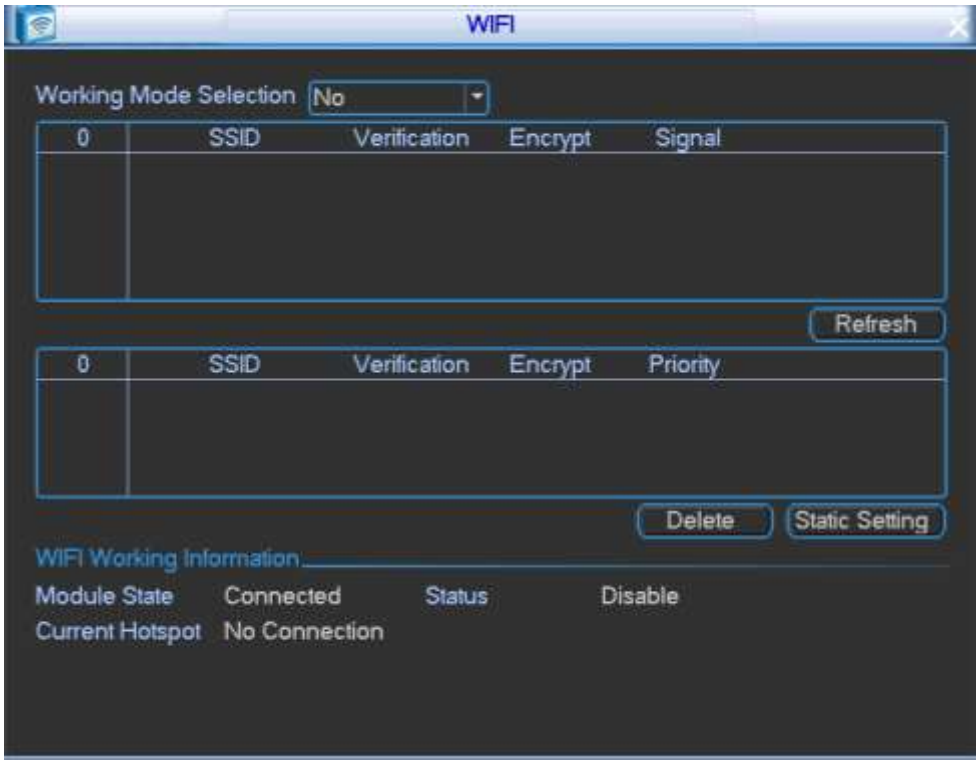


Figure 4-64

4.12.8 Register

This function allows the device to auto register to the proxy you specified. In this way, you can use the client-end to access the DVR and etc via the proxy. Here the proxy has a switch function. In the network service, device supports the server address of IPv4 or domain.

Please follow the steps listed below to use this function.

Please set proxy server address, port, and sub-device name at the device-end. Please enable the auto register function, the device can auto register to the proxy server.

Step 1 From main menu->Setting->Network->Register, the setup interface is shown as in Figure 4-65.

Important

Do not input network default port such as TCP port number.

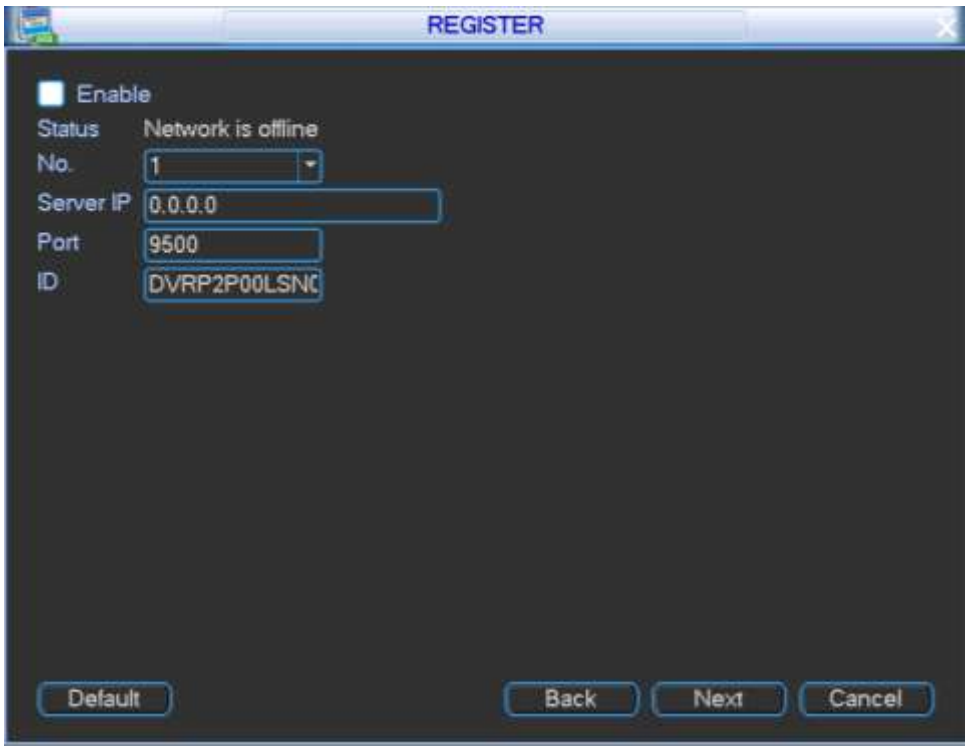


Figure 4-65

Step 2 The proxy server software developed from the SDK. Please open the software and input the global setup. Please make sure the auto connection port here is the same as the port you set in the previous step.

Step 3 Now you can add device. Please do not input default port number such as the TCP port in the mapping port number. The device ID here shall be the same with the ID you input in Figure 4-65. Click Add button to complete the setup.

Step 4 Now you can boot up the proxy server. When you see the network status is Y, it means your registration is OK. You can view the proxy server when the device is online.

Important

The server IP address can also be domain. But you need to register a domain name before you run proxy device server.

4.13 Account Manager

Here is to manage users, user group and authorities.

System account adopts two-level management: group and user.

Default user and authorities

System consists of two default accounts:

- Username: admin. Password: admin. It is the admin group user.
- Username: 888888. Password: 888888. (It is the admin group user. For local login only. Cannot login via WEB.)

To manage account conveniently, usually the general user authorities shall be lower than that of the admin user.

User group

The user group name is unique.

System max supports 20 user groups.

The user rights cannot higher than its group rights. The default user (**admin/888888**) has default authorities.

The user group name max has 16-digit.

User

The user name is unique.

System max supports 64 users.

One user shall belong to only one group. The user rights cannot higher than its group rights.

User name max has 16-digit. It cannot contain space.

4.13.1 Add User

Step 1 From main menu->Setting->System->Account->User, enter user interface. See Figure 4-66.

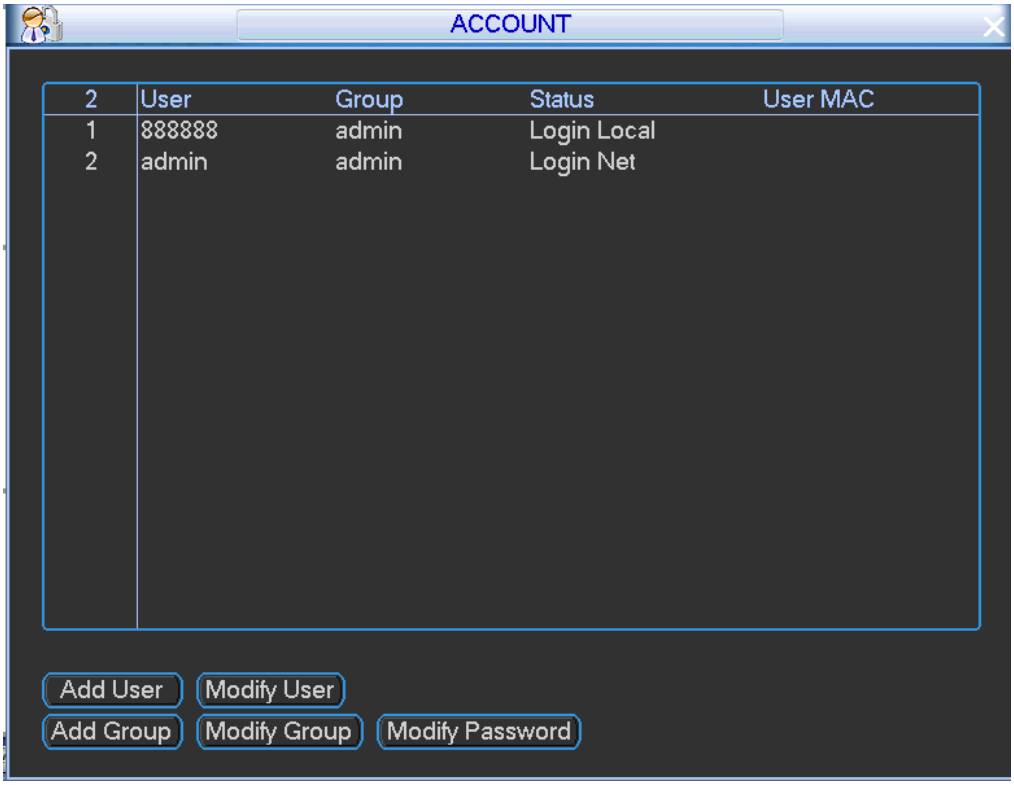


Figure 4-66

Step 2 Click add user button, the interface is shown as in Figure 4-67.

Step 3 Please input the user name, password, select the group it belongs to from the dropdown list.

Step 4 Then you can check the corresponding rights for current user. For convenient user management, usually we recommend the general user right is lower than the admin account.

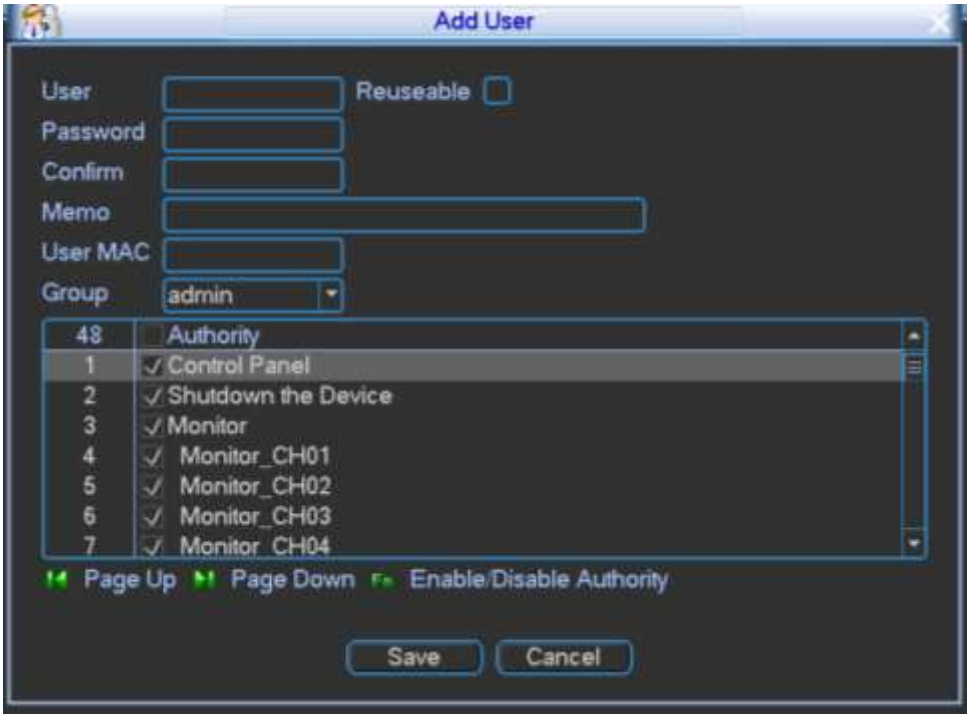


Figure 4-67

Step 5 Click Save button.

4.13.2 Modify user

It is to change user group, authorities and etc.

From main menu->Setting->System->Account->User, click  , enter the following interface to change user information. See Figure 4-68.

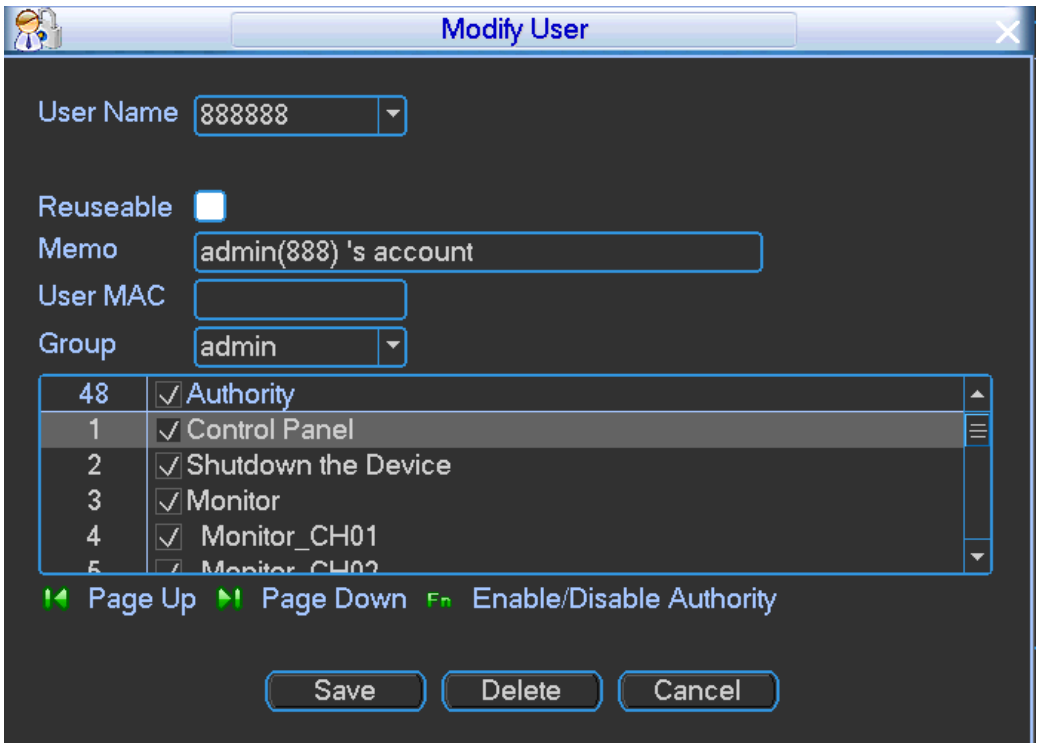


Figure 4-68

4.13.3 Add Group

Step 1 From main menu->Setting->System->Account->Group, click add group button, the interface is shown as below. See Figure 4-69.

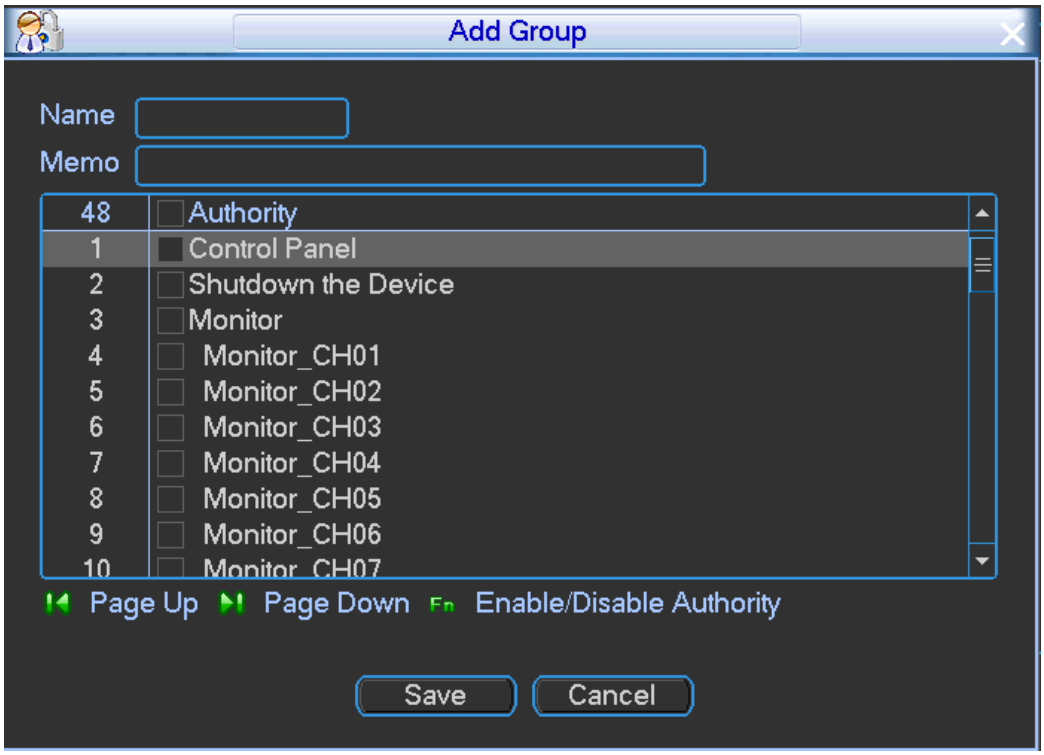


Figure 4-69

Step 2 Input group name and then input some memo information if necessary. Check the box to select corresponding authorities.

Step 3 Click Save button.

4.13.4 Modify Group

Step 1 From main menu->Setting->System->Account->Group, click Modify group button, the interface is shown as below. See Figure 4-70.

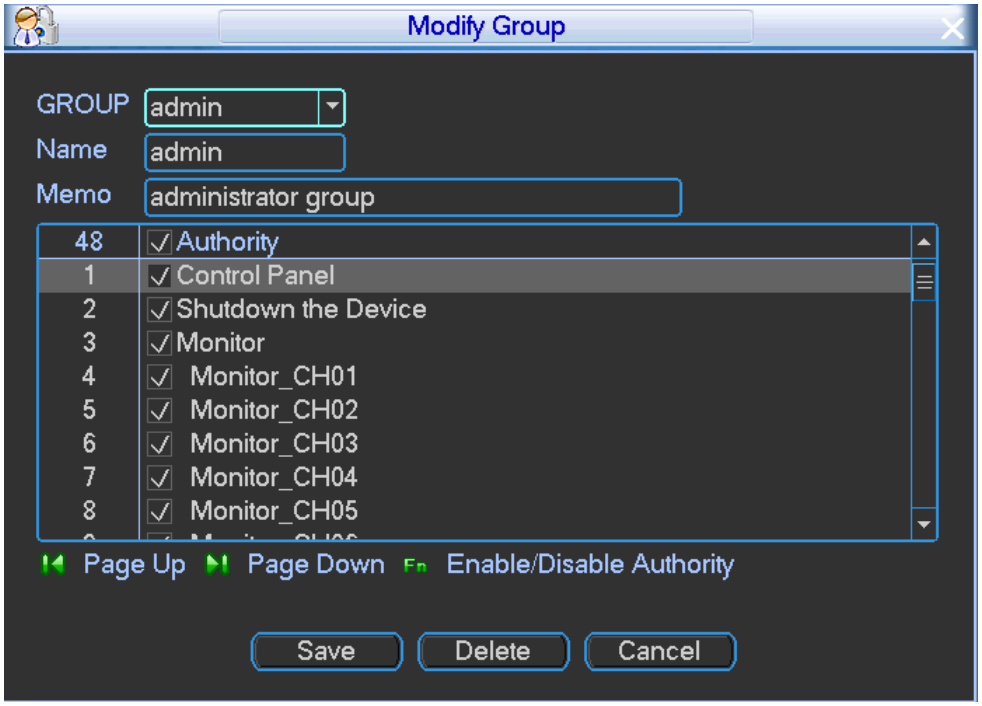


Figure 4-70

4.13.5 Modify Password

In Figure 4-68, check the Modify password box, you can change password. Please input old password, and then input new password twice to confirm. See Figure 4-71.

Note

- The password can contain 32-byte and the space at the beginning or at the end of the password are null. It can contain in the middle of the password.
- For the user of account right, it can change the password of other users.

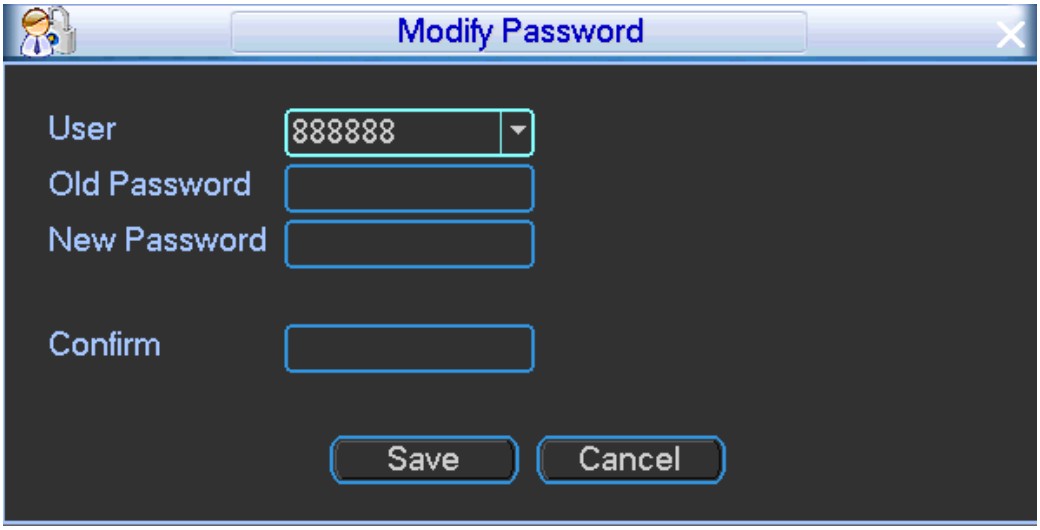


Figure 4-71

4.14 System Setup

4.14.1 General

It is to set time format, DST, language and etc.

Step 1 From Main menu->Setting->System->General->General, enter the general interface. See Figure 4-72.

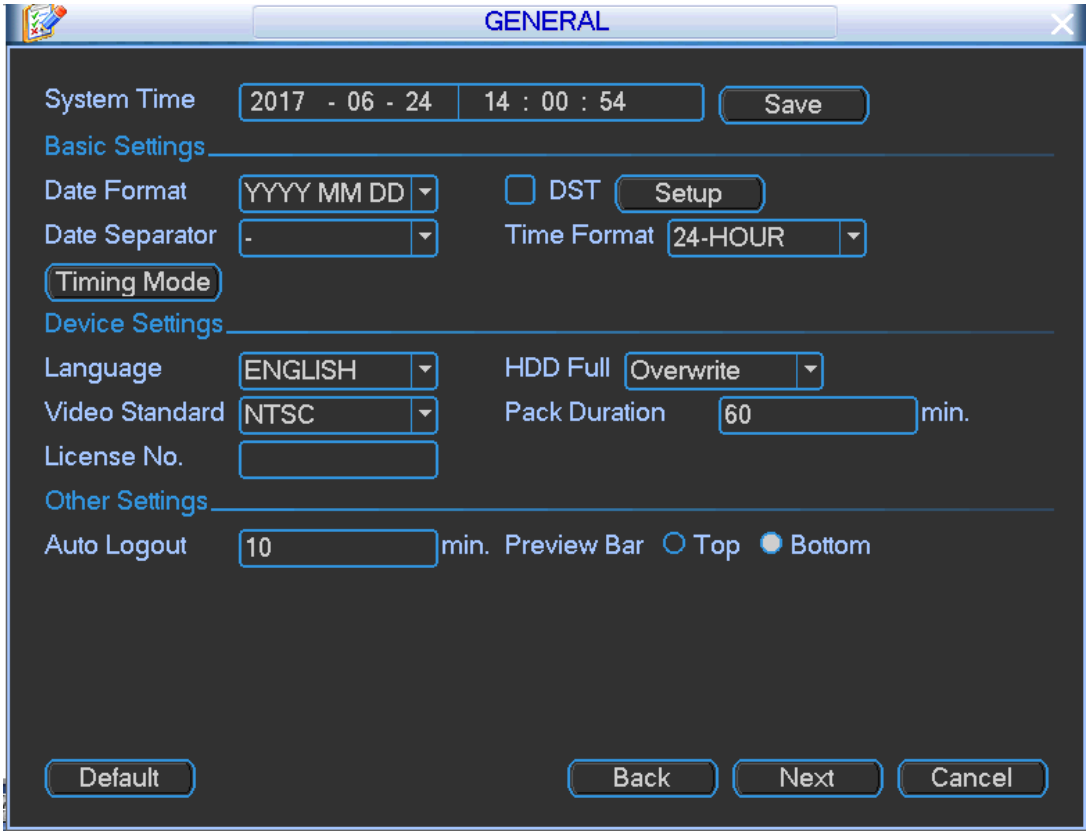


Figure 4-72

Step 2 Set parameters.

- System time: Here is for you to set system time
- Date format: There are three types: YYYYY-MM-DD: MM-DD-YYYYY or DD-MM-YYYY.
- Date separator: There are three denotations to separate date: dot, beeline and solidus.
- DST: Here you can set DST time and date. Please enable DST function and then click set button. You can see an interface is shown as in Figure 4-73.Here you can set start time and end time by setting corresponding week setup. In Figure 4-73 , check date button, you can set start time and end time by setting corresponding date setup.
- Time format: There are two types: 24-hour mode or 12-hour mode.
- Language: System supports various languages: Chinese (simplified), Chinese (Traditional), English, Italian, Japanese, French, Spanish (All languages listed here are optional. Slight difference maybe found in various series.)
- Video standard: There are two formats: NTSC and PAL.
- HDD full: Here is for you to select working mode when hard disk is full. There are two options: stop recording or rewrite. If current working HDD is overwritten or the current HDD is full while the next HDD is no empty, then system stops recording, If the current HDD is full and then next HDD is not empty, then system overwrites the previous files. Please note this locked file will not be overwritten.

- License No.: It is to set license number.
- Pack duration: Here is for you to specify record duration. The value ranges from 1 to 120 minutes. Default value is 60 minutes.
- Time Sync: There are three sync modes: DSS/GPS/NTP. See Figure 4-74.
  - ✧ DSS: After device connected to the DSS, it can sync time with the DSS.
  - ✧ GPS: After device connected to the GPS antenna, it can sync time with current time zone and satellite.
  - ✧ NTP: After set NTP, device can sync time with the NTP server. Click NTP setup, and then input server IP, port, time zone and upgrade interval.
- Auto logout: Here is for you to set auto logout interval once login user remains inactive for a specified time. Value ranges from 0 to 60 minutes.
- Preview bar: Check the box here, system displays the preview bar on the interface.

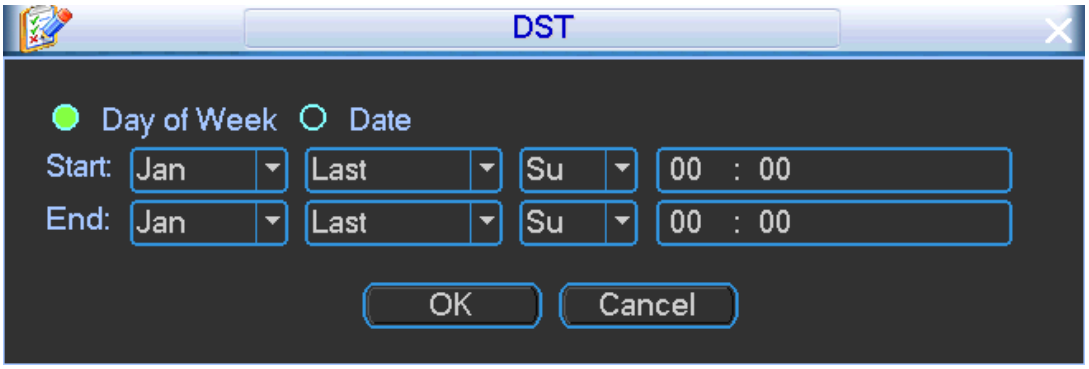


Figure 4-73

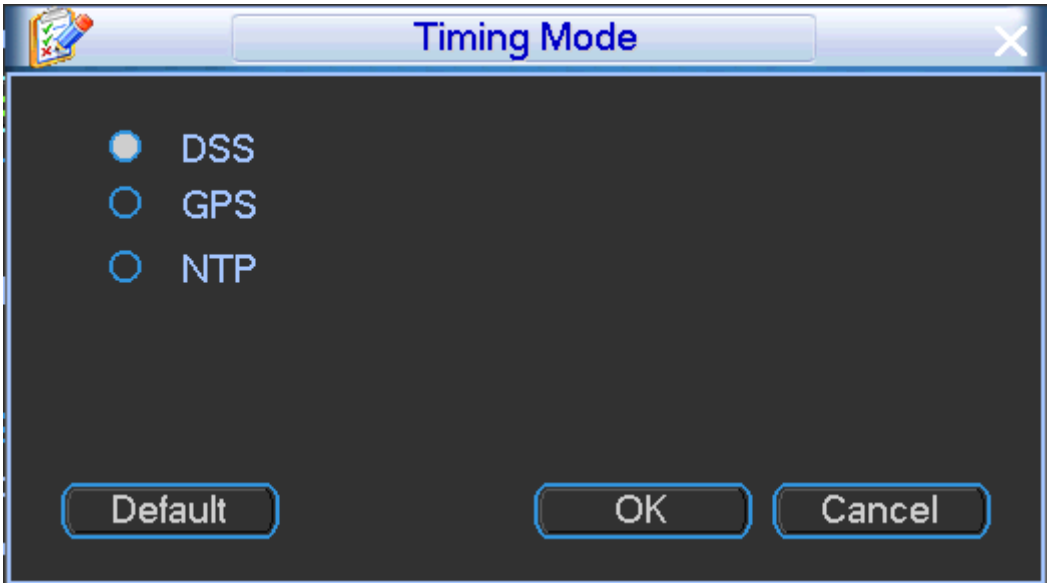


Figure 4-74

NTP interface is shown as below. See Figure 4-75.

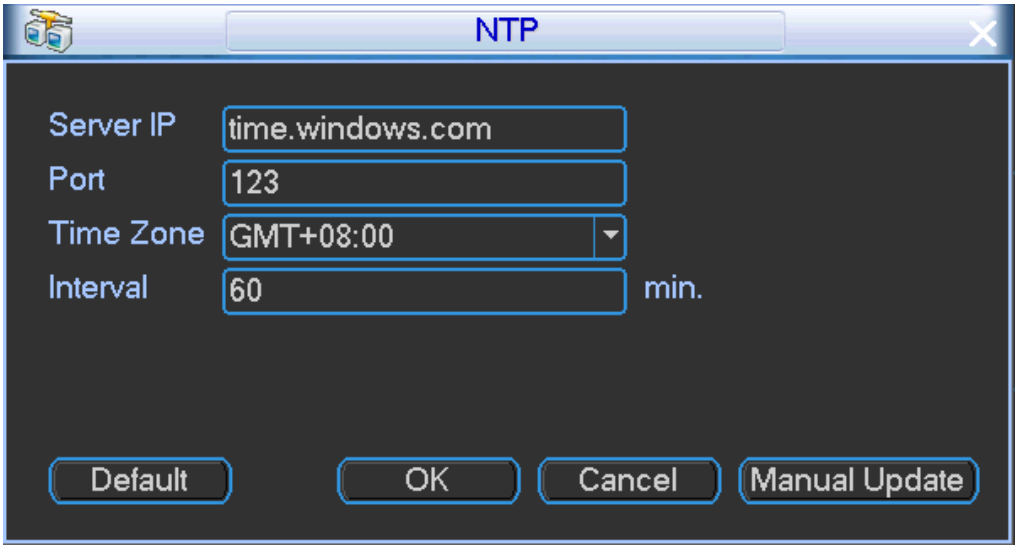


Figure 4-75

- Host IP: Input server (installed NTP server) address.
- Port: This series device supports TCP transmission only. Port default value is 123.
- Update interval: minimum value is 1. Max value is 65535. (Unit: minute)
- Time zone: select your corresponding time zone here.
- Manual update: Click it to sync time with NTP server manually.

4.14.2 Display

It is to set interface transparent, split mode and etc.

Step 1 From Main Menu->Setting->System->Display, enter output interface. See Figure 4-76.

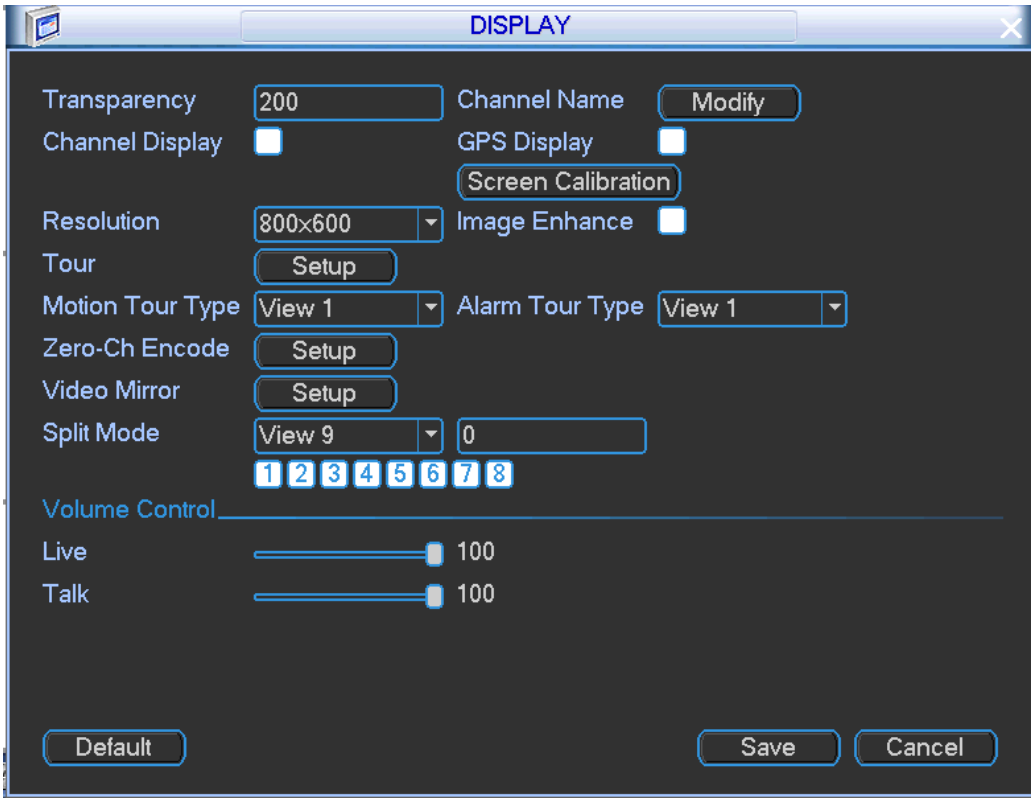


Figure 4-76

Step 2 Set parameters.

- Transparency: It is to adjust transparency. The lower the value is, the transparent the image is.
- Channel name: Here is for you to modify channel name. See Figure 4-77
- Time display: You can select to display time or not when system is playback.
- Channel display: You can select to channel name or not when system is playback.
- GPS display: System displays GPS information in the screen for your reference. **Please note only the unit of GPS module supports this function.**
- Screen calibration: it is for touch screen only.
- Resolution: It is to set resolution.
- Image enhance: It is to optimize video margin.
- Tour: Click Setup button, enter tour interface. See Figure 4-78.
- Motion tour type: System supports 1/8 window tour.
- Alarm tour type: System supports 1/8 window tour.
- Video mirror: Click Setup button, enter video mirror interface. See Figure 4-79. Set the vertical or horizontal mirror.
- Split mode: Set split mode.
- Volume control: Live/talk. It is to set volume during live or the bidirectional talk.

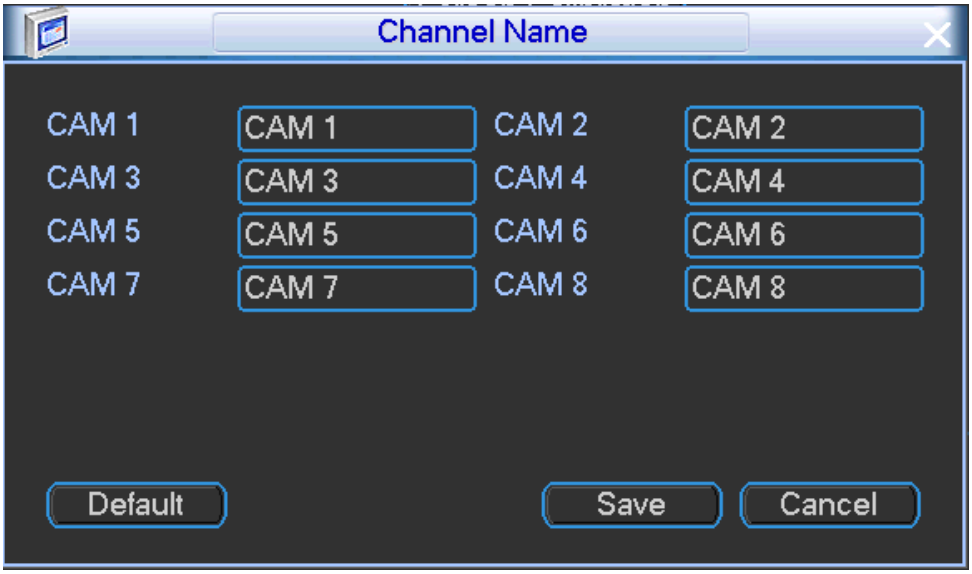


Figure 4-77

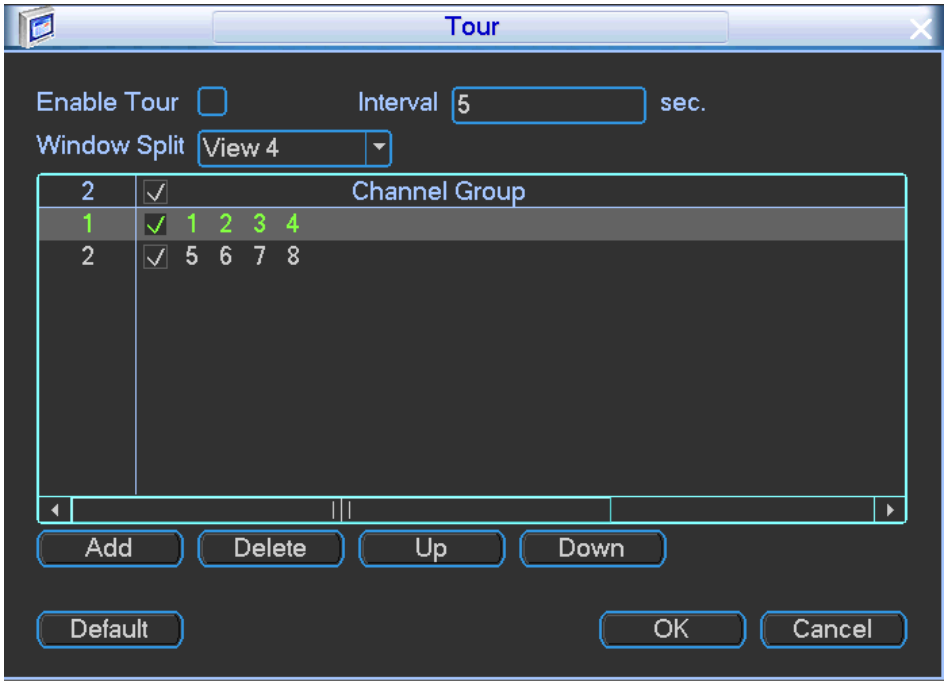


Figure 4-78

- Enable tour: Check the box to enable tour function.
- Interval: Input proper interval value here. The value ranges from 5-120 seconds.
- Window split: Set window split mode.
- Channel group: Set tour channel group.

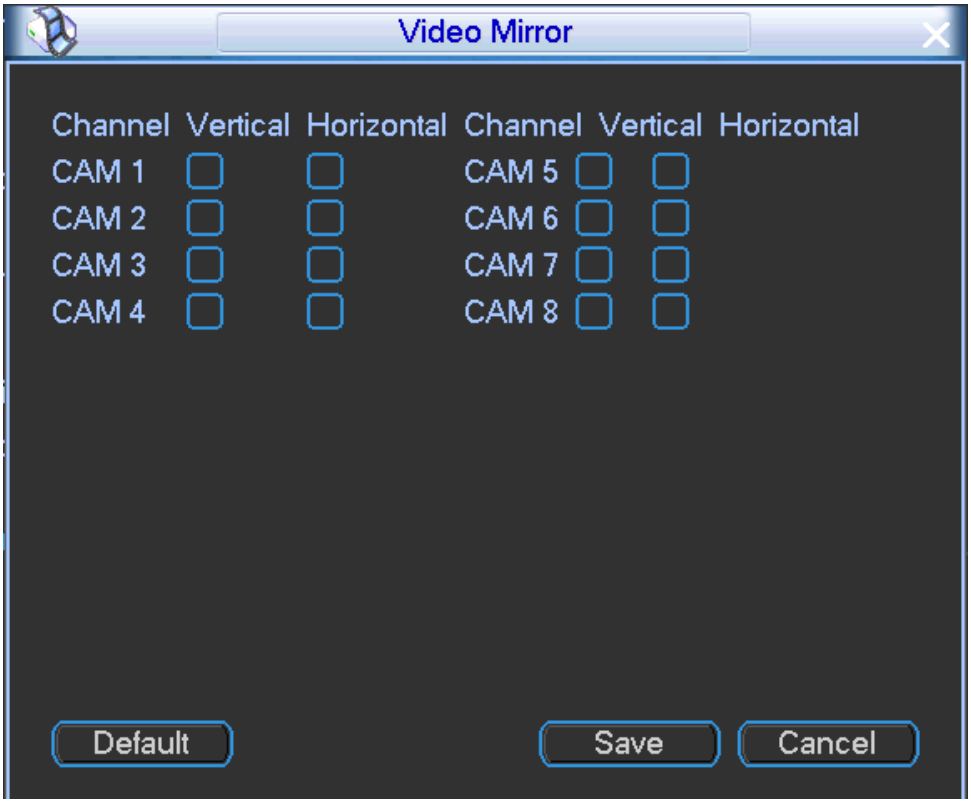


Figure 4-79

Step 3 Click Save button.

4.14.3 TV Adjust

Here is for you to adjust TV output setup.

Step 1 From main menu->Advanced->TV adjust, enter TV adjust interface. See Figure 4-80.

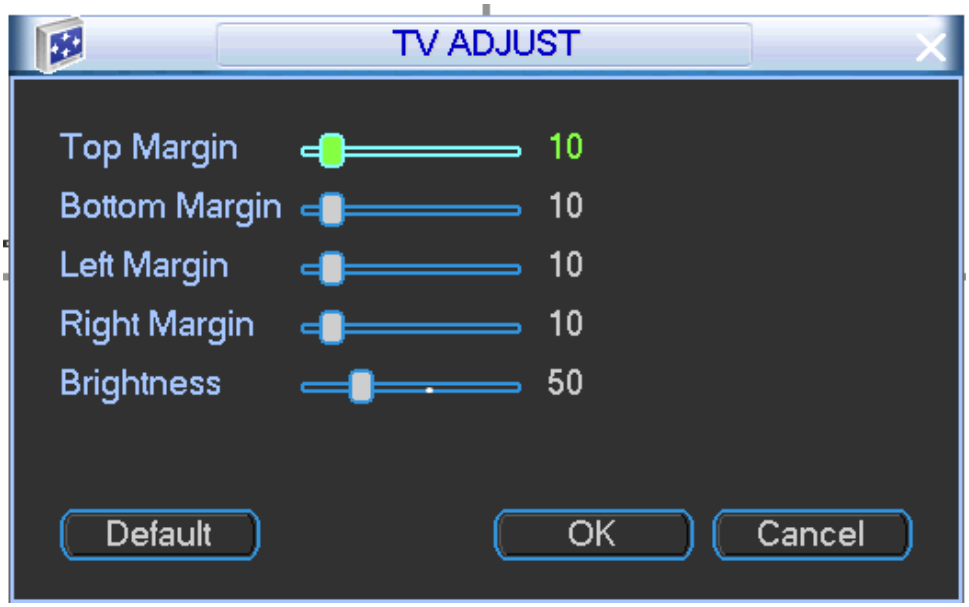


Figure 4-80

Step 2 Please drag slide bar to adjust each item.

Step 3 Click OK button.

4.14.4 RS232

It is to set RS232 function, baud rate and etc. Please set RS232 parameters if you want to use COM to debug, upgrade applications and etc.

Step 1 From Main Menu->Setting->System->RS232, RS232 interface is shown as below. There are six items. See Figure 4-81.

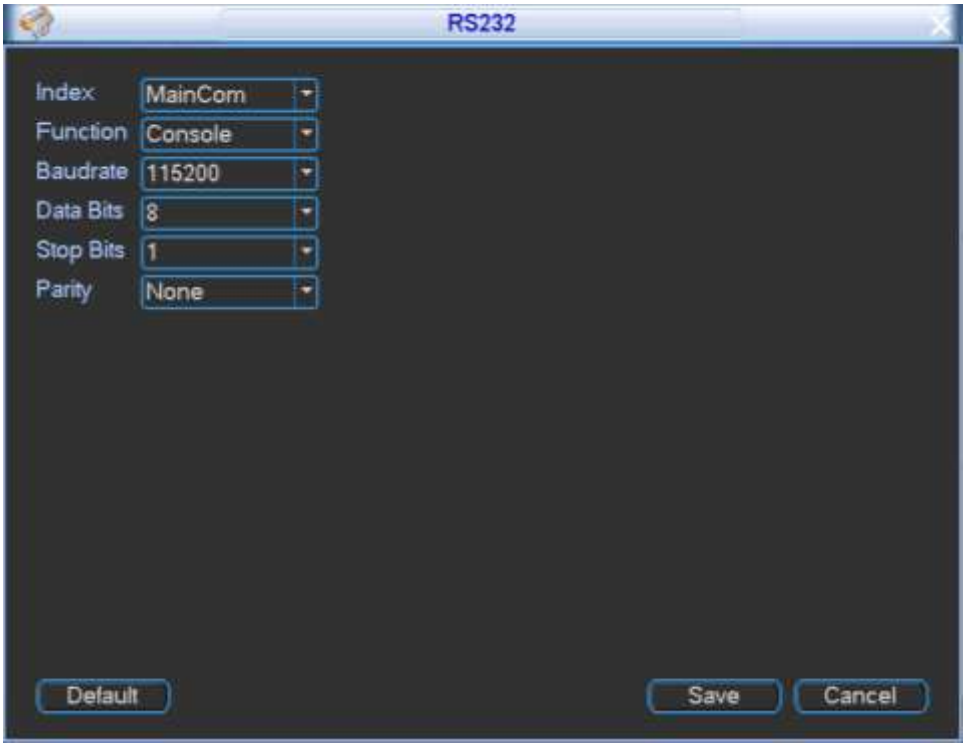


Figure 4-81

Step 2 Set parameters.

- Function: There are various devices for you to select.
  - ✧ Console is for you to use the COM or mini-end software to upgrade or debug the program.
  - ✧ The control keyboard is for you to control the device via the special keyboard.
  - ✧ Transparent COM (adapter) is to connect to the PC to transfer data directly.
  - ✧ Network keyboard is for you to use the special keyboard to control the device.
  - ✧ PTZ: Use COM to control the PTZ.
  - ✧ ITS: Connect to mobile light box or touch screen.
- Baud rate: You can select proper baud rate.
- Data bit: You can select proper data bit. The value ranges from 5 to 8.
- Stop bit: There are three values: 1/1.5/2.
- Parity: there are five choices: none/odd/even/space/mark.

Step 3 Click Save button.

4.14.5 Maintain

Here you can set auto-reboot time and auto-delete old files, auto shutdown, and auto ACC delay (0-65535 minutes) setup. You can set to delete the files for the specified days.

Step 1 From Main Menu->Setting->System->Maintain, the interface is shown as in Figure 4-82.

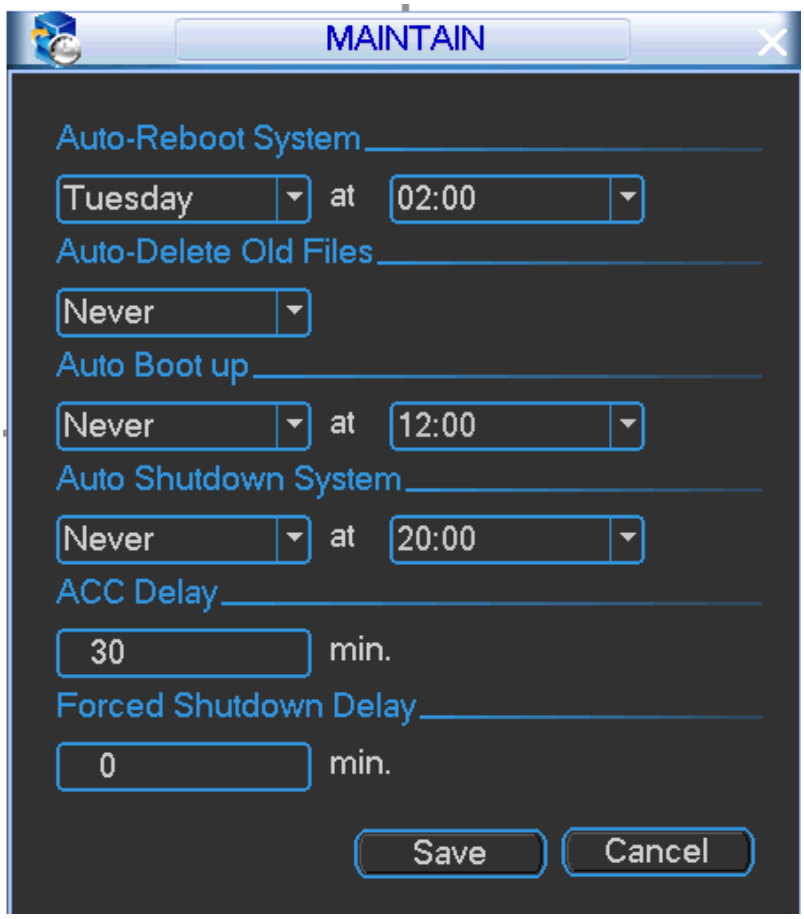


Figure 4-82

Step 2 Set parameters

- Auto reboot: Set auto reboot device time. The default setup is 2:00 Tuesday.
- Auto delete old file: There are two modes: Never/customized.

- Auto boot up: Set auto start time.
- Auto shut down: Set auto shut down time.
- ACC delay: The system auto latch time after ACC is off. The default setup is 0～65535minutes.
- Forced shut down delay: Set force shut down delay time.

Step 3 Click Save button.

4.14.6 Import/Export

This function allows you to copy current system configuration to other devices. It also supports import, create new folder, and delete folder and etc function.

Step 1 From Main menu->Setting->System->Import/Export, you can see the configuration file backup interface is shown as below. See Figure 4-83.

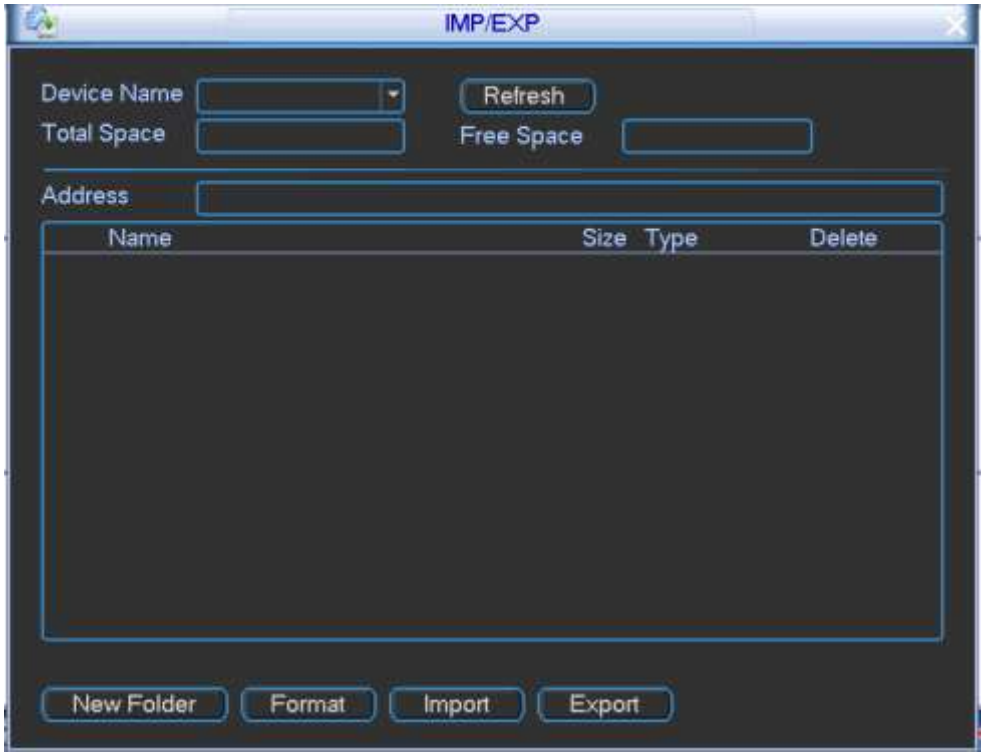


Figure 4-83

Step 2 Set parameters.

- Export: Please connect the peripheral device first and then go to the following interface. Click Export button, you can see there is a corresponding “Config_Time” folder. Double click the folder, you can view some backup files.
- Import: Here you can import the configuration files from the peripheral device to current device. You need to select a folder first. You can see a dialogue box asking you to select a folder if you are selecting a file. System pops up a dialogue box if there is no configuration file under current folder. After successfully import, system needs to reboot to activate new setup.
- Format: Click Format button, system pops up a dialogue box for you to confirm current operation. System begins format process after you click the OK button.

Note:

- System cannot open config backup interface again if there is backup operation in the process.

- System refreshes device when you go to the config backup every time and set current directory as the root directory of the peripheral device.
- If you go to the configuration backup interface first and then insert the peripheral device, please click Refresh button to see the newly added device.

4.14.7 Default

WARNING

After you use default function, some your customized setup may lose forever! Please think twice before you begin the operation!

You can restore factory default setup to fix some problems when the device is running slowly or configuration error occurred.

From Main menu->Setting->System->Default, you can go to the default interface. See Figure 4-84.

Check the box to select the corresponding function and then click OK button to restore factory default setup. .

Click Clear config button, you can restore all items to factory default setup.

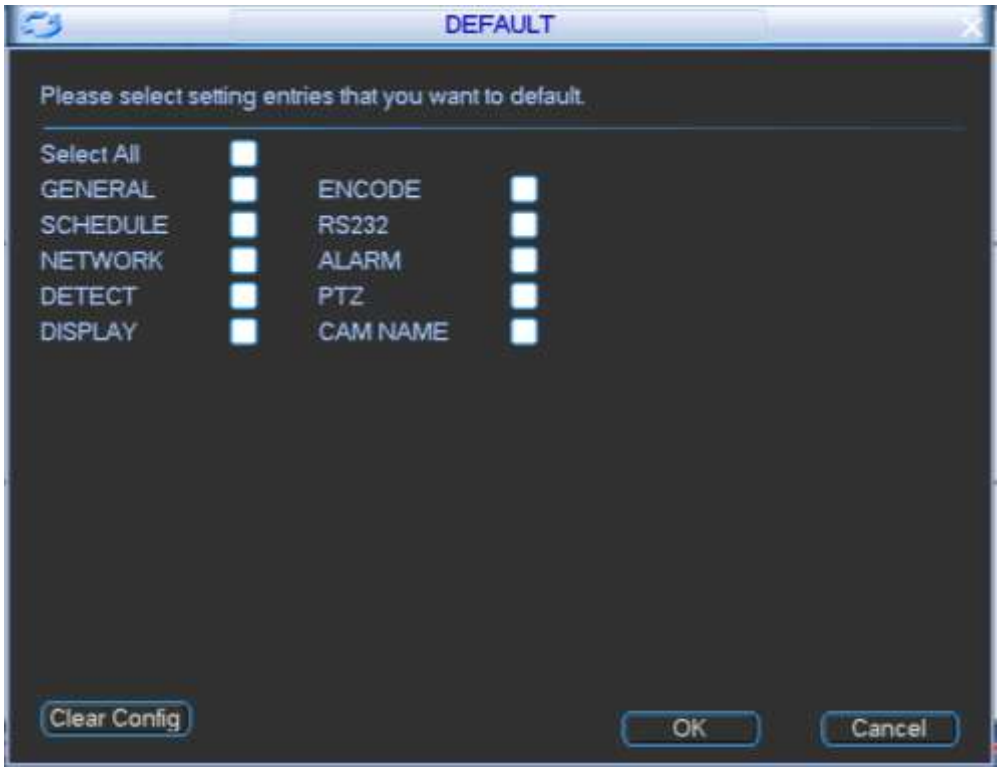


Figure 4-84

4.14.8 Backup

It is to use USB device, SD card and etc to storage record file.

Step 1 In main menu, from Operation->Backup, you can backup record file to the USB device. See Figure 4-85.

Step 2 Connect USB burner, USB device or portable HDD and etc. to the device. Device displays the detected device name and storage space, status.

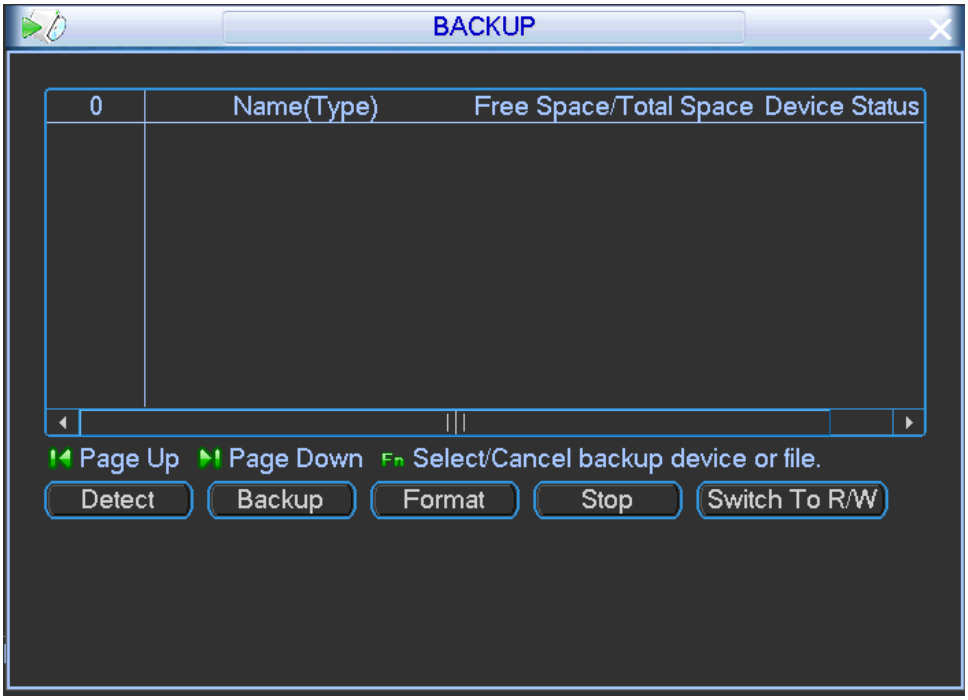


Figure 4-85

Step 3 Select backup device and then set channel, file start time and end time.

Step 4 Click add button, system begins search. All matched files are listed below. System automatically calculates the capacity needed and remained. See Figure 4-86. System only backup files with a √ before channel name. Click Fn or cancel button to delete √ after file serial number.

Step 5 Click backup button to backup selected files. There is a process bar for you reference.

Step 6 When the system completes backup, device displays dialogue box prompting successful backup.

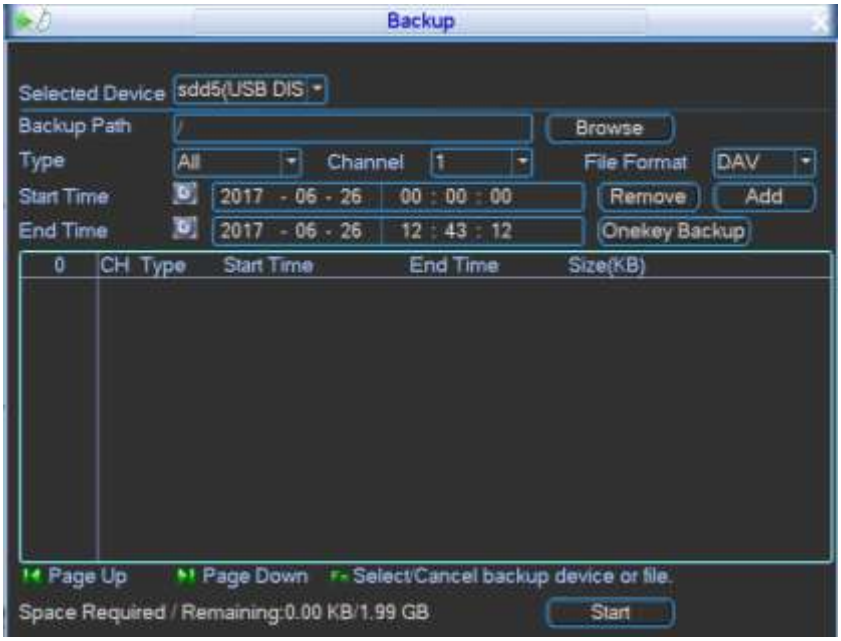


Figure 4-86

Step 7 Click Start button, system begins backup. At the same time, the backup button becomes stop button. You can view the remaining time and process bar at the left bottom.

Note

- During backup process, you can click ESC to exit current interface for other operation (For some series product only). The system will not terminate backup process.
- The file name format usually is: Channel number+Record type+Time. In the file name, the YDM format is Y+M+D+H+M+S. File extension name is .dav.

4.15 System Information

It is to view HDD information, bit stream information, satellite information, device information and version information.

4.15.1 HDD Information

It is to list hard disk type, total space, free space, and status

Step 1 From Main menu->Info->System->HDD, enter HDD information interface. See Figure 4-87.

Figure 4-87

Step 2 In Figure 4-87, click View recording time button, the interface is shown as in Figure 4-88.

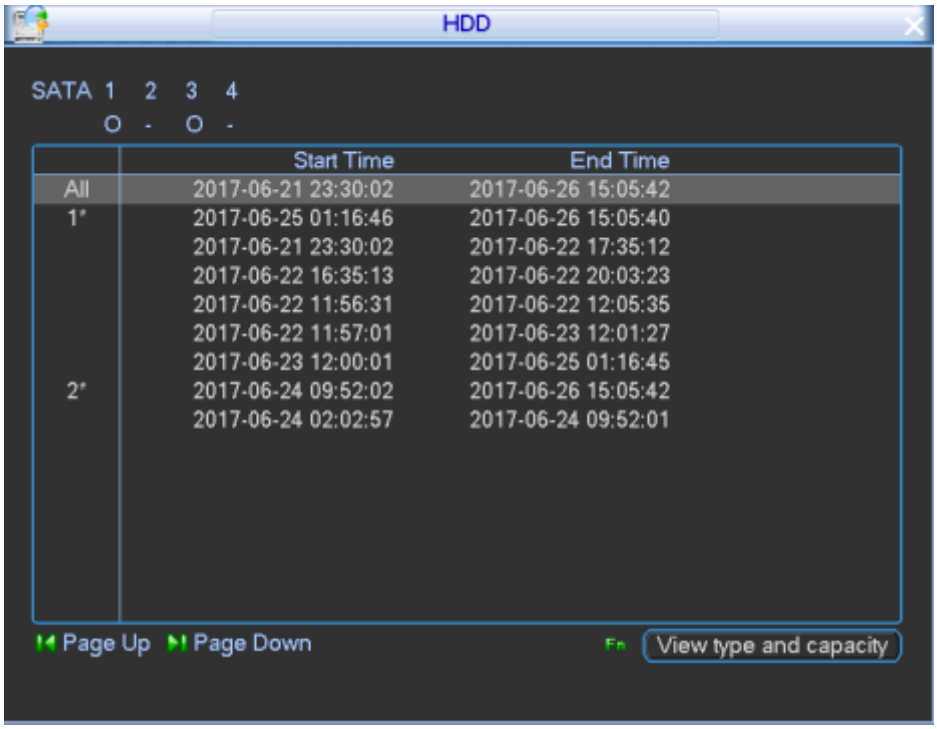


Figure 4-88

4.15.2 BPS

It is to view current video bit rate (kb/s) and resolution.

From main menu->Info->System->BPS, enter bit rate information interface. See Figure 4-89.

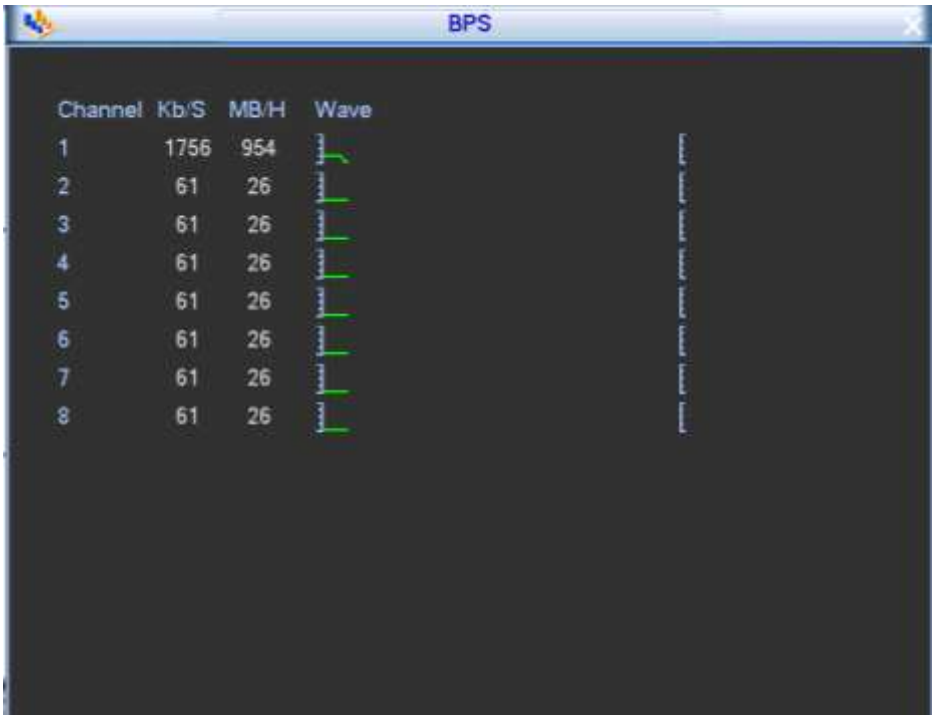


Figure 4-89

4.15.3 Satellite

It is to display satellite positioning status and searched results.

From main menu->Info->System->Satellite, enter satellite information interface. See Figure 4-90. The GPS module includes two types: Single-module and dual-module. When connect to GPS antenna, system can auto search the surrounding satellite in the environment.

- Dual-module (GPS/Beidou): The 40+ signal satellite amount is equal to or more than 10, the signal strength is strong, The 40+ signal satellite amount ranges from 4 to 10, the signal strength is medium. The 40+ signal satellite amount is equal to or smaller than 4, the signal strength is weak.
- Single-module (GPS): The 40+ signal satellite amount is equal to or more than 6, the signal strength is strong, The 35+ signal satellite amount is equal to or more than 6, the signal strength is medium. For other situation, the signal strength is weak.

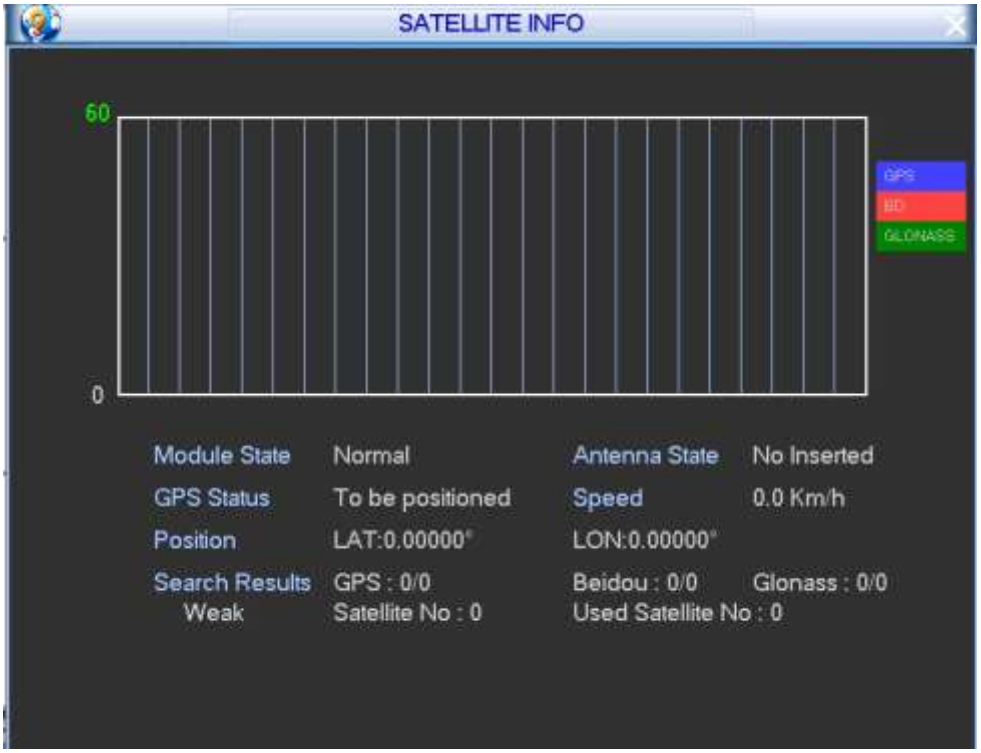


Figure 4-90

4.15.4 Device Status

It is to view device current status such as ACC state, voltage, record status, HDD status, GPS positioning, DSS registration state, 3G dial state and WI-FI connection state.

Step 1 From main menu->Info->System->Device status, enter device information state. See Figure 4-91.

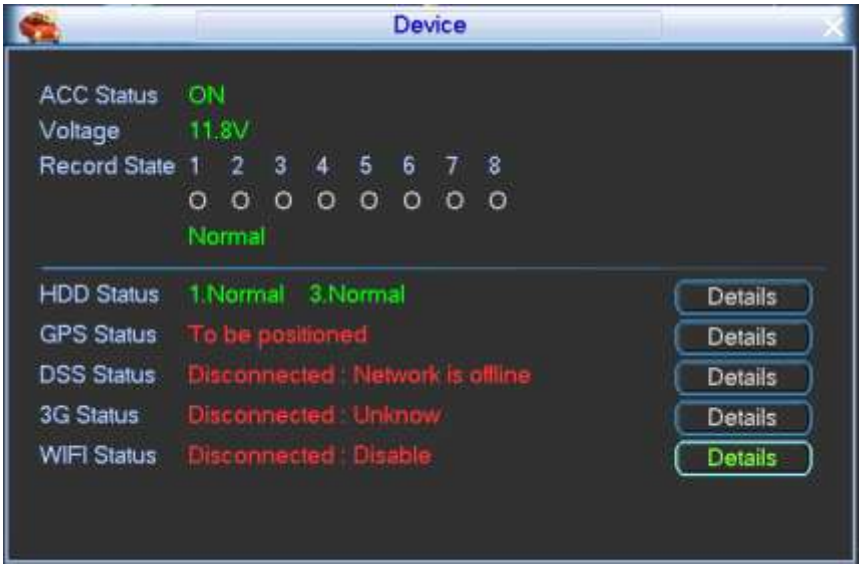


Figure 4-91

Step 2 View detailed information.

- Click HDD status Details button, it is to view HDD information. See chapter 4.15.1 HDD.
- Click GPS status Details button, it is to view satellite information. See chapter 4.15.3 Satellite.
- Click DSS status Details button, it is to auto register information. See chapter 4.12.8 Register.
- Click 3G status Details button, it is to 3G/4G information. See chapter 4.12.6 3G/4G.
- Click WI-FI status Details button, it is to view WI-FI information.

4.15.5 Version

It is to view system version, released date, WEB version, SN and etc. It can also upgrade software applications and MCU.

From main menu->Info->System->Version, enter version interface. See Figure 4-92.

Note

The following figure for reference only.

Figure 4-92

4.16 Event Info

4.16.1 Speed

It is to view vehicle running kilometers information, total mileage and etc.

Step 1 From Main menu->Vehicle->Speed, enter Speed interface. See Figure 4-93.

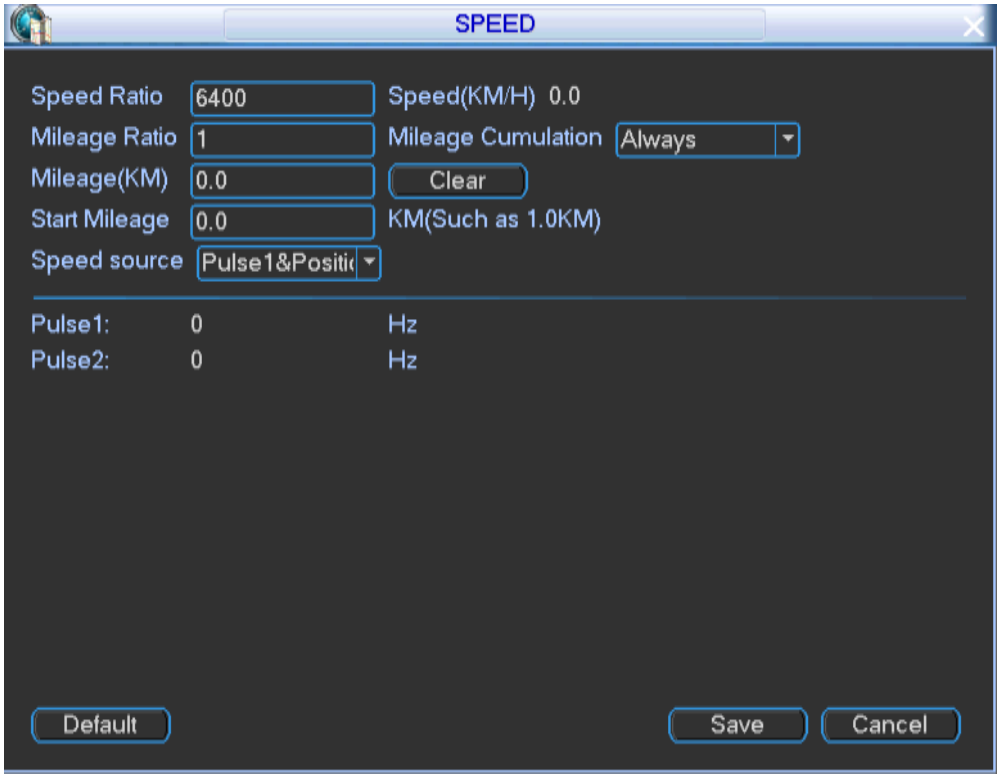


Figure 4-93

Step 2 Set parameters.

- Speed ratio: The parameter to calculate speed.

$$\frac{\text{Speed ratio}}{\text{Default speed ratio}} = \frac{\text{Vehicle actual running speed}}{\text{Disiplayed speed on the interface}}$$

- Speed: Speed value
- Mileage ratio: Speed mileage correction.
- Mileage cumulation: select cumulation type.
- Mileage: Display mileage value.
- Clear: Clear mileage value.
- Start mileage: Set start mileage value.
- Pulse 1: Display the frequency from the first pulse.
- Pulse 2: Display the frequency from the second pulse.

Step 3 Click Save button.

4.16.2 Gyo

It is to detect the vehicle turn over, collision or the sharp turn.

For installation reason and so on, the default value in the following interface may different from the actual installation position. If there is no position verification, system may generate an alarm even when the vehicle is properly running.

Step 1 From main menu->Info->Event->Gyo, the interface is shown as below. See Figure 4-94.

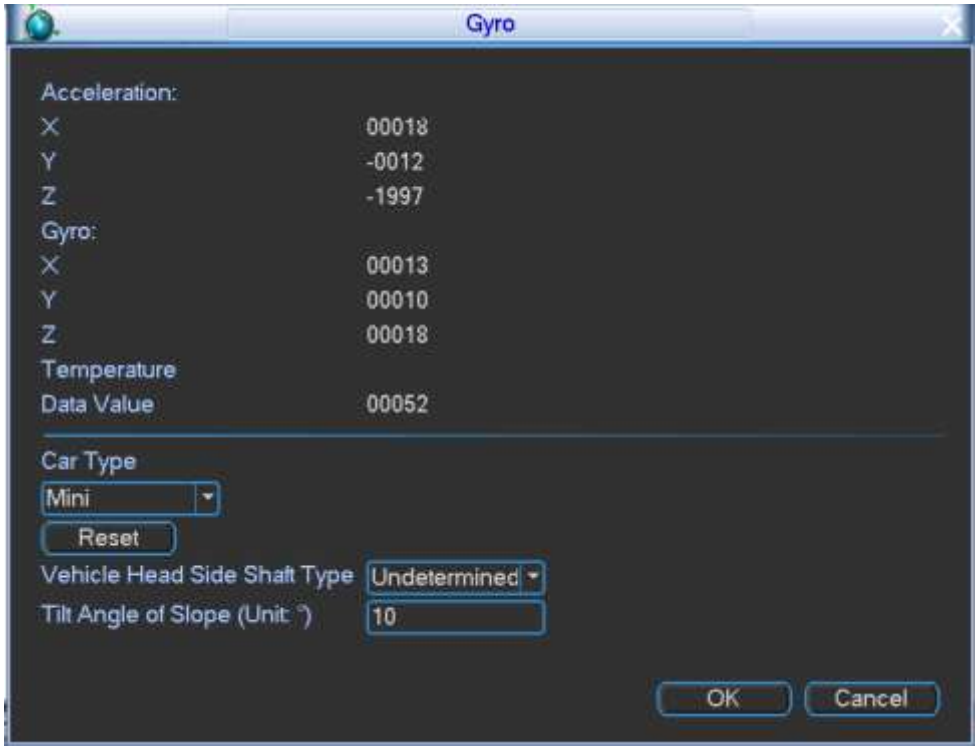


Figure 4-94

Step 2 Set parameters.

- Acceleration speed: It is to display vehicle acceleration speed.
- Gyro: it is to display vehicle gyro speed.
- Temperature: Display temperature value.
- Car type: Please select a vehicle from the dropdown list. It includes small vehicle, medium vehicle and bus.
- Reset: Click to reset vehicle position.
- Vehicle head side shaft type: It is to set shaft type. It includes undetermined, X axis, Y axis and etc.
- Tilt angle of slope: it is to set tile angle.

Step 3 Click OK button.

4.16.3 Custom Default

It is to save the plate setup, 3G setup, auto register setup.

Step 1 From main menu->Vehicle->Custom default, enter custom default interface. See Figure 4-95.

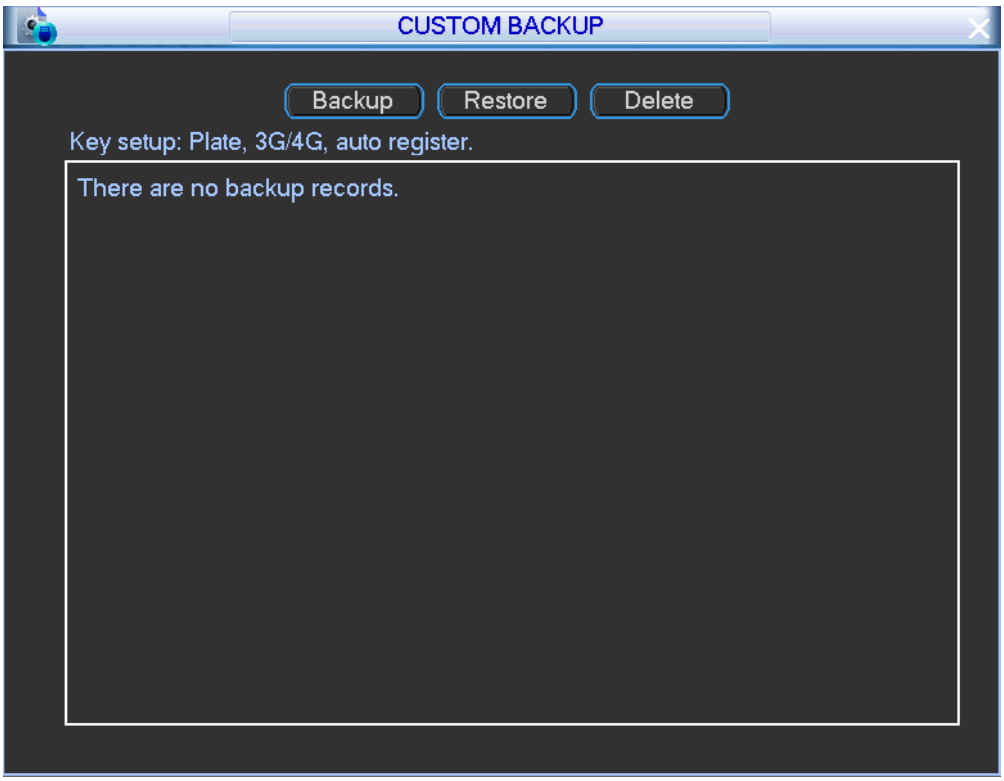


Figure 4-95

Step 2 Set parameters.

- Backup: It is to backup important configuration such as plate number, 3G/4G and auto register.
- Restore: Restore backup configuration.
- Delete: Delete backup configuration.

4.17 Network Info

4.17.1 Online User

It is to manage online users connected to device via WEB. System detects there is any newly added or deleted user in each five seconds and refresh the list automatically.

Step 1 From main menu->Info->System->Online user, enter online user interface. See Figure 4-96.

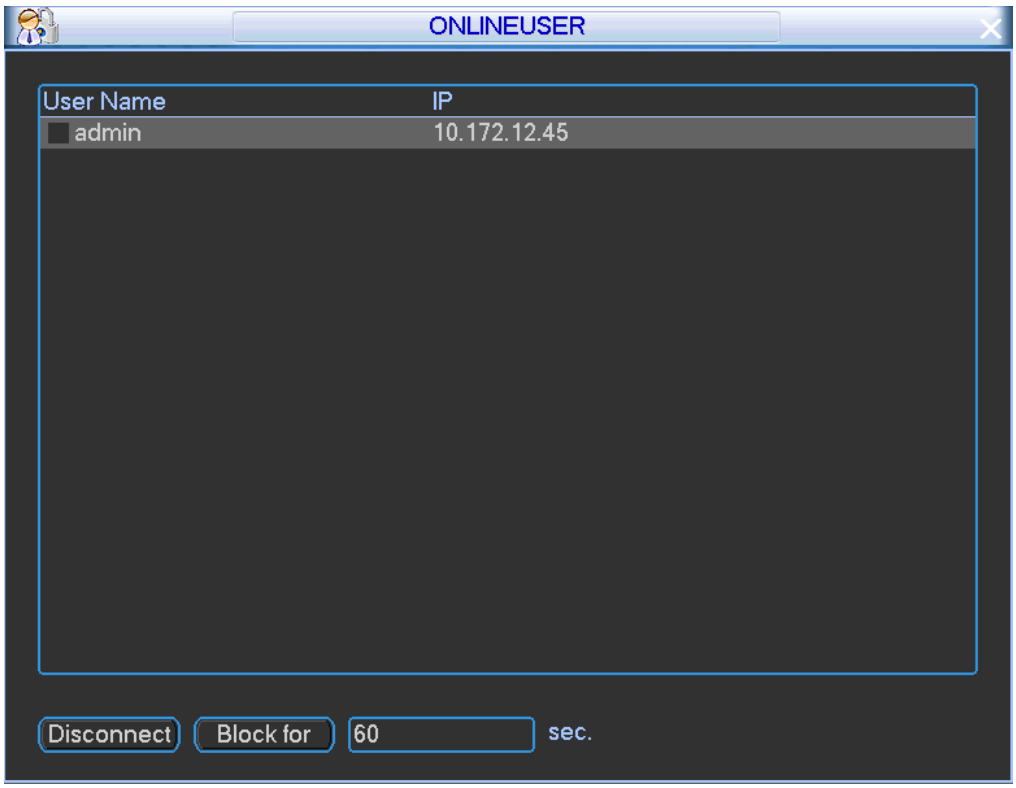


Figure 4-96

Step 2 Set parameters.

- Block: Click button  to disconnect or block one user if you have proper system right. The default setup is 60 seconds.
- Disconnect: Select a user and then click to disconnect.

4.17.2 Network Load

It is to view the follow statistics of the device network adapter.

Step 1 From main menu->Info->Network->Load, network load is shown as in Figure 4-97. It is to view information of all connected network adapters. The connection status is shown as offline if connection is disconnected.

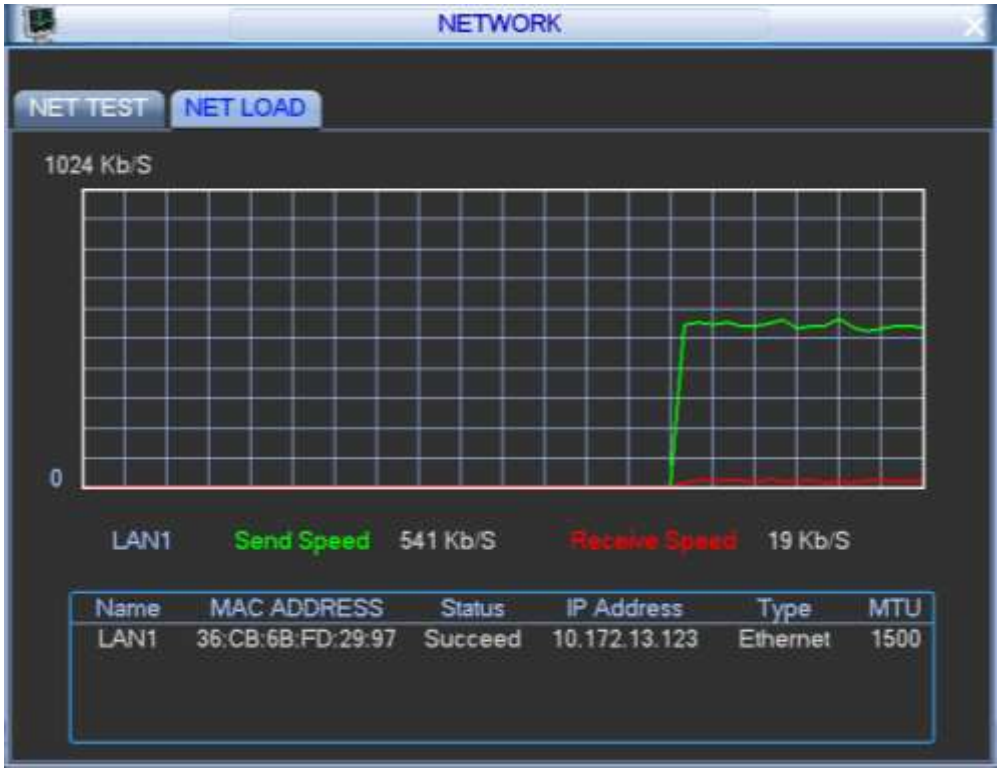


Figure 4-97

Step 2 Click one network adapter; you can view the flow statistics.

- Green wave is the send rate.
- Red wave is the receive rate.

4.17.3 Network Test

It is to display NIC flows such as sending speed and receiving speed.

Step 1 From main menu->Info-Network->Test, the network test interface is shown as in Figure 4-98.

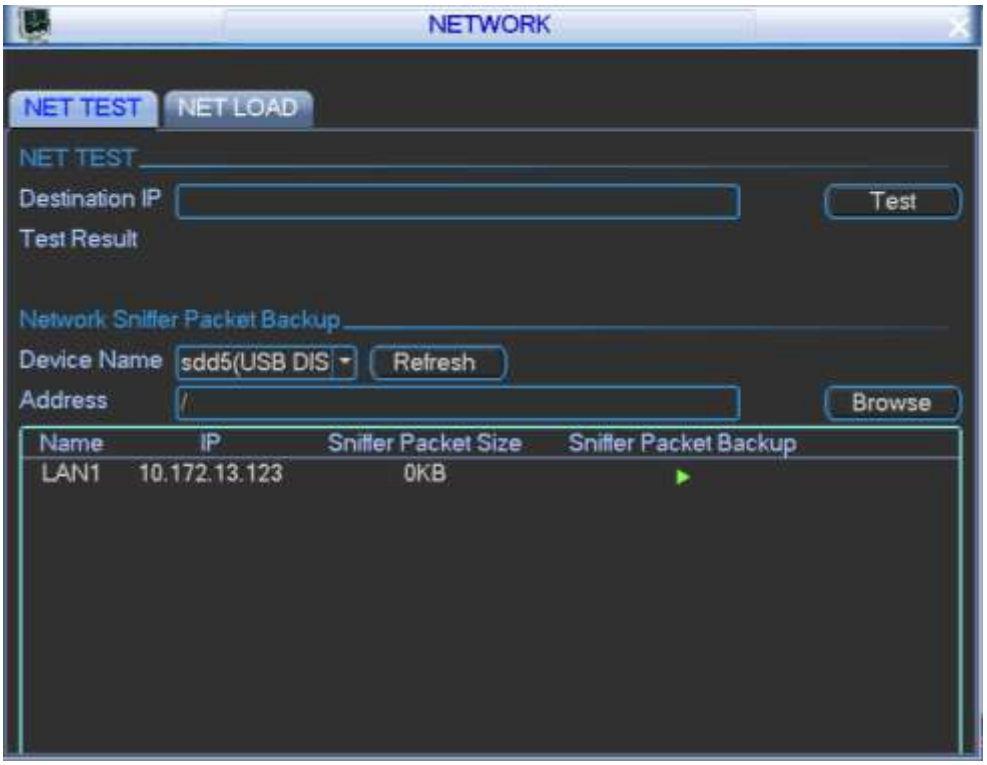


Figure 4-98

Step 2 View parameters.

- Destination IP: Please input valid IPV4 address and domain name.
- Test: Click it to test the connection with the destination IP address. The test results can display average delay and packet loss rate and you can also view the network status as OK, bad, no connection and etc.
- Network Sniffer backup: Please insert USB2.0 device and click the Refresh button, you can view the device on the following column. You can use the dropdown list to select peripheral device. Click Browse button to select the snap path. The steps here are same as preview backup operation.

Network Sniff

You can view all connected network adapter names (including Ethernet, PPPoE, Wi-Fi, and 3G), you can click the button  on the right panel to begin Sniffer. Click the grey stop button to stop. Please note system cannot Sniffer several network adapters at the same time.

After Sniffer began, you can exit to implement corresponding network operation such as login WEB, monitor. Please go back to Sniffer interface to click  stop Sniffer. System can save the packets to the specified path. The file is named after “Network adapter name+time”. You can use software such as Wireshark to open the packets on the PC for the professional engineer to solve complicated problems.

4.18 Log Info

It is to search the logs of different types in different periods. View log information, clear or backup log.

The log type includes: system operation, configuration, data management, alarm event, account management, clear log and file operation.

Step 1 From Main menu->Info->Log, enter log information interface. See Figure 4-99.

Step 2 Select start time and end time.

Step 3 Click search button to view log list. System max displays 100 logs in one page. It can save 500,000 logs on the HDD, and 16384 logs on the system. System max supports 500,000+16384 logs if there is a HDD. System max supports 16384 logs if there is no HDD. Please use page up/down button on the interface or the front panel to view more.

Backup

Insert USB device and then click Backup button to backup logs to the peripheral device.

Details

Double click a log item or select a log and click Details button to view its detailed information.

Clear

Click to clear all logs.

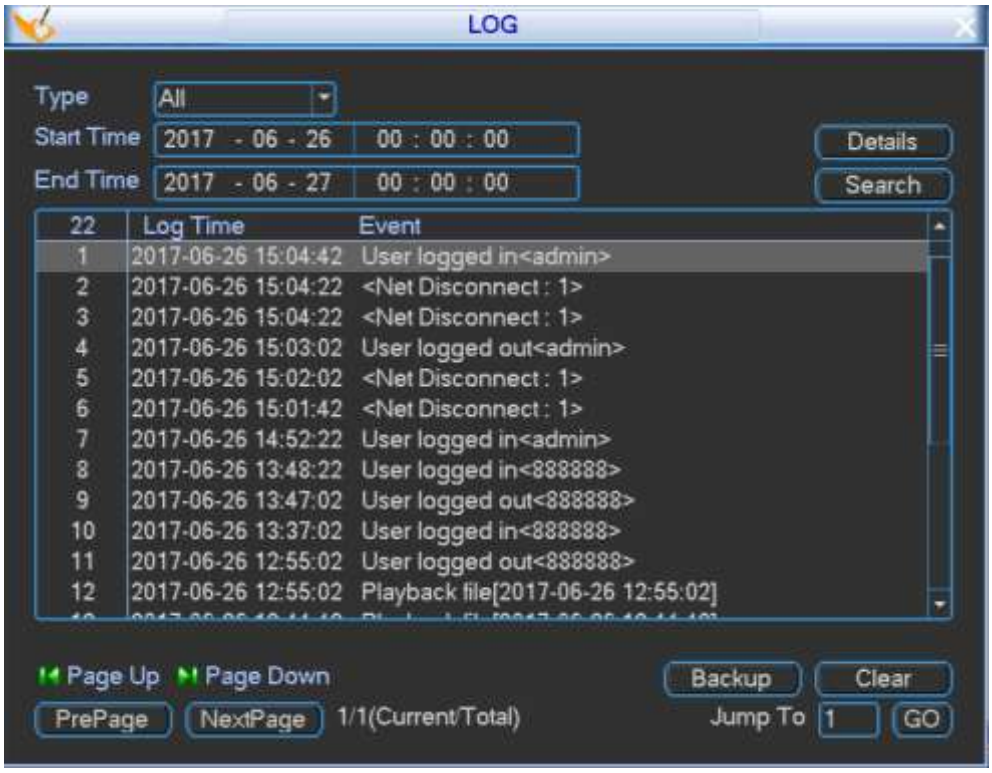


Figure 4-99

4.18.1 Logout /Shutdown/Restart

From Main menu->Operation->Shutdown, enter shutdown interface. See Figure 4-100.

- Shutdown: System shuts down and turns off power.
- Logout: Log out menu. You need to input password when you login the next time.
- Restart: Reboot device.

If you shut down the device, there is a process bar for your reference, system waits for 3 seconds and then shut down (You cannot cancel).

Please note, sometimes you need to input the proper password to shut down the device.

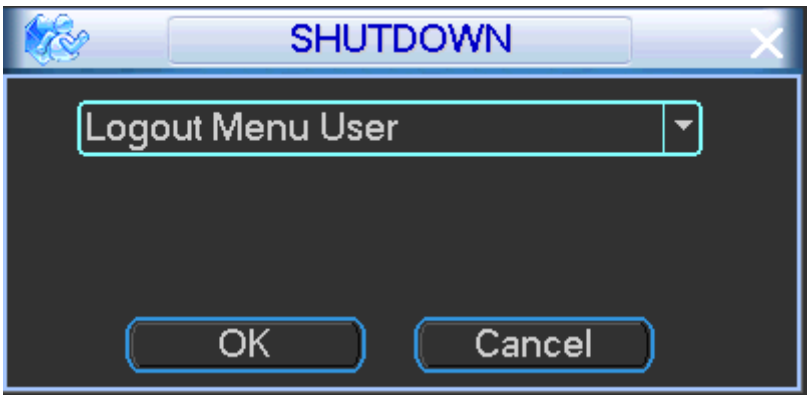


Figure 4-100

5 WEB OPERATION

There might be slightly difference in the interface due to different series.
Refer to the following sheet for commonly used button definition.

Button	Function
Default	Click to restore default setup.
OK	Click to save current setup.
Cancel	Click to cancel current setup.
Copy	Click to copy current channel setup to other channel.
Refresh	Click to refresh to get latest information.

5.1 Network Connection

Before web operation, please check the following items:

- Network connection is right
- DVR and PC network setup is right. Please refer to network setup(Setup ->Network)
- Use order ping ***.***.***.***(DVR default IP address is 192.168.1.108) to check connection is OK or not. Usually the return TTL value should be less than 255.
- Open the IE and then input DVR IP address.
- System can automatically download latest web control and the new version can overwrite the previous one.
- If you want to un-install the web control, please run *uninstall webrec3.0.bat*. Or you can go to C:\Program Files\webrec to remove single folder. Please note, before you un-install, please close all web pages, otherwise the un-installation might result in error.

5.2 Login

Step 1 Use a network cable to connect the device to the PC. The PC IP address is 192.168.1.***.

Step 2 Open browser and input DVR address in the address column. For example, if your DVR IP is 192.168.1.108(default IP address), then please input http:// 192.168.1.108 in IE address column and then click Enter button.

Step 3 System pops up warning information to ask you whether install control or not. Please click Install button, system can auto run the installation. Or follow the prompts to save the installation package and install. After installation, the interface is shown as below. See Figure 5-1.

Figure 5-1

Step 4 Please input user name and password and then click Login button.

Note

Device factory default user name is **admin**, the password is **admin**. For your device safety, please change the admin password after the first login and change it regularly.

Step 5 On the WEB main interface, from Setup->Network->TCP/IP, it is to change IP address, subnet mask, default gateway and etc.

Note

The IP address, subnet mask, default gateway parameters shall be the same with that on the local menu.

Step 6 Click After setting, click Save button. System says the IP address has changed and it is relocating now. After the relocating, it automatically refreshes the interface.

Step 7 Use command ping to check the network connection is OK or not. If there is any problem, please check cable connection, network parameters, reboot device and then set again.

5.3 Preview

5.3.1 Preview Interface

After you logged in, you can see the main window. See Figure 5-2.

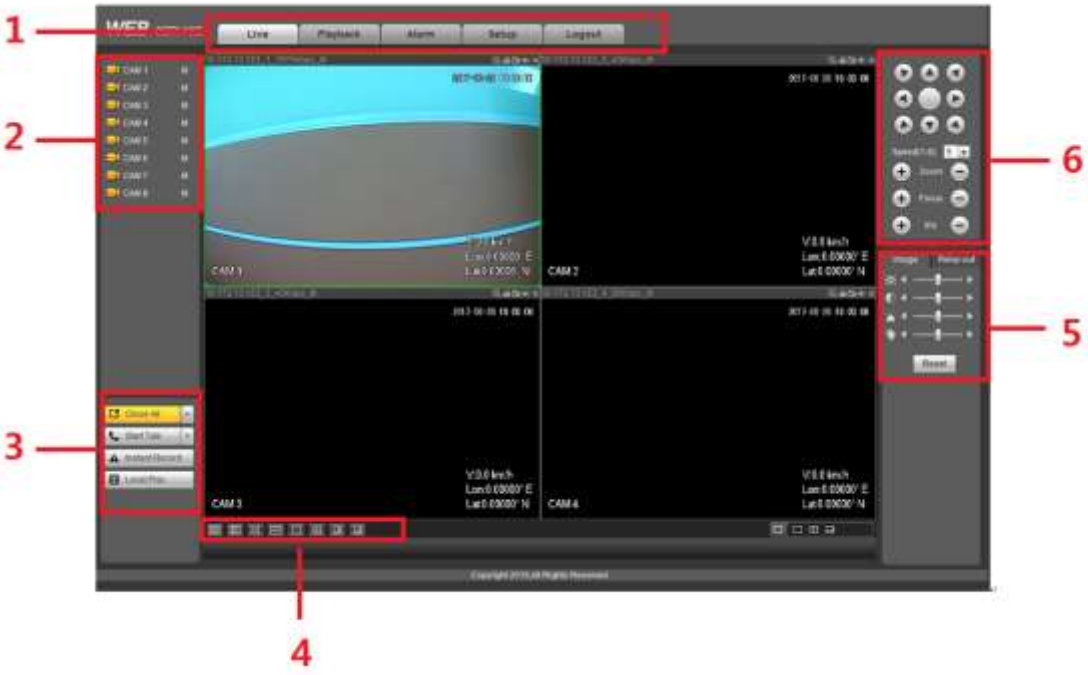


Figure 5-2

Please refer to the following sheet for detailed information.

SN	Name	Function
1	System menu	It includes live, playback, alarm, setup, info and logout.
2	Channel	Click a channel to view realtime video.
3	Start talk	You can click this button to enable audio talk. Click 【▼】 to select bidirectional talk mode. There are four options: DEFAULT, G711a, G711u and PCM. After you enable the bidirectional talk, the Start talk button becomes End Talk button and it becomes yellow.
	Instant record	Enable all-channel manual record. The record type is general.
	Local playback	Refer to chapter 5.3.5 Local playback for detailed information.
4	Window mode	Refer to chapter 5.3.3 Window mode for detailed information.
5	Alarm output	1/2 refers to the alarm output port of the rear panel.
6	PTZ control	Refer to chapter 5.3.4 for detailed information.

5.3.2 Monitor Window

Click a channel name, select main stream or sub stream. See Figure 5-3.

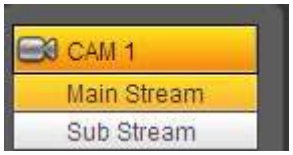


Figure 5-3

Select main stream (sub stream), now you can go to Figure 5-4.

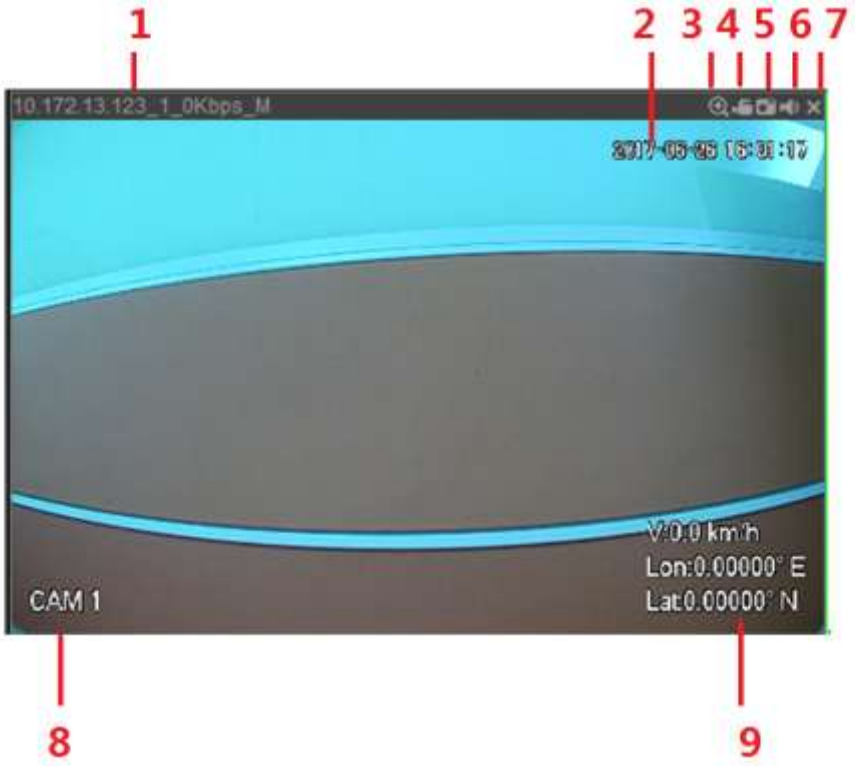


Figure 5-4

Please refer to the following sheet for detailed information.

SN	Name	Function
1	Display channel information	When there is video, it is to display “Device IP-Monitor channel number-network bit stream-decode mode”. Otherwise, it shows as “No video”. **Note** M=main stream, S=sub stream.
2	Date and time	It is to display system current date and time.
3	Digital zoom	Click this button and then left drag the mouse in the zone to zoom in. right click mouse system restores original status.
4	Record	When you click local record button, the system begins recording and this button becomes highlighted. You can go to system folder RecordDownload to view the recorded file. Refer to 5.6.1.1.6 to change path. **Note** Record file name：Device model_ch_Main stream or Sub stream_start time（YMDHMS）.dav.

SN	Name	Function
5	Snapshot	You can snapshot important video. All images are memorized in system client folder PictureDownload (default). Refer to 5.6.1.1.6 to change path. **Note** Image name: YMD_HMS_ch+Channel number.jpg.
6	Audio	Turn on or off audio. **Note** It has no relationship with system audio setup.
7	Close video	Close video
8	Channel name	Display current channel name. Refer to 5.6.1.2 Channel name to change default channel name.
9	Speed/Longitude/Latitude	It is to display vehicle speed and position.

5.3.3 Window Mode

From the left to the right, you can see video quality/fluency/ full screen/tilt sync/1-window/4-window. You can set video fluency and real-time feature priority. See Figure 5-5.

Note

The following interface may vary due to different series product.

Figure 5-5

5.3.4 PTZ

Before PTZ operation, please make sure you have properly set PTZ protocol. (Please refer to chapter 5.6.5.7).

There are eight direction keys. In the middle of the eight direction keys, there is a 3D intelligent positioning key.

Click 3D intelligent positioning key, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size. It can realize PTZ automatically.

Please refer to the following sheet for PTZ setup information.

Parameter	Function
Scan	● Select Scan from the dropdown list. ● Click Set button, you can set scan left and right limit. ● Use direction buttons to move the camera to you desired location and then click left limit button. Then move the camera again and then click right limit button to set a right limit.

Parameter	Function
Preset	● Select Preset from the dropdown list. ● Turn the camera to the corresponding position and Input the preset value. Click Add button to add a preset,.
Tour	● Select Tour from the dropdown list. ● Input preset value in the column. Click Add preset button, you have added one preset in the tour. ● Repeat the above procedures you can add more presets in one tour. ● Or you can click delete preset button to remove one preset from the tour.
Pattern	● Select Pattern from the dropdown list. ● You can input pattern value and then click Start button to begin PTZ movement such as zoom, focus, iris, direction and etc. Then you can click Add button to set one pattern.
Aux	● Please input the corresponding aux value here. ● You can select one option and then click AUX on or AUX off button.
Light and wiper	You can turn on or turn off the light/wiper.

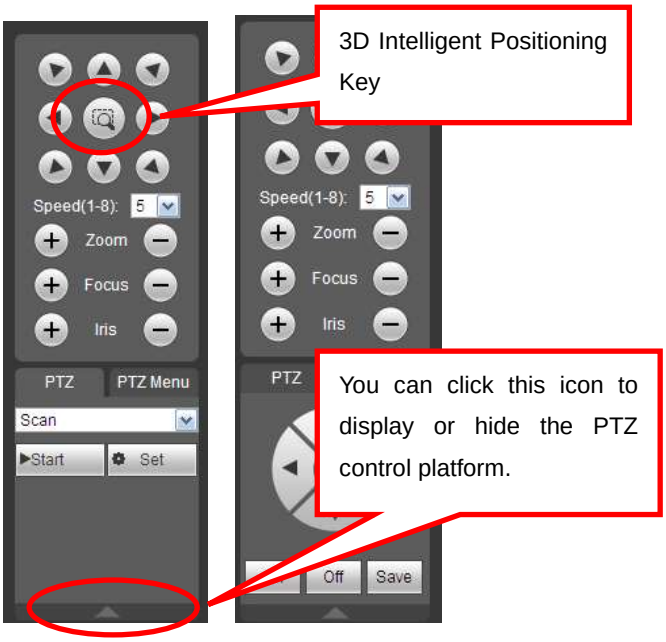


Figure 5-6

5.3.5 Local Playback

Click Local play button, you can playback the record file (.dav).

Click it, you can select a file from the default path such as C:\RecordDownload. See Figure 5-7.

Figure 5-7

SN	Name	Function
1		Display playback rate. There are four fast speed：×2、×4、×8、×16；four slow speed：×1/2、×1/4、×1/8、×1/16.
2		Playback process car
3		From left to right: play, pause, stop, slow play, fast play.

5.4 Playback

Click Playback button, you can see an interface is shown as in Figure 5-8.
Please set record type, record date, window display mode and channel name.
You can click the date on the right pane to select the date. The green highlighted date is system current date and the blue highlighted date means it has record files.

Figure 5-8

Please refer to the following sheet for detailed information.

SN	Function	Description
1	Display window	Click  to switch window amount. During the playback process, double click a window to zoom in.
2	Playback control pane	 From left to right: pause/play/stop/previous frame/next frame/slow play/fast play/volume. **Note** ● The next frame button is only valid when record is in pause mode. ● Once the volume button  becomes  , the audio is mute.
3	Time bar	● It is to display the record type and its period in current search criteria. ● Use the mouse to click one point of the color zone in the time bar, system begins playback. ● The time bar is beginning with 0 o'clock when you are setting the configuration. The time bar zooms in the period of the current playback time when you are playing the file. ● The green color stands for the regular record file. The red color stands for the alarm record file.

4	Play state	Display current playback mode: play, stop, pause, backward playback, fast playback and slow playback.
5	Record type	In any play mode, the time bar will change once you modify the search type. Right now system supports general, and alarm.
6	Time bar unit	You can adjust the time on the time bar to search record files.
7	Clip and save record	Please refer to chapter 5.4.2 Click and save record for detailed information.
8	File list	Please refer to chapter 5.4.3 File list for detailed information.
9	Calendar	Blue: There is record file or image. Green: System current date. Click a date, you can view record file information on the time bar.
10	Calendar	Blue: There is record file or image. Green: System current date. Click a date, you can view record file information on the time bar.

5.4.1 Playback Record

There are three playback modes:

- Click play button, it is to play from the first file.
- Click any valid file position in the time bar.
- Double click any file in the file list.

5.4.2 Clip and Save Record

It is to edit the file and save the interested footages to your local PC.

Use the calendar and time bar to search file(s).

Select corresponding channel(s).

There are two ways for you to clip.

- Please play the file you want to edit and then click button  when you want to edit. You can see the corresponding slide bar in the time bar of the corresponding channel such as  and  . You can adjust the slide bar or input the accurate time to set the file end time. Click this button again and then save current contents in a new file.
- In this following figure, input start time and end time. See Figure 5-9. Click save button  .

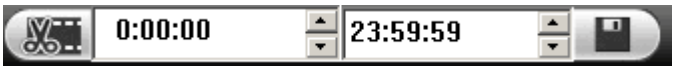


Figure 5-9

The default saved path is RecordDownload folder of the system HDD. You can change if necessary.

You can see the corresponding dialogue box when system is saving files. You can click Stop button to cancel current operation.

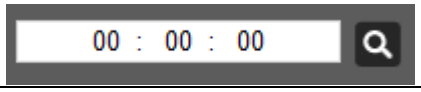
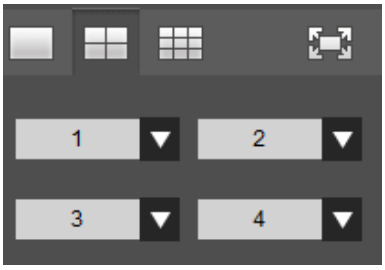
Note

Click  to terminate current operation.

5.4.3 File List

Then please click file list button (Button 6 in Figure 5-8), you can see the corresponding files in the list. See Figure 5-10.

Figure 5-10

SN	Description
1	Please select a date on the calendar pane and then input time here to search records of the specified time. 
2	Before the setup, please go to the playback window. Here you can select window mode and channel on the right pane (Pane 7 in Figure 5-8). 
3	System displays all records of current date by default. Click Enter button or double a record file you can begin playback. The record type includes: normal, MD and alarm. 
4	Check the file(s) you want to backup （☑） and then click Download to save on your local PC.

SN	Description
5	Return
6	Click More button, you can search record files or picture. You can download by setting record channel, record type and record time. Here you can also download file to your local PC or USB devices. You can go to chapter 5.6.1.1.6 to set download path.

Load more

It is for you to search record or picture. You can select record channel, record type and record time to download. There are two download types. The download by file interface is shown as in Figure 5-11 and the download by time interface is shown as in Figure 5-12.

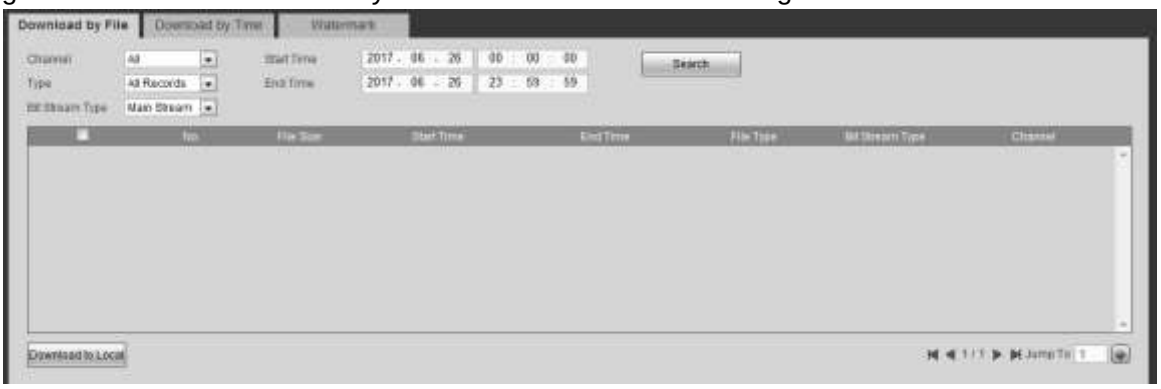


Figure 5-11

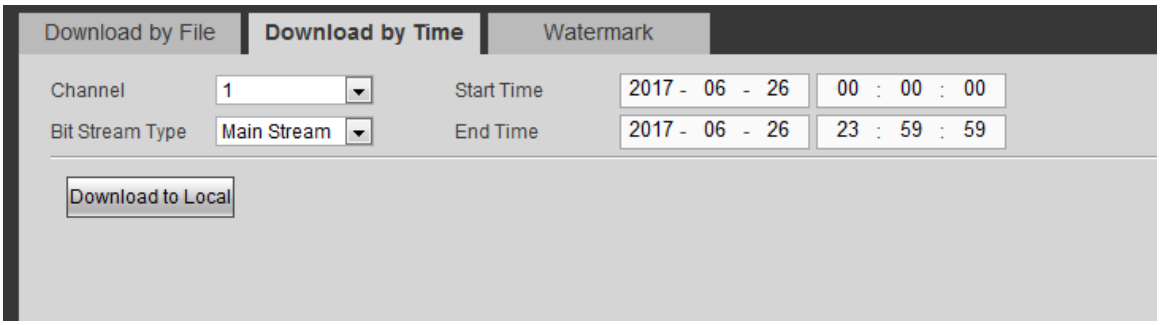


Figure 5-12

Watermark

Watermark interface is shown as In Figure 5-11. Please select a file and then click Verify button to see the file has been tampered with or not

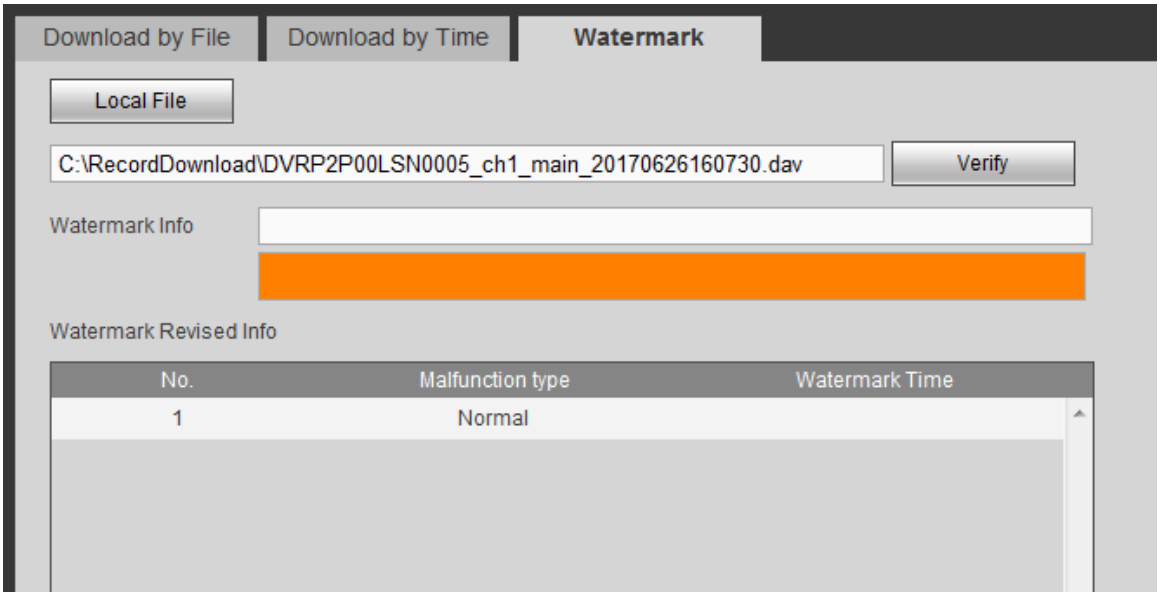


Figure 5-13

5.5 Alarm

Click alarm function, you can see an interface is shown as Figure 5-14.

Here you can set device alarm type and alarm sound setup.

Figure 5-14

Please refer to the following sheet for detailed information.

Please make sure current device can upload the alarm.

Type	Parameter	Function
Alarm Type	Video loss	System generates an alarm when video loss occurs.
	Camera masking(Tampering)	System generates an alarm when camera is viciously masking.
	Disk full	System generates an alarm when disk is full.
	Disk error	System generates an alarm when disk error occurs.
	External alarm	Alarm input device sends out alarm.
	Temperature high	System generates an alarm when temperature is high.

Type	Parameter	Function
	Battery low	System generates an alarm when battery voltage is low.
Operation	Prompt	Check the box here, system can automatically pops up an alarm icon on the Alarm button in the main interface when there is an alarm.
Alarm Sound	Play alarm sound	System sends out alarm sound when an alarm occurs. You can specify as you wish.
	Sound path	Here you can specify alarm sound file.

5.6 Setup

5.6.1 Image

Here you can view device property information. The setups become valid immediately after you set.

In the main window, from Setup->Channel ->Conditions, enter condition interface. See Figure 5-15.

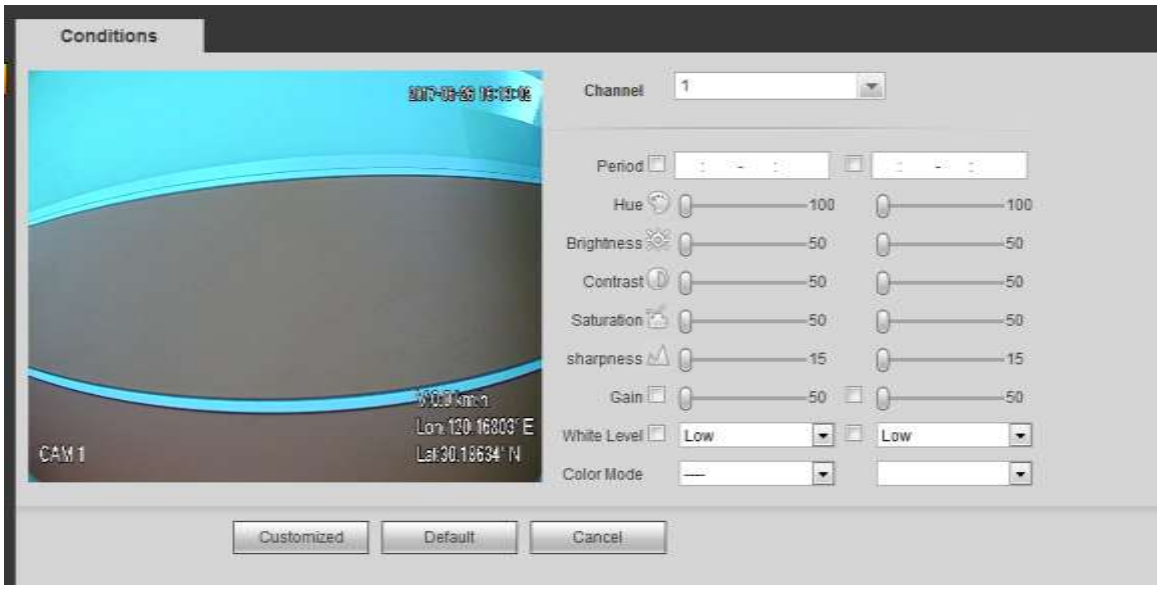


Figure 5-15

Please refer to the following sheet for log parameter information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Period	It divides one day (24 hours) to two periods. You can set different hue, brightness, and contrast for different periods.
Hue	It is to adjust monitor video brightness and darkness level. The default value is 50. The bigger the value is, the large the contrast between the bright and dark section is and vice versa.
Brightness	It is to adjust monitor window brightness. The default value is 50. The larger the number is , the bright the video is. When you input the value here, the bright section and the dark section of

	the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The value ranges from 0 to 100.The recommended value ranges from 40 to 60.
Contrast	It is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number is, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure .The recommended value ranges from 40 to 60.
Saturation	It is to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50. The larger the number is, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The recommended value ranges from 40 to 60.
Gain	The gain adjust is to set the gain value. The smaller the value is, the low the noise is. But the brightness is also too low in the dark environments. It can enhance the video brightness if the value is high. But the video noise may become too clear.
White level	It is to enhance image effect. **Note** The white level setting of channel 1 and channel 5 are applied to all channels.
Color mode	It includes several modes such as standard, color, bright, gentle. Select a color mode, the sharpness, brightness, contrast and etc can automatically switch to corresponding setup.
Customized	Click Customized to set color mode. Click All to copy current settings to all channels. Click OK to complete setup.

5.6.1.1 Encode

5.6.1.1.1 Encode

It is to set bit stream type, encode mode and etc.

From main window->Setup->Channel->Encode->Encode，the encode interface is shown as below. See Figure 5-16.

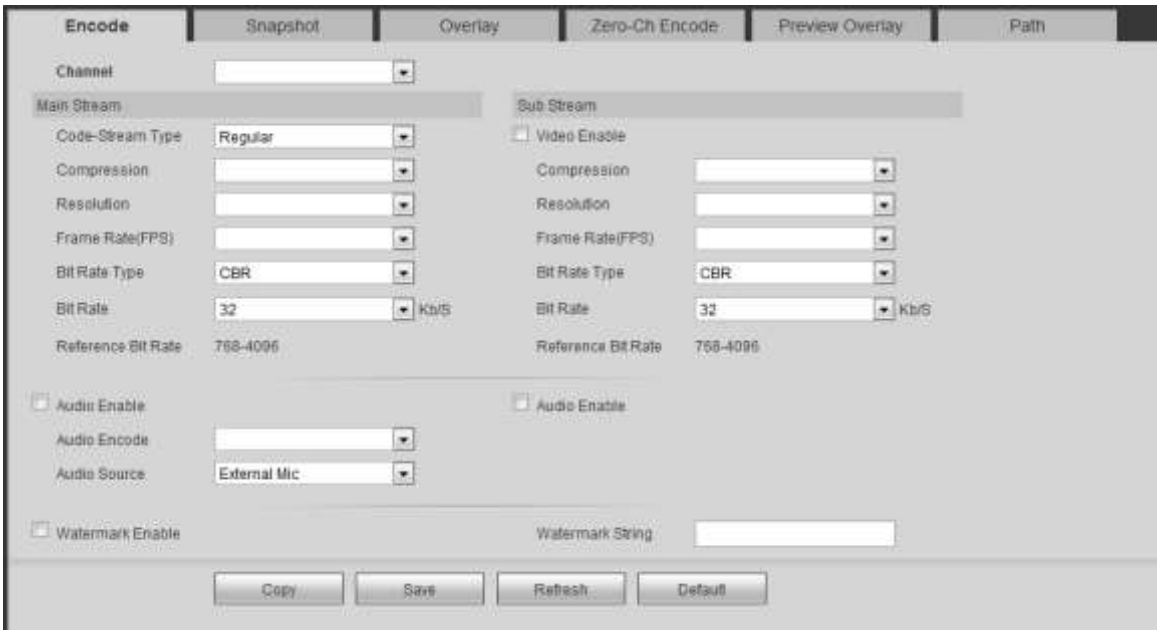


Figure 5-16

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Video enable	Check the box here to enable extra stream video. This item is enabled by default.
Code stream type	It includes main stream, motion stream and alarm stream. You can select different encode frame rates form different recorded events. System supports active control frame function (ACF). It allows you to record in different frame rates. For example, you can use high frame rate to record important events, record scheduled event in lower frame rate and it allows you to set different frame rates for alarm record.
Compression	The main bit stream and the extra stream supports H.264.
Resolution	Please select from the dropdown list. System max supports 1080P.
Frame Rate	PAL：1～25f/s；NTSC：1～30f/s.
Bit Rate	It is to set bit rate.
Reference bit rate	Recommended bit rate value according to the resolution and frame rate you have set.
Audio format	System supports PCM, G.711a, and G.711u.
Audio source	It includes peripheral pickup and coaxial.
Watermark enable	This function allows you to verify the video is tampered or not. Here you can select watermark bit stream, watermark mode and watermark character. Default character is DigitalCCTV. The max length is 127-digit. The character can only include number, character and underline.

5.6.1.1.2 Snapshot

It is to set snapshot type and image size.

From main window->Setup->Channel->Encode->Snapshot, the snapshot interface is shown as in Figure 5-17.

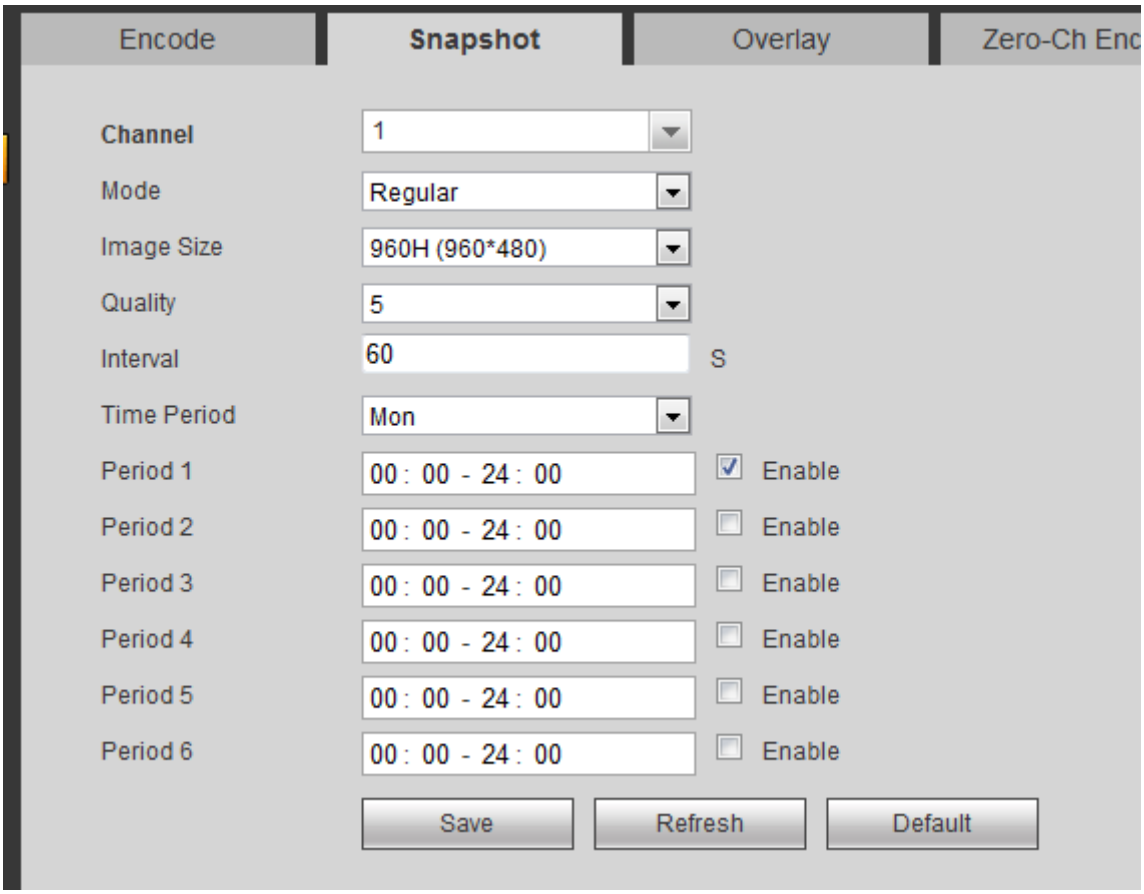


Figure 5-17

Please refer to the following sheet for detailed information.

Parameter	Function
Snapshot type	There are two modes: Timing (schedule) and Event (activation). ● Regular snapshot is valid during the specified period you set. ● Activation snapshot only is valid when tampering alarm or local activation alarm occurs.
Image size	Please select from the dropdown list.
Quality	It is to set the image quality. There are six levels.
Interval	It is to set snapshot frequency.
Copy	Click it; you can copy current channel setup to other channel(s).

5.6.1.1.3 Overlay

It is to overlay channel title, time title, GPS title, plate on the real-time video or the record file.

From main window->Setup->Channel->Encode->Overlay, the video overlay interface is shown as in Figure 5-18.

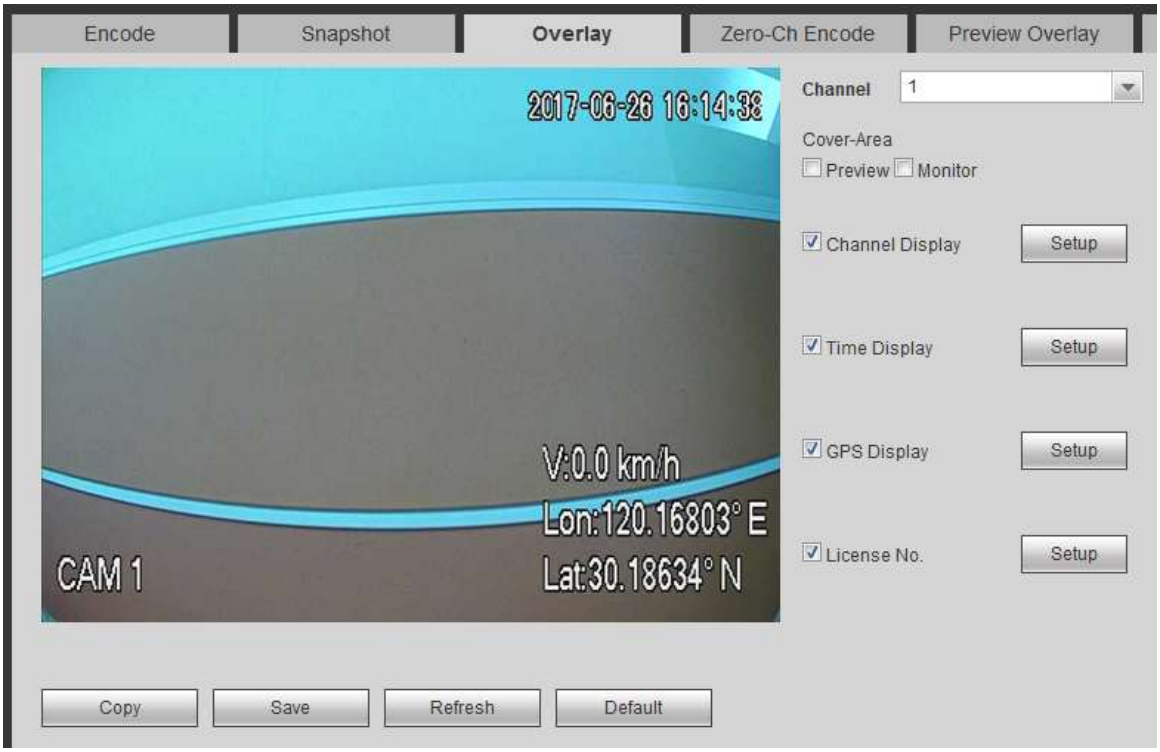


Figure 5-18

Please refer to the following sheet for detailed information.

Parameter	Function
Cover-area (Privacy mask)	Check Preview or Monitor first. Click Set button, you can privacy mask the specified video in the preview or monitor video. System max supports 4 privacy mask zones.
Time Title	You can enable this function so that system overlays time information in video window. You can use the mouse to drag the time title position. You can view time title on the live video of the WEB or the playback video.
Channel Title	You can enable this function so that system overlays channel information in video window. You can use the mouse to drag the channel title position. You can view channel title on the live video of the WEB or the playback video.
GPS Overlay	Overlay GPS information such as (speed, longitude, latitude) on the video.
Plate Overlay	Overlay some plate information on the video.

5.6.1.1.4 Zero-Ch Encoding

The zero-channel encoding interface is shown as in Figure 5-19.

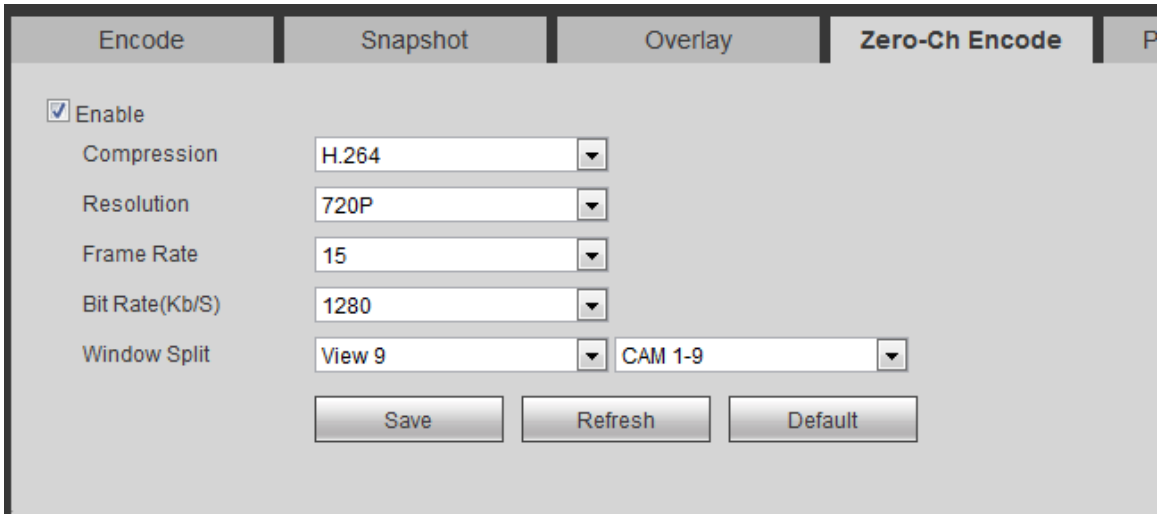


Figure 5-19

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Check the box to enable this function.
Compression	H.264
Resolution	Select resolution from the dropdown list.
Frame Rate	1～25(30).
Bit Rate(kb/s)	Select bit rate.
Window split	Set window split mode and corresponding channel.

5.6.1.1.5 Preview Overlay

The preview overlay interface is shown as in Figure 4-53. You can overlay time, speed, plate information and etc on the device preview interface and Web monitor video.

The preview overlay is to overlay information on the preview interface or WEB monitor video, the information is not included in record file.

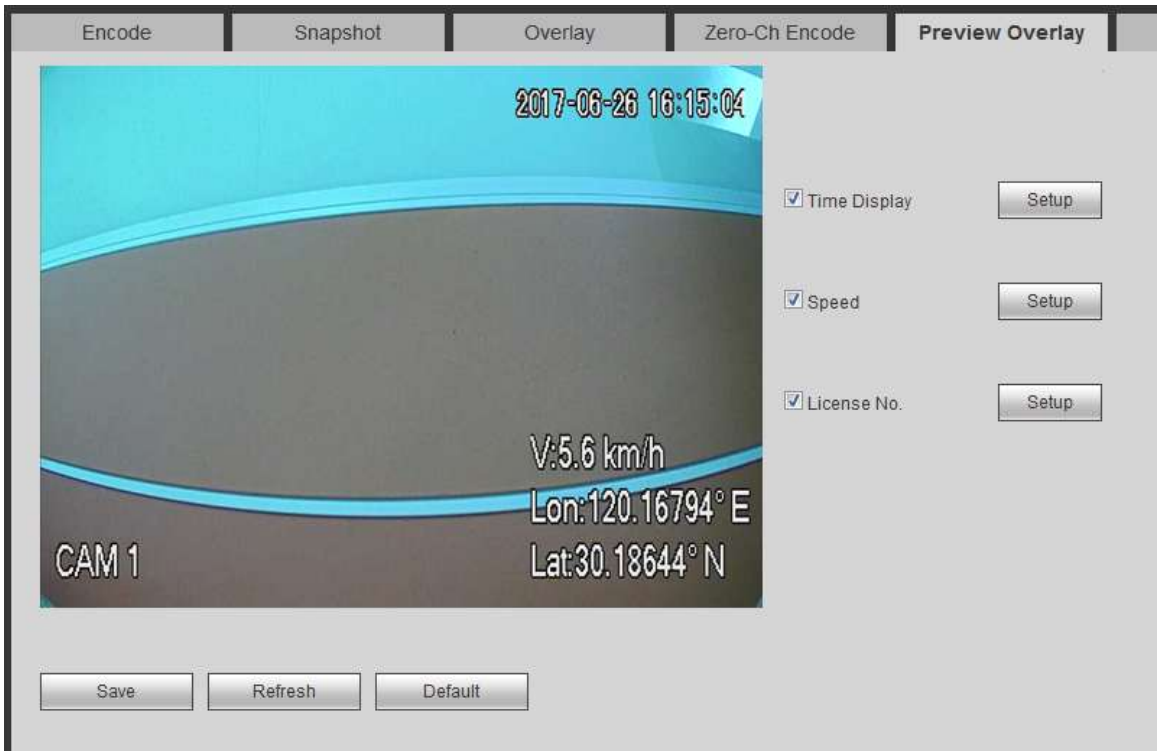


Figure 5-20

5.6.1.1.6 Path

From main window->Setup->Channel->Encode->Path, the storage path interface is shown as in Figure 5-21.

Here you can set snap image saved path and the record storage path. The default setup is C:\PictureDownload and C:\RecordDownload.

Please click the Save button to save current setup.

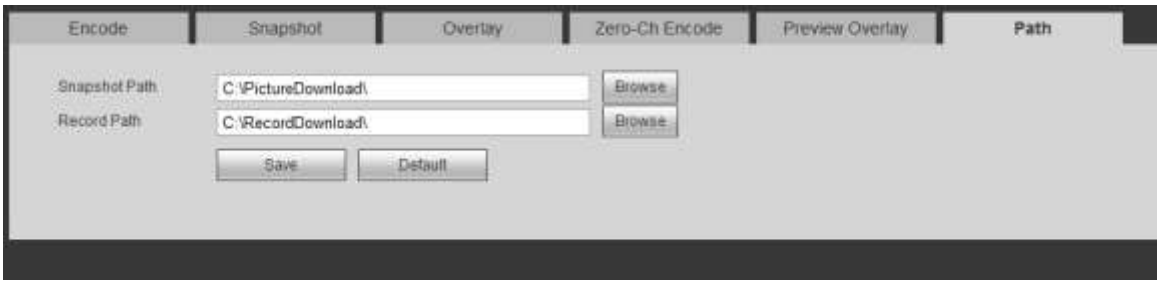


Figure 5-21

5.6.1.2 Channel Name

From main window->Setup->Channel->Channel name, here you can set channel name. See Figure 5-22.

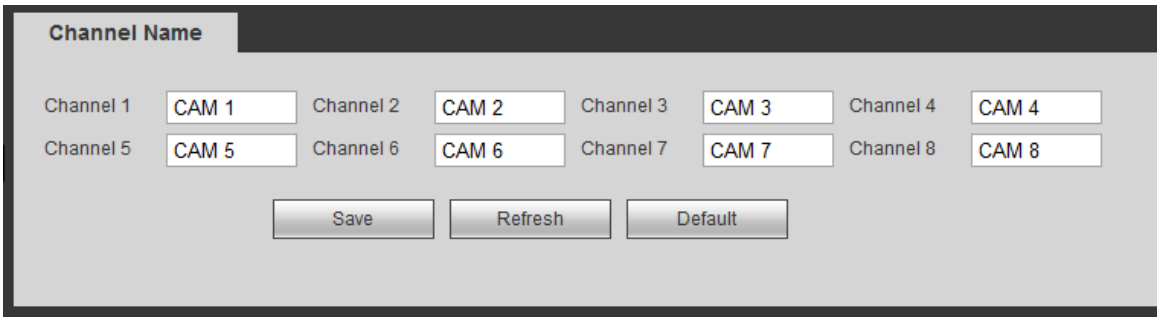


Figure 5-22

5.6.2 Network

5.6.2.1 TCP/IP

From main window->Setup->Network->TCP/IP, the TCP/IP interface is shown as in Figure 5-23.

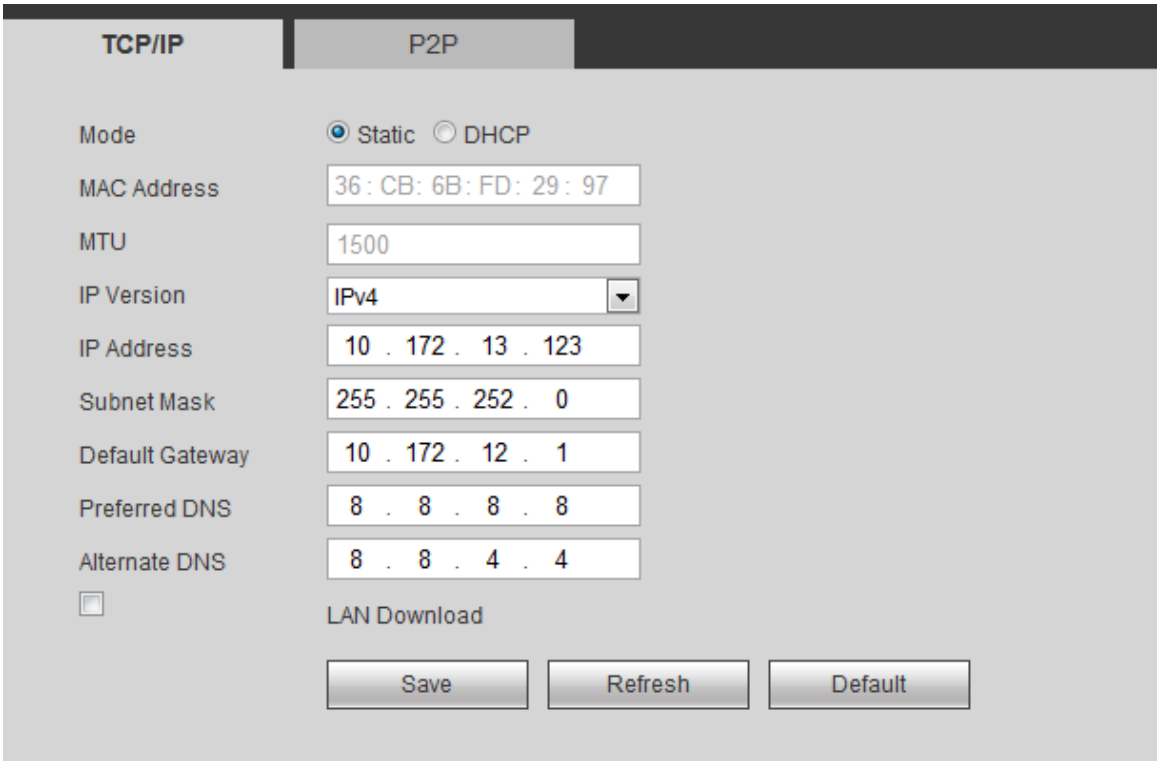


Figure 5-23

Please refer to the following sheet for detailed information.

Parameter	Function
Mode	There are two modes: static mode and the DHCP mode. ● The IP/submask/gateway are null when you select the DHCP mode to auto search the IP. ● If you select the static mode, you need to set the IP/submask/gateway manually. ● If you select the DHCP mode, you can view the IP/submask/gateway from the DHCP. ● If you switch from the DHCP mode to the static mode, you need to reset the IP parameters.

Mac Address	It is to display host Mac address.
MTU	The default setup is 1500 bytes(read-only).
IP Version	It is to select IP version. IPV4 or IPV6. You can access the IP address of these two versions.
IP Address	Please use the keyboard to input the corresponding number to modify the IP address and then set the corresponding subnet mask and the default gateway.
Subnet Mask	Input subnet mask according to your device IP.
Default Gateway	Input default gateway according to your device IP.
Preferred DNS	DNS IP address.
Alternate DNS	Alternate DNS IP address.
For the IP address of IPv6 version, default gateway, preferred DNS and alternate DNS, the input value shall be 128-digit. It shall not be left in blank.	
LAN load	System can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

5.6.2.2 P2P

You can use your cell phone to scan the QR code and add it to the cell phone client.

Via the SN from scanning the QR code, you can access the device in the WAN. Please refer to the P2P operation manual included in the resources CD.

From main window->Setup->Network->P2P, the P2P interface is shown as in Figure 4-93.

Check the Enable box to enable P2P function and then click the Save button. Now you can view the device status and SN.

Figure 5-24

5.6.2.3 Connection

From main window->Setup->Network->Connection, the connection interface is shown as in Figure 5-25.

Note

Except max connection value, device needs to reboot to activate new setup.

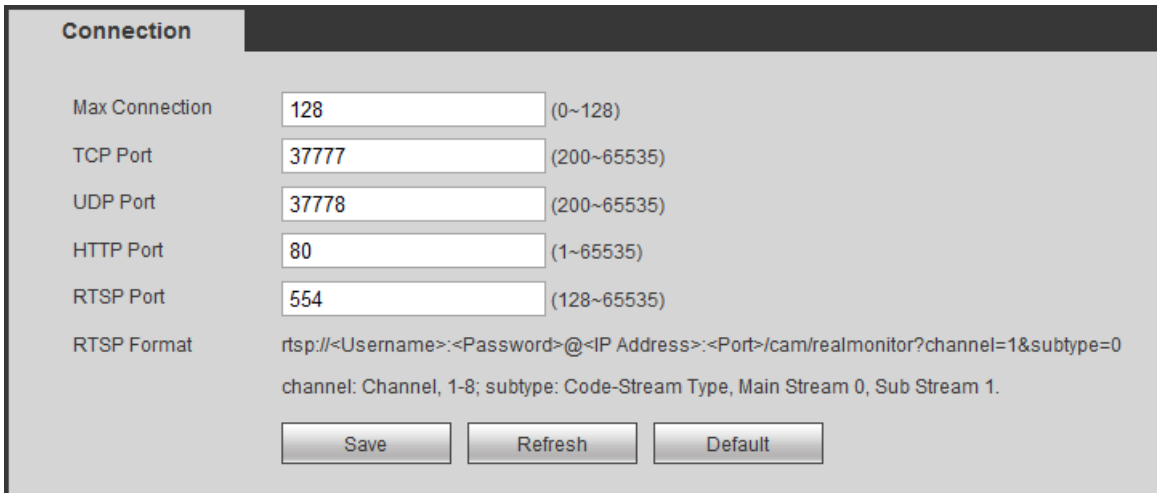


Figure 5-25

Please refer to the following sheet for detailed information.

Parameter	Function
Max connection	It is the max Web connection for the same device. The value ranges from 1 to 120. The default setup is 120.
TCP port	The default value is 37777. You can input the actual port number if necessary.
UDP port	The default value is 37778. You can input the actual port number if necessary.
HTTP port	The default value is 80. You can input the actual port number if necessary.
HTTPS	The default value is 443. You can input the actual port number if necessary.
RTSP port	● The default value is 554. Please leave it in blank if you are using default value. When you are using QuickTime or VLC, you can use the following format. BlackBerry cellphone support this function too. ● Real-time monitoring URL format: please require real-time RTSP media server, require channel number, and bit stream type in URL. You may need username and password. ● When you are using BlackBerry, please set encode mode as H.264B, resolution to CIF and turn off audio. URL format is: rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0 username/password/IP and port. ● Username: such as admin. ● Password: such as admin.

	• IP: Device IP such as 10.7.8.122. • Port: Port value. The default setup is 554. You can leave in blank if you are using default value. • Channel: channel number. It starts with 1. If it is channel 2, then channel=2. • Subtype: bit stream type. The main stream is 0(subtype-0),subtype is 1(subtype=1). For example, if you want to get the substream of the channel 2, the URL is: rtsp://admin:admin@10.12.4.84:554/cam/realmonitor?channel=2&subtype=1. If there is no authentication, there is no need to specify user name and password, you can use the following format: rtsp://ip:port/cam/realmonitor?channel=1&subtype=0

5.6.2.4 DDNS

From main window->Setup->Network->DDNS, the interface is shown as below. See Figure 5-26.

The DDNS is to set to connect the various servers so that you can access the system via the server. Please go to the corresponding service website to apply a domain name and then access the system via the domain. It works even your IP address has changes.

When the device directly connects to the exterior network, please disable UPnP function.

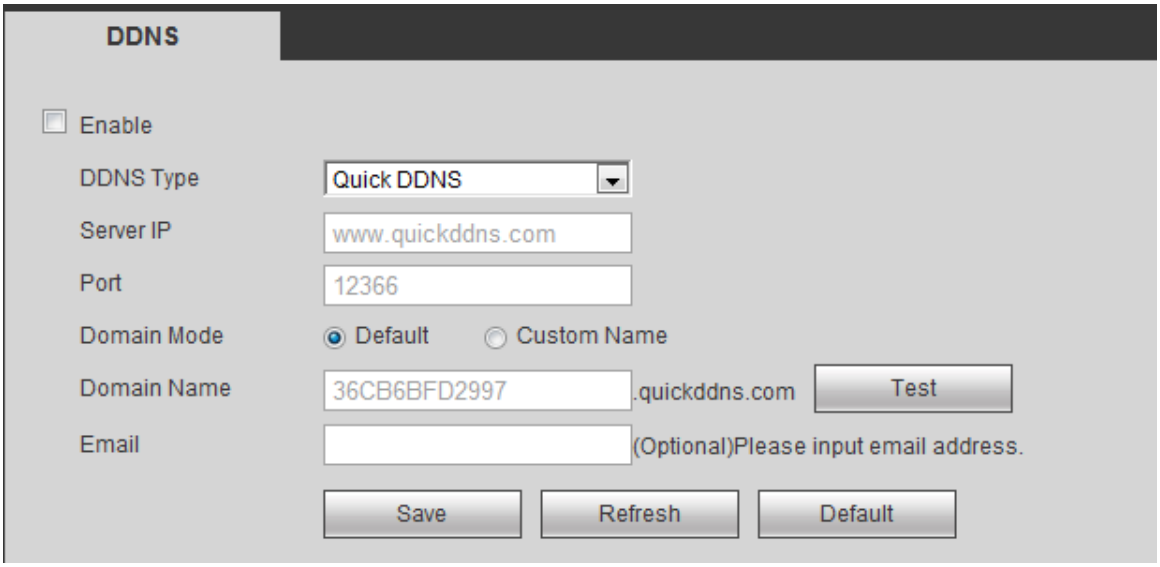


Figure 5-26

Please refer to the following sheet for detailed information.

Name	Function
Server Type	Select DDNS protocol from the dropdown list and then enable DDNS function. It includes CN99 DDNS, NO-IP DDNS, Dyndns DDNS, and QUICK DDNS. The default setup is CN99 DDNS.
Server IP	DDNS server IP address. ● CN99 DDNS Server IP address:www.3322.org ● NO-IP DDNS Server IP address:dynupdate.no-ip.com ● Dyndns DDNS Server IP address:members.dyndns.org
Mode	Default setup is auto. Device supports manual mode only.
Domain Name	The default setup of auto mode and manual mode is”MAC address.dahuaddns.com”. In manual mode, support customized prefix.
User	The user name you input to log in the server.
Password	The password you input to log in the server.
Update period	● Device IP and service connection refresh period. ● The default setup is 10 minutes.

5.6.2.5 Email

From main window->Setup->Network->Email, the email interface is shown as in Figure 5-27.

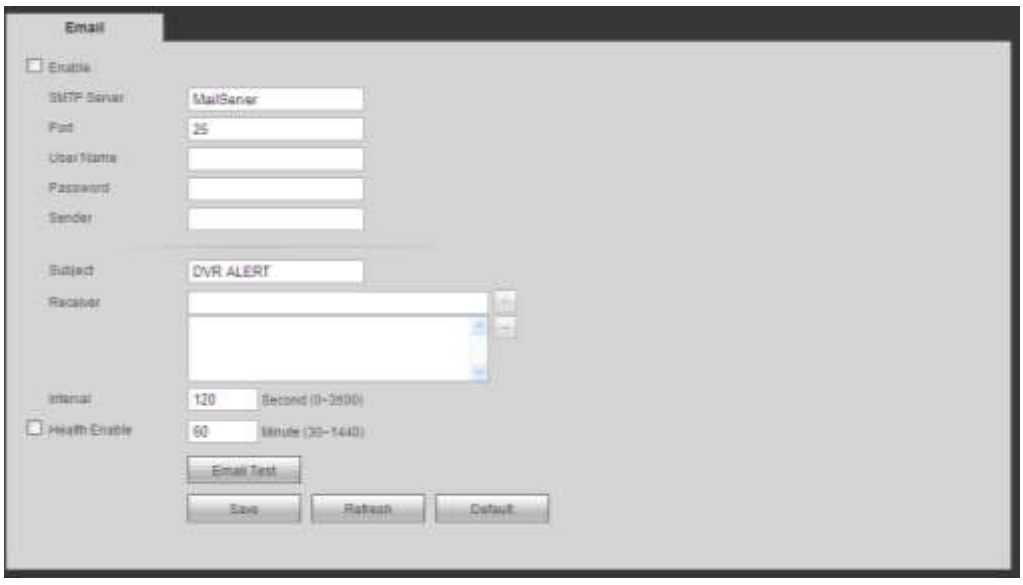


Figure 5-27

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Please check the box here to enable email function.
SMTP Server	Input server address and then enable this function.
Port	Default value is 25. You can modify it if necessary.
Anonymity	For the server supports the anonymity function. You can auto login anonymously. You do not need to input the user name, password and the sender information.
User Name	The user name of the sender email account.
Password	The password of sender email account.
Sender	Sender email address.
Authentication (Encryption mode)	You can select SSL or none.
Subject	Input email subject here.
Attachment	System can send out the email of the snapshot picture once you check the box here.
Receiver	Input receiver email address here. Max three addresses. It supports SSL, TLS email box.
Interval	The send interval ranges from 0 to 3600 seconds. 0 means there is no interval. Please note system will not send out the email immediately when the alarm occurs. When the alarm or the abnormity event activates the email, system sends out the email according to the interval you specified here. This function is very useful when there are too many emails activated by the abnormity events, which may result in heavy load for the email server.
Health mail enable	Please check the box here to enable this function. The value ranges from 30 minutes to 1440 minutes.
Update period (interval)	This function allows the system to send out the test email to check the connection is OK or not. Please check the box to enable this function and then set the corresponding interval. System can send out the email regularly as you set here.
Email test	The system will automatically sent out a email once to test the connection is OK or not .Before the email test, please save the email setup information.

5.6.3 Event

5.6.3.1 Video detect

Video detection function is the information detection technology based on the PC visual and graphical processing technology. It can get real-time, abundant, dynamic information to control the signal and release the information via processing the graphical data.

It includes motion detect, video loss and tampering.

- Motion detect: After analyze video, device can generate a motion detect alarm when the detected moving signal reached the sensitivity you set here.
- Video loss: This function is to detect the input signal source status. When the input video signal is loss (input port is loosen or there is no input signal), device can generate an alarm.
- Tampering: When someone viciously masks the lens, or the output video is in one-color due to the environments light change, the system can alert you to guarantee video continuity.

Here we use motion detect interface to introduce.

From main menu->Event->Video detect->Motion detect, the motion detect interface is shown as in Figure 5-28.

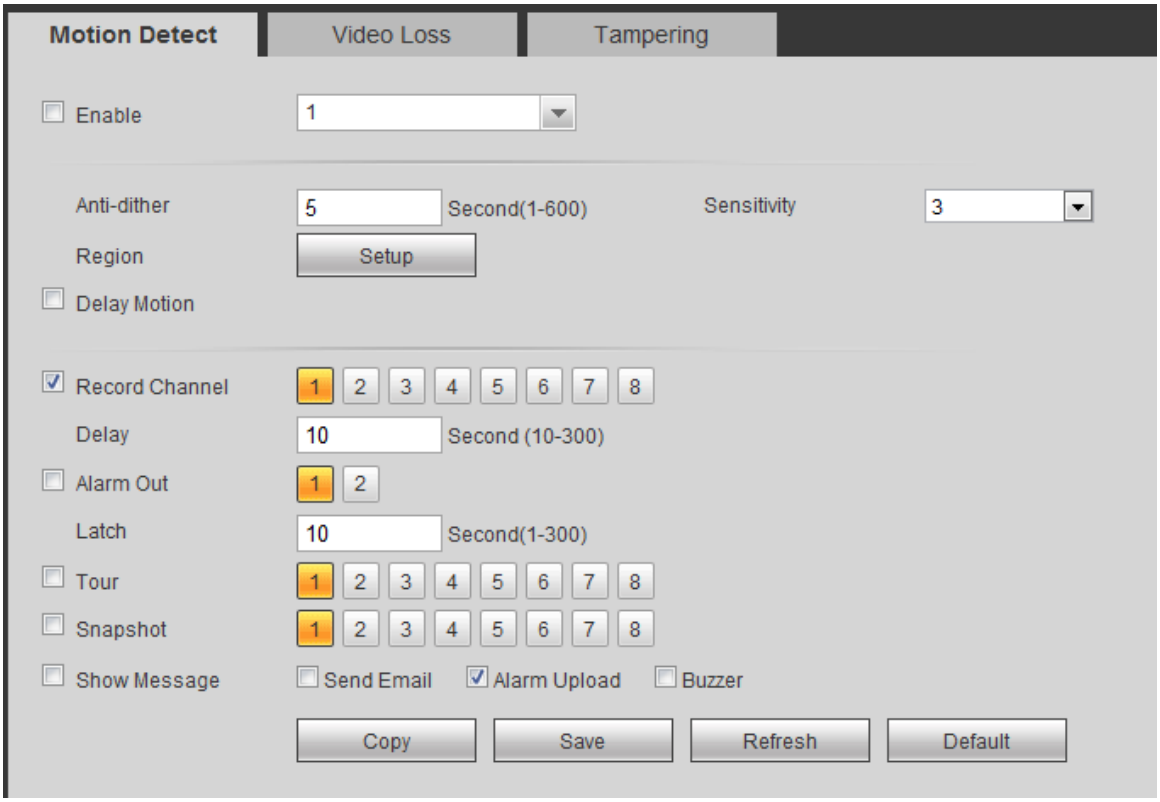


Figure 5-28

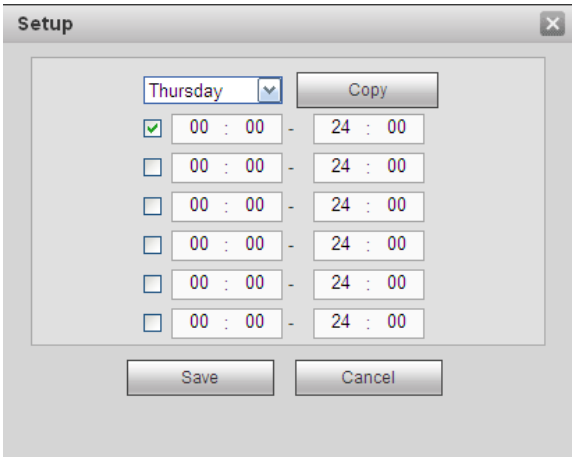


Figure 5-29

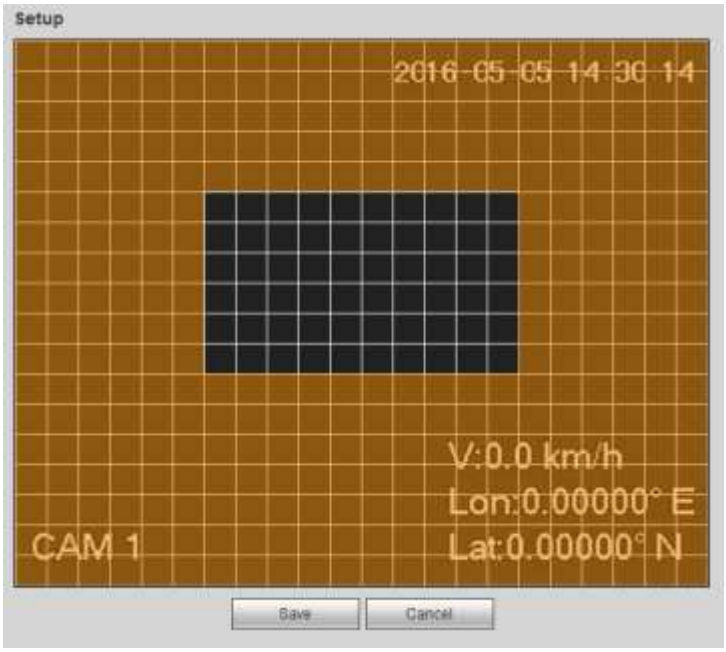


Figure 5-30

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable video loss function. Please select a channel from the dropdown list.
Period	Motion detection function becomes activated in the specified periods. See Figure 5-29. There are six periods in one day. Please draw a circle to enable corresponding period. Click OK button, system goes back to motion detection interface; please click save button to exit.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 5s to 600s.
Sensitivity	There are six levels. The sixth level has the highest sensitivity.
Region	If you select motion detection type, you can click this button to set motion detection zone. The interface is shown as in Figure 5-30. Here you can set motion detection zone. There are four zones for you to set. Please select a zone first and then left drag the mouse to select a zone. The corresponding color zone displays different detection zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current setup. If you click ESC button to exit the region setup interface system will not save your zone setup.
Delay motion	Check the box to delay motion detect function. This function becomes valid when ACC OFF.
Record channel	System auto activates channel(s) to record once an alarm occurs. Please note you need to set record period and go to Storage->

Parameter	Function
	Schedule to set current channel as schedule record.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Alarm out	Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when an alarm occurs.
Latch	System can delay the alarm output for specified time after an alarm ended. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.
Alarm upload	System can upload the alarm signal to the center (Including alarm center.
Message	When 3G network connection is OK, system can send out a message when a video loss occurs.
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.

5.6.3.2 Alarm

Before operation, please make sure you have properly connected alarm devices such as buzzer. The input mode includes local alarm, IPC offline alarm.

5.6.3.2.1 Local Alarm

From main menu->Event->Alarm->Local alarm, the local alarm interface is shown as in Figure 5-31.

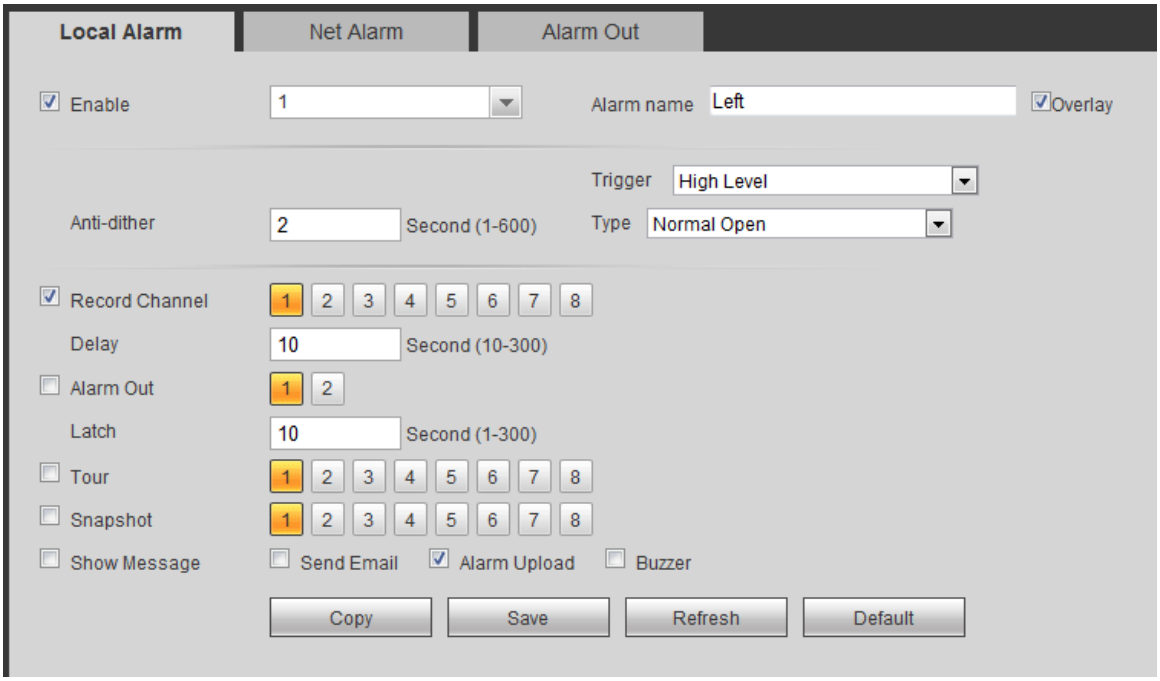


Figure 5-31

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable this function. Please select a channel from the dropdown list.
Type	Normal open or normal close.
Trigger	Here is for you to set activation mode. There are two option High/low.
Overlay	Please highlight the box here to enable this function. It can overlay alarm information on the video screen when an alar occurred.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 5s to 600s.
Record channel	System auto activates channel(s) to record once an alarm occurs. Please note you need to set alarm record period and go to Storage-> Schedule to set current channel as schedule record.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Alarm out	Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when an alarm occurs.
Latch	System can delay the alarm output for specified time after an alarm ended. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.
Alarm upload	System can upload the alarm signal to the center (Including alarm center.
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.

5.6.3.2.2 Network Alarm

Network alarm refers to the remotely alarm input. For setup information, please refer to chapter 5.6.3.2.1 Local alarm.

5.6.3.2.3 Alarm Out

Here you can set alarm output channel mode: Auto/manual/stop.

From Setup->Event->Alarm->Alarm output, the alarm output interface is shown as below. See Figure 5-32.

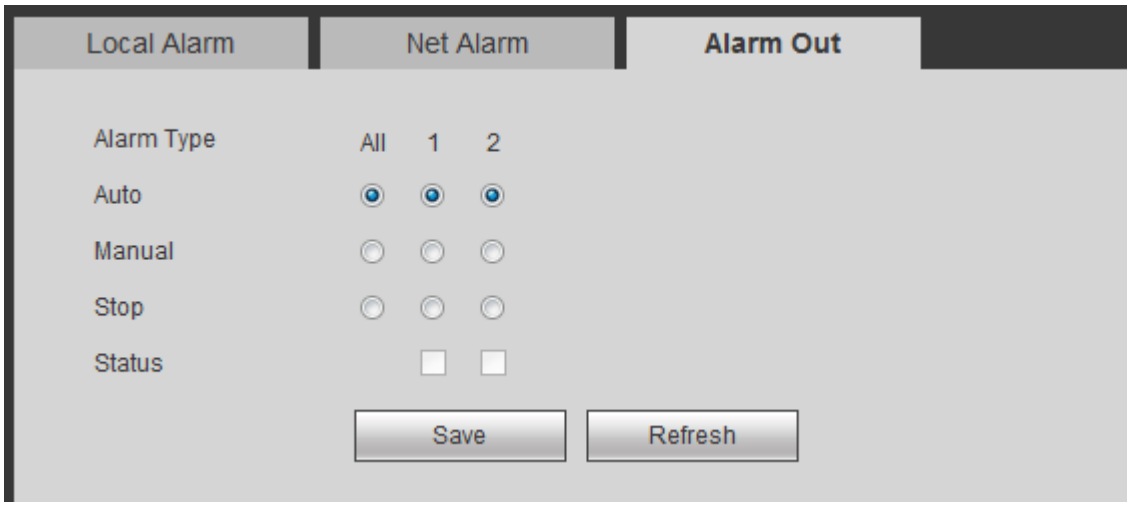


Figure 5-32

Please refer to the following sheet for detailed information.

Parameter	Function
Auto	The corresponding event triggers the alarm output or cancels alarm.
Manual	Forcedly trigger alarm output.
Close	Forcedly cancel or close alarm output.
Status	Here you can view alarm output port status. The alarm is enabled if the icon is highlighted.

5.6.4 Storage

5.6.4.1 Schedule

In this interfaces, you can add or remove the schedule record setup. See Figure 5-33.

There are three record modes: general (auto) and alarm. There are six periods in one day. Please make sure you have enabled the corresponding record mode in the Setup->Storage->Conditions. You can view the current time period setup from the color bar.

- Green color stands for the general record/snapshot.
- Red color stands for the alarm record/snapshot.

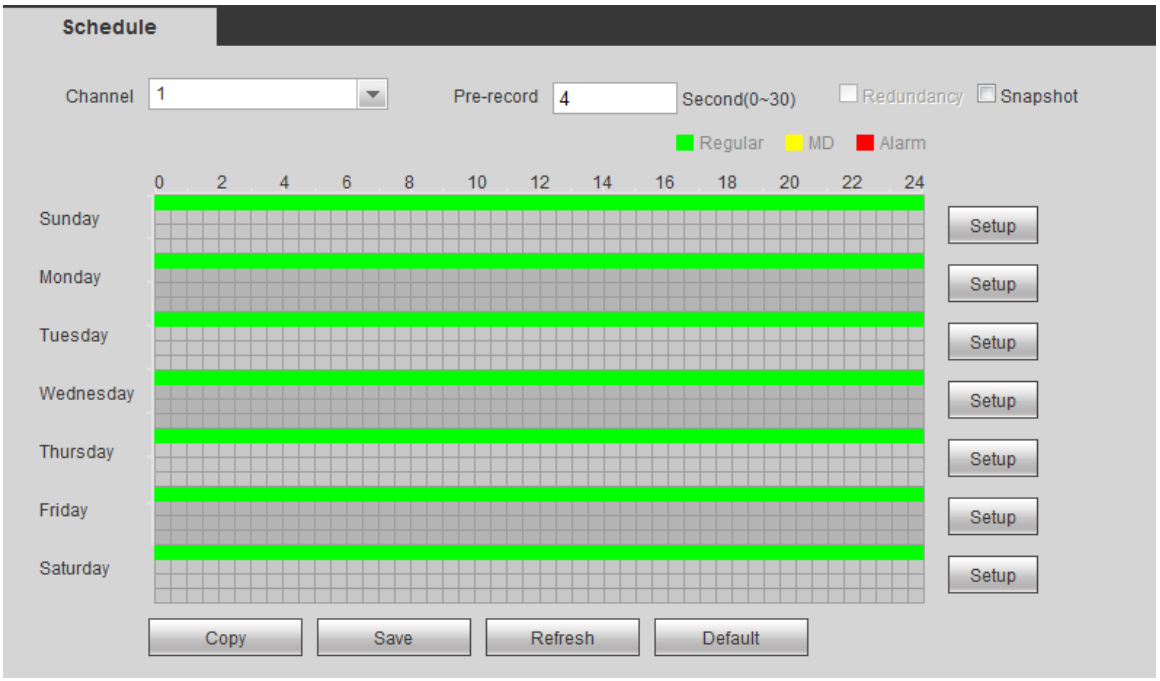


Figure 5-33

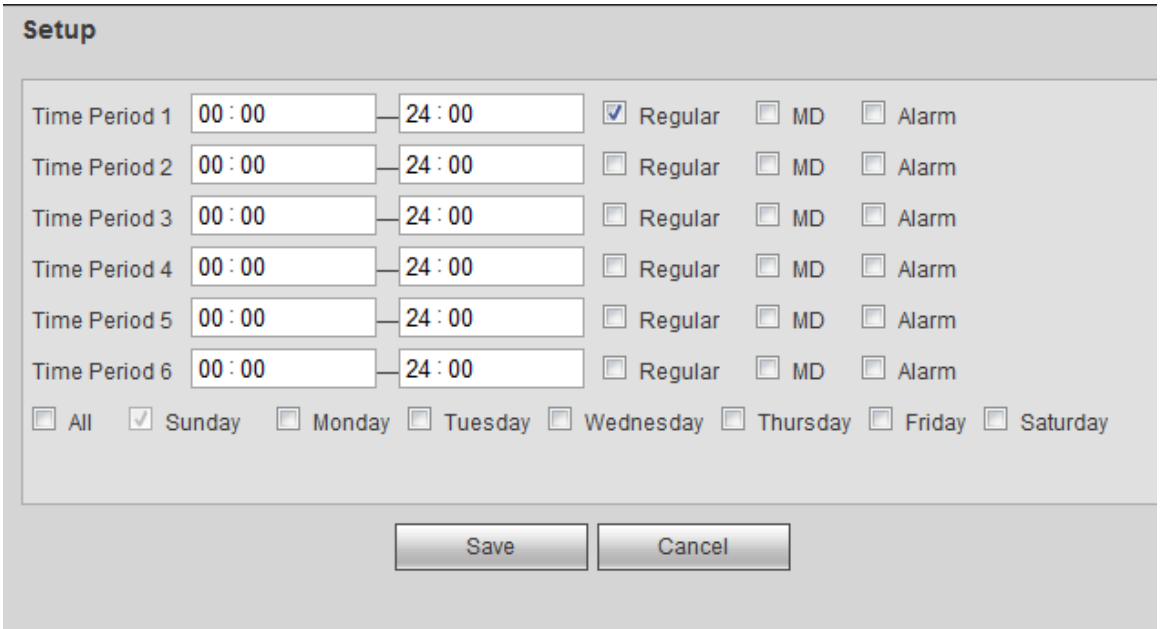


Figure 5-34

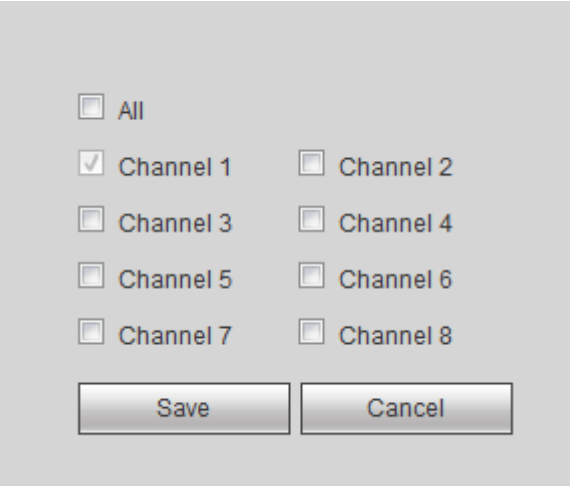


Figure 5-35

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Pre-record	Please input pre-record time here. The value ranges from 0 to 30.
Snapshot	Check the box here to enable snapshot function.
Holiday	Check the box here to enable holiday function.
Setup (Sunday to Saturday)	Click the Setup button, you can set record period. See Figure 5-34. There are six periods in one day. If you do not check the date at the bottom of the interface, current setup is for today only. Please click Save button and then exit.
Copy	Copy function allows you to copy one channel setup to another. After setting in channel, click Copy button, you can go to interface Figure 5-35. You can see current channel name is grey such as channel 1. Now you can select the channel you want to paste such as channel 2. If you want to save current setup of channel 1 to all channels, you can click the first box “ALL”. Click the OK button to save current copy setup. Click the OK button in the Encode interface, the copy function succeeded.

5.6.4.2 HDD manager

5.6.4.2.1 Local Storage

From main menu-> Setup->Storage->HDD manager->Local storage, the local interface is shown as in Figure 5-36. Here you can see storage device information. You can also operate the read-only, write-only, hot swap and format operation.

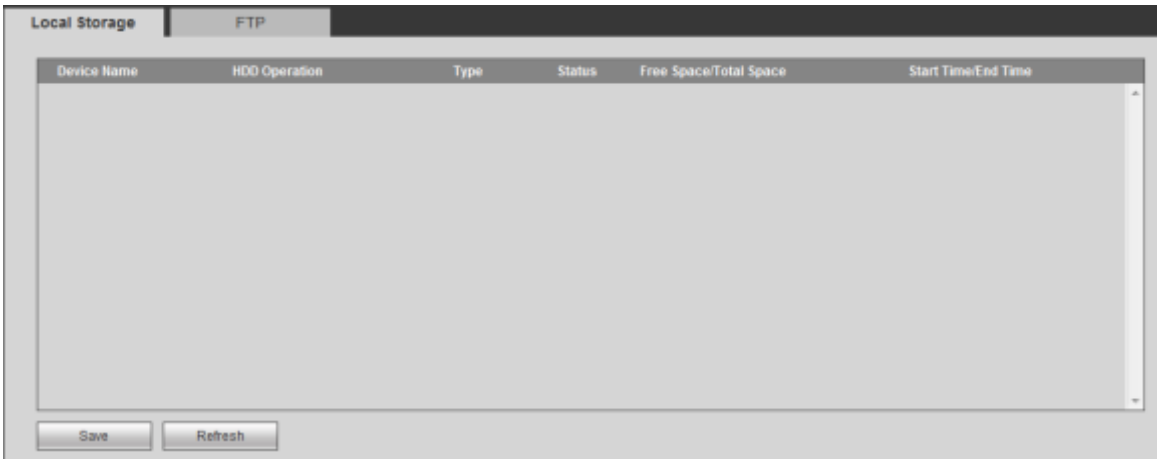


Figure 5-36

5.6.4.2.2 FTP

From main menu-> Setup->Storage->HDD manager->FTP, the FTP interface is shown as in Figure 5-37.

The FTP function is on if you check the Enable box here.

When network is offline or malfunction, system can save record or picture to HDD.

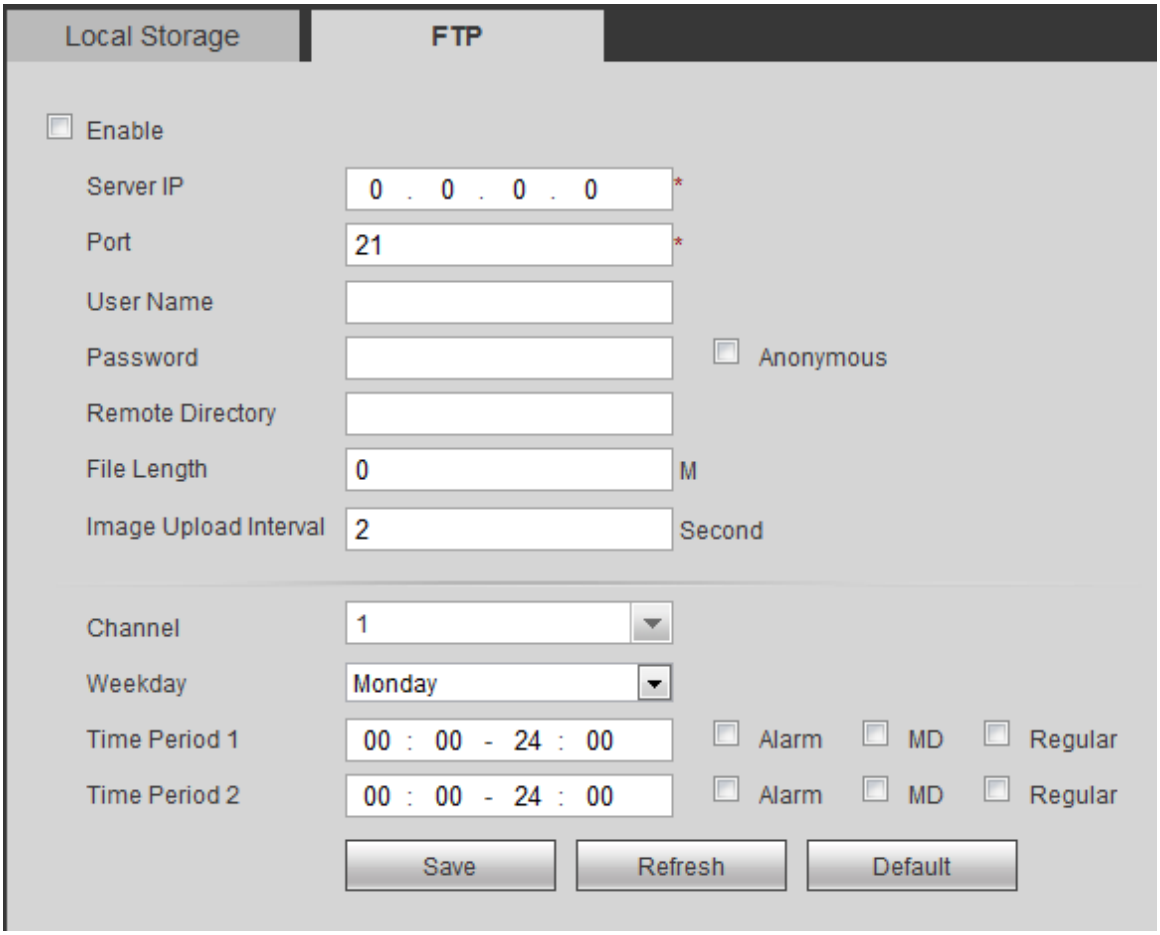


Figure 5-37

Please refer to the following sheet for detailed information.

Parameter	Function
Host IP	The host IP you have installed the FTP server.

Parameter	Function
Port	The default setup is 21.
User name/Password	The account for you to access the FTP server.
Remote directory	The folder you created under the root path of the FTP according to the corresponding rule. ● If there is no remote directory, system can auto create different directories according to the IP, time and channel. ● If there is remote directory, system can create corresponding folder under the FTP root path and then create different folders according to IP address, time and channel.
File length	File length is upload file length. When setup is larger than the actual file length, system will upload the whole file. When setup here is smaller than the actual file length, system only uploads the set length and auto ignore the left section. When interval value is 0, system uploads all corresponding files.
Image upload interval	It is the image upload interval. If the image upload interval is larger than the image snapshot frequency, system just uploads the lasted image. ● If the image interval is 5 seconds and the snapshot frequency is 2 seconds, system will send out the latest image at the buffer at 5 seconds. ● If the image upload interval is smaller than the snapshot frequency, system will upload at the snapshot frequency. For example, if the image interval is 5 seconds and the snapshot frequency is 10 seconds, system will send out the image at 10 seconds. ● From main menu->Setting->Camera->Encode->Snapshot to set snapshot frequency.
Channel	Select a channel from the dropdown list and then set week, period and record type.
Week day/Period	Please select from the dropdown list and for each day, you can set two periods.
Type	Please select uploaded record type (Alarm/intelligent/motion detect/regular). Please check the box to select upload type.

5.6.4.3 Record control

From main menu->Setup->Storage->Record, the record control interface is shown as in Figure 5-38.

Figure 5-38

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Here you can view channel number. The number displayed here is the max channel amount of your device.
Status	There are three statuses: schedule, manual and stop.
Schedule	System enables auto record function as you set in record schedule setup (general and alarm).
Manual	It has the highest priority. Enable corresponding channel to record no matter what period applied in the record setup.
Stop	Stop current channel record no matter what period applied in the record setup.
Start all/ stop all	Check the corresponding All button, you can enable or disable all channels to record.

5.6.5 System

5.6.5.1 General

The general interface includes general, date/time.

5.6.5.1.1 General

From main menu->Setup->System->General->General, the general interface is shown as in Figure 5-39.

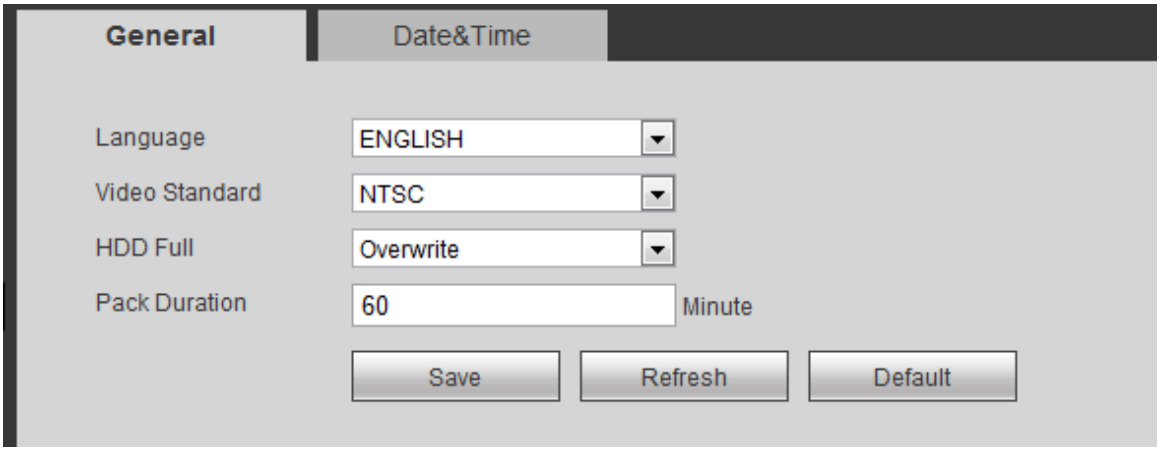


Figure 5-39

Please refer to the following sheet for detailed information.

Parameter	Function
Device ID	It is to set device name.
Device No.	It is device channel number.
Language	You can select the language from the dropdown list. **Please note the device needs to reboot to get the modification activated.**
Video Standard	This is to display video standard such as PAL.
HDD full	Here is for you to select working mode when hard disk is full. There are two options: stop recording or rewrite. If current working HDD is overwritten or the current HDD is full while the next HDD is no empty, then system stops recording, If the current HDD is full and then next HDD is not empty, then system overwrites the previous files.
Pack duration	Here is for you to specify record duration. The value ranges from 1 to 120 minutes. Default value is 60 minutes.

5.6.5.1.2 Date and time

From main menu->Setup->System->General->Date and time, the date and time interface is shown as in Figure 5-40.

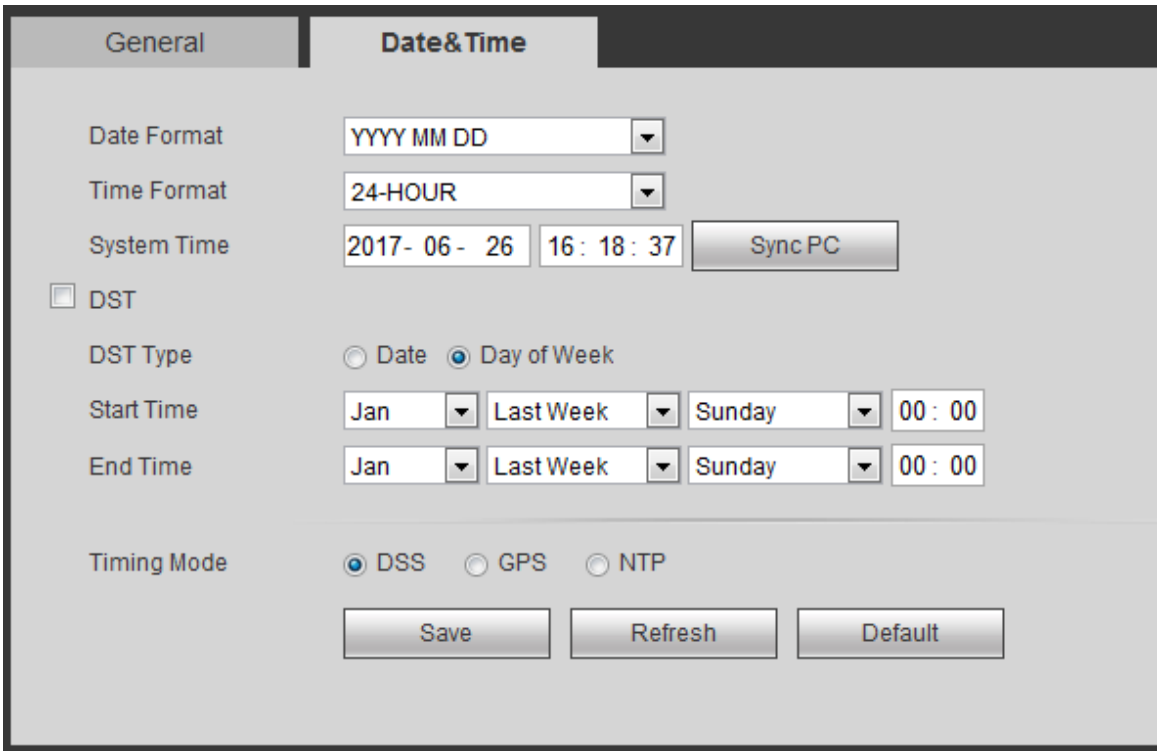


Figure 5-40

Please refer to the following sheet for detailed information.

Parameter	Function
Date format	Here you can select date format from the dropdown list.
Time Format	There are two options: 24-H and 12-H.
Time zone	The time zone of the device.
System time	It is to set system time. It becomes valid after you set.
Sync PC	You can click this button to save the system time as your PC current time.
DST	Here you can set day night save time begin time and end time. You can set according to the date format or according to the week format.
NTP	You can check the box to enable NTP function.
NTP server	You can set the time server address.
Port	It is to set the time server port.
Interval	It is to set the sync periods between the device and the time server.
Time Sync Mode	There are three sync modes: DSS/GPS/NTP. ● DSS: After device connected to the DSS, it can sync time with t DSS. ● GPS: After device connected to the GPS antenna, it can sync time with current time zone and satellite. ● NTP: After set NTP, device can sync time with the NTP server.

	Click NTP setup, and then input server IP, port, time zone and upgrade interval.

5.6.5.2 Account

Here is to manage users, user group and authorities.

System account adopts two-level management: group and user.

Default user and authorities

System consists of two default accounts:

- Username: admin. Password: admin. It is the admin group user.
- Username: 888888. Password: 888888. (It is the admin group user. For local login only. Cannot login via WEB.)

To manage account conveniently, usually the general user authorities shall be lower than that of the admin user.

User group

- The user group name is unique.
- System max supports 20 user groups.
- The user rights cannot higher than its group rights. The default user (**admin/888888**) has default authorities.
- The user group name max has 16-digit.

User

- The user name is unique.
- System max supports 64 users.
- One user shall belong to only one group. The user rights cannot higher than its group rights.
- User name max has 16-digit. It cannot contain space.

5.6.5.2.1 User name

From main menu->Setup->System->Account->User, enter user interface. In this interface you can add/remove user and modify user name. See Figure 5-41.

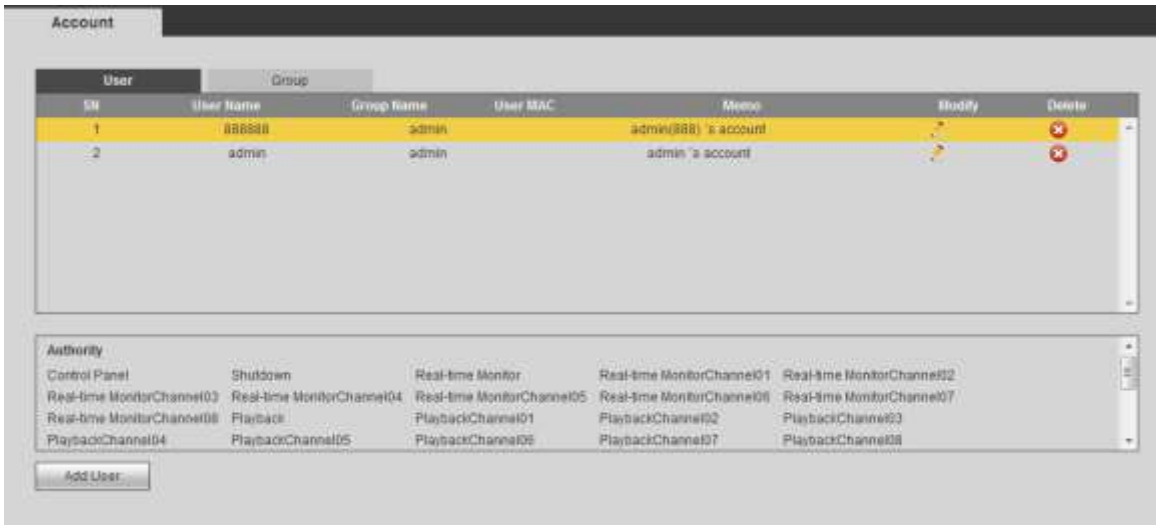


Figure 5-41

Add user: It is to add a name to group and set the user rights. See Figure 5-42.
There are two default administrator users: admin/888888.
Here you can input the user name and password and then select one group for current user.
Please note the user rights shall not exceed the group right setup.
For convenient setup, please make sure the general user has the lower rights setup than the admin.

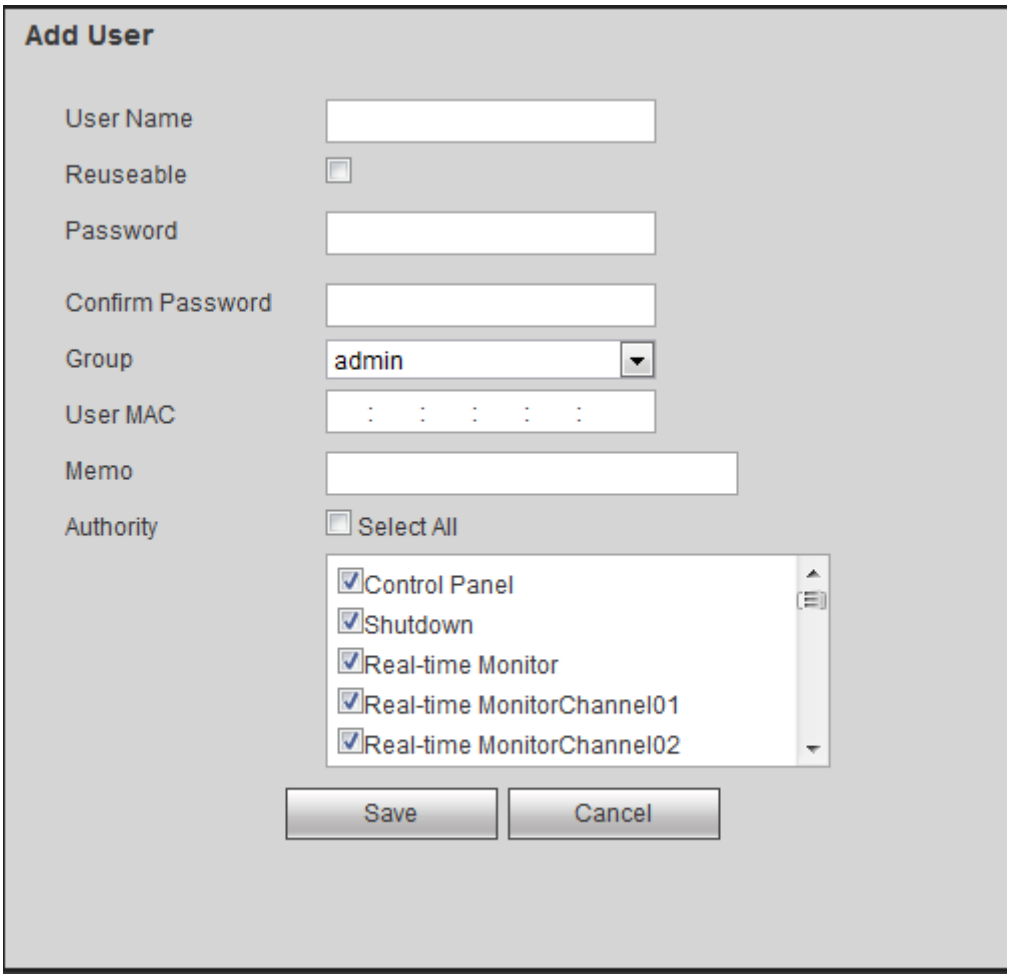


Figure 5-42

Modify user
It is to modify the user property, belonging group, password and rights.
Modify password
It is to modify the user password. You need to input the old password and then input the new password twice to confirm the new setup. Please click the OK button to save. See Figure 5-43.
For the user of the account rights, he can modify the password of other users.

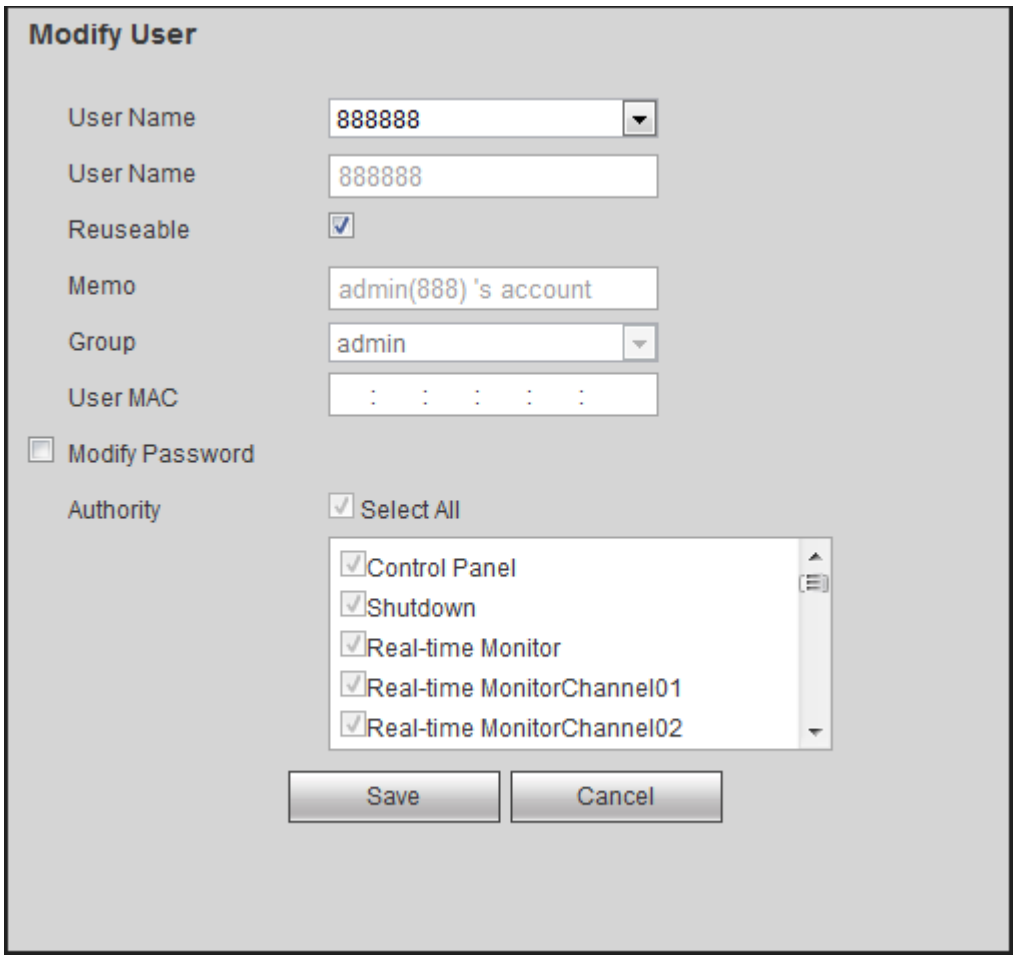


Figure 5-43

5.6.5.2.2 Group

The group management interface can add/remove group, modify group password and etc.

From main menu->Setup->System->Account->Group, enter group interface. The interface is shown as in Figure 5-44.

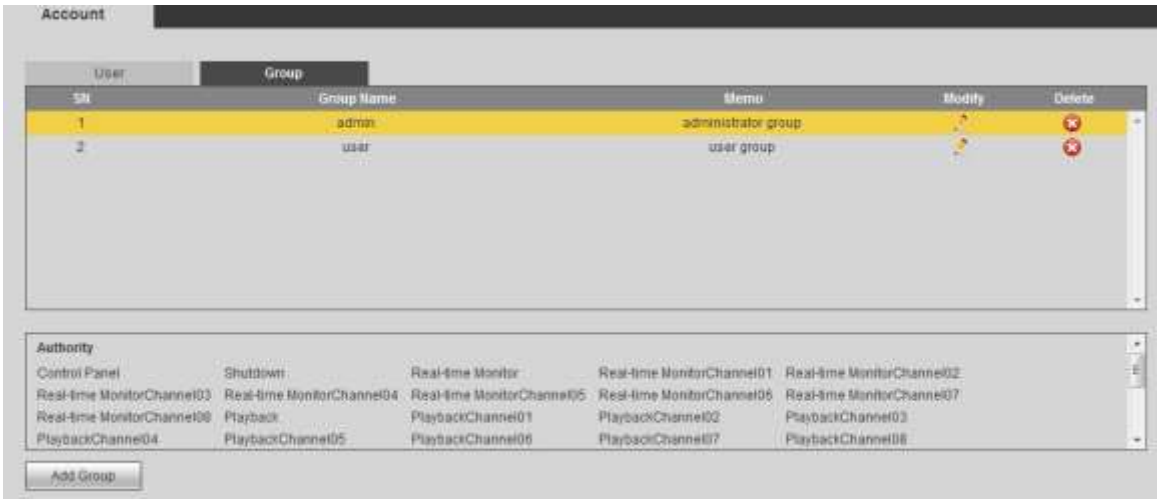


Figure 5-44

Add group: It is to add group and set its corresponding rights. See Figure 5-45.

Please input the group name and then check the box to select the corresponding rights. It includes: shutdown/reboot device, live view, record control, PTZ control and etc.

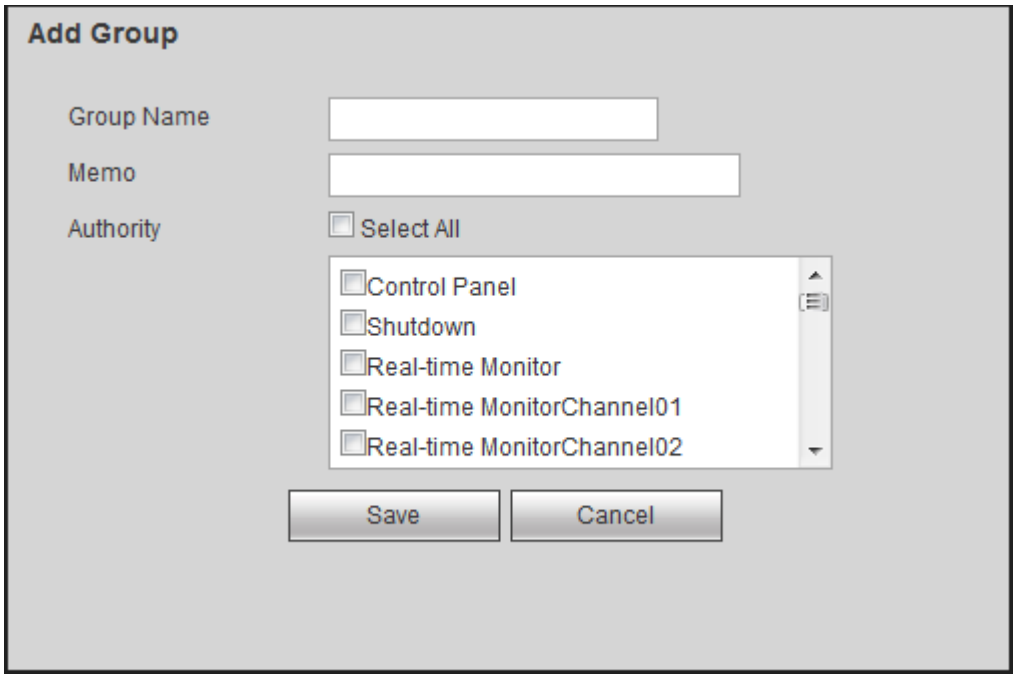


Figure 5-45

Modify group

Click the modify group button, you can see an interface is shown as in Figure 5-46. Here you can modify group information such as remarks and rights.

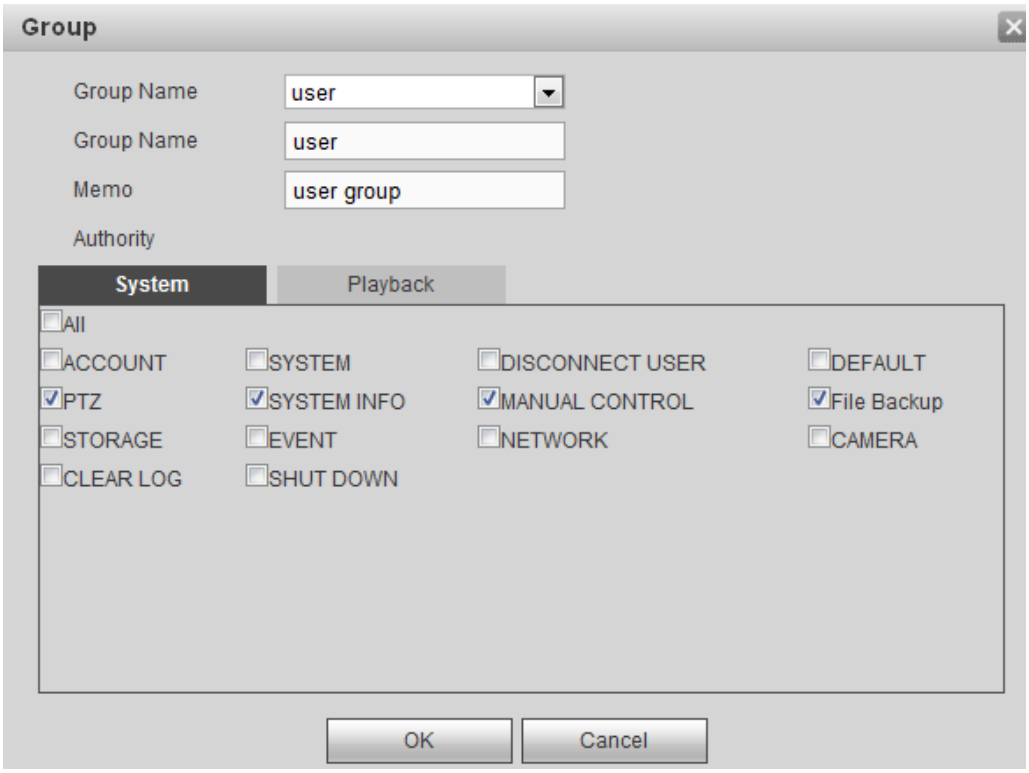


Figure 5-46

5.6.5.3 Default

CAUTION

System restores factory default setup after default operation!

From main menu->Setup->System->Default, the default setup interface is shown as in Figure 5-47.

Here you can select Channel/Network/Event/Storage/System. Or you can check the All box to select all items.

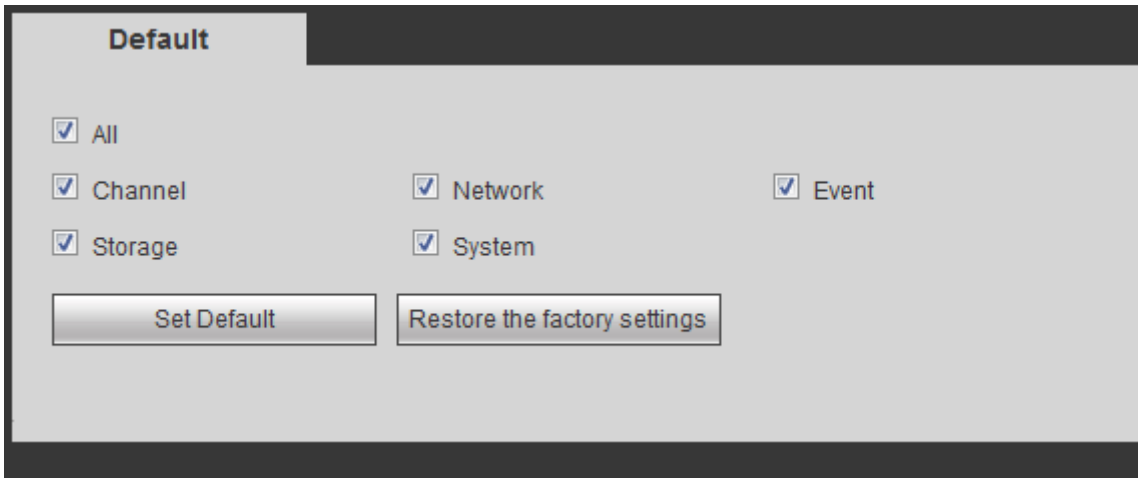


Figure 5-47

5.6.5.4 Import/Export

From main menu->Setup->System->Import/export, the interface is shown as in Figure 5-48.

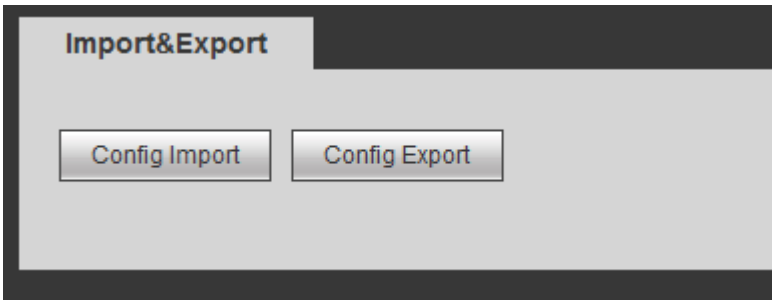


Figure 5-48

Please refer to the following sheet for detailed information.

Parameter	Function
Import	It is to import the local setup files to the system.
Export	It is to export the corresponding WEB setup to your local PC.

5.6.5.5 Upgrade

From main menu->Setup->System->upgrade, the upgrade interface is shown as in Figure 5-49. Please select the upgrade file and then click the update button to begin update. Please note the file name shall be as *.bin. During the upgrade process, do not unplug the power cable, network cable, or shutdown the device.

CAUTION

Improper upgrade program may result in device malfunction!

Figure 5-49

5.6.5.6 RS232

From main menu->Setup->System->RS232, the RS232 interface is shown as in Figure 5-50.

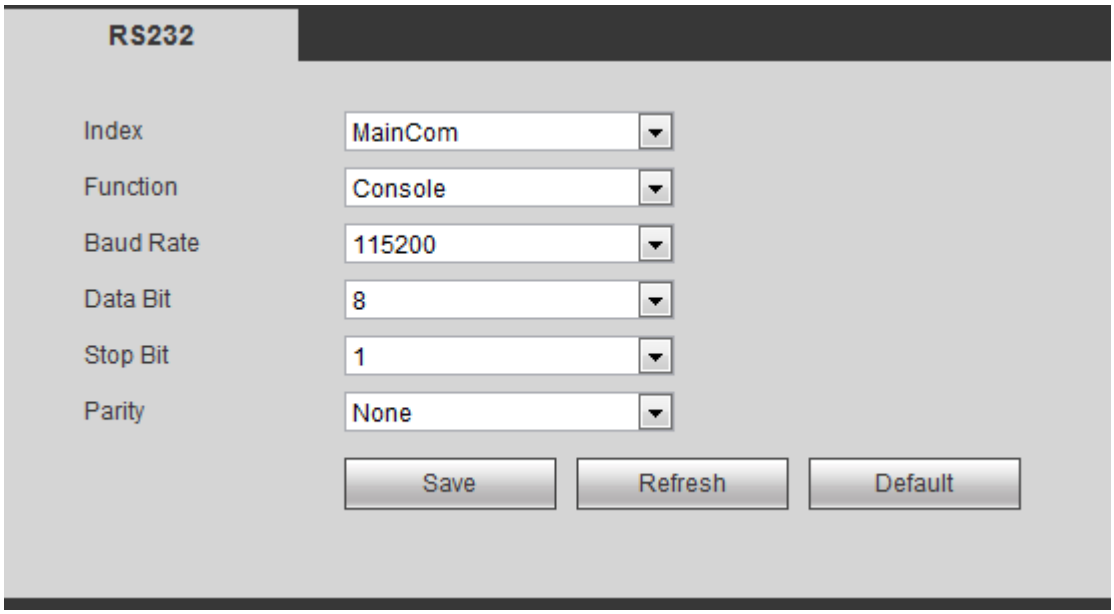


Figure 5-50

Please refer to the following sheet for detailed information.

Parameter	Function
Function	Select the corresponding COM control protocol. Default setup is console. ● Console is for you to use the COM or mini-end software to upgra or debug the program. ● The control keyboard is for you to control the device via the spec keyboard. ● Transparent COM (adapter) is to connect to the PC to transfer data directly. ● Network keyboard is for you to use the special keyboard to cont the device.

Parameter	Function
	● PTZ: Use COM to control the PTZ. ● ITS: Connect to mobile light box or touch screen.
Baud Rate	Select the baud rate. Default setup is 115200.
Data Bit	The value ranges from 5 to 8. Default setup is 8.
Stop bit	There are two options: 1/2. Default setup is 1.
Parity	There are five options: none/odd/even/space/mark. Default setup is none.

5.6.5.7 PTZ

The PTZ interface is shown as in Figure 5-51.

Before setup, please check the following connections are right:

- PTZ and decoder connection is right. Decoder address setup is right.
- Decoder A (B) line connects with DVR A (B) line.

Click Save button after you complete setup, you can go back to the monitor interface to control speed dome.

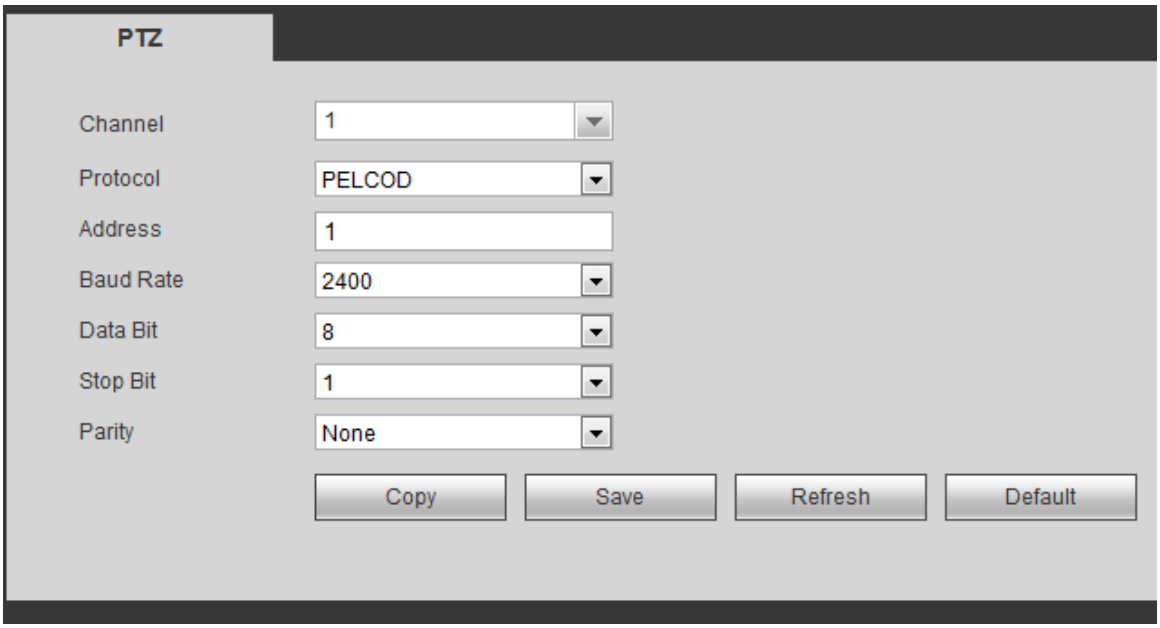


Figure 5-51

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Select PTZ camera connected channel.
PTZ Type	There are two options: local/remote. Please select remote type if you are connecting to the network PTZ.
Protocol	Select the corresponding dome protocol such as PELCOD.

Parameter	Function
Address	Set corresponding dome address. Default value is 1. **Please note your setup here shall comply with your dome address; otherwise you cannot control the speed dome.**
Baud Rate	Select the dome baud rate. Default setup is 9600.
Data Bit	Default setup is 8. Please set according to the speed dome dial switch setup.
Stop bit	Default setup is 1. Please set according to the speed dome dial switch setup.
Parity	Default setup is none. Please set according to the speed dome dia switch setup.

5.6.6 Information

5.6.6.1 Version

From main menu->Info->Version, the version interface is shown as in Figure 5-52.

Here you can view system hardware features, software version, release date and etc. Please note the following information for reference only.

Figure 5-52

5.6.6.2 Log

From main menu->Info->Log, enter system log interface. See Figure 5-53.

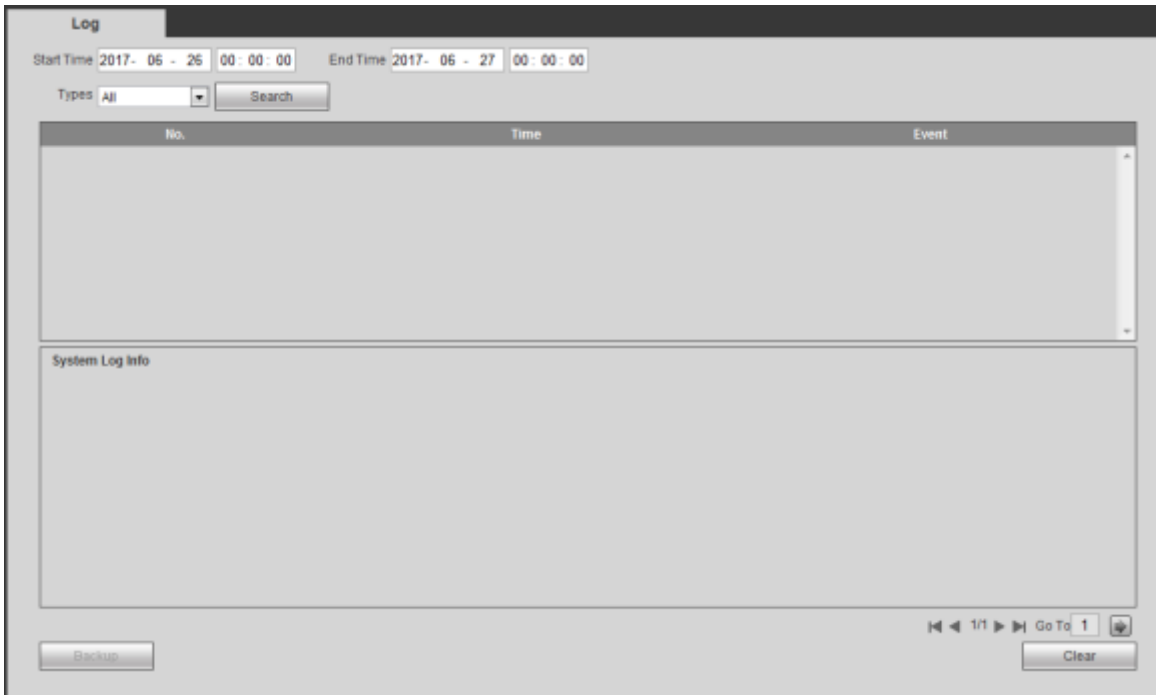


Figure 5-53

Please refer to the following sheet for log parameter information.

Parameter	Function
Type	Log types include: system operation, configuration operation, data operation, event operation, record operation, user management, log clear.
Start time	Set the start time of the requested log.
End time	Set the end time of the requested log.
Search	You can select log type from the drop down list and then click search button to view the list. You can click the stop button to terminate current search operation.
Detailed information	You can select one item to view the detailed information.
Clear	You can click this button to delete all displayed log files. Please note system does not support clear by type.
Backup	You can click this button to backup log files to current PC.

5.6.7 Vehicle

5.6.7.1 Vehicle

From main window->Setup->Vehicle->Vehicle, the vehicle setup interface is shown as in Figure 4-46. Here you can set device auto start and shut down time and plate information.

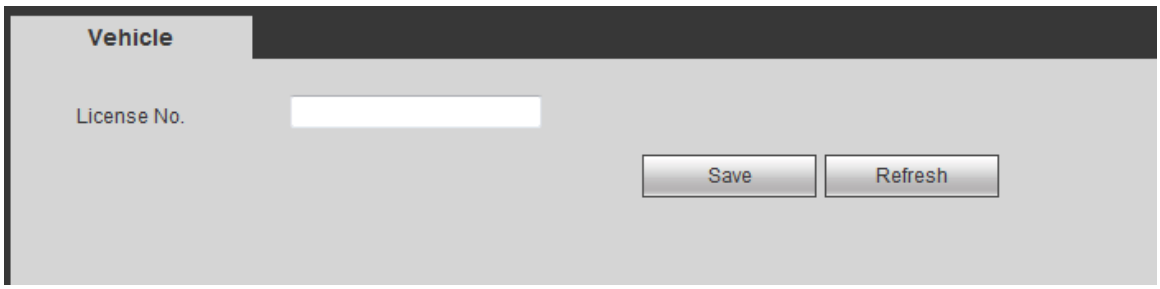


Figure 5-54

5.6.7.2 Wi-Fi

You can use wireless network to connect the system to the network.

Before the operation, please make sure your purchased device has Wi-Fi module or you have connected the peripheral Wi-Fi module.

5.6.7.2.1 Wi-Fi

From main window->Setup->Vehicle->Wi-Fi, the Wi-Fi interface is shown as in Figure 5-55.

Please check the box to enable Wi-Fi function and then click the Search SSID button. Now you can view all the wireless network information in the following list. Double click a name to connect to it. Click Refresh button, you can view latest connection status.

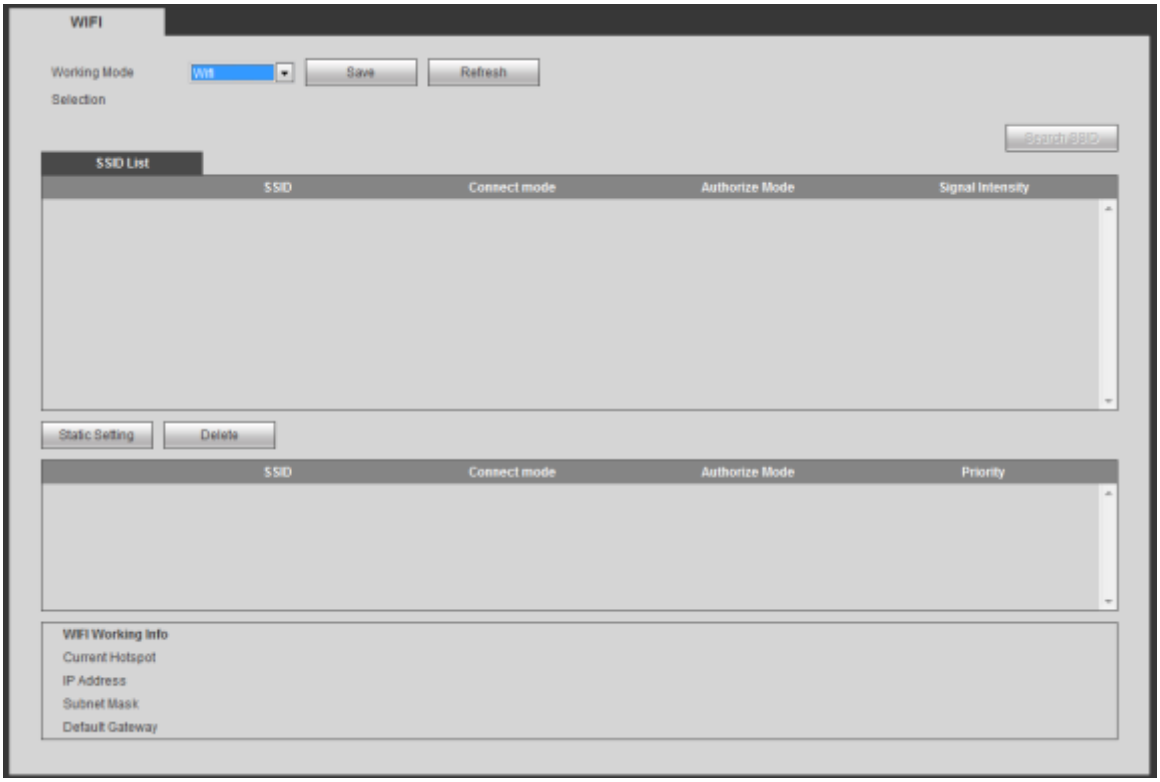


Figure 5-55

Click Static setup, you can go to the following interface. See Figure 5-56.

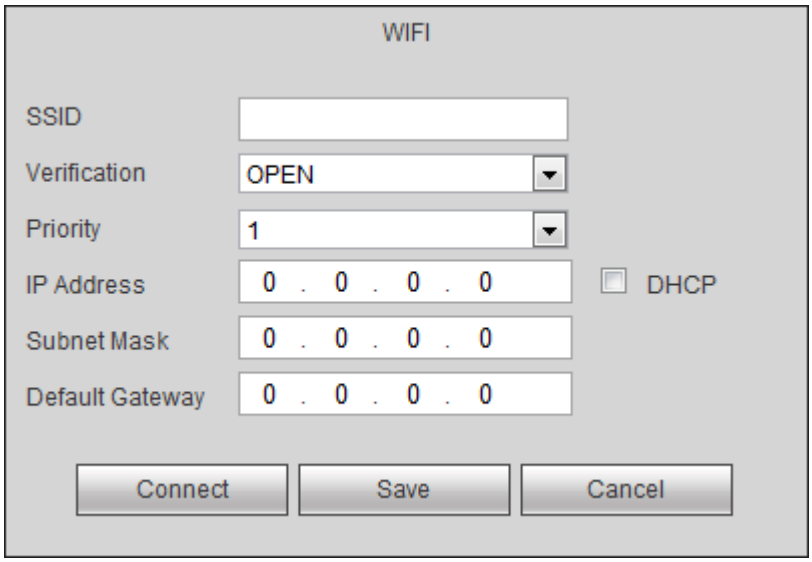


Figure 5-56

5.6.7.2.2 Ap

In Figure 5-55, select working mode as Ap, the Ap interface is shown as in Figure 5-57.

It is to enable hotspot. The SSID default name is AP_Device SN, the default connection mode is 12345678.

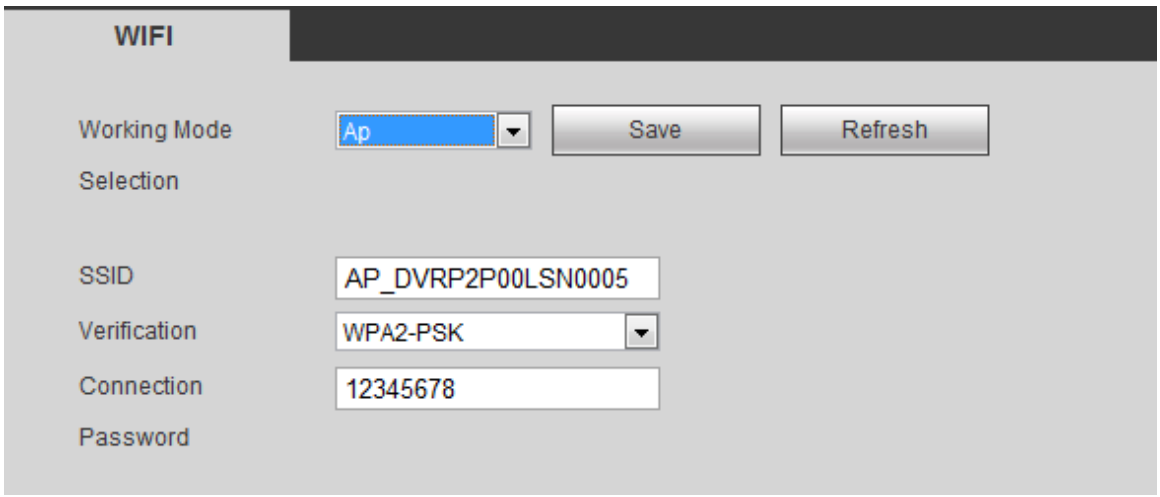


Figure 5-57

5.6.7.2.3 No

In Figure 5-55, select working mode as No, the No interface is shown as in Figure 5-58.

No means there is no Wi-Fi connection.

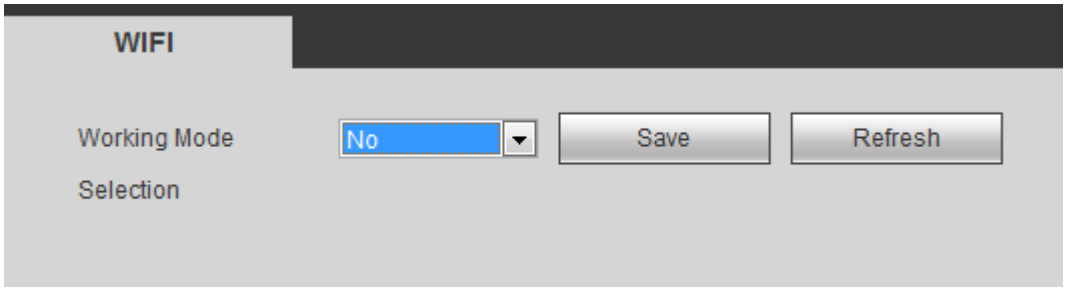


Figure 5-58

5.6.7.3 3G/4G

5.6.7.3.1 CDMA/GPRS

From main window->Setup->3G/4G->CDMA/GPRS, the CDMA/GPRS interface is shown as in Figure 5-59.

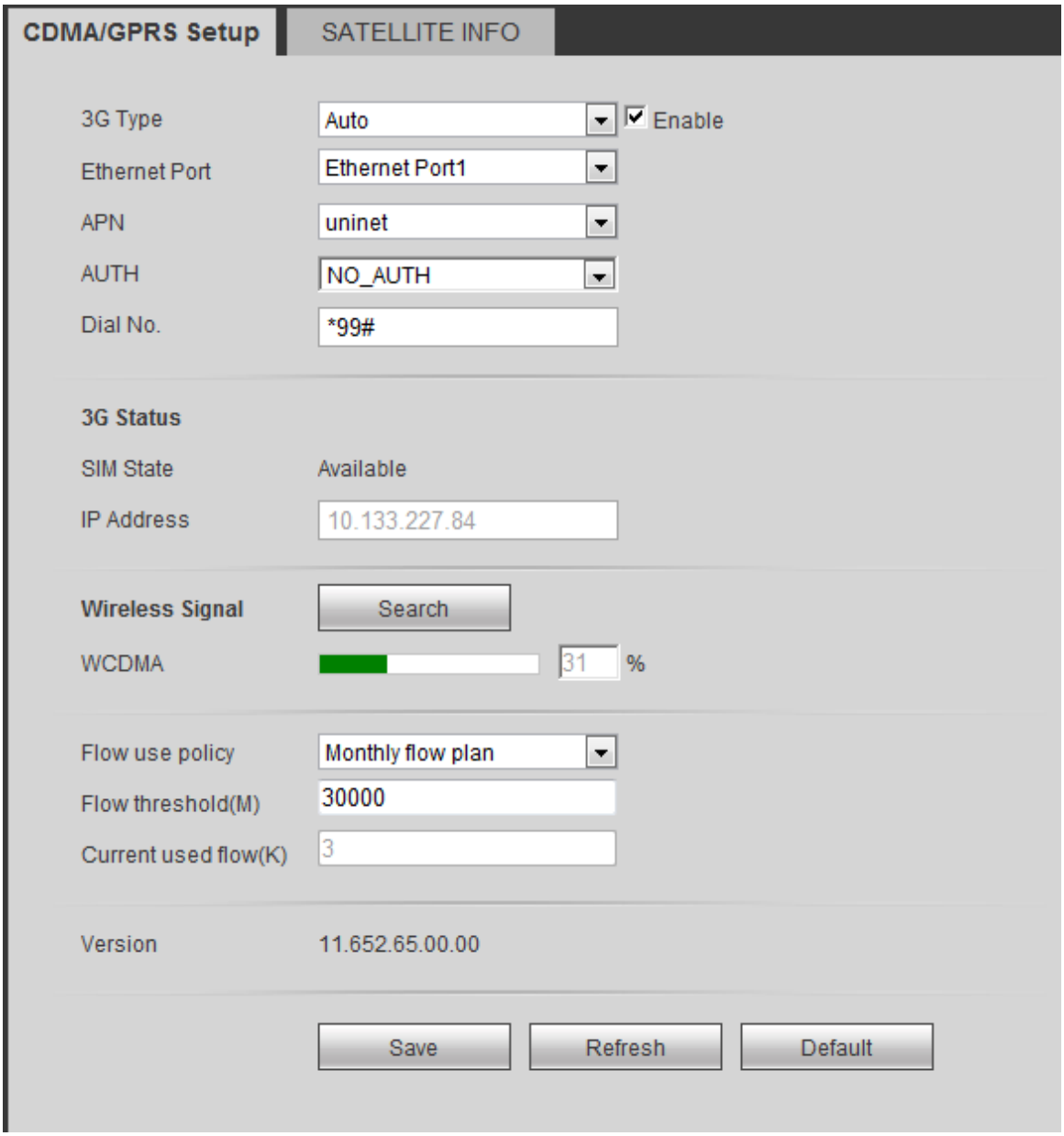


Figure 5-59

Please refer to the following sheet for detailed information.

Parameter	Function
WLAN type	Here you can select 3G network type to distinguish the 3G module from different ISP. The types include WCDMA，CDMA1x and etc.
APN/.	Here is the important parameter of PPP.
Authorization	It includes PAP,CHAP,NO_AUTH.
Dial No	The network dial number you got from your ISP.

User Name	The user name you login the 3G network.
Password	The password you login the 3G network.
SIM State	Display SIM card status.
IP Address	Display automatically got IP address after 3G online.
Wireless Signal	Display signal intensity.
Flow Use Policy	Select flow policy.
Flow Threshold(M)	Set flow threshold.
Current Used Flow(K)	Currently used flow.

5.6.7.3.2 Satellite

It is to view satellite information such as module state, wireless state, and satellite search results. From main window->Setup->Vehicle->3G/4G->Satellite, the satellite interface is shown as in Figure 5-60.

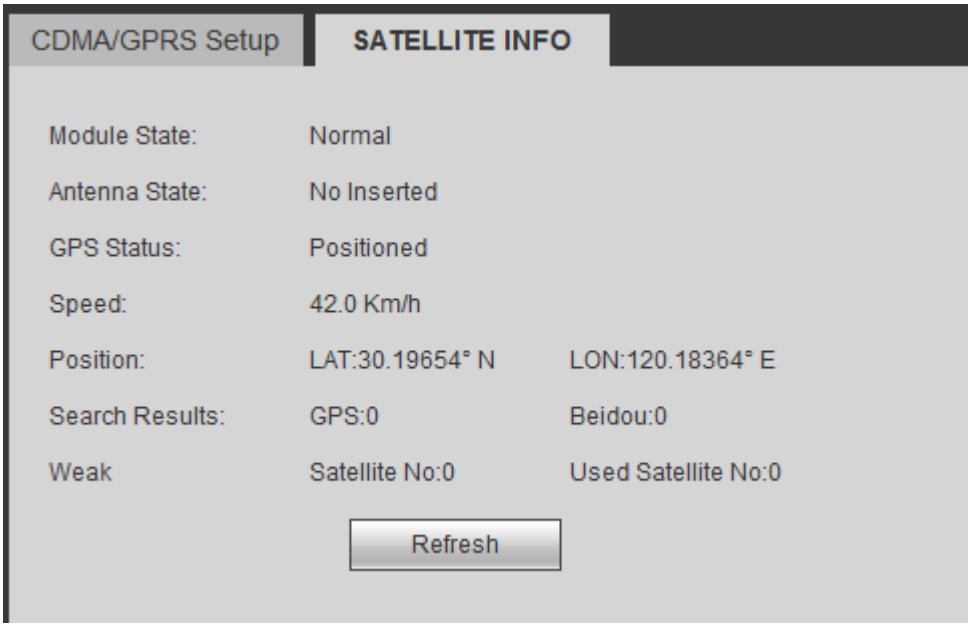


Figure 5-60

5.6.7.4 Auto Register

After the device connects to the network, it can send out auto register query to the specified server.

From main window->Setup->Vehicle->Register, the auto register interface is shown as in Figure 5-61.

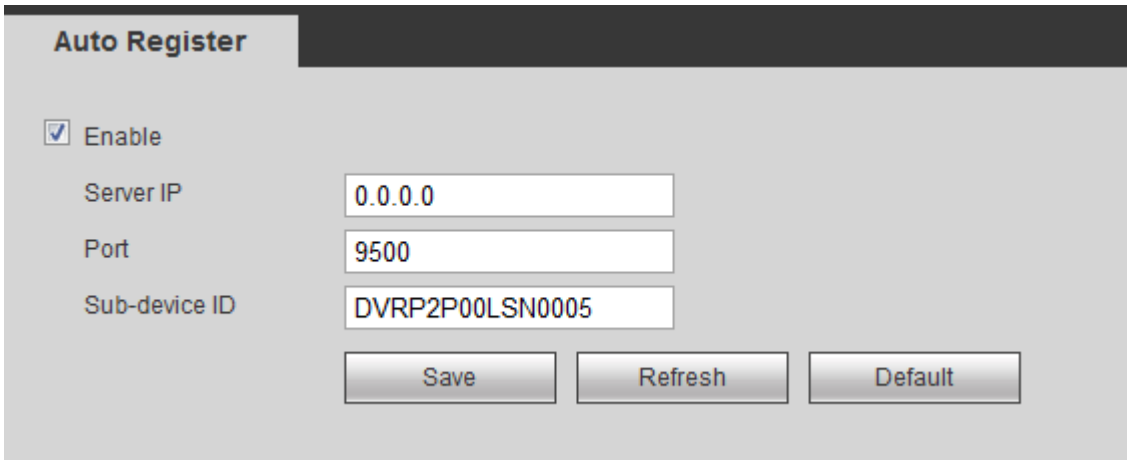


Figure 5-61

Please refer to the following sheet for detailed information.

Parameter	Function
Server IP	DSS server IP address.
Port	DSS server port value.
Sub-device ID	The device ID set from the DSS.

5.6.7.5 Auto Maintenance

From main window->Setup->Vehicle->Auto Maintenance, the auto maintenance interface is shown as in Figure 5-62.

Here you can select auto reboot and auto delete old files interval from the dropdown list.

If you want to use the auto delete old files function, you need to set the file period.

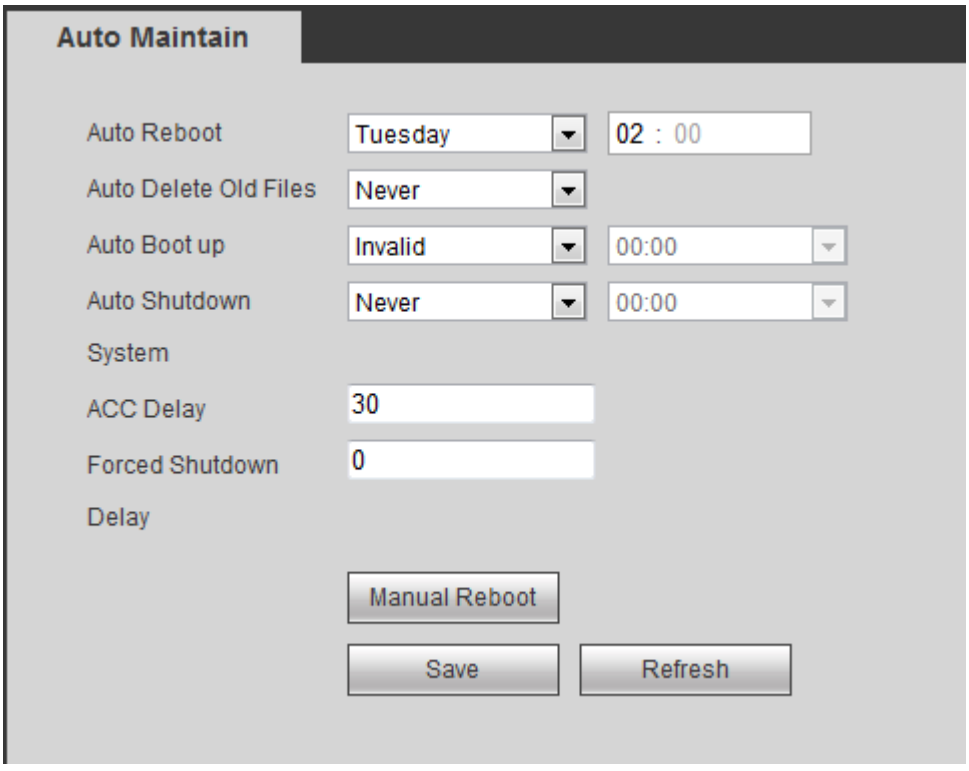


Figure 5-62

5.6.7.6 Abnormality

It includes ten statuses: No HDD, HDD error, HDD no space, battery low, temperature high, turnover, collision, rapid turn, rapid speedup, rapid slowdown.

Here we use No HDD to continue.

From main window->Setup->Vehicle->Abnormality, enter abnormality interface. See Figure 5-63.

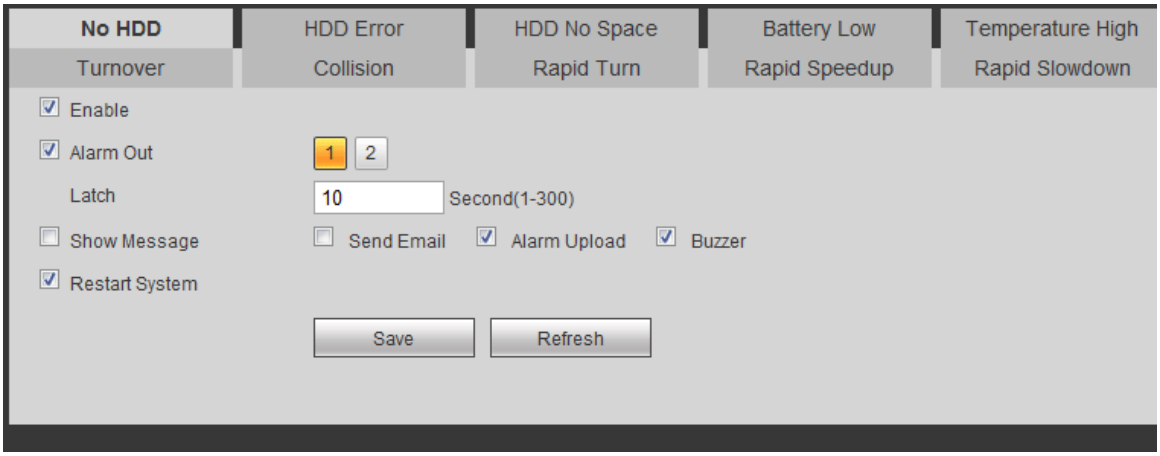


Figure 5-63

Please refer to the following sheet for detailed information.

Parameter	Function
Event Type	The abnormal events include: No disk, disk error, disk no space, battery low, temperature high. You can set one or more items here.
Enable	Check the box here to enable selected function.
Alarm Out	Please select corresponding alarm output channel when an alarm occurs. You need to check the box to enable this function.
Latch	The alarm output can delay for the specified time after an alarm stops. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Alarm upload	System can upload the alarm signal to the center (Including alarm center.
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.
Restart system	Check the box to enable this function. The system restarts when an alarm occurs.

5.6.7.7 Display

Display interface includes GUI, and TV adjust.

5.6.7.7.1 GUI

It is to set background color and transparency level.

From main window->Setup->Vehicle->Display, enter display interface. See Figure 5-64.

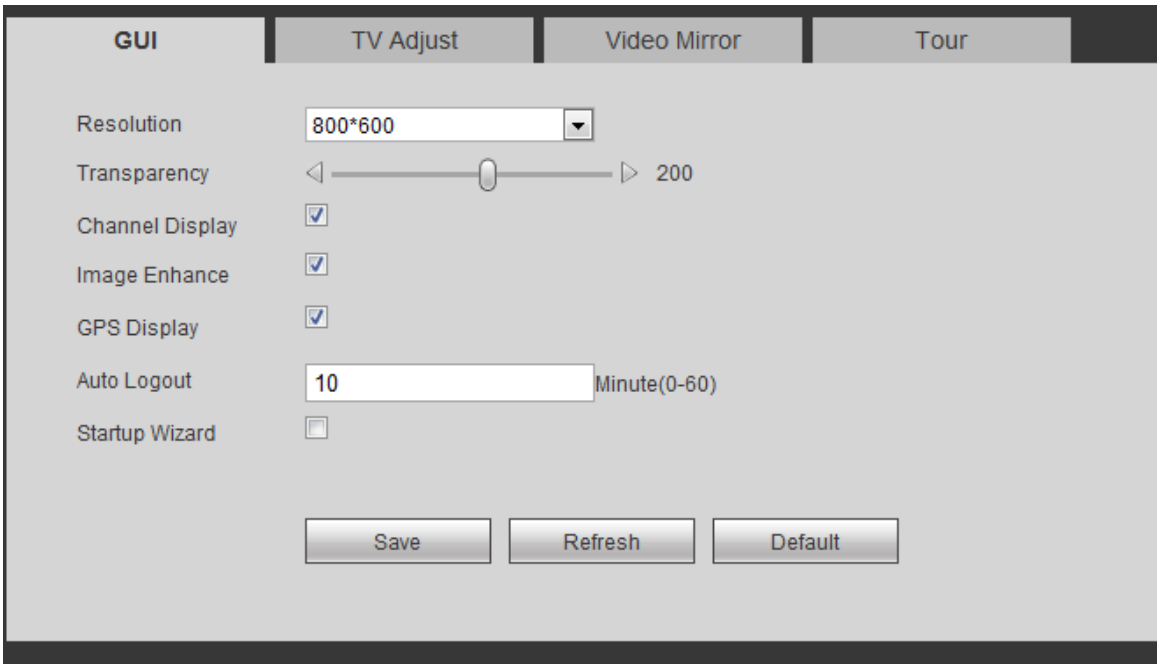


Figure 5-64

Please refer to the following sheet for detailed information.

Parameter	Function
Resolution	There are five options: 1920×1080, 1280×1024, 1280×720, 1024×768, 800×600(Default). Please note the system needs to reboot to activate current setup.
Transparency	Here is for you to adjust transparency. The value ranges from 128 to 255.
Time title/channel title	Check the box here, you can view system time and channel number on the monitor video.
Image enhance	Check the box; you can optimize the margin of the preview video.
Auto logout	Here is for you to set auto logout interval once login user remains inactive for a specified time.
Startup wizard	Check the box here, system goes to the startup wizard when the devi boots up the next time. Otherwise, it goes to the system login interfa directly.
Navigation bar	Check the box here, system displays the navigation bar on the interface.

5.6.7.7.2 TV Adjust

It is to set TV output region.

From main window->Setup->Vehicle->Display ->TV Adjust, enter TV adjust interface. See Figure 5-65.

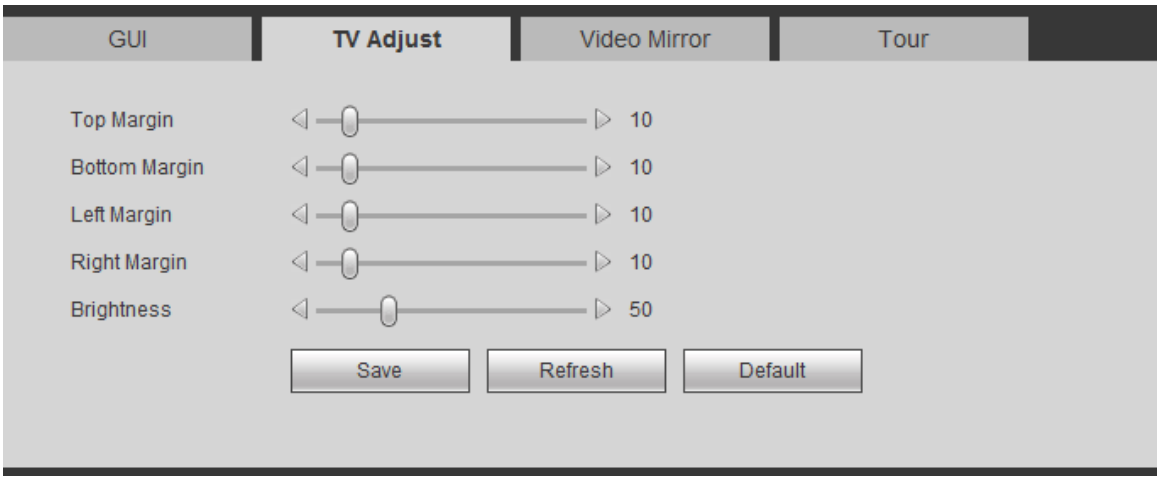


Figure 5-65

5.6.7.7.3 Video Mirror

It is to set video up/down, left/right mirror.

From main window->Setup->Vehicle->Display->Video mirror, enter video mirror interface. See Figure 5-66.

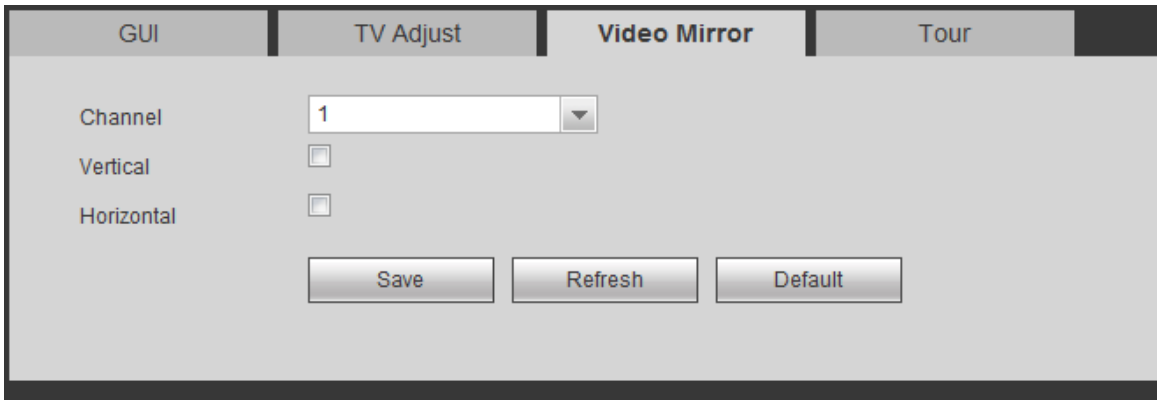


Figure 5-66

5.6.7.7.4 Tour

It is to set tour interval, split mode, motion detect tour and alarm tour mode.

From main window->Setup->Vehicle->Display->Tour, the tour interface is shown as in Figure 5-67.

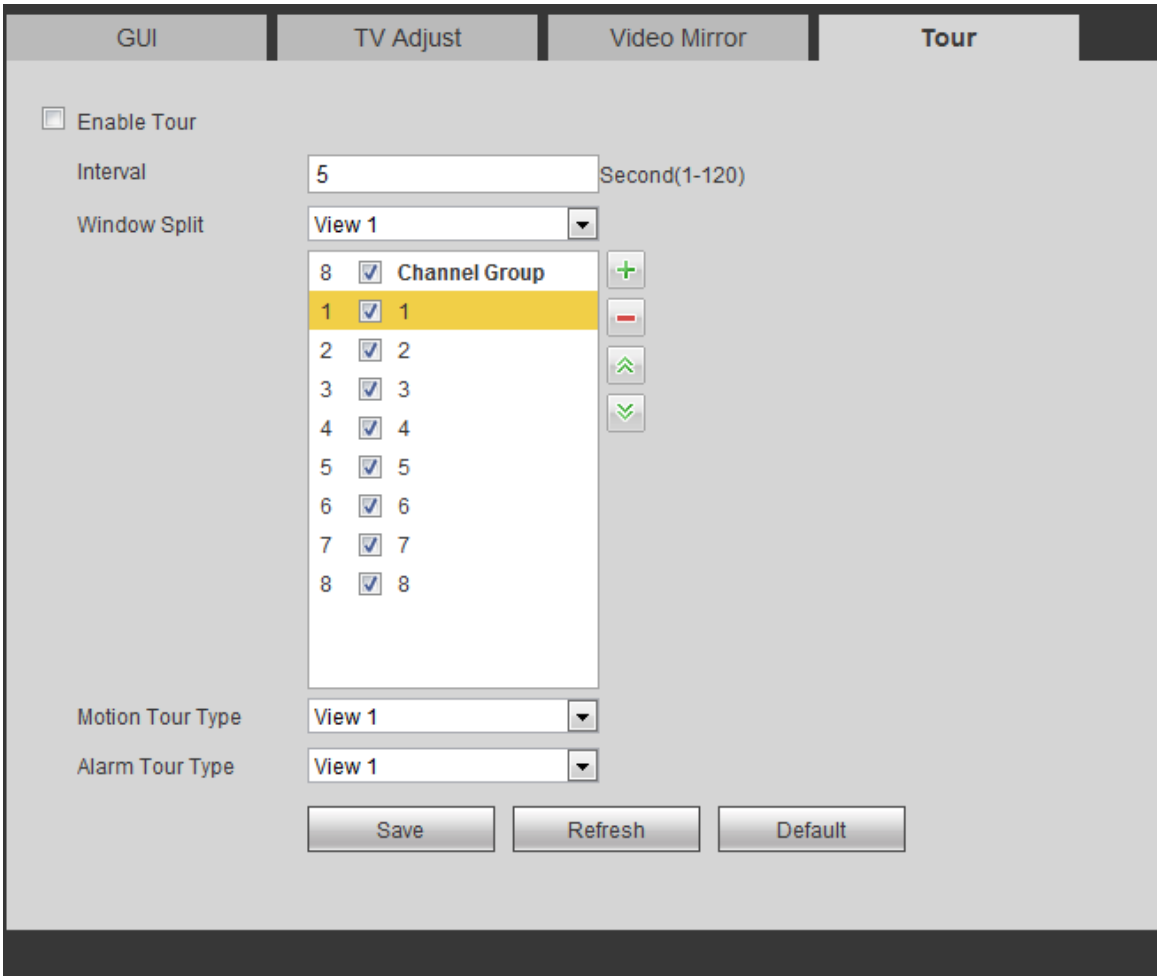


Figure 5-67

Please refer to the following sheet for detailed information.

Parameter	Function
Enable tour	Check the box here to enable tour function.
Interval	Here is for you to adjust transparency. The value ranges from 5 to 120s. The default setup is 5s.
Split	Here you can set window mode and channel group. System can support 1/4-window according to device channel amount.
Motion tour/Alarm tour	Here you can set motion detect tour/alarm tour window mode. System supports 1/4-window now.

5.6.8 Sensor

5.6.8.1 Speed

It is to view vehicle speed information.

From main window->Setup->Vehicle->Sensor->Speed, the speed interface is shown as in Figure 5-68.

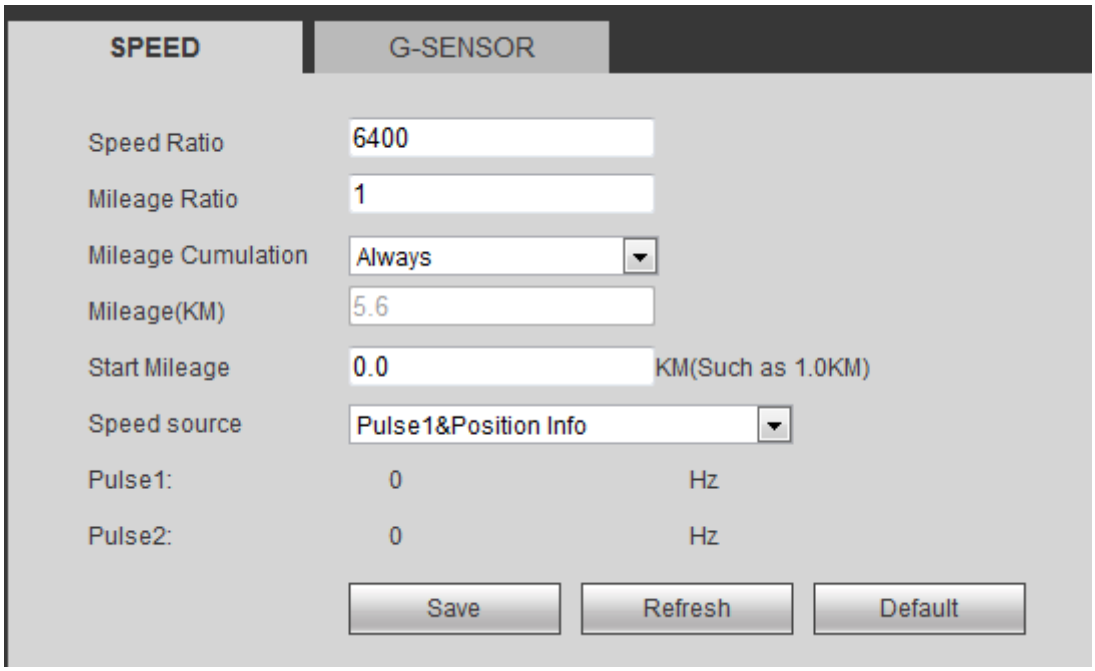


Figure 5-68

Please refer to the following sheet for detailed information.

Parameter	Function
Speed ratio	The parameter to calculate speed. $\frac{\text{Speed ratio}}{\text{Default speed ratio}} = \frac{\text{Vehicle actual running speed}}{\text{Disiplayed speed on the interface}}$
Speed	Speed value.
Mileage ratio	Speed mileage correction.
Mileage cumulation	Select cumulation type.
Mileage	Display mileage value.
Clear:	Clear mileage value.
Start mileage	Set start mileage value.
Speed source	Select speed source.
Pulse 1	Display the frequency from the first pulse.
Pulse 2	Display the frequency from the second pulse.

5.6.8.2 G-SENSOR

It is to detect the vehicle turn over, collision or the sharp turn.

From main window->Setup->Vehicle->Sensor->G-SENSOR, enter G-SENSOR interface. See Figure 5-37.

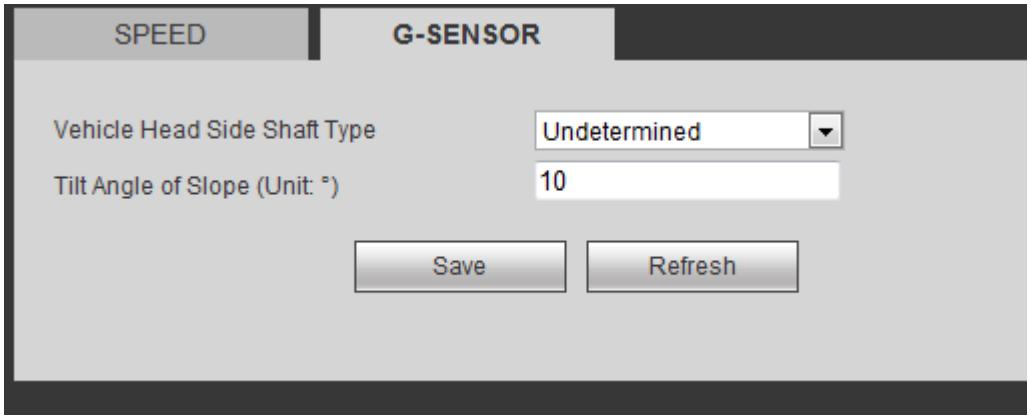


Figure 5-69

Parameter	Function
Vehicle head side shaft type	Set vehicle head type. It includes undetermined, X axis, Y axis and etc.
Tilt angle of slope	It is to set tile angle

5.6.8.3 Custom Default

It is to backup the plate setup, 3G setup, auto register setup.

From main window->Setup->Custom default, enter custom default interface. See Figure 5-70.

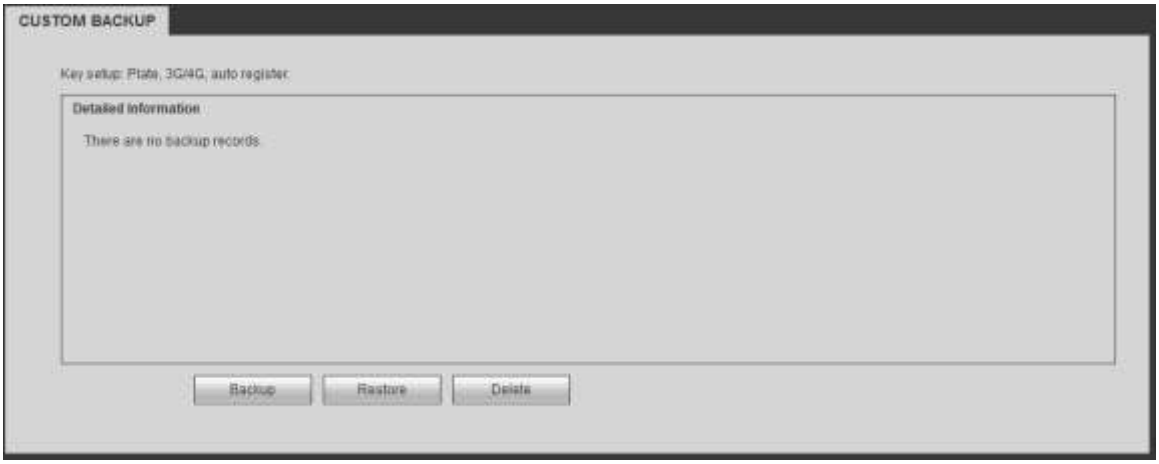


Figure 5-70

Parameter	Function
Backup	Backup important configurations such as plate number, 3G/4G, auto register.
Delete	Delete the backup configurations.
Restore	Restore the backup configurations.

5.7 Log out

Click log out button, system goes back to log in interface. See Figure 5-71.

Please input user name and password to login again.

Figure 5-71

5.8 Un-install Web Control

You can use web un-install tool “uninstall web.bat” to un-install web control.

Please note, before you un-installation, please close all web pages, otherwise the un-installation might result in error.

6 Digital Surveillance System

Besides Web, you can use our Digital Surveillance Software (DSS) to login the device to view the real-time video, vehicle positioning and etc.

Before the login, please go to the register interface (chapter 4.12.8) to set platform IP and port value.

For detailed information, please refer to *DSS user's manual.*

7 FAQ

1. After the vehicle started, the device cannot boot up properly.

There are following possibilities:

- Input power is not correct. It is too high or too low.
- Power connection is not correct.
- Power switch button is damaged.
- Program upgrade is wrong.
- HDD malfunction or something wrong with HDD ribbon.
- Main board is damaged.

2. Device often automatically shuts down or stops running.

There are following possibilities:

- Input voltage is not stable or it is too low.
- Device installation is not right or the components connection error.
- Working environment is too harsh, too much dust.
- Hardware malfunction.

3. System cannot detect HDD or SD card.

There are following possibilities:

- Has not installed HDD or SD card.
- HDD or SD card connection error.
- HDD or SD card is broken.

4. One-channel has no video.

There are following possibilities:

- The camera is damaged, please replace the camera.
- The connection cable is damaged, please replace the cable.

5. There is no video output whether it is one-channel, multiple-channel or all-channel output.

There are following possibilities:

- Program is not compatible. Please upgrade to the latest version.
- Brightness is 0. Please restore factory default setup.
- There is no video input signal or it is too weak.
- Check privacy mask setup or your screen saver.
- Device hardware malfunctions.

6. Real-time video color is distorted.

There are following possibilities:

- When using BNC output, NTSC and PAL setup is not correct. The real-time video becomes black and white.
- Device and monitor resistance is not compatible.
- Video transmission is too long or degrading is too huge.

- Device color or brightness setup is not correct.

7. Cannot search local records.

There are following possibilities:

- HDD ribbon is damaged.
- HDD is broken.
- Upgraded program is not compatible.
- The recorded file has been overwritten.
- Record function has been disabled.

8. Video is distorted when searching local records.

There are following possibilities:

- Video quality setup is too low.
- Program read error, bit data is too small. There is mosaic in the full screen. Please restart the DVR to solve this problem.
- HDD malfunction.
- HDD hardware malfunctions.

9. There is no audio when monitor.

There are following possibilities:

- It is not a power picker.
- It is not a power acoustics.
- Audio cable is damaged.
- D hardware malfunctions.

10. There is audio when monitor but there is no audio when system playback.

There are following possibilities:

- Setup is not correct. Please enable audio function
- Corresponding channel has no video input. Playback is not continuous when the screen is blue.

11. Time display is not correct.

There are following possibilities:

- Setup is not correct
- Battery contact is not correct or voltage is too low.
- Crystal is broken.

12. There is only mosaic no video when preview or playback video file remotely.

There are following possibilities:

- Network fluency is not good.
- Client-end resources are limit.
- There is multiple-cast group setup in DVR. This mode can result in mosaic. Usually we do not recommend this mode.
- There is privacy mask or channel protection setup.
- Current user has no right to monitor.

- DVR local video output quality is not good.

13. Network connection is not stable.

There are following possibilities:

- Network is not stable.
- IP address conflict.
- MAC address conflict.
- PC or DVR network card is not good.

14. USB backup error.

There are following possibilities:

- Burner and DVR are in the same data cable.
- System uses too much CPU resources. Please stop record first and then begin backup.
- Data amount exceeds backup device capacity. It may result in burner error.
- Backup device is not compatible.
- Backup device is damaged.

15. Alarm function is null.

There are following possibilities:

- Alarm setup is not correct.
- Alarm cable connection is not correct.
- Alarm input signal is not correct.
- There are two loops connect to one alarm device.

16. Remote control does not work.

There are following possibilities:

- Remote control address is not correct.
- Distance is too far or control angle is too small.
- Remote control battery power is low.
- Remote control is damaged or DVR front panel is damaged.

17. Record storage period is not enough.

There are following possibilities:

- Camera quality is too low. Lens is dirty. Camera is installed against the light. Camera aperture setup is not correct.
- HDD capacity is not enough.
- HDD is damaged.

18. Cannot detect SIM card

There are following possibilities:

- There is no SIM card.
- SIM card direction is wrong.
- SIM card is malfunction.

19. My cell phone 3G/4G dial failed.

There are following possibilities:

- You have not installed the dial module or your installation is not right.
- Please make sure you have inserted the card.
- You have not installed the antenna or the connection is not sound.
- The center platform configuration is not right or the registration is not effective.
- The cell phone remaining sum is not sufficient.
- Signal is too weak.
- SIM card does not support corresponding service.

20. 3/4G platform is offline

There are following possibilities:

- Refer to the above item to check 3G/4G dial function is OK or not.
- Check local auto register function setup.
- Check server setup.

21. No GPS data

There are following possibilities:

- Check GPS antenna connection
- GPS antenna environment is free of block object.
- Vehicle data module is running or not.

Daily Maintenance

- Do not allow other objects falling into the DVR (such as water), it may result in device malfunction.
- Always follow the transportation instructions. Do not transport the DVR upside down.
- Please pay attention to the cable connection. The improper connection steps may result in device malfunction or damage.
- Please make sure all the external cables have soundly earthed.
- Before you connect the power cable, please make sure other cables have properly connected.
- Use the cable strap in case there is short circuit, electric shock.
- Please keep the power cable neat in case it obstacles the driver or the passenger.
- Please remove the negative end (-) of the connection terminal before you configure the cable.
- Please unlock the key before you draw out the HDD box. Otherwise it may result in device damage.
- When washing the vehicle, please keep the DVR away from the water. Otherwise it may result in short circuit, fire or device malfunctions.
- Please make sure the DVR is away from the direct sunlight or other heating sources. Please keep the sound ventilation.
- Please use the brush to clean the board, socket connector and the chassis regularly.
- The DVR shall be soundly earthed in case there is audio/video disturbance. Keep the DVR away from the static voltage or induced voltage.

- Please unplug the power cable when you remove the audio/video signal cable, RS232 or RS485 cable.
- Please check the DVR is secured firmly and horizontally. Please make sure the anti-vibration component can work properly.
- Please check and maintain the DVR regularly.

8 Appendix A HDD Capacity Calculation

Calculate total capacity needed by each device according to video recording (video recording type and video file storage time).

Step 1: According to Formula (1) to calculate storage capacity q_i that is the capacity of each channel needed for each hour, unit Mbyte.

$$q_i = d_i \div 8 \times 3600 \div 1024 \quad (1)$$

In the formula: d_i means the bit rate, unit Kbit/s

Step 2: After video time requirement is confirmed, according to Formula (2) to calculate the storage capacity m_i, which is storage of each channel needed unit Mbyte.

$$m_i = q_i \times h_i \times D_i \quad (2)$$

In the formula:

h_i means the recording time for each day (hour)

D_i means number of days for which the video shall be kept

Step 3: According to Formula (3) to calculate total capacity (accumulation) q_T that is needed for all channels in the device during **scheduled video recording**.

$$q_T = \sum_{i=1}^{c} m_i \quad (3)$$

In the formula: c means total number of channels in one device

Step 4: According to Formula (4) to calculate total capacity (accumulation) q_T that is needed for all channels in device during **alarm video recording**.

$$q_T = \sum_{i=1}^{c} m_i \times a\% \quad (4)$$

In the formula：$a\%$ means alarm occurrence rate

9 Glossary

- **DHCP:** DHCP (Dynamic Host Configuration Protocol) is a network protocol. It is one of the TCP/IP protocol cluster. It is principally used to assign temporary IP addresses to computers on a network.
- **DDNS:** DDNS (Dynamic Domain Name System) is a service that maps Internet domain names to IP addresses. This service is useful to anyone who wants to operate a server (web server, mail server, ftp server and etc) connected to the internet with a dynamic IP or to someone who wants to connect to an office computer or server from a remote location with software.
- **eSATA**: eSATA(External Serial AT) is an interface that provides fast data transfer for external storage devices. It is the extension specifications of a SATA interface.
- **GPS:** GPS (Global Positioning System) is a satellite system, protected by the US military, safely orbiting thousands of kilometers above the earth.
- **PPPoE: PPPoE (**Point to Point Protocol over Ethernet) is a specification for connecting multiple computer users on an Ethernet local area network to a remote site. Now the popular mode is ADSL and it adopts PPPoE protocol.
- **Wi-Fi:** Wi-Fi is the name of a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. The standard is for wireless local area networks (WLANs). It is like a common language that all the devices use to communicate to each other. It is actually IEEE802.11, a family of standard The IEEE (Institute of Electrical and Electronics Engineers Inc.)
- **3G:** 3G is the wireless network standard. It is called 3G because it is the third generation of cellular telecom standards. 3G is a faster network for phone and data transmission and speed Is over several hundred kbps. Now there are four standards: CDMA2000, WCDMA, TD-SCDMA and WiMAX.
- **Dual-stream:** The dual-stream technology adopts high-rate bit stream for local HD storage such as QCIF/CIF/2CIF/DCIF/4CIF encode and one low-rate bit stream for network transmission such as QCIF/CIF encode. It can balance the local storage and remote network transmission. The dual-stream can meet the difference band width requirements of the local transmission and the remote transmission. In this way, the local transmission using high-bit stream can achieve HD storage and the network transmission adopting low bit stream suitable for the fluency requirements of the 3G network such as WCDMA, EVDO, TD-SCDMA..
- **On-off value:** It is the non-consecutive signal sampling and output. It includes remote sampling and remote output. It has two statuses: 1/0.

10Abbreviation

	A~P
DDNS	Dynamic Domain Name System
DHCP	Dynamic Host Configuration Protocol
DSS	Digital Surveillance System
G-SENSOR	Gravity-sensor
IP	Internet Protocol
MTU	Maximum Transmission Unit
NTP	Network Time Protocol

Note

- **This manual for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**