# HDCVI Mobile Digital Video Recorder User's Manual

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## Welcome

Thank you for purchasing our mobile network video recorder!

This user's manual is designed to be a reference tool for your system.

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 DVR, 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 DVR 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 DVR:

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

## 16. Isolate DVR and IP Camera Network

The network your DVR 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.

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.

## **Safety Instruction**

| Icon                 | Note   |
|----------------------|--|
| A DANGER             | Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.  |
| <b>A</b> WARNING     | Indicates a potentially hazardous situation, which if not avoided, could result in serious device damage or person injury.   |
| <b>A</b>             | 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.   |
| Electric shock       | Indicates presence of dangerous high voltage. There is a risk of electric shock to persons.  |
| High power           | Indicates presence of high power laser radiation.  |
| laser radiation risk | It is interested to be a second of the secon |
| © 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.  |

## **Revision History**

| SN | Version<br>No. | Contents   | Release<br>Date |  |  |
|----|----------------|--|-----------------|--|--|
| 1  | V1.0.0         | Initial release  | 2015.08         |  |  |
| 2  | V1.1.0         | <ul> <li>Adjust chapters</li> <li>Optimize chapter contents</li> <li>Add device initialization and reset admin password function.</li> </ul> | 2018.03         |  |  |
| 3  | V1.1.1         | Add two chapters: Privacy protection notice and about the manual   | 2018.05         |  |  |

## **Privacy Protection Notice**

As the device user or data controller, you might collect personal data of others' such as face, fingerprints, car plate number, Email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the

existence of surveillance area and providing related contact.

## About the Manual

- The Manual is for reference only. If there is inconsistency between the Manual and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the Manual.
- The Manual would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper User's Manual, CD-ROM, QR code or our official website. If there is inconsistency between paper User's Manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The
  product updates might cause some differences between the actual product and the
  Manual. Please contact the customer service for the latest program and supplementary
  documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the Guide (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the Manual are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

## 1 Features and Specifications

It is to introduce product features, applications and functions.

## 1.1 Overview

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

- It Integrates image process technology, wireless network, satellite positioning, vehicle information sampling and process technology and so on together.
- Uses strong aluminum alloy case and built-in 2.5-inch HDD and one SD card as the storage media. It supports built-in 3G/4G, Wi-Fi wireless transmission mode and positioning module.
- Installed on the vehicle such as car or ship, 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.

It has the following features:

- Mobile power.
  - Built-in mobile power source (DC 6V-36V), suitable for 12V/24V vehicle. It has overload protection, low voltage protection short-circuit protection and over current protection.
- High anti-shock design
  - It adopts general anti-shock design such as mechanical anti-shock measures, electronic anti-shock measures, and patent software anti-shock measures. It integrates device anti-shock and general anti-shock mechanism together.
- No fan design
  - The traditional fan design has the noise, easy to get dust, water and has high power consumption. No fan design is the tendency in current high-end vehicle electronic product.

This series DVR 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 function are optional. Please make sure you purchased product support these functions.

| Function    | Note  |  |  |
|-------------|---|--|--|
| Storage     | Special data format to guarantee data security and can avoid vicious data modification.   |  |  |
| Compression | 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      | <ul> <li>Support backup operation via USB port (such as flash disk, portable HDD)</li> <li>Client-end user can download the DVR file to local HDD to backup via network.</li> </ul> |  |  |

| Function                | Note   |
|-------------------------|--|
|                         | Support each channel real-time record independently, and at the same time it can support search, forward play, network monitor,  |
| Record playback         | <ul> <li>record search, download and etc.</li> <li>Support various playback modes: slow play, fast play, backward play and frame by frame play.</li> </ul>   |
|                         | <ul> <li>Support time title overlay so that you can view event accurate occurred time</li> <li>Support digital zoom function.</li> </ul>   |
| Network                 | Support network remote real-time monitor, remote record search and remote PTZ control.   |
| Alarm activation        | <ul> <li>Several relay alarm outputs to realize alarm activation and on-site light control.</li> <li>The alarm input port and output port has the protection circuit to</li> </ul>   |
|                         | guarantee device safety.  RS485 port can realize peripheral device control.  |
| Communication port      | <ul> <li>RS232 port can connect to keyboard to realize central control,<br/>and can also connect to PC COM to upgrade system and realize<br/>maintenance.</li> </ul>   |
| PTZ control             | <ul> <li>Standard Ethernet port can realize network access function.</li> <li>Support PTZ control via netwrok .</li> <li>Support various decode protocols to allow the PTZ to control the speed dome.</li> </ul>   |
| Intelligent operation   | <ul> <li>Mouse operation.</li> <li>Support short-cut menu to copy/paste for the same contents on the menu.</li> </ul>  |
| Satellite positioning   | The positioning information can activate the record function while the search function can activate the vehicle movement track.  Note  |
|                         | This function is for product of positioning module only.   |
| 3G/4G/Wi-Fi             | Latest wireless network communication technology allows you to easily control the device.  |
| network                 | Whote  |
| Removable<br>HDD design | This function is for product of 3G/4G, Wi-Fi module only.  The professional removable anti-shock design. It supports stationed and removable operation and can connect to PC to realize fast and convenience data backup via USB port.   |
| Dual-stream             | Considering the wireless network band is small and the network is not stable, system adopts the dual stream to implement real-time record and network transmission independently, which greatly optimizes the network transmission encode code and enhance the wireless network control compatibility. |

| Function              | Note   |
|-----------------------|--|
| Record vehicle status | There are seven external alarm ports. You can connect to the door signal, direction indicator lamp signal, reversing light signal, brake lamp signal and etc to prompt the driver and record vehicle status. |
|                       | liamp signal and etc to prompt the driver and record verticle status.  |

# 1.3 Specifications

|               | Parameter                             | 4-channel series   |
|---------------|---------------------------------------|--|
| System        | Main<br>Processor                     | High-performance industrial embedded micro controller  |
|               | OS                                    | Embedded LINUX   |
|               | System                                | Multiplex operations: Multiple-channel record, multiple-channel  |
|               | Resources                             | playback and network operation simultaneously  |
|               | Interface                             | User-friendly graphical user interface   |
|               | Input Devices                         | Mouse, remote control, keyboard  |
|               | Input Method                          | Arabic number, English character, donation and extension Chinese (optional)  |
|               | Shortcut                              | Copy/paste operation, USB mouse right-key shortcut menu, double  |
|               | Function                              | click USB mouse to switch screen.  |
| Compression   | Video                                 | H.264, dual-stream   |
| Standard      | Compression                           |  |
|               | Audio                                 | G711a,PCM and G711u  |
|               | Compression                           |  |
| Video monitor | Video Input                           | 4-ch network compression video input   |
|               | Video Output                          | 1-ch PAL/NTSC, aviation port (1.0VP- P, 75Ω) composite video signal  |
|               |                                       | output.  |
|               |                                       | Support 1-ch TV video output at the same time.   |
|               | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | Support VGA video output.  |
|               | Video                                 | Support PAL/NTSC.  |
|               | Standard<br>Record                    | Deal time Made: DAL 11/a to 251/a per channel and NTSC 11/a to 201/a   |
|               | Speed                                 | Real-time Mode: PAL 1f/s to 25f/s per channel and NTSC 1f/s to 30f/s per channel   |
|               | Video<br>Partition                    | 1/4 window(s)  |
|               | Monitor                               | Support monitor tour functions such as alarm and schedule auto   |
|               | Touring                               | control.   |
|               | Resolution                            | The 1/2-ch maximally support HDCVI 1080P resolution. 3/4-ch  |
|               | (PAL/NTSC)                            | maximally support HDCVI 720P resolution.   |
|               |                                       | System supports 720P by default. If you want to view 1080P resolution, make sure you connected HDCVI camera supports 1080P resolution. |
|               |                                       | When connect to the general analog camera. These 4 channels  |
|               |                                       | support 960H resolution. System does not support audio.  |
|               |                                       | Support dual-stream function. The sub-stream maximally supports D1.  |

| Image Quality   G-level image quality (Adjustable)   |            |               |   |
|--|------------|---------------|---|
| Image Information   Channel Information, time information, GPS information, plate information and privacy mask zone.   Please note only the unit of GPS module supports this function.     TV Adjust   Adjust TV output area suitable for the displayer of low image quality.  |            | Image Quality | 6-level image quality (Adjustable)  |
| Image Information   Channel Information, time information, GPS information, plate Information and privacy mask zone.   Please note only the unit of GPS module supports this function.     TV Adjust   TV output area suitable for the displayer of low image quality.   |            | Privacy mask  | Support one privacy mask of user-defined size in full screen.   |
| Information   Information and privacy mask zone.   Please note only the unit of GPS module supports this function.   Adjust TV output area suitable for the displayer of low image quality.   Channel Lock   Cover secret channel with black screen though system is encoding normally.   Screen-lock function to prevent unauthorized user seeing secret video.   Channel mane, recording status, screen lock status, video loss status and motion detection status are shown on the bottom left of display screen.   Color   |            |               | Support max 4 zones.  |
| Please note only the unit of GPS module supports this function.   TV Adjust  |            | Image         | Channel information, time information, GPS information, plate   |
| TV Adjust Adjust TV output area suitable for the displayer of low image quality.  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 and motion detection status are shown on the bottom left of display screen.  Color Hue, brightness, contrast, saturation and gain setup for each channel. Configuration  Audio Audio Input 4-ch aviation input 200mV ~2000mV 10κΩ.  Audio Output 1-ch aviation output 200mV ~3000mV 5kΩ.  Bidirectional Support bidirectional talk function. Support mobile dual-way radio input.  Hard Disk Built-in one SATA port. Support one 2.5-inch SATA HDD(max 2TB) and one SD card (max 128GB).  Space Audio: PCM 28.8Mbyte/hour  Occupation Video: 56byte/hour~5662/Mbyte/hour  Record and playback Priority: Manual recording-alarm recording-schedule recording.  Recording Length Playback When hard disk is full, system can overwrite previous video file.  Repeat Way Record Various search engines such as time, type and channel.  Search Playback 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 Local supports 1-channel playback WEB supports 1/4-channel playback.  Window Switch between self-adaptive screen/full screen when playback Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            | Information   | information and privacy mask zone.  |
| 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 and motion detection status are shown on the bottom left of display screen.   Hue, brightness, contrast, saturation and gain setup for each channel.   Configuration   Audio Input   4-ch aviation input 200mV ~2000mV 10kΩ.   Audio Output   1-ch aviation output 200mV ~3000mV 5kΩ.   Bidirectional   Support bidirectional talk function.   Audio   Support mobile dual-way radio input.   Hard Disk   Built-in one SATA port. Support one 2.5-inch SATA HDD(max 2TB) and one SD card (max 128GB)   Space   Audio: PCM 28.8Mbyte/hour   Occupation   Video: 56byte/hour ~5662Mbyte/hour   Recording   Manual recording, schedule recording and alarm recording   Priority: Manual recording- alarm recording-schedule recording.   Record   Priority: Manual recording- alarm recording- schedule recording.   Priority: Manual recording- schedule recording- search   Priority- and channel   Priority  |            |               | Please note only the unit of GPS module supports this function.   |
| Normally.   Screen-lock function to prevent unauthorized user seeing secret video.   Channel Information   Channel name, recording status, screen lock status, video loss status and motion detection status are shown on the bottom left of display screen.   Color   |            | TV Adjust     |   |
| Channel Information   Channel name, recording status, screen lock status, video loss status and motion detection status are shown on the bottom left of display screen.   Hue, brightness, contrast, saturation and gain setup for each channel.   |            | Channel Lock  | normally.   |
| Color Configuration   Hue, brightness, contrast, saturation and gain setup for each channel.   |            |               | Channel name, recording status, screen lock status, video loss status and motion detection status are shown on the bottom left of display         |
| Audio   Audio Input  |            | Color         |   |
| Audio   Audio Input  |            | Configuration | -   |
| Bidirectional Audio Support bidirectional talk function. Support mobile dual-way radio input.  Hard disk Hard Disk Built-in one SATA port. Support one 2.5-inch SATA HDD(max 2TB) and one SD card (max 128GB)  Space Audio: PCM 28.8Mbyte/hour Occupation Video: 56byte/hour~5662Mbyte/hour Mode Priority: Manual recording, schedule recording and alarm recording. Recording Length Playback Repeat Way Record Search Playback Various search engines such as time, type and channel. Search Playback Node and reverse play mode. Various File 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 WEB supports 1-channel playback. Window Switch between self-adaptive screen/full screen when playback Zoom Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.   | Audio      | Audio Input   | 4-ch aviation input $200 \text{mV} \sim 2000 \text{mV} 10 \text{k}\Omega$ .   |
| Audio Support mobile dual-way radio input.  Hard disk Hard Disk Built-in one SATA port. Support one 2.5-inch SATA HDD(max 2TB) and one SD card (max 128GB)  Space Occupation Video: 56byte/hour  Record and playback Recording Length Playback Repeat Way  Playback Record Search Playback Mode Narious fast play, slow play speeds, manual frame by frame playback and reverse play mode.  Various File Switch Ways Various 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 Playback WEB supports 1/4-channel playback.  Window Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            | Audio Output  | 1-ch aviation output $200 \mathrm{mV} \sim 3000 \mathrm{mV} \ 5 \mathrm{k}\Omega$ .   |
| Audio Support mobile dual-way radio input.  Hard disk Hard Disk Built-in one SATA port. Support one 2.5-inch SATA HDD(max 2TB) and one SD card (max 128GB)  Space Audio: PCM 28.8Mbyte/hour  Video: 56byte/hour ~5662Mbyte/hour  Record and playback Recording Mode Priority: Manual recording, schedule recording and alarm recording.  Recording Length Hayback Repeat Way  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 WEB supports 1-channel playback.  Window Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.   |            | Bidirectional | Support bidirectional talk function.  |
| Hard disk  Hard Disk  Built-in one SATA port. Support one 2.5-inch SATA HDD(max 2TB) and one SD card (max 128GB)  Space Occupation  Record and playback  Recording Length  Playback Repeat Way  Record Search  Playback Mode  Various file Switch Ways  Can switch to file on other channel of the same time. (If there is a file) Support sile in the current channel  Multi-channel Playback Window Zoom  Digital Zoom  When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            |               | · ·   |
| one SD card (max 128GB)  Space Occupation Video: 56byte/hour ~5662Mbyte/hour  Record and playback Recording Mode Priority: Manual recording> alarm recording and alarm recording.  Recording Length Playback Repeat Way Record Search Playback Mode Priority: Manual recording substantial playback Repeat Way Record Various search engines such as time, type and channel.  Playback Node Natious fast play, slow play speeds, manual frame by frame playback and reverse play mode.  Various File 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 playback WEB supports 1/4-channel playback.  Window Zoom Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  | Hard disk  | Hard Disk     |   |
| Space Occupation   Video: 56byte/hour   Video: 56 | riara disk | Tidia Disk    |   |
| Note   |            | Space         |   |
| Record playback  Recording Mode Priority: Manual recording> alarm recording> schedule recording> length  Playback Repeat Way  Record Search  Playback Mode 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 WEB supports 1-channel playback  Window Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            |               | -   |
| Priority: Manual recording> alarm recording> schedule recording.  Recording Length Playback Repeat Way Record Search Playback Mode Various fast play, slow play speeds, manual frame by frame playback and reverse play mode. Various File Switch Ways Support file continuous play, when a file is end system auto plays the next file in the current channel playback Window Zoom Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.   | Pocord and | -             |   |
| Recording Length  Playback Repeat Way  Record Search  Playback Mode Various File Switch Ways  Multi-channel Playback Playback Playback Support file continuous play, when a file is end system auto plays the next file in the current channel playback WEB supports 1/4-channel playback Window Zoom  Digital Zoom  When hard disk is full, system can overwrite previous video file.  When hard disk is full, system can overwrite previous video file.  When hard disk is full, system can overwrite previous video file.  When hard disk is full, system can overwrite previous video file.  Warious search engines such as time, type and channel.  Search  Various fast play, slow play speeds, manual frame by frame playback and reverse play mode.  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 playback  WEB supports 1-channel playback  Window Zoom  Digital Zoom  When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            |               |   |
| Length Playback Repeat Way Record Search Playback Mode Various fast play, slow play speeds, manual frame by frame playback Mode Various File Switch Ways Various file continuous play, when a file is end system auto plays the next file in the current channel Multi-channel Playback WEB supports 1/4-channel playback Window Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  | playback   |               |   |
| Playback Repeat Way  Record Search  Various search engines such as time, type and channel.  Search  Playback Mode Various File Switch Ways  Various File Support file continuous play, when a file is end system auto plays the next file in the current channel Playback WEB supports 1/4-channel playback.  Window Zoom  Digital Zoom  When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.   |            |               | 1 to 120 minutes single record duration (Derault Setup is 60 minutes)   |
| Search Playback Various fast play, slow play speeds, manual frame by frame playback and reverse play mode.  Various File 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 Local supports 1-channel playback Playback WEB supports 1/4-channel playback.  Window Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            | Playback      | When hard disk is full, system can overwrite previous video file.   |
| 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 WEB supports 1-channel playback WEB supports 1/4-channel playback.  Window Zoom Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            |               | Various search engines such as time, type and channel.  |
| Switch Ways  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 WEB supports 1-channel playback WEB supports 1/4-channel playback.  Window Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.  |            | •             |   |
| Playback WEB supports 1/4-channel playback.  Window Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.   |            |               | 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 |
| Playback WEB supports 1/4-channel playback.  Window Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.   |            | Multi-channel | Local supports 1-channel playback   |
| Zoom  Digital Zoom When in one-window full-screen playback mode, you can select any zone to activate partial enlargement function.   |            | Playback      | WEB supports 1/4-channel playback.  |
| zone to activate partial enlargement function.   |            |               | Switch between self-adaptive screen/full screen when playback   |
| zone to activate partial enlargement function.   |            |               | When in one-window full-screen playback mode, you can select any  |
| Backup Mode HDD backup   |            |               |   |
|  | Backup     | Backup Mode   | HDD backup  |

| function      |               | Support peripheral USB backup device. (Flash drive, portable HDD)        |
|---------------|---------------|--|
|               |               | Support USB burner (Support extension function)                          |
|               |               | Support network download and save  |
| Positioning   |               | Built-in GPS/Beidou/Glonass module(optional)                             |
| Network       | Network       | View monitor channel remotely.   |
| Function      | control       | DVR configuration through client-end and web browser                     |
|               |               | Upgrade via client or browser to realize remote maintenance.             |
|               |               | View alarm information such as external alarm, motion detection and      |
|               |               | video loss via client.   |
|               |               | File download backup and playback  |
|               |               | Multiple devices share information via corresponding software such as    |
|               |               | Digital Surveillance Software (DSS)                                      |
|               |               | Duplex transparent COM   |
|               |               | Network alarm input and output   |
|               |               | Bidirectional audio.   |
|               |               | Built-in 3G/4G module. Built-in Wi-Fi module(optional)                   |
|               | Wireless      | Support SMS function.  |
|               | Network       | Support SMS or phone to activate function.                               |
|               |               | Support auto connection function.  |
|               |               | Support network type and parameter setup.                                |
|               |               | Support network signal status indication function.                       |
| Motion        | Video Loss    | Alarm can activate external alarm or screen message prompt.              |
| Detection and |               | Alarm responding time≤5s   |
| Alarm         | Alarm         | Alarm can trigger pre-record function. Pre-record time ranges from 5 to  |
|               | Pre-record    | 30s.   |
|               | External      | Support record activation function or activate external alarm or screen  |
|               | Alarm         | message in specified period.   |
|               | Manual Alarm  | Enable or disable alarm input channel                                    |
|               | Control       | Can simulate alarm signal to specific alarm output channel.              |
|               | Alarm Input   | 6-ch alarm input (NO/NC) . 1-channel pulse speed measurement.            |
|               | Alarm Output  | 2-channel relay output   |
| Interface     | USB Interface | 2 USB 2.0 ports. One is at the front panel and one is at the rear        |
|               |               | panel(use the extension cable to use the USB 2.0 port at the rear panel) |
|               | Network       | RJ45 10M/100M self-adaptable Ethernet port                               |
|               | connection    |  |
|               | RS485         | One RS485 port.  |
|               |               | It is the PTZ control port   |
|               |               | Support various PTZ control protocols.                                   |
|               | CAN           | Can provide large power to PTZ and etc.                                  |
|               | RS232         | One port. Ordinary COM (Debug),keyboard connection and transparent       |
|               |               | serial port(COM input and output via network )                           |
|               |               |  |

|                 | VGA                    | Support (Customized cable. optional)   |
|-----------------|------------------------|--|
| System          | Hard Disk              | Display HDD current status   |
| Information     | Information            |  |
|                 | Data Stream Statistics | Data stream statistics for each channel (in wave mode)                           |
|                 |                        | Packup to 1024 log files   |
|                 | Log statistics         | Backup to 1024 log files.  Support various search engines such as time and type. |
|                 | Version                | Display version information: channel amount, alarm input and output              |
|                 | Version                |  |
|                 | On line week           | amount, system version and release date.   |
| Hann            | On-line user           | Display current on-line user   |
| User            | User                   | Multi-lever user management; various management modes                            |
| Management      | Management             | 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               | Password modification  |
|                 | security               | Administrator can modify other user's password.                                  |
|                 |                        | Account lock strategy  |
|                 |                        | Five times login failure in thirty minutes may result in account lock.           |
| Upgrade         |                        | WEB, client or update tool.  |
| Login, Logout a | and Shutdown           | Password login protection to guarantee safety                                    |
|                 |                        | User-friendly interface when login. Provide the following options:               |
|                 |                        | Logout /shutdown/ restart and etc.   |
|                 |                        | Right authentication when shut down to make sure only those proper               |
|                 |                        | people can turn off DVR  |
| General         | Power                  | DC +6V~+36V built-in power module (60W), built-in UPS.                           |
| Parameters      | Power                  | No HDD or other peripheral device: ≤10W  |
|                 | Consumption            |  |
|                 | Working                | <b>-20</b> ℃ −+65℃   |
|                 | Temperature            |  |
|                 | Working                | 10%-90%  |
|                 | Humidity               |  |
|                 | Air Pressure           | 86kPa∼106kPa   |
|                 | Dimension              | 1DIN case, front panel 190*60mm (W*H), rear panel 180*50mm(W*H),                 |
|                 |                        | depth: 210mm   |
|                 | Weight                 | 3.0Kg (at full package)  |
|                 | Installation           | Desktop/rack installation  |
|                 | Mode                   |  |
|                 |                        |  |

## 2 Installation

## 2.1 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.

## 2.2 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.

## 2.3 Front Panel

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

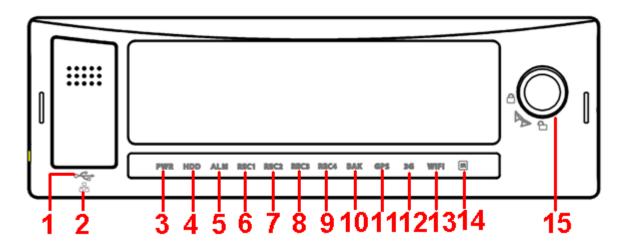


Figure 2-1

Please refer to the following sheet for detailed information.

| SN | Name                  | Port name and indicator light  |
|----|-----------------------|--|
| 1  | USB port              | USB port. To connect to mouse, or flash disk to backup data.                   |
| 2  | RJ45 network port     | Network port.  |
| 3  | Power indicator light | The red light is on when the device is running.                                |
| 4  | HDD indicator light   | The blue light is on when there is HDD. The light is off when there is no HDD. |

| SN  | Name                        | Port name and indicator light  |  |  |
|-----|-----------------------------|--|--|--|
| 5   | Alarm indicator light       | There is an alarm when the blue light is on.                             |  |  |
| 6~9 | Record indicator light 1~4  | The blue light is on when system is recording.                           |  |  |
| 10  | Backup indicator light      | The blue light is flashing when system is backup.                        |  |  |
|     |                             | <ul> <li>The blue light is on when the backup is finish.</li> </ul>      |  |  |
|     |                             | The light is off when the backup error occurs or the flash               |  |  |
|     |                             | disk is removed.   |  |  |
| 11  | Positioning indicator light | The blue light is on when positioning function is normal.                |  |  |
|     |                             | Note   |  |  |
|     |                             | Only the unit of positioning module supports this function.              |  |  |
| 12  | 3G indicator light          | The blue light is on when 3G function is normal.                         |  |  |
|     |                             | Note   |  |  |
|     |                             | Only the unit of 3G module supports this function.                       |  |  |
| 13  | Wi-Fi indicator light       | The blue light is on when Wi-Fi function is normal.                      |  |  |
|     |                             | Note   |  |  |
|     |                             | Only the unit of Wi-Fi function supports this function.                  |  |  |
| 14  | Remote control receiver     | It is to receive the signal from the remote control.                     |  |  |
| 15  | Door lock/unlock (Device    | Please unlock the device before you remove the HDD                       |  |  |
|     | on/off button)              | 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 save the HDD. |  |  |

## 2.4 Rear Panel

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

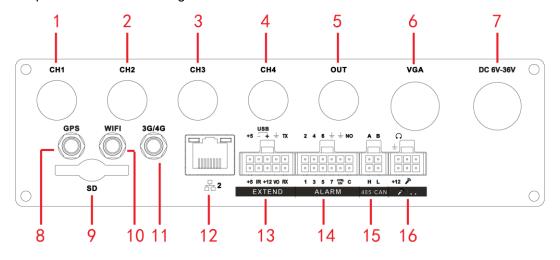


Figure 2-2

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

| SN  | Name                     | Function  |  |
|-----|--------------------------|---|--|
| 1~4 | CH1~CH4                  | Signal input port                                       |  |
| 5   | OUT                      | Audio/video output port                                 |  |
| 6   | VGA                      | VGA port. Including VGA and various signals port.       |  |
| 7   | Power device input       | Device power input port. It is to provide power         |  |
| ,   |                          | supplying.  |  |
|     | Positioning antenna port | Positioning antenna port.                               |  |
| 8   |                          | Note  |  |
|     |                          | Only the unit of GPS module supports this function.     |  |
| 9   | SD card port             | SD card port  |  |
|     | Wi-Fi antenna port       | Wi-Fi antenna port                                      |  |
| 10  |                          | Note  |  |
|     |                          | Only the unit of Wi-Fi module supports this function.   |  |
|     | 3G/4G antenna port       | 3G/4G antenna port                                      |  |
| 11  |                          | Note  |  |
|     |                          | Only the unit of 3G/4G module supports this function.   |  |
| 12  | RJ45 network port        | Network port 2  |  |
| 40  | Extension port           | Extension port. Please refer to Figure 2-5 for detailed |  |
| 13  |                          | information.  |  |
| 14  | Alarm input/output port  | Alarm input/output port, GND port, and 12V output.      |  |
| 14  |                          | Please refer to chapter 0 for detailed information.     |  |
|     | RS485 and CAN BUS port.  | RS485 communication port. It can control PTZ.           |  |
| 15  |                          | Reserved port. For data exchange between vehicles       |  |
|     |                          | CAN network and other devices of CAN port.              |  |
| 16  | Audio input and output   | Bidirectional input and output port. Please refer to    |  |
|     | port.                    | Figure 2-6 for detailed information.                    |  |

## **VGA Port**

The VGA Port is shown as in Figure 2-3.

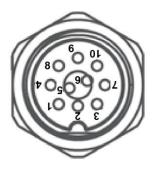


Figure 2-3

| SN | Function       | SN | Function     | SN | Function       |
|----|----------------|----|--------------|----|----------------|
| 1  | +12V/1A output | 5  | Audio output | 9  | VGA horizontal |

|   |               |    |                 |    | synchronization |
|---|---------------|----|-----------------|----|-----------------|
| 2 | GND           | 6  | VGA B           | 10 | VGA field       |
|   | 2 GND 6 VGA_B | 10 | synchronization |    |                 |
| 3 | VGA_G         | 7  | VGA_R           | -  | -               |
| 4 | RXD_232       | 8  | TXD_232         | -  | -               |

## **Power Input Port**

The power input Port is shown as in Figure 2-4.



Figure 2-4

| SN | Function                 | SN  | Function  |
|----|--------------------------|-----|-----------|
| 1  | Power input positive end | 3,4 | GND       |
| 2  | Power input positive end | 5   | ACC input |

## **Extend Port**

The extend port is shown as in Figure 2-5.

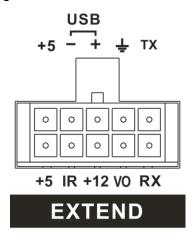


Figure 2-5

Please refer to the following sheet for detailed information.

| SN | Function                 | SN           | Function        |
|----|--------------------------|--------------|-----------------|
| +5 | +5V output (Bottom line) | +            | USB data+       |
| +5 | USB 5V (Top line)        | VO           | AV video output |
| IR | IR receiver port         | <del>-</del> | GND             |
| -  | USB data                 | RX           | RS232 RX        |

| SN  | Function       | SN | Function |
|-----|----------------|----|----------|
| +12 | +12V/1A output | TX | RS232 TX |

## **Bidirectional talk port**

The bidirectional talk port is shown as in Figure 2-6.

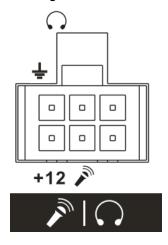


Figure 2-6

Please refer to the following sheet for detailed information.

| SN  | Function       | SN      | Function |
|-----|----------------|---------|----------|
| +12 | +12V/1A output |         | Mic In   |
| Ť   | GND            | $\circ$ | Mic Out  |

## 2.5 SIM Card Installation

Install SIM card to connect device to the internet.



This series product does not support Micro SIM or Nano SIM card.

## **Preparation**

Before the installation, please shut down the device and unplug the power cable.

This series product supports built-in SIM card. See Figure 2-7.

Step 1 Remove the HDD box.

Step 2 Push the SIM card slot to the back and open the SIM card slot.

Step 3 Insert the SIM card and then close the cover.

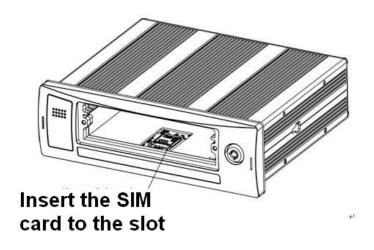


Figure 2-7

Note

After install the SIM card, make sure you have properly secure the card slot in case it becomes damaged when remove the HDD box.

Step 4 Insert HDD box.

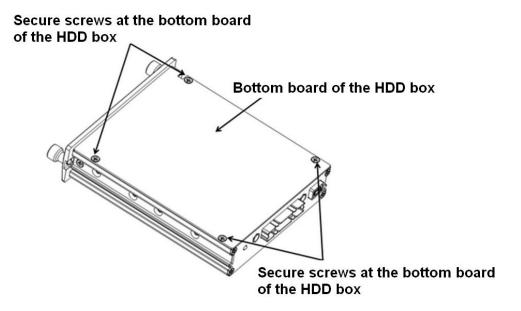
## 2.6 HDD Installation

HDD is not standard accessories. Please purchase separately and follow the contents listed below to install.



## WARNING

- Shut down the device and unplug the power cable before install/remove the HDD.
- The e-lock on the right side of the front panel shall be unlocked when you install/remove the HDD. Please lock the button before you boot up the device.
- Step 1 The HDD box and the parts are shown as below. See Figure 2-8. It includes bottom board of the HDD box and screws.



Step 2 Please loosen the screws of the bottom board of the HDD box and then remove the bottom board. Now you can see an interface shown as in Figure 2-9.

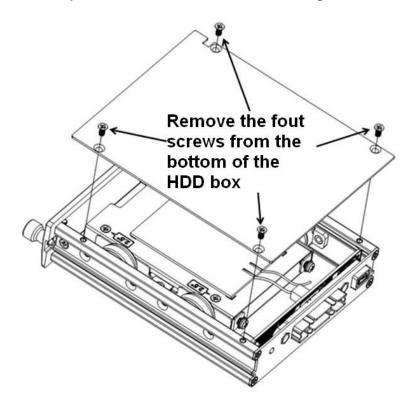


Figure 2-9

Step 3 Now you can see an interface shown as in Figure 2-10. Use four screws to secure the HDD on the bracket and then use two screws to fasten the bracket on the bottom board.

Step 4 Use screws to secure HDD box bottom. The HDD installation is complete.

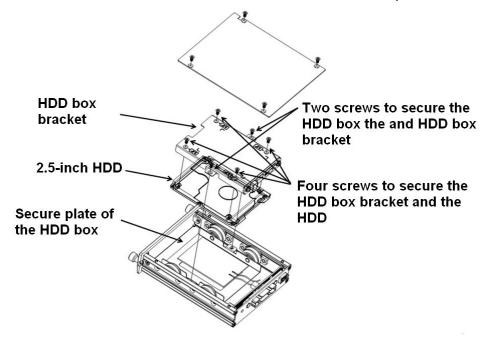


Figure 2-10

## 2.7 Connecting Audio/Video Input and Output Devices

It is to connect audio/video device if you want to view video and hear audio.

## 2.7.1 Audio/Video Input Introduction

It is to introduce audio/video input port and requirements.

## 2.7.1.1 Audio/Video Input Port

The 4-pin aviation port is shown as in Figure 2-11.

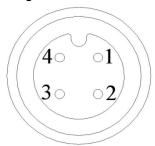


Figure 2-11

| SN | Function                | SN | Function  |
|----|-------------------------|----|-----------|
| 1  | VCC, power positive end | 3  | Power GND |
| 2  | Signal GND              | 4  | Signal    |

## 2.7.1.2 Video input

The input video format includes: composite signal PAL/NTSC  $1.0V_{P-P}$ ,  $75\Omega$ .

The video signal should comply with your national standards.

The input video signal shall have high SNR, low distortion; low interference, natural color and suitable lightness.

## Guarantee the stability and reliability of the camera signal:

The camera shall be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.

The camera and the DVR should have the same grounding to ensure the normal operation of the camera.

#### Guarantee stability and reliability of the transmission line

Please use high quality, sound shielded BNC. Please select suitable BNC model according to the transmission distance.

If the distance is too long, you should use twisted pair cable, and you can add video compensation devices or use optical fiber to ensure video quality.

You should keep the video signal away from the strong electromagnetic interference, especially the high tension current.

## Keep connection lugs in well contact

The signal line and shielded wire should be fixed firmly and in well connection. Avoid dry joint, lap welding and oxidation.

## 2.7.1.3 Audio Input

## 2.7.2 Audio/Video Output Introduction

It is to introduce audio/video output port and requirements.

2.7.2.1 Audio/Video Output Port

Please use this converter cable when the monitor adopts general BNC port. See Figure 2-12.



For some special series product, please contact your local retailer or our service engineer for audio/video output cable.

## 4-Pin Aviation Port

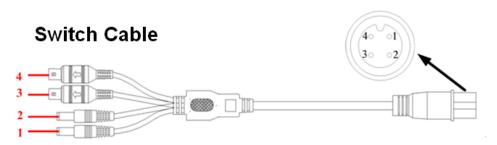


Figure 2-12

| Port | 4-pin aviation port                |
|------|------------------------------------|
| 1    | +12V, provide power to the camera. |
| 2    | GND                                |
| 3    | Audio                              |
| 4    | Video                              |

| Socket | Converter cable color and definition                               |
|--------|--|
| 1      | DC power male port outside negative inside positive (Camera power) |
| 2      | DC power male port outside negative inside positive (Camera power) |
| 3      | Yellow BNC male port (Video input)                                 |
| 4      | White BNC male port (Audii input)                                  |

## 2.7.2.2 Video Output

Video output includes a BNC(PAL/NTSC1.0V<sub>P-P</sub>, 75Ω) output and a VGA output.

When you are using pc-type monitor to replace the monitor, please pay attention to the following points:

- Please use a VGA cable if you want to use VGA monitor. Refer to chapter 2.4 Rear panel for VGA converter cable type information.
- To defer aging, do not allow the pc monitor to run for a long time.
- Regular demagnetization will keep device maintain proper status.
- Keep it away from strong electromagnetic interference devices.

Using TV as video output device is not a reliable substitution method. You also need to reduce the working hour and control the interference from power supply and other devices. The low quality TV may result in device damage.

#### 2.7.2.3 Audio Output

The audio output signal parameter is usually over 200mv 1K $\Omega$  (BNC). It can directly connect to low impedance earphone, active sound box or amplifier-drive audio output device.

If the sound box and the pick-up cannot be separated spatially, it is easy to arouse squeaking. In

this case you can adopt the following measures:

- Use better sound pick-up with better directing property.
- Reduce the volume of the sound box.
- Using more sound-absorbing materials in decoration can reduce voice echo and improve acoustics environment.
- Adjust the layout to reduce happening of the squeaking.

## 2.8 Alarm Input and Output Connection

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

## Alarm input

- Alarm input supports grounding alarm input.
- When the alarm device is connecting one DVR and one other device, please use a relay to separate them.

## **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.

#### PTZ connection

- Ensure the decoder has the same grounding with DVR, otherwise you may not control the PTZ. Shielded twisted wire is recommended and the shielded layer is used to connect to the grounding.
- Avoid high voltage. Ensure proper wiring and some thunder protection measures.
- For too long signal wires, 120Ω should be parallel connected between A, B lines on the far end to reduce reflection and guarantee the signal quality.
- Device A/B cable cannot parallel connect with the 485 port of other device.
- The voltage between of A, B lines of the decoder should be less than 5V.

## Make sure the front-end device has soundly earthed

Improper grounding may result in chip damage.

## Alarm input type

NO (Normal open)/NC (Normal close).

## 2.8.1 Alarm Input and Output Details

Alarm input and output interface is shown as in Figure 2-13.

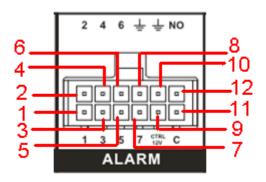


Figure 2-13

Please refer to the following sheet for detailed information.

| Name  | Name Pin Introduction              |  |
|-------|------------------------------------|--|
| 1~6   | Alarm input 1 $\sim$ Alarm input 6 |  |
| 7     | Pulse input                        |  |
| 8/10  | Alarm GND                          |  |
| 9     | Controllable 12V                   |  |
| 11/12 | NO/C of alarm output on-off signal |  |

## 2.8.2 Alarm Input Port

Please refer to the following sheet for more information. See Figure 2-14.

- 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.

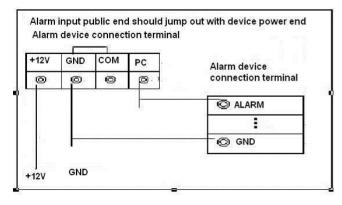


Figure 2-14

## 2.8.3 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             | Contact mode  |               | 1Z                                      |  |  |
| Parameter           | Contact resistance  |               | 100mΩ(0.1A 6VDC)                        |  |  |
|                     | Contact m   | aterial       | AgNi+gold-plating                       |  |  |
|                     | Contact  Max switch voltage  Max switch current  Max switch power  Min allowed load |               | 0.5A 125VAC/1A 30VDC                    |  |  |
|                     |   |               | 125VAC / 60VDC                          |  |  |
|                     |   |               | 2A                                      |  |  |
|                     |   |               | 62.5VA/30W                              |  |  |
|                     |   |               | 1mA 5V                                  |  |  |
|                     | Mechanic  | al durability | 1x10 <sup>7</sup> (300/min)             |  |  |
|                     | Electric durability   |               | 1x10 <sup>5</sup> (30/min)              |  |  |
| Performance         | Insulation  | resistance    | 1000MΩ(500VDC)                          |  |  |
| Parameter           | Media   | Between       | 1000VAC 1min                            |  |  |
|                     | pressure  | loop and      |   |  |  |
|                     |   |               | 100/40 4                                |  |  |
|                     |   | Between       | 400VAC 1min                             |  |  |
|                     |   | separated     |   |  |  |
|                     |   | contact       | _                                       |  |  |
|                     |   | time (Rated   | ≤5ms                                    |  |  |
|                     | voltage))  Release time (Rated voltage)  Bound time (Rated                          |               |   |  |  |
|                     |   |               | ≤5ms                                    |  |  |
|                     |   |               |   |  |  |
|                     |   |               | About 5ms                               |  |  |
|                     | voltage)  |               | CREW                                    |  |  |
|                     | Loop temperature  |               | ≤65K                                    |  |  |
| rise(Rated voltage) |   | voitage)      |   |  |  |
|                     | Strike  |               | 98m/s2                                  |  |  |
|                     | Vibration   |               | 10Hz~55 Hz 3.3mm Double amplitude       |  |  |
|                     | Humidity  |               | 98% RH, 40℃                             |  |  |
|                     | Temperature   |               | -30°C~+70°C                             |  |  |
|                     | Weight  |               | About 2.2g                              |  |  |
|                     | leading-out end mode  |               | DIP                                     |  |  |
|                     | Seal mode   |               | Sealed                                  |  |  |
| Loop                | Rated Loc   | p Power       | Standard mode: 200mW; Sensitivity mode: |  |  |
|                     |   |               | 150mW                                   |  |  |

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

## 2.9 Remote Control

The remote control interface is shown as in Figure 2-15.

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

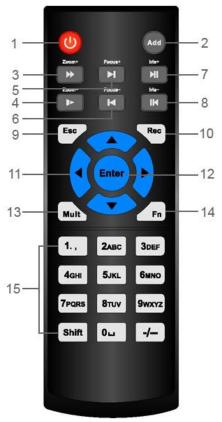


Figure 2-15

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.                    |
|               | Next record     | In playback mode, playback the      |
| 5             |                 | next video.                         |
|               | Previous record | In playback mode, playback the      |
| 6             |                 | previous video.                     |
| 7             | Play/Pause      | In pause mode, click this button    |
|               |                 | to realize normal playback.         |
|               |                 | In normal playback click this       |
|               |                 | button to pause playback.           |

|     | _                      | la maditima manitan mada aliah      |
|-----|------------------------|-------------------------------------|
|     |                        | In real-time monitor mode, click    |
|     |                        | this button to enter video search   |
|     |                        | menu.                               |
|     | Reverse/pause          | Reverse playback pause mode,        |
| 8   |                        | click this button to realize normal |
|     |                        | playback.                           |
|     |                        | In reverse playback click this      |
|     |                        | button to pause playback.           |
|     | Cancel                 | Go back to previous menu or         |
| 9   | Carroon                | cancel current operation (close     |
| 3   |                        |                                     |
| 40  |                        | 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    |
| 4.5 |                        | character.                          |
| 15  | 0-9 number key         | Input password, channel or          |
| i . |                        |                                     |
|     |                        | switch channel.                     |
|     |                        | Shift is the button to switch the   |

# 2.10 Mouse Operation

Please refer to the following sheet for mouse operation instruction.

| mouse    Content.   Modify checkbox   | Left click  | When you have selected one menu item, left click mouse to view menu                |  |  |  |  |  |
|---|-------------|--|--|--|--|--|--|
| 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.   |             | -  |  |  |  |  |  |
| 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 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.  |             |  |  |  |  |  |  |
| 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.  |             |  |  |  |  |  |  |
|   |             |  |  |  |  |  |  |
| deleting the previous character.  |             |  |  |  |  |  |  |
| ? @ # \$ % = + * -  |             | In English input mode: stands for input a backspace icon and ← stands for          |  |  |  |  |  |
| asdfghjkl:Enter 789  Zxcvbnm,.Shift □ 0&  I!?@#\$\$%=+*   |             | deleting the previous character.   |  |  |  |  |  |
| Q W E R T Y U I O P / 4 5 6   |             | asdfghjkl:Enter 789  |  |  |  |  |  |
| previous numeral.  Double left click mouse 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 In real-time monitor mode, pops up shortcut menu.  Exit current menu without saving the modification.  Press In numeral input box: Increase or decrease numeral value.  Switch the items in the check box.  button Page up or page down  Move Move Select current control or move control  Drag Select privacy mask zone. |             | QWERTYUIOP/ 456 ASDFGHJKL: Enter 789   |  |  |  |  |  |
| click mouse  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 In real-time monitor mode, pops up shortcut menu.  Exit current menu without saving the modification.  Press In numeral input box: Increase or decrease numeral value.  Switch the items in the check box.  button Page up or page down  Move Select current control or move control  mouse  Drag Select privacy mask zone.                            |             | -  |  |  |  |  |  |
| 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 In real-time monitor mode, pops up shortcut menu.  Exit current menu without saving the modification.  Press In numeral input box: Increase or decrease numeral value.  Switch the items in the check box.  button Page up or page down  Move Select current control or move control  mouse Drag Select privacy mask zone.  | Double left | Implement special control operation such as double click one item in the file list |  |  |  |  |  |
| Double left click current video again to go back to previous multiple-window mode.  Right click In real-time monitor mode, pops up shortcut menu.  Exit current menu without saving the modification.  Press In numeral input box: Increase or decrease numeral value.  Switch the items in the check box.  button Page up or page down  Move Select current control or move control  mouse  Drag Select privacy mask zone.   | click mouse | to playback the video.   |  |  |  |  |  |
| mouse Exit current menu without saving the modification.  Press In numeral input box: Increase or decrease numeral value.  Switch the items in the check box.  Page up or page down  Move Select current control or move control  mouse  Drag Select privacy mask zone.   |             | Double left click current video again to go back to previous multiple-window       |  |  |  |  |  |
| Press In numeral input box: Increase or decrease numeral value.  Switch the items in the check box.  button Page up or page down  Move Select current control or move control  mouse Drag Select privacy mask zone.   | Right click | In real-time monitor mode, pops up shortcut menu.                                  |  |  |  |  |  |
| middle Switch the items in the check box.  button Page up or page down  Move Select current control or move control mouse  Drag Select privacy mask zone.   | mouse       | Exit current menu without saving the modification.                                 |  |  |  |  |  |
| button Page up or page down  Move Select current control or move control mouse  Drag Select privacy mask zone.  | Press       | In numeral input box: Increase or decrease numeral value.                          |  |  |  |  |  |
| Move Select current control or move control mouse  Drag Select privacy mask zone.   | middle      | Switch the items in the check box.   |  |  |  |  |  |
| mouse  Drag Select privacy mask zone.   | button      | Page up or page down   |  |  |  |  |  |
| Drag Select privacy mask zone.  | Move        | Select current control or move control   |  |  |  |  |  |
|   | mouse       |  |  |  |  |  |  |
| mouse   | Drag        | Select privacy mask zone.  |  |  |  |  |  |
|   | mouse       |  |  |  |  |  |  |

## 3 Boot up and Shut down

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.



Caution

- The rated input voltage matches the device power on-off button. Please make sure the power wire connection is OK. Then click the power on-off button.
- To protect device, please connect device to the power adapter first and then connect the power cable.
- Always use the stable current, if necessary UPS is a best alternative measure.

## 3.1 Boot up

Turn the device key to and the vehicle key turn to ACC level, 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.



If it is the first time to boot up the device or you have restored factory default settings, device goes to initialization interface after it booted up. Please follow the prompts to initialize the device first.

## 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 4.1.5 Manual record for detailed information.

## **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.

## 3.2 Shut Down

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 maintain).

Note

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

## 4 Local Operation

It is to introduce device initialization, local menu operation, settings, maintenance work.

## 4.1 Getting Started

#### 4.1.1 Initialize Device

If it is your first time to use the device, please set a login password of **admin** (system default user). You can select to use unlock pattern to login or not at your own choosing.

# Note

For your device safety, please keep your login password of **admin** well after the initialization steps, and change the password regularly.

Please follow the steps listed below.

Step 1 Boot up DVR.

Device displays device initialization interface. See Figure 4-1.



Figure 4-1

#### Step 2 Set login password of admin.

- User name: The default user name is admin.
- Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding "'", """, ";", ":", "&"). The password shall contain at least two categories. Usually we recommend the strong password.
- Prompt question: If you set the prompt question here. On the login interface, move
  your mouse on , device can display the corresponding prompt question for you
  to remind the password.



STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.

Step 3 Click Next, device goes to the following interface. See Figure 4-2.

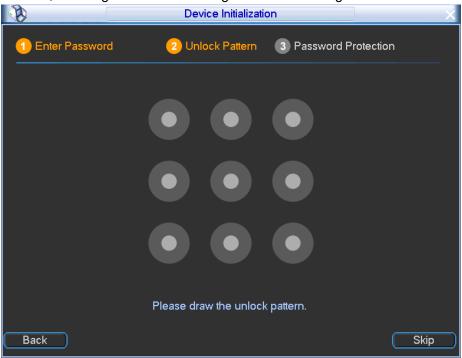


Figure 4-2

## Step 4 Set unlock pattern.

After set unlock pattern, device goes to password protection interrface. See Figure 4-3.

## 🔲 <sub>Note</sub>

- Device adopts unlock pattern to login by default if you have set pattern here. If there
  is no unlock pattern, please input the password to login.
- Click Skip if there is no need to set unlock pattern.

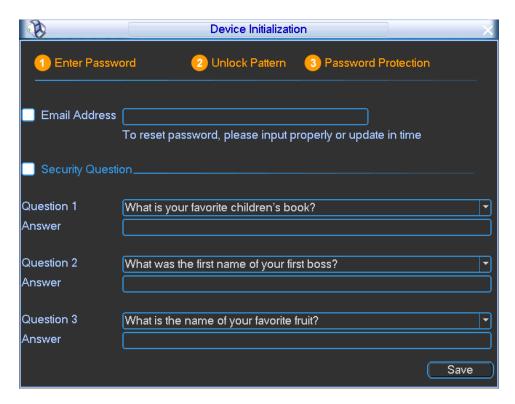


Figure 4-3

## Step 5 Set security questions.

# Note

- After setting the security questions here, you can use the email you input here or answer the security questions to reset admin password. Refer to chapter 4.3.6.7 Reset password for detailed information.
- Cancel the email or security questions box and then click Next button to skip this step.
- Email: Input an email address for reset password purpose. In case you forgot password in the future, input the security code you got on the assigned email to reset the password of admin. If you have not input email here or you need to update the email information, please go to the main menu->Setting->System->Account->Modify user to set. Refer to chapter 4.3.6.2 Modify user for detailed information.
- Security question: Set security questions and corresponding answers. Properly
  answer the questions to reset admin password. In case you have not input security
  question here or you need to update the security question information, please go to
  the main menu->Setting->System->Account->Security question to set. Refer to
  chapter 4.3.6.6 Security question for detailed information.

# Note

If you want to reset password by answering security questions, please go to the local menu interface.

Step 6 Click OK to complete the device initialization setup.

## 4.1.2 **Login**

It is to login the local menu to operate the device.

Step 1 On the preview interface, right click mouse and select Main menu, Enter login interface. See Figure 4-4.

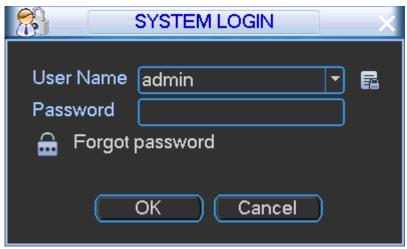


Figure 4-4

# Note

- If you have set unlock pattern, device goes to unlock pattern interface to login by default.
- Click to view the prompt information to help you remember password.
- In case you forgot password, click to answer security questions or use the email to reset password. Refer to chapter 4.3.6.7 Reset password for detailed information.
- Step 2 The default user is **admin**, and then input the corresponding password (the password you set during initialization process).
- Step 3 Click OK.

  Enter main menu interface. See Figure 4-5.

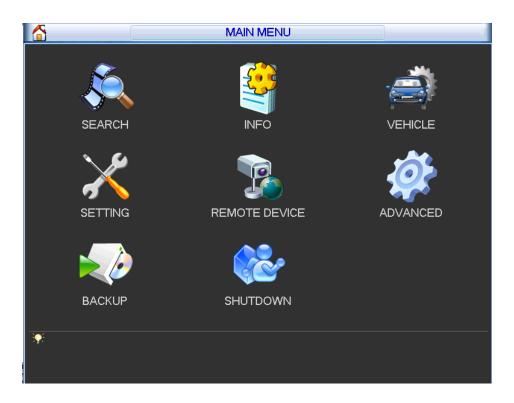


Figure 4-5

### 4.1.3 IP Address and Port

It is to set network information such as IP address or port.

Step 1 On the main menu, from Setting->Network, Enter network interface. See Figure 4-6.

#### 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.
- 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.
- Subnet prefix: The input value ranges from 0 to 128. It is to mark a specified network MAC address. Usually it includes an organization of multiple-level.
- 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.
- DHCP: It is to auto search IP. When enable DHCP function, you cannot modify IP/Subnet mask /Gateway. These values are from DHCP function. If you have not enabled DHCP function, IP/Subnet mask/Gateway display as zero. You need to disable DHCP function to view current IP information. Besides, when PPPoE is operating, you cannot modify IP/Subnet mask /Gateway.
- TCP port: Default value is 37777. You can change if necessary.
- UDP port: Default value is 37778. You can change if necessary.
- HTTP port: Default value is 80.

- RTSP port: Default value is 554.
  - Important: System needs to reboot after you changed and saved any setup of the above four ports. Please make sure the port values here do not conflict.
- Max connection: system support maximal 20 users. 0 means there is no connection limit.
- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.
- Transfer mode: Here you can select the priority between fluency/video qualities.
- LAN download: 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.

#### **Important**

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.

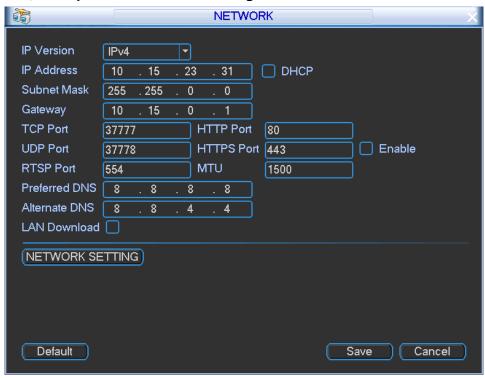


Figure 4-6

Step 3 Network Service (Optional)



Follow the contents listed below if you want to set DDNS, email, FTP, Ethernet port 2, P2P function.

Click Network setting button,
 Enter network setting interface. See Figure 4-7.

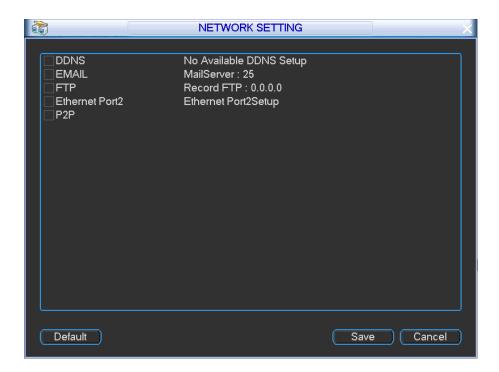


Figure 4-7

- Please draw a circle to enable corresponding function.
   Double click current item to go to setup interface. Refer to chapter 4.3.2 Network Service for detailed information.
- 3. Click Save button.

Step 4 Click Save button.

#### 4.1.4 General Information

It is to set device basic information and some general settings such as system time, date format, language.

- Step 1 On the main menu, from Setting->General, Enter General interface. See Figure 4-8.
- Step 2 Set parameters.
  - System time: Here is for you to set system time

# Note

- Since system time is very important, do not modify time casually unless there is a must!
- Before your time modification, please stop record operation first!
- 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 4-9. Here you can set start time and end time by setting corresponding week setup. In Figure 4-9, enable date button, you can see an interface is shown as in Figure 4-10. Here 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: Set system language.

# Note

- System needs to reboot to activate new setup.
- HDD full: Here is for you to select working mode when hard disk is full. There are two options: stop/overwrite.
- Pack duration: Here is for you to specify record duration. The value ranges from 1 to 120 minutes. Default value is 60 minutes.
- License No: Here you can set vehicle plate number.
- 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 navigation bar on the interface when you boot up device the next time. Otherwise, it goes to the system login interface directly. You can check the box to select overlay position.
- Startup wizard: Once you check the box here, system will go to the startup wizard directly when the system restarts the next time. Otherwise, it will go to the login interface.

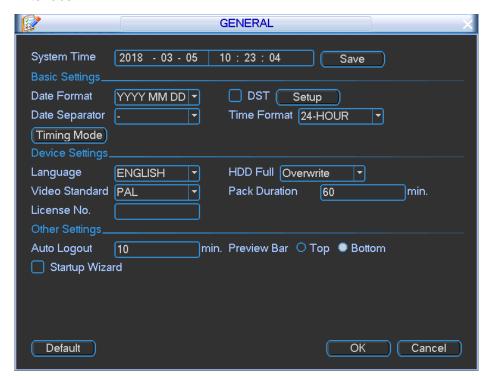


Figure 4-8

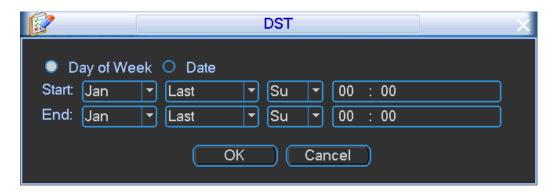


Figure 4-9

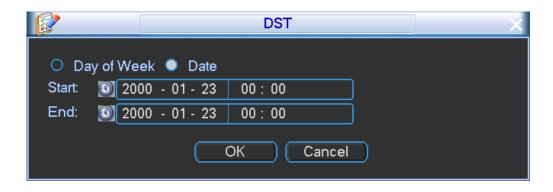


Figure 4-10

Step 3 Click Save button.

### 4.1.5 Manual Record



You need to have proper rights to implement the following operations. Please make sure the HDD has been properly installed.

- Step 1 Right click mouse or in the main menu, Advanced->Manual Record. Enter Manual record interface. See Figure 4-11.
- Step 2 Set parameters.
  - Manual: The highest priority. After manual setup, all selected channels will begin ordinary recording.
  - Schedule: Channel records as you have set in recording setup (Main Menu->Setting->Schedule)
  - Stop: Corresponding channel stop recording.
  - Enable/disable: Corresponding channel start/stop regular snapshot function.

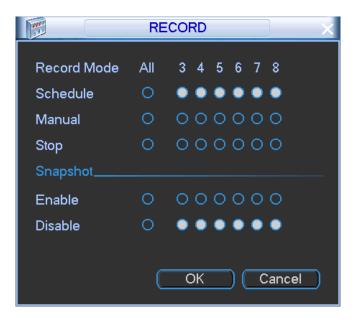


Figure 4-11

Step 3 Click OK button.

#### 4.1.6 Schedule

All channels are record continuously by default. You can set customized record period and record type.

After set schedule record, device can record video file according to the period you set here. For example, the alarm record period is from  $6:00\sim18:00$  Monday, device can record alarm video files during the  $6:00\sim18:00$ . Refer to chapter 4.1.5 Manual record for detailed information.

Step 1 In the main menu, from setting to schedule, Enter schedule menu. See Figure 4-12.

#### 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 0 to 30 seconds depending on the bit stream. 0 means pre-record function is null.
- 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.
- Record types: There are three types: regular, MD, and alarm. Green color stands for regular recording, yellow color stands for motion detect (MD) recording, and red color stands for alarm recording.

# Note

When alarm type is MD/alarm, please enable the corresponding channel to record. For example, when alarm type is MD, please refer to chapter 4.3.4.2 Detect to enable motion detect record function, and refer to 4.1.5 Record control to set schedule record function.

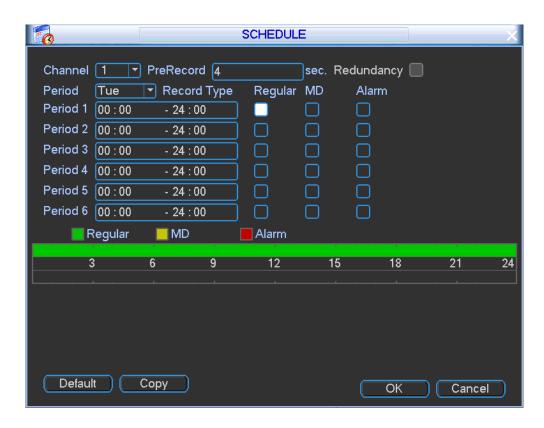


Figure 4-12

Step 3 Click OK button.

## 4.2 Operations

### 4.2.1 Preview

After you successfully logged in, you can go to 4-window preview interface directly. See Figure 4-13.

# ©<del>--</del> Tips

If you want to change position of channel 1 and channel 2 when you are previewing, you can left click mouse in the channel 1 and then drag to channel 2, release mouse you can switch channel 1 and channel 2 positions.



Figure 4-13 Refer to the following sheet for icons information.

| g     | Sheet for footis information.  |  |  |  |  |  |
|-------|--|--|--|--|--|--|
| Icon  | Function   |  |  |  |  |  |
| A.123 | The vehicle plate number. Refer to chapter 4.1.4 General information to set plate number.        |  |  |  |  |  |
|       | ·  |  |  |  |  |  |
|       | Device internal temperature.   |  |  |  |  |  |
|       | Vehicle speed.   |  |  |  |  |  |
|       | Device 3G/4G network connection status. Refer to chapter 4.3.3.1 3G/4G for detailed information. |  |  |  |  |  |
|       | 3G/4G network connection failed.   |  |  |  |  |  |
|       | 3G/4G network connection succeeded.  |  |  |  |  |  |
|       | Device Wi-Fi network connection status. Refer to chapter 4.3.3.2 Wi-Fi for detailed information. |  |  |  |  |  |
|       | Wi-Fi network connection failed.   |  |  |  |  |  |
|       | Wi-Fi network connection succeeded.  |  |  |  |  |  |

| Icon      | Function  |
|-----------|---|
| <u></u> ₩ | <ul> <li>Device positioning module connection status.</li> <li>Positioning module connection failed.</li> <li>Positioning module connection succeeded.</li> </ul> |
|           | Device has connected to the platform or not. Refer to chapter 4.3.3.3  Register for detailed information.  • Failed to connect to the platform.                   |
|           | Successfully connected to the platform.   |

### 4.2.1.1 Preview interface

After register a remote device to the system, it can overlay time, channel name, GPS information and there is a line at the bottom of the interface to display channel record and alarm status.

| SN | Icon | Function   |  |  |
|----|------|--|--|--|
| 1  | 8    | When current channel is recording, system displays this icon.  |  |  |
| 2  | M    | When motion detection alarm occurs, system displays this icon. |  |  |
| 3  | ?    | When video loss alarm occurs, system displays this icon.       |  |  |

### 4.2.1.2 Preview Control

Move you mouse to the top center of the video of current channel, you can see system pops up the preview control interface. If your mouse stays in this area for more than 6 seconds and has no operation, the control bar automatically hides. See Figure 4-14.



Figure 4-14

- Click the icon becomes, left click mouse to select a zone and left click and then drag to zoom in the selected zone, right click mouse to restore original status.
- Click to display video in up/down/left/right mode.

### 4.2.1.3 Right-Click Menu

It is to introduce right-click menu function on the preview interface.

On the preview interface, right click mouse, you can view menu interface shown as in Figure 4-15.

# Note

Slight difference may be found on the following interface.

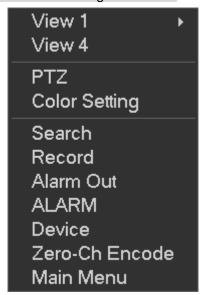


Figure 4-15

#### Window Switch

System supports 1/4/8/9-window. You can select from the dropdown list. See Figure 4-16.

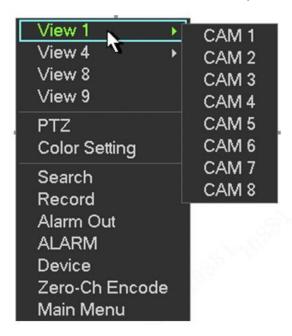


Figure 4-16

#### PTZ Control

Before you go to PTZ control interface, please go to chapter 4.2.2 to set PTZ parameter. Click it to go to PTZ interface. See Figure 4-17.



Figure 4-17

#### Color

Here you can set hue, brightness, contrast, saturation, gain, white level, color mode and etc. Please refer to chapter 4.3.1.1 Image for detailed information.

#### Search

Click it to go to Search interface to search and playback a record file. Please refer to chapter 4.2.3 Search & Playback for detailed information.

#### Record Control

Enable/disable record channel. Please refer to chapter 4.1.5 Record control for detailed information.

### Alarm Output

It is to set alarm output mode. Please refer to chapter 4.3.4.4 Alarm output.

#### Device Info

Please refer to chapter 4.4.2.2 Device info for detailed information.

### Zero-channel encoding

Click to go to zero-channel encoding interface. Please refer to chapter 4.2.1.4.3 Zero-channel encoding for detailed information.

#### Main Menu

Click to go to the main menu.



Right click mouse to go back to the upper-level menu.

### 4.2.1.4 Preview Settings

It is to set channel output mode, tour mode and zero-channel encoding mode.

4.2.1.4.1 Display

It is to set channel output mode such as transparent, channel name, overlay information, motion tour and alarm tour mode, split mode, and volume during preview and bidirectional talk process.

Step 1 On the main menu, from Setting->Display, Enter display interface. See Figure 4-18.

#### Step 2 Set parameters.

- Transparency: Here is for you to adjust transparency. The value ranges from 128 to 255.
- Channel name: Here is for you to set camera channel name. Input a channel name and then click OK button.
- Time display: You can select to display time or not when system is playback.
- Car number display: You can select to display plate number 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.
- Resolution: Please note system needs to reboot to active current setup.
- Screen calibration: When connecting the device to the touch screen, click the screen calibration to calibrate the screen.
- Image enhance: Check the box; you can optimize the margin of the preview video.
- MD tour/alarm tour: It is to set motion detect tour/alarm tour split mode. Please note it supports 1-window tour mode only.

## Note

Tour priority: Alarm tour>motion detect tour>general tour.

- Zero-Channel Encoding (Multiple-Preview): It is to set encode mode, resolution, frame rate, overlay information and etc. Refer to chapter 4.2.1.4.2 Zero-channel encoding for detailed information.
- Video mirror: Set channel left/right/top/bottom mirror.
  - 1. Click Set button,

Enter video mirror interface.

- 2. Select different mirror mode:
  - Top/bottom is to display video upside down, left/right is to change video left/right position.
- 3. Click Save button.
- Split mode: It is to set preview split mode and the interval from other mode to the current split mode.
  - ♦ Select a channel if you select 1-window mode. Select all channels if you select 4-window mode.
  - When video stays in other split mode for specified period, system automatically switches to specified split mode.
- Preview: Drag the slide bar to adjust the volume during preview. On 1-window preview mode, make sure the connected camera supports audio input(the camera has MIC or has connected to the peripheral MIC), device has connected to the screen that can output audio (such as AV screen) and current channel has enabled audio function, now you can hear the remote device audio during preview process.
- Volume control: Drag the slide bar to set volume during live or bidirectional talk process.

Step 3 Click Save button.

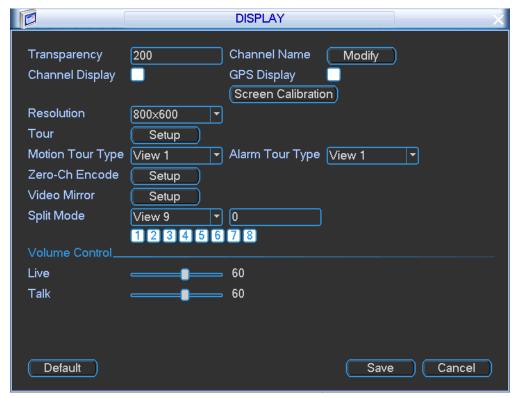


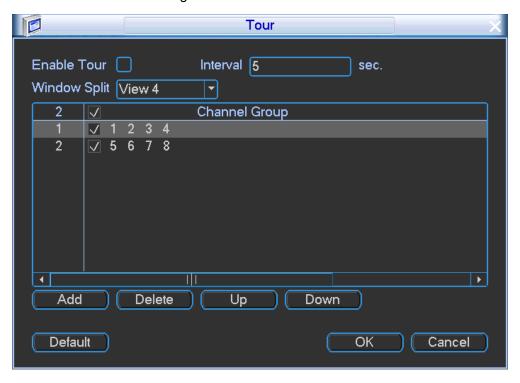
Figure 4-18

#### 4.2.1.4.2 Tour

Tour function is to display the videos from several channels at the specified interval regularly.

- Step 1 On the main menu, from Setting->Display, Enter Display interface.
- Step 2 Click tour Setup button,

Enter tour interface. See Figure 4-19.



- Step 3 Check the box to enable tour function.
  - Interval: Input proper interval value here. The value ranges from 5-120 seconds. The default setup is 5 seconds.
  - Window split: There are two options: 1/4/8/9-window split mode.
  - Channel: Display all channel settings in current split mode.
    - 1. Click Add to add channel settings.
    - 2. Select a channel setting and then click delete, it is to delete current channel setting.
    - 3. Select a channel setting and then click move up/move down to move its position.
- Step 4 Click OK

Device goes back to Display interface.

Step 5 Click Save button.

#### 4.2.1.4.3 Zero-channel encoding

It is to enable and set zero-channel encoding function so that you can view several video sources at one channel on WEB.

- Step 1 On the main menu, from Setting->Display, Enter Display interface.
- Step 2 Click zero-channel encoding Setup button, Enter zero-encoding interface. See Figure 4-20.
- Step 3 Set parameters.
  - Enable: This function is disabled by default. 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. You can set according to device capability.
  - Resolution: The resolution value may vary due to different device capabilities.
     Please select from the dropdown list.
  - Frame rate: System supports 1-25(30). The frame rate value may vary due to different device capabilities. Please select from the dropdown list.
  - Bit Rate: System supports 640/768/896/1024. The bit rate value may vary due to different device capabilities and frame rate setups. Please select from the dropdown list.
  - 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.

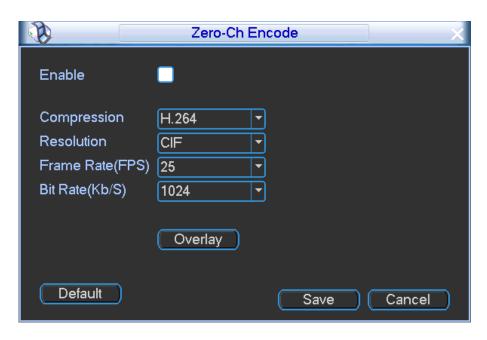


Figure 4-20

### Step 4 Set overlay information.

Click Overlay button,
 Enter overlay interface. See Figure 4-21.

## Note

The overlay function is null in multiple-channel preview mode.

- 2. Select Monitor after time/plate/GPS.
- 3. Click Setup.
- 4. Drag the title to the corresponding position and right click mouse to go back to overlay interface.
- 5. Click Save button.

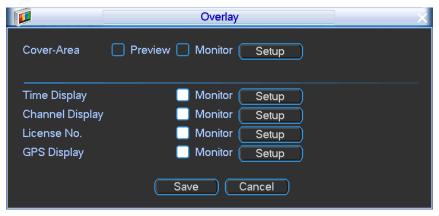


Figure 4-21

Step 5 Click Save button.

Device goes back to Display interface.

Step 6 Click Save button.

### 4.2.2 PTZ



All the operations here are based on PELCOD protocol. For other protocols, there might be a little difference.

#### **Cable Connection**

Please follow the procedures below to go on cable connection

- Connect the dome RS485 port to DVR 485 port.
- Connect dome video output cable to DVR video input port.
- Connect power adapter to the dome.

## 4.2.2.1 PTZ Settings



The camera video should be in the current screen. 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.
- Step 1 On the main menu, from setting to Pan/Tilt Control, Enter PTZ interface. See Figure 4-22.
- Step 2 Select a channel.
- Step 3 Set parameters.
  - Channel: Select the camera connected channel.
  - Protocol: Select corresponding. It includes: NONE/ HD-CVI/PELCOD.
  - Address: Default address is 1.

## Note

The address shall be the same with the peripheral PTZ address. Otherwise, the DVR cannot control the peripheral PTZ.

- Baud rate: Select corresponding baud rate. Default value is 9600.
- Data bit: Select corresponding data bits. Default value is 8.
- Stop bit: Select corresponding stop bits. Default value is 1.
- Parity: There are three options: odd/even/none. Default setup is none.

### Step 4 Click Save button.



Click Copy to copy current channel setup to other channel(s).

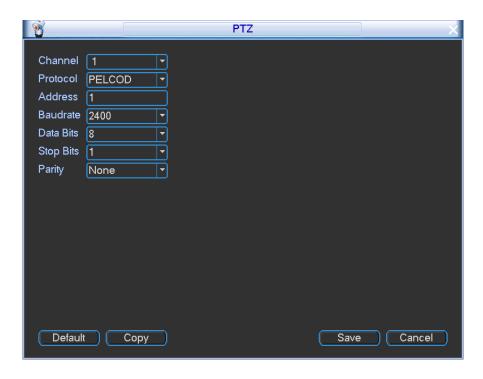


Figure 4-22

## 4.2.2.2 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 4-23.

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.

Here is a sheet for you reference.

| Name  | Function | function | Shortcut | Function | function | Shortcut |
|-------|----------|----------|----------|----------|----------|----------|
|       | key      |          | key      | key      |          | Key      |
| Zoom  |          | Wide     | 1.       | <b>①</b> | Far      | <b>*</b> |
| Focus |          | Near     | <b>4</b> | <b>①</b> | Far      | <b> </b> |
| Iris  |          | Close    | п◀       | <b>①</b> | Open     | ►II      |



Figure 4-23

In \_\_\_Figure 4-23, please click direction arrows (See Figure 4-24) to adjust PTZ position. There are total 8 direction arrows. You can use the remote control to set.



Figure 4-24

### 4.2.2.3 3D Intelligent Positioning Key

In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See \_\_\_Figure 4-25. 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 4-25

### 4.2.2.4 Preset/ Patrol/Pattern/Scan

In \_\_\_\_\_Figure 4-23, please click the "set" button. The interface is shown as below. See \_\_\_\_Figure 4-26.

Here you can set the following items:

- Preset
- Tour
- Pattern
- Border



Figure 4-26

In \_\_\_\_\_Figure 4-23, click page switch button, the interface is shown as in \_\_\_\_Figure 4-27. Here you can activate the following functions:

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



Figure 4-27

## 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.

### 4.2.2.4.1.1 Preset Setup

In \_\_\_\_\_Figure 4-23, use eight direction arrows to adjust camera to the proper position.

In \_\_\_Figure 4-27, click preset button and input preset number. The interface is shown as in \_\_\_Figure 4-28.

Now you can add this preset to one tour.



Figure 4-28

#### 4.2.2.4.1.2 Activate Preset

In \_\_\_\_\_Figure 4-27, please input preset number in the No. blank, and click preset button.

### 4.2.2.4.1.3 Patrol setup (Tour Setup)

In \_\_\_Figure 4-26, click patrol button. The interface is shown as in \_\_\_Figure 4-29. Input preset number and add this preset to a patrol (tour). For each patrol (tour), you can input max 80 presets.



Figure 4-29

### 4.2.2.4.1.4 Activate Patrol (tour)

In \_\_\_Figure 4-27, input patrol (tour) number in the No. blank and click patrol button

### 4.2.2.4.1.5 Pattern Setup

In \_\_\_Figure 4-26, click pattern button and then click "begin" button. The interface is shown as in \_\_\_Figure 4-30. Then you can go to \_\_\_Figure 4-23 to modify zoom, focus, and iris.

Go back to \_\_\_\_ Figure 4-30 and click "end" button. You can memorize all these operations as pattern 1.



Figure 4-30

#### 4.2.2.4.1.6 Activate Pattern Function

In \_\_\_Figure 4-27, input mode value in the No. blank, and click pattern button.

#### 4.2.2.4.1.7 Auto Scan Setup

In \_\_\_\_Figure 4-26, click border button. The interface is shown as in \_\_\_\_Figure 4-31.

Please go to Figure 4-23, use direction arrows to select camera left limit

Then please go to \_\_\_Figure 4-31 and click left limit button

Repeat the above procedures to set right limit.



Figure 4-31

#### 4.2.2.4.1.8 Activate Auto Scan

In \_\_\_\_Figure 4-27, click "Auto Scan" button, the system begins auto scan. Correspondingly, the auto scan button becomes Stop button. Click stop button to terminate scan operation.

#### 4.2.2.5 Aux function

In Figure 4-27, click Page switch button, you can see an interface is shown as below. See Figure 4-32. Here you can set auxiliary function. The aux value has relationship with the Aux button of the decoder.



Figure 4-33

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 4-34.

- Direct Aux: It includes three items.
  - ♦ It is to use RS485 command to control the peripheral device light on/off. Make sure the connected peripheral device supports this function. Select Light from the dropdown list and click On to turn the light on and click Off to turn the light off.
  - ♦ It is to use RS485 command to control the peripheral device wiper. Make sure the

- connected peripheral device supports this function. Select wiper from the dropdown list and click On to turn the wiper on and click Off to turn the wiper off.
- ♦ It is to use RS485 command to control the peripheral device heater module on/off. Make sure the connected peripheral device supports this function. Select defrost (clear fog) from the dropdown list and click On to turn the heater on and click Off to turn the heater off.
- Aux number: Input auxiliary number and then click On to start the auxiliary function. Click Off to stop auxiliary function.



Figure 4-34

### 4.2.2.6 PTZ Menu Operation

If the connected camera supports PTZ menu function, you can enable PTZ menu function to set and control the connected camera.

#### **Preparation**

Set the PTZ protocol as HD-CVI, baud rate is 2400. Refer to chapter 4.2.2.1 PTZ settings for detailed information.

Step 1 On PTZ interface (Figure 4-34), click Pg Switch for three times. Enter the following interface. See Figure 4-35.



Figure 4-35

| Name       | Function  |  |  |  |
|------------|---|--|--|--|
| Enter menu | Click enter menu, it is to enable PTZ menu. You can view PTZ menu on the  |  |  |  |
|            | video window.   |  |  |  |
| Exit menu  | After enable PTZ menu, click Exit menu, it is to exit menu.   |  |  |  |
|            | Click it is to select cursor item.  |  |  |  |
| <b>◄</b> ▶ | When move the cursor to the setting item, click to set parameters.  |  |  |  |
| Enter      | <ul> <li>If the item in the main menu has the sub-menu, click Enter to go to the sub-menu.</li> <li>Move the cursor to the Return item and then click OK, it is to go back to the upper-level.</li> </ul> |  |  |  |
|            | Move the cursor to the Esc item and then click OK, it is to exit menu.  |  |  |  |
| Esc        | Click Esc button, it is to cancel PTZ menu operation.   |  |  |  |

Step 2 Click Enter menu.

Enter PTZ menu interface. See Figure 4-36.

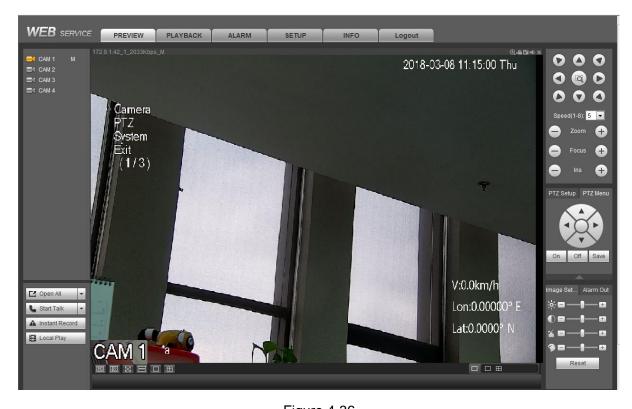


Figure 4-36

| Name   | Function  |
|--------|---|
| Camera | Move the cursor to camera and then click OK button. Use up/bottom button to select an item and then click OK button if there is an 3rd-level menu. Use left/right button to set parameters. |
| PTZ    | Move the cursor to camera and then click OK button. Use up/bottom button to select an item and then click OK button if there is an 3rd-level menu. Use left/right button to set parameters. |

| Name   | Function  |
|--------|---|
| System | Move the cursor to camera and then click OK button. Use up/bottom button to select an item and then click OK button if there is an 3rd-level menu. Use left/right button to set parameters. |
| Exit   | Move the cursor to Exit and then click OK button to exit OSD.   |

## 4.2.3 Search & Playback

Click Search button in the main menu, or on the preview interface, right click mouse and then select Search, search interface is shown as below. See Figure 4-37.

# Note

Slight difference may be found on the user interface.

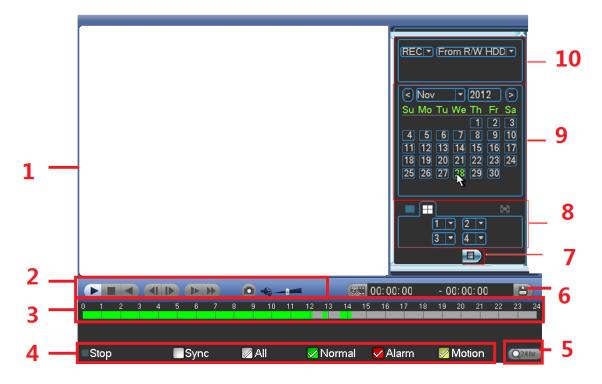


Figure 4-37

Please refer to the following sheet for more information.

| S | SN | Name           | Function |  |  |
|---|----|----------------|----------|--|--|
| 1 |    | Display window | •        | Here is to display the searched picture or file. |  |
|   |    |                | •        | Support 1/4-window playback. Click to set.       |  |

| Playback control bar  Time 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.  |  |  |  |
|---------------------------------|---|--|--|--|
| Time bar                        | 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  |  |  |  |
| Time bar                        | All the operations here (such as playback speed, channel, time and progress) have relationship with hardware version. Some series   |  |  |  |
| Time bar                        | progress) have relationship with hardware version. Some series  |  |  |  |
| Time bar                        | ,   |  |  |  |
| Time bar                        |   |  |  |  |
|                                 | It is to display the record type and its period in current search criteria.   |  |  |  |
| Playback status and record type | <ul> <li>Playback status: Display current play status. It includes start play, pause play, stop play, backward, fast play and slow play.</li> <li>Record type: General/MD/alarm. Check the box to select a record type, the time bar displays corresponding file information.</li> </ul>  |  |  |  |
| 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.  |  |  |  |
| Clip                            | It is to edit the file and save the footages you want.  |  |  |  |
| Record type                     | In any play mode, the time bar will change once you modify the search type.   |  |  |  |
| Playback mode and channel       | <ul> <li>Playback mode:1/4-channel.</li> <li>The time bar will change once you modify the playback mode or the channel option.</li> </ul>   |  |  |  |
| Calendar                        | <ul> <li>The blue highlighted date means there is picture or file.</li> <li>Otherwise, there is no picture or file.</li> <li>In any play mode, click the date you want to see, you can see the corresponding record file trace in the time bar.</li> </ul>  |  |  |  |
| Search type                     | <ul> <li>Here you can select to search the picture or the recorded file.</li> <li>You can select to play from the read-write HDD, from peripheral device or from redundancy HDD.</li> <li>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.</li> </ul> |  |  |  |
| C   F   C                       | Clip Record type Playback mode and channel Calendar   |  |  |  |

## 4.2.3.1 Playback Control

The playback control interface is shown as below. See Figure 4-38.



Figure 4-38

□ <sub>Note</sub>

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.

Please refer to the following sheet for more information.

| Icon                  | Function   |  |  |  |  |
|-----------------------|--|--|--|--|--|
| N II                  | Play/Pause   |  |  |  |  |
|                       | In slow play mode, click it to switch between play/pause.  |  |  |  |  |
|                       | Backward play  |  |  |  |  |
|                       | <ul> <li>In normal play mode, left click the button, the file begins backward</li> </ul>                 |  |  |  |  |
|                       | play. Click it again to pause current play.  |  |  |  |  |
|                       | <ul> <li>In backward play mode, click or little to restore normal play.</li> </ul>                       |  |  |  |  |
|                       | Display previous frame/next frame.   |  |  |  |  |
|                       | ● When pause the normal playback file, click ■ or ▶ to   |  |  |  |  |
| <b>∢I. I</b> ▶        | playback frame by frame.   |  |  |  |  |
|                       | ● In frame by frame playback mode, click ▶ or Ⅱ to resume  |  |  |  |  |
|                       | normal playback mode.  |  |  |  |  |
|                       | Slow play  |  |  |  |  |
|                       | In playback mode, click it to realize various slow play modes such as slow play 1, slow play 2, and etc. |  |  |  |  |
|                       | Fast forward   |  |  |  |  |
| <b>→</b>              | In playback mode, click to realize various fast play modes such as fast play 1, fast play 2 and etc.     |  |  |  |  |
| <b>4</b> ) — <b>(</b> | Adjust the volume of the playback  |  |  |  |  |
|                       | Click the snapshot button in the full-screen mode, the system can  |  |  |  |  |
|                       | snapshot 1 picture.  |  |  |  |  |
|                       | System supports custom snap picture saved path. Please connect the                                       |  |  |  |  |
|                       | peripheral device first, click snap button on the full-screen mode, you                                  |  |  |  |  |
|                       | can select or create path. Click Start button, the snapshot picture can                                  |  |  |  |  |
|                       | be saved to the specified path.  |  |  |  |  |

### 4.2.3.2 Playback

Playback record by time or date.

During playback process, device supports digital zoom function to view the detailed information of specified zone.

- Left click mouse to select a zone on the screen to zoom in. Right click mouse to exit.
- Put the mouse middle button at the center of the zone you want to zoom in, and move the mouse wheel to zoom in.

During digital zoom process, drag to the mouse to any position to view the zoom in image on other video. Right click mouse to exit.

### 4.2.3.2.1 Playback by Date

Select record type as Record, and then select from R/W HDD or the redundant HDD.

From R/W HDD: Playback the record file on local HDD.

From redundant HDD: If there is record file on redundant HDD, you can select playback from the

redundant HDD. Refer to chapter 4.1.6 Schedule for redundant HDD settings information. Select search date and playback channel.

Select date that has record, and select record type. See Figure 4-39.



Figure 4-39



#### 4.2.3.2.2 Playback by File

Click [4], system displays file list. It displays the first channel of the record. See Figure 4-40.

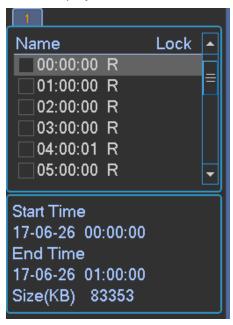


Figure 4-40

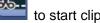
- Check a file name, double click file or click to play.
- Input accurate time at the top column, you can search records of current day.
- System max displays 128 record files in one list.
- Click to go back to the calendar/channel selection interface.

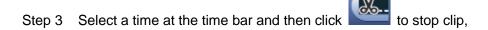
#### 4.2.3.3 Clip

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.

Step 1 Select a record first and then click to playback.

Step 2 Select a time at the time bar and then click





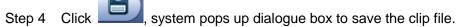




Figure 4-41

## Note

- Max save 1024 files at the same time.
- This function is not for the file already checked in the file list.

### 4.2.3.4 Record Backup

This function is to backup files you checked in the file list, or the file you just clip.

### **Preparation**

Device has connected to the peripheral device such as USB device.

Step 1 On the main menu, click Backup button, or on the File list interface click Enter Backup interface. See Figure 4-42.

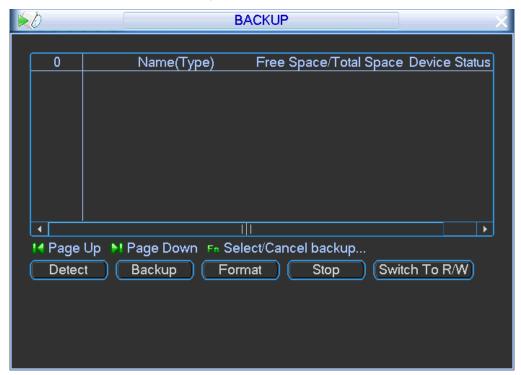


Figure 4-42

Step 2 Click Detect,

Device displays connected peripheral device and its space information, and status.

Note

- Select the detected peripheral device and click Format, it is to clear all data on the peripheral device.
- Select the detected peripheral device and then click Switch to R/W, it is to save peripheral device as the R/W HDD. Device can automatically save the record files on the peripheral device.
- Select the peripheral device that is backing up data, click Stop button to terminate backup process.

#### Step 3 Click Backup,

Enter Backup interface. See Figure 4-43.

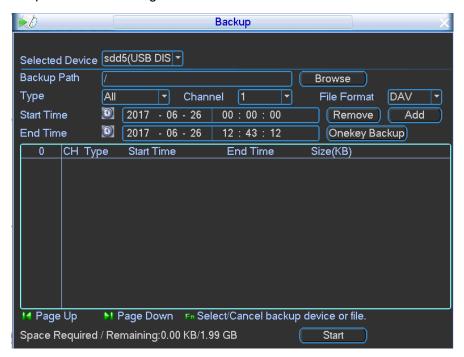


Figure 4-43

- Step 4 Select peripheral device from the dropdown list and backup path.
- Step 5 Set record file type, channel, record file format, file start time/end time and then click Add button.

Device displays searched results and there is corresponding marked file on the checked files.

## Note

- Continue searching the record files and then click Add, device displays searched results following current list.
- Click Browser to view or select peripheral device.
- Click Clear to clear searched results list.
- Click Onekey Backup, device automatically backs up current checked record files.
   Before the backup process make sure the peripheral device has enough space.
- Step 6 Click Backup, device begins backing up record files.

There is a process bar for you reference.

Devices pops up dialogue box when backup is complete. Click OK to confirm.

## Note

Go to PC to view record files information. The record file name is "Channel\_Record

## 4.3 Settings

It is to set system information. It is to set device parameters, set network service, vehicle information, event information, RS232, manage account, adjust TV output and manage HDD.

#### 4.3.1 Device Parameters

It is to set device image color and encode parameters.

#### 4.3.1.1 Image

It is to set video hue, brightness, contrastness, saturation, gain and etc.

Step 1 On the preview interface, right click mouse and then select Color, Enter Color interface. See Figure 4-44.

### Step 2 Set parameters.

- Channel: Select a channel from the dropdown list.
- Period: There are two periods in one day. You can set different sharpness, brightness, and contrast setup for different periods.
- Hue: It is to set video hue.
- Brightness: It is to adjust monitor window bright. 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.
- Saturation: It is to adjust monitor window saturation. The larger the number, the strong the color is.
- Contrast: It is to adjust monitor window contrast. 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.
- Gain: The gain 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: This function is for the first channel only. When the video color is dark, check the box and then set white level value, it is to adjust video brightness. The higher the strength is, the brighter the video is. Please set according to the actual situation.
- Color mode: It is to set color mode. Color modes include: standard, soft, customized and etc.

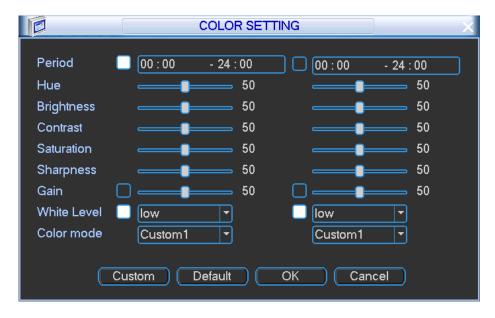


Figure 4-44

#### Step 3 Click OK button.

## 4.3.1.2 Configuring Remote Device

It is to set device parameters such as video streams, overlay information and snapshot mode.

#### 4.3.1.2.1 Encode

It is to set remote device bit streams. It includes main stream and sub stream.

Step 1 On the main menu, from Setting->Encode, Enter encode interface. See Figure 4-45.

#### Step 2 Set parameters.

- Channel: Select the channel you want.
- Type: Please select from the dropdown list. There are three options: regular/motion detect/alarm. You can set the various encode parameters for different record types.
- Compression: Select video compression mode.
- Resolution: System supports various resolutions, you can select from the dropdown list. The higher the resolution is, the better the video quality is. The first channel and then second channel maximally support 1080P. The third and the fourth channel maximally support 720P.
- Frame rate: It ranges from 1f/s to 25f/s in NTSC mode and 1f/s to 30f/s in PAL mode.
- Bit rate type (Kb/S): System supports two types: CBR and VBR. In VBR mode, you can set video quality.
  - Main stream: You can set bit rate here to change video quality. The large the bit rate is, the better the quality is. Please refer to recommend bit rate for the detailed information.
  - Extra stream: In CBR, the bit rate here is the max value. In dynamic video, system needs to low frame rate or video quality to guarantee the value. The value is null in VBR mode.
- Quality: There are six levels ranging from 1 to 6. The sixth level has the highest image quality.
- Video/audio: You can enable or disable the video/audio. The main stream is enabled

by default. The record includes audio and video if you highlight audio button here. For extra stream, you need to check video first and then select audio.

 Audio format: Select audio format from the dropdown list. Different series products support different audio format.

Step 3 Click Save button.

|   |   | ENCODE                              | ×          |
|---|---|-------------------------------------|------------|
| Channel Type Compression Resolution Frame Rate(FPS) | 3 ▼  Regular ▼  H.264 ▼  1920×108 ▼  30 ▼ | Sub Stream1 ▼ H.264 ▼ 704×480(D1) ▼ |            |
| Bit Rate Type                                       | CBR ▼                                     | CBR 🔻                               |            |
| Bit Rate(Kb/S)<br>Reference Bit Rate<br>Audio       | 2048 T-24576Kb/S                          | 1024 ▼<br>1-24576Kb/S               |            |
|   | Overlay Sr                                | napshot                             |            |
|   |   |                                     |            |
|   |   | OK Canc                             | el Refresh |

Figure 4-45

### 4.3.1.2.2 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 4-46.

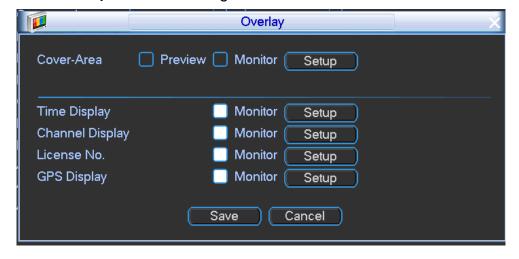


Figure 4-46

#### 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.
- Preview/monitor: The cover area has two types. Preview and Monitor. Preview: You can view the mask zone on the the VGA displayer or the connected small screen, but you cannot view the mask zone on the record file or WEB. The Monitor item is checked at the same if you select Preview. Monitor: You cannot view the mask zone on the the VGA displayer or the connected small screen, but you can view the mask zone on the record file or WEB.
- 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.

Step 3 Click Save button.

#### 4.3.1.2.3 Snapshot

Please install HDD or set FTP. Refer to chapter 4.3.2.3 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 4-47.

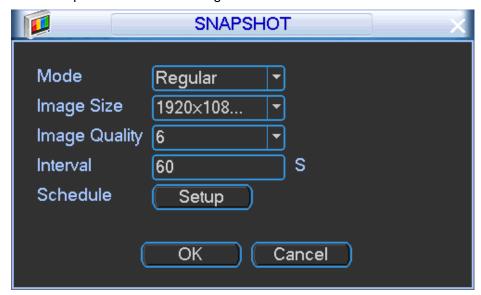


Figure 4-47

#### 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: Please set according to the actual situation.
- 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 4-48.

## Note

Make sure you have enable auto snapshot function. Refer to chapter 4.1.5 Manual record for detailed information.

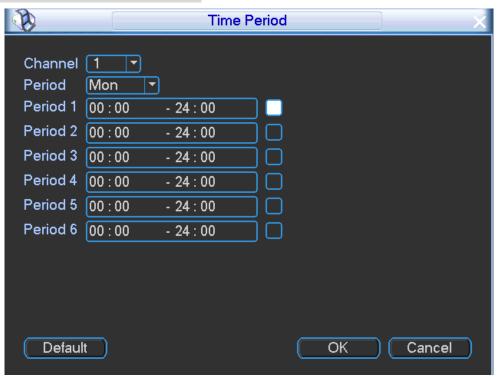


Figure 4-48

Step 4 Click OK button.

#### 4.3.2 Network Service

It is to set network service. It includes DDNS, email, FTP, P2P, and check network.

#### 4.3.2.1 DDNS

DDNS (Dynamic Domain Name Server) is to dynamically refresh the DNS domain name and IP address if the device IP address has changed frequently. The user can use the domain to access the device.

#### **Preparation**

Before the operation, make sure the device supports DNS type and go to the DDNS service provider website to register the domain name via the PC.



After you successfully registered and logged in the DDNS website, you can view all connected device information of current login user.

- Step 1 On the main menu, from Setting->Network, Enter Network interface.
- Step 2 Click Network Service,

Enter Network service interface.

#### Step 3 Configuring DDNS.

1. Double click DDNS,

Enter DDNS interface. See Figure 4-49.

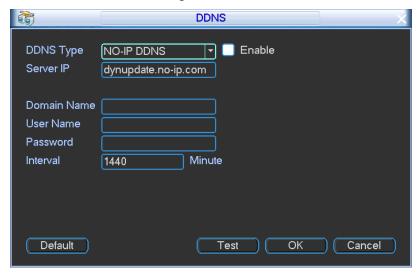


Figure 4-49

- 2. Check the box to enable DDNS function.
- 3. Set parameters.
- Type/address:
  - ♦ Dyndns DDNS is members.dyndns.org.
  - ♦ NO-IP DDNS is dynupdate.no-ip.com.
  - ♦ CN99 DDNS is members.3322.org.
- Domain: The domain name registered on the DDNS service provider website.
- User name/password: Input the user name and password got from the DDNS service provider. Make sure you have logged in the DDNS service provider website to register an account (user name and password).
- Interval: After DDNS boots up, it sends out refresh query regularly. The unit is minute.
- 4. Click OK.

Step 4 Click Apply or Save to complete setup.

Enter Network interface.

Step 5 Click OK button.

Open a browser and input domain name, click Enter button.

The setting is right if you can view device WEB interface. Otherwise, please check the parameters.

#### 4.3.2.2 Email

After you set email function, system can send out an email once there is a video detection event, abnormality event etc.

- Step 1 On the main menu, from Setting->Network, Enter Network interface.
- Step 2 Click Network service, Enter network service interface.

#### Step 3 Configuring email.

- Double click email,
   Enter email interface. See Figure 4-50.
- 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.
- 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.
- 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. See Figure 4-51.
- Test: Click to see the domain registration is successful or not.
- 3. Click OK button.
- Step 4 Click Apply or Save to complete setup.

Enter Network interface.

Step 5 Click Save button.

| <b>5</b>                 |            | EMAIL            |        | ×      |
|--------------------------|------------|------------------|--------|--------|
| SMTP Server<br>User Name | MailServer | Port<br>Password | 25     | )<br>) |
| Receiver                 |            | )                |        |        |
| Sender                   |            | j                |        |        |
| Subject                  | DVR ALERT  | j                |        |        |
| Encrypt                  | NONE -     | )                |        |        |
| Event Interval           | 120        | sec.             |        |        |
| Health Enable            | <u> </u>   |                  |        |        |
| Interval                 | 60         | min.             |        |        |
| Default                  |            | ОК               | Cancel | Test   |

Figure 4-50

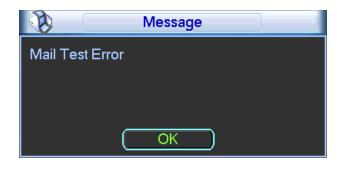


Figure 4-51

### 4.3.2.3 FTP

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

### **Preparation**

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



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

- Step 1 On the main menu, from Setting->Network,
  - Enter Network interface.
- Step 2 Click Network service, Enter network service interface.
- Step 3 Configuring email.
  - Double click FTP, Enter FTP interface. See Figure 4-52.
  - 2. Set parameters.
  - 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/intelligent/motion detect/regular).
   Please check the box to select upload type.
- Test: Check FTP test is OK or not. See Figure 4-53.
- 4. Click OK button.
- Step 6 Click Apply or Save to complete setup. Enter Network interface.
- Step 7 Click Save button.

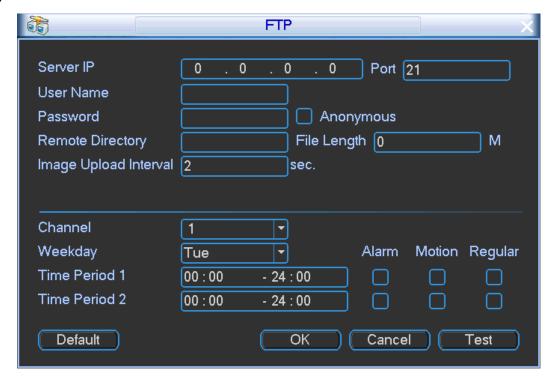


Figure 4-52



Figure 4-53

# 4.3.2.4 Ethernet port 2

It is to set Ethernet port 2 IP address, subnet mask and default gateway.

- Step 3 On the main menu, from Setting->Network, Enter Network interface.
- Step 4 Click Network service,
  Enter network service interface.
- Step 5 Set Ethernet port 2.
  - Double click Ethernet port 2.
     Enter Ethernet port 2 interface. See Figure 4-55.

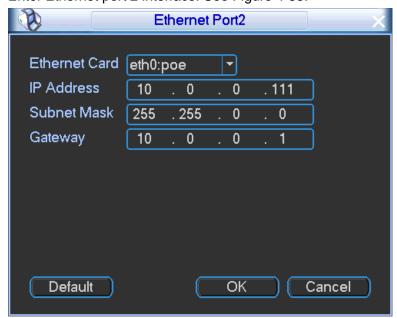


Figure 4-54

- 2. Input IP address, subnet mask, default gateway.
- 3. Click OK.
- Step 6 Select Ethernet port 2 and then click Save. Enter Network interface.
- Step 7 Click Save button.

### 4.3.2.5 P2P

You can use cellphone client or the management platform to access the device.

- 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.

# **Preparation**

- Make sure the device has connected to the network.
- Cellphone has downloaded and installed the corresponding client such as DMSS.
- Step 1 On the main menu, from Setting->Network, Enter Network interface.
- Step 2 Click Network service, Enter network service interface.
- Step 3 Configuring P2P.

Double click P2P,
 Enter P2P interface. See Figure 4-55.

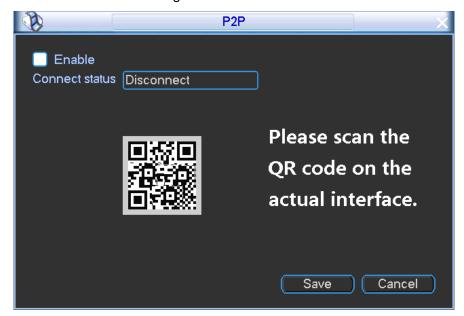


Figure 4-55

- Open corresponding APP such as DMSS. tap to go to the Live preview.
- 3. Tap at the top left corner, you can see the main menu.
- 4. Tap Device manager button, you can use several modes (P2P/DDNS/IP and etc) to add the device. Click to save current setup. Tap Start Live preview to view all-channel video from the connected device. See Figure 4-56.



Figure 4-56

Step 4 Click Apply or Save to complete setup. Enter Network interface.

Step 5 Click Save button.

### 4.3.2.6 Network Test

It is to view network status and loading.

#### 4.3.2.6.1 Network Test

It is to test network status and view network average delaying and packet loss rate.

Step 1 On the main menu, from Info->Network->Network test, Enter Network test interface. See Figure 4-57.

# Step 2 Set 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. See Figure 4-58.
- 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.

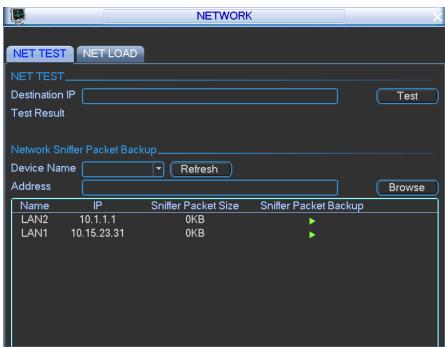


Figure 4-57

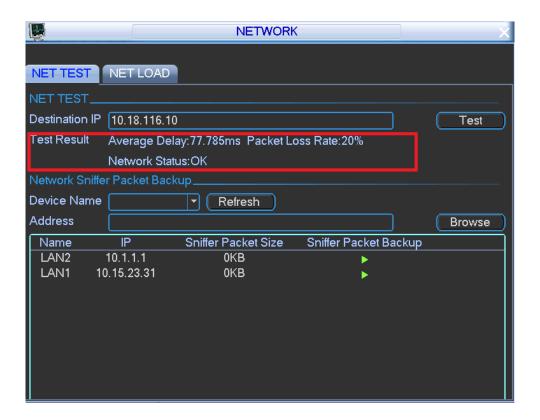


Figure 4-58

### 4.3.2.6.2 Network Load

- Step 1 On the main menu, from Info->Network->Network load, Enter Network load interface. See Figure 4-59.
- Step 2 Select a LAN. Here you can view the follow statistics of the device network adapter.

# Note

- Device displays LAN1 network load by default.
- View one LAN speed by one time.
- The green wave is send out speed and red wave is receive speed.

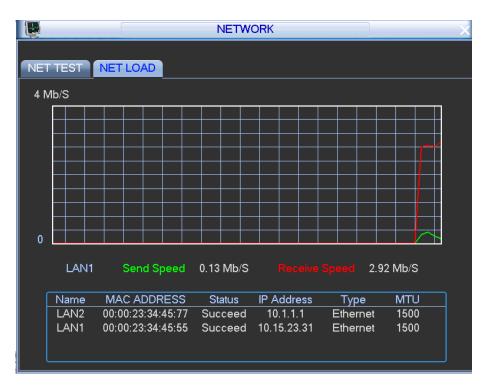


Figure 4-59

# 4.3.3 Vehicle

The vehicle interface is shown as below. See Figure 4-60. It includes eight buttons: 3G/4G, Wi-Fi, G-Sensor, Register, Maintain, Abnormal, Speed, custom backup.

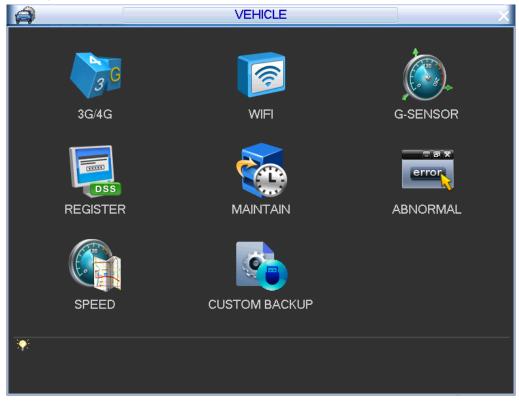


Figure 4-60

Once the device can dial the number to connect to the 3G/4G network to get alarm information, audio/video, image and device status.



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.

### **Preparation**

Make sure the device has the 3G/4G module and has installed the SIM card.

Step 1 On the main menu, from Vehicle->3G/4G,

Enter 3G/4G interface. See Figure 4-61.

There are total 3 panels.

- 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.



Device supports to upgrade some 4G module firmware. Click Firmware upgrade to upgrade.

- Step 2 Check the box to enable 3G/4G function. The function is enabled by default.
- Step 3 Set parameters.
  - 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.

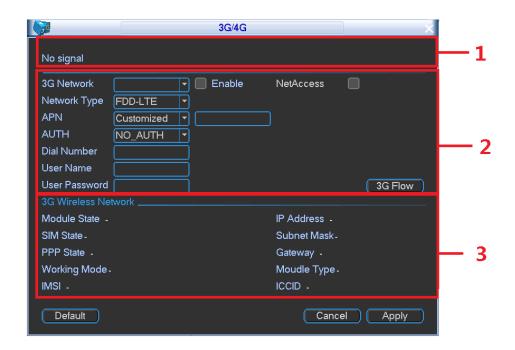


Figure 4-61

3G flow control: It is to show the 3G flow you used. See Figure 4-62.

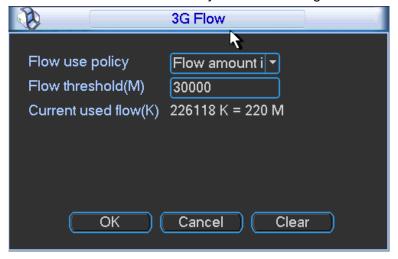


Figure 4-62

# 4.3.3.2 Wi-Fi

It is to set Wi-Fi parameters.



This function is for device of the Wi-Fi module only.

# **Preparation**

Device has installed the Wi-Fi module.

Step 1 On the main menu, from Vehicle->Wi-Fi, Enter Wi-Fi interface. See Figure 4-63.

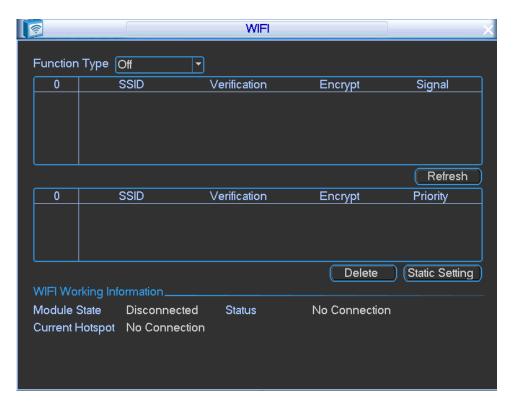


Figure 4-63

Step 2 Boot up a Wi-Fi module and then select function as Wi-Fi from the dropdown list.

After device booted up, it can automatically connect to its latest successfully connected hotspot.

Connect to Wi-Fi.

After device successfully connected to the Wi-Fi, device displays Wi-Fi module working information, connection state, and current hotspot.

- Auto Search
- 1. Click Refresh list.

The list display all Wi-Fi name, connection mode, encryption mode, signal intensity and etc.

- 2. Double click a network name, input password, and click OK to connect.
- Manual Add
- 1. Click Static setting

Enter static setting interface. See Figure 4-64.

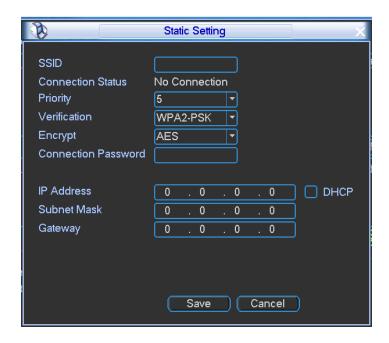


Figure 4-64

- 2. Input SSID, connection password, select priority, encryption type, set IP address, subnet mask, default gateway. Click OK button.
  - If select DHCP, device can automatically get corresponding IP address, subnet mask, and default gateway after successful connection.
- 3. Click Save button.

# 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.

# 4.3.3.3 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 device and then view the video.

 $\label{thm:continuous} Step \ 1 \quad \mbox{On the main menu, from Vehicle->Register,}$ 

Enter Register interface. See Figure 4-65.

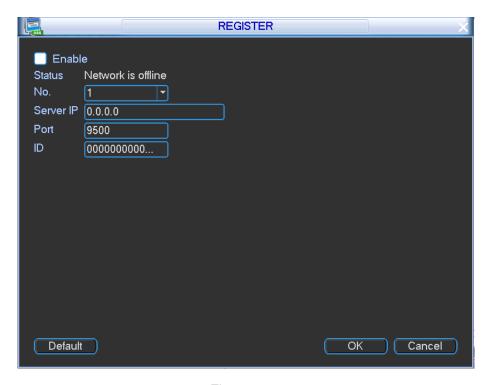


Figure 4-65

# Step 2 Set parameters.

- Enable: Check the box to enable auto register function.
- Server IP address: The server IP address or server domain name you want to register.
- Port: The auto registration port value of the server.
- Sub-device ID: It is the unique ID of the device. When different devices register to the same server, the sub-device ID cannot be the same.

# Step 3 Click OK button.

# 4.3.3.4 Speed

It is to view vehicle current moving mileage and speed source.

Step 1 On the main menu, from Vehicle->Register,

Enter Speed interface. See Figure 4-66.

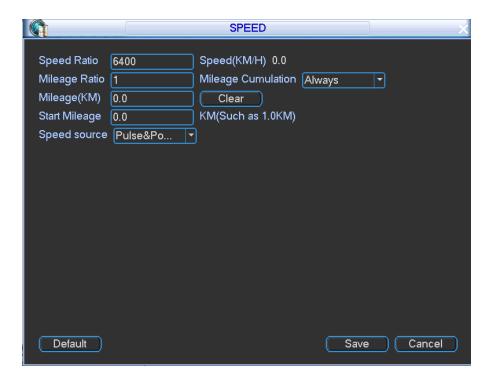


Figure 4-66

### 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: Current 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: Where the speed value comes from. It includes N/A, pulse, positioning, pulse/positioning.
  - → Pulse: Got speed from the vehicle pulse system.
  - ♦ Positioning: Got speed from the positioning system such as GPS.
  - ♦ Pulse/Positioning: Got speed from the vehicle pulse system and positioning system. The vehicle pulse system has the higher priority.

Step 3 Click Save button.

### 4.3.3.5 G-SENSOR

It is to view gyro information and select vehicle type to correct position, view vehicle acceleration speed, tilt angle and device temperature.

On the main menu, from Vehicle->G-SENSOR, enter G-SENSOR interface. See Figure 4-67. Click Reset to correct vehicle position.

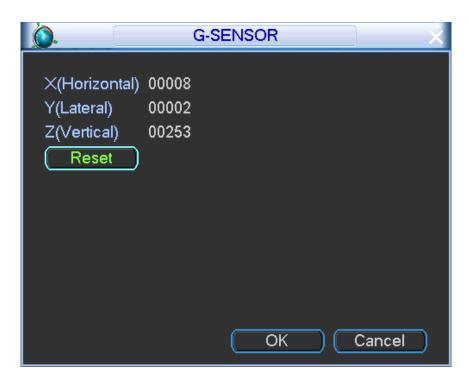


Figure 4-67

# 4.3.3.6 Custom Default

It is to save the plate setup, 3G/4G setup, auto register setup.

Step 1 From main menu->Vehicle->Custom default, Enter custom default interface. See Figure 4-68.

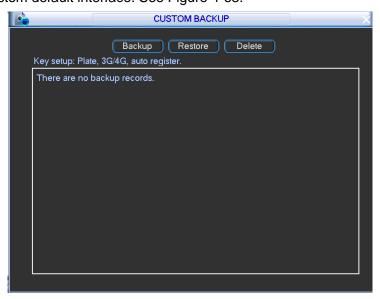


Figure 4-68

# 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.

# 4.3.4 Alarm Events

It is to set alarm events. It includes alarm settings, video detect settings, abnormal event settings and alarm input and output.

#### 4.3.4.1 Alarm

It is to set local alarm trigger mode and activation operations. When there is the local alarm, device can generate an alarm and trigger the corresponding operations. The local alarm refers to the alarm signal system detects from the alarm input port.

- Step 1 From Main menu->Setting->Event->Alarm, Enter alarm interface See Figure 4-69 and Figure 4-70.
- Step 2 Set event type as local alarm.
- Step 3 Select alarm input channel and check the box to enable alarm function.
- Step 4 Set parameters.
  - Type: Normal open or normal close. This item is for local alarm only.
    - ♦ 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: You can input customized name here.
  - Overlay: Please highlight the box here to enable this function. It can overlay alarm information on the video screen when an alarm occurred.
  - Anti-dither: Here you can set anti-dither time. The value ranges from 5 to 600s. The anti-dither time refers to the alarm signal lasts time. It can be seem as the alarm signal activation stays such as the buzzer, tour, PTZ activation, snapshot, channel record. The stay time here does not include the latch time. During the alarm process, the alarm signal can begin an anti-dither time if system detects the local alarm again. The screen prompt, alarm upload, email and etc will not be activated. For example, if you set the anti-dither time as 10 second, you can see the each activation may last 10s if the local alarm is activated. During the process, if system detects another local alarm signal at the fifth second, the buzzer, tour, PTZ activation, snapshot, record channel will begin another 10s while the screen prompt, alarm upload, email will not be activated again. After 10s, if system detects another alarm signal, it can generate an alarm since the anti-dither time is out.
  - Alarm output: The number here is the device alarm output port. You can select the corresponding ports(s) so that system can activate the corresponding alarm device(s) when an alarm occurred.
  - Latch: When the anti-dither time ended, the channel alarm you select in the alarm output may last the specified period. The value ranges from 1 to 300 seconds. This function is not for other alarm activation operations. The latch is still valid even you disable the alarm event function directly.
  - 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 and the WEB) if you enabled current function. System only uploads the alarm

channel status. You can go to the WEB and then go to the Alarm interface to set alarm event and alarm operation. Please go to the Network interface to set alarm center information.

 Send email: System can send out the alarm signal via the email to alert you when alarm occurs. Once you enable the snap function, system can also send out an image as the attachment. Please go to the Main Menu->Setting->Network->Email interface to enable email function.

# Note

Make sure you have enabled email function. Refer to chapter 4.3.2.2 Email for detailed information.

 Record channel: you can select proper channel to record alarm video when an alarm occurs.

# Note

- ♦ Make sure you have enabled alarm record function. Refer to chapter 4.1.6 Schedule for detailed information.
- ♦ Make sure you have enabled auto record. Refer to chapter 4.1.5 Record for detailed information.
- Snapshot: You can enable this function to snapshot image when an alarm occurs.

# Note

Make sure you have enabled trigger (event) snapshot. Refer to chapter 4.3.1.2.3 Snapshot for detailed information.

- Log: Check the box here, system can record alarm event log.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

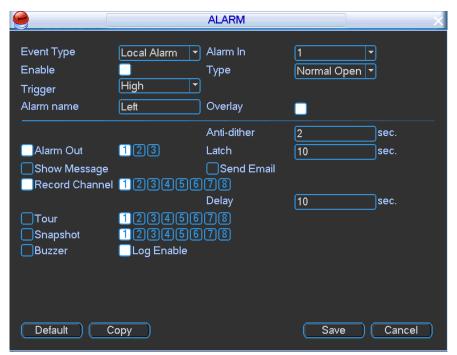


Figure 4-69

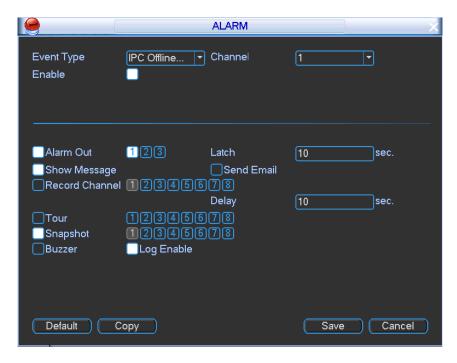


Figure 4-70

### 4.3.4.2 Detect

There are three detection types: Motion detect/video loss/tampering. It is to detect video abnormal event and can process in time.

- Step 1 From Main menu->Setting->Detect, Enter video detect interface. See Figure 4-72.
- Step 2 Set event type. There are three detection types: Motion detect/video loss/tampering.
  - Motion detect: After analysis video, device can generate a motion detect alarm when the detected moving signal reached the sensitivity you set here.
  - Video loss: Device generates an alarm and triggers the corresponding operations when video loss alarm occurs.
  - 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.
- Step 3 Channel: Select a channel from the dropdown list to set corresponding function.
- Step 4 Enable: Check the box here to enable video loss function.
- Step 5 Set parameters.
  - Region: This item is for motion detect only. Click select button, the interface is shown as in Figure 4-71. 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.

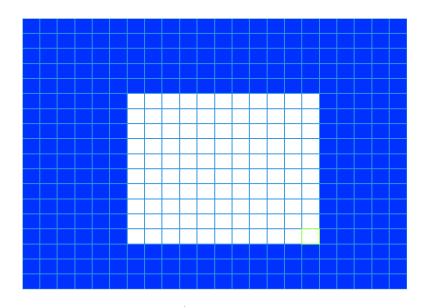


Figure 4-71

- Sensitivity: This item is for motion detect and tampering only. System supports 6
  levels. The sixth level has the highest sensitivity.
- Delay motion: Check the box to delay motion detect function. This function becomes valid when ACC OFF.
- 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.

# Note

- ♦ Make sure you have enabled alarm record function. Refer to chapter 4.1.6 Schedule for detailed information.
- ♦ Make sure you have enabled auto record. Refer to chapter 4.1.5 Record for detailed information.
- 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 4.2.1.4.2 Tour for tour interval setup.
- Snapshot: You can enable this function to snapshot image when detect alarm occurs.

# Note

♦ Make sure you have enabled trigger (event) snapshot. Refer to chapter
 4.3.1.2.3 Snapshot for detailed information.

- ♦ Make sure you have enabled auto snapshot. Refer to chapter 4.1.5 Record control for detailed information.
- Log: Check the box here, system can record detect event log.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

### Tips:

You can enable preset/tour/pattern activation operation when video loss occurs.

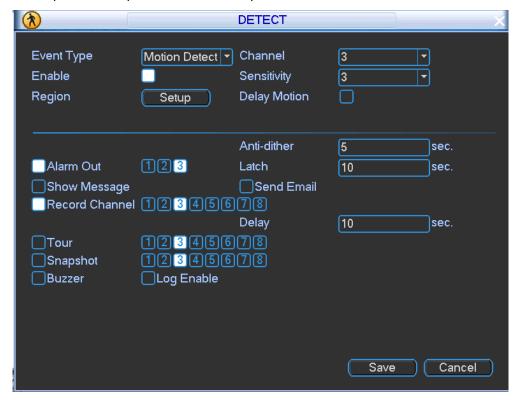


Figure 4-72

### 4.3.4.3 Abnormal

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

Step 1 From main menu->Setting->Event->Abnormality,

Enter abnormal interface. See Figure 4-73 and Figure 4-74.

- 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. This function is for no space only.
- High temperature: Select High temperature from the dropdown list, and then input the max temperature. Device can trigger an alarm once the case temperature is higher than the value you set.
- Attempts: It is to set login attempt times. Once the login attempt exceeds the threshold you set here, current account will be locked. This function is for illegal login only.
- Lock time: It is to set account lock time once its login attempt has exceeded the

- threshold you set. This function is for illegal login only.
- 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.
- Log: Check the box here, system can record corresponding alarm log.
- Restart system: If you highlight the button here, system will restart automatically after 3 minutes if there is no HDD.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

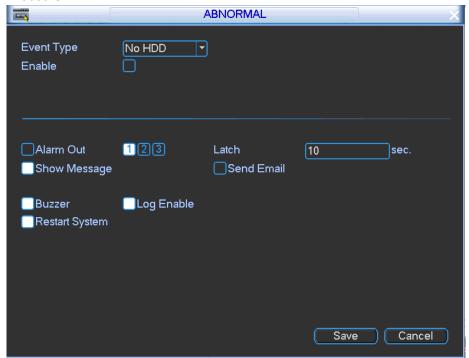


Figure 4-73

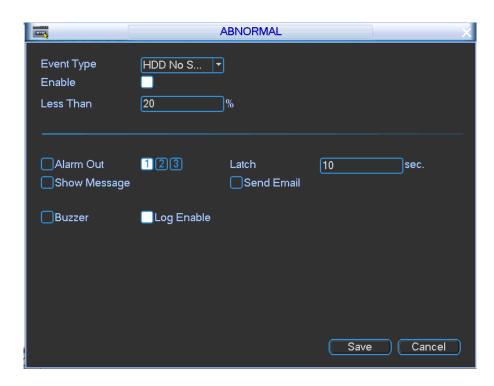


Figure 4-74

# 4.3.4.4 Alarm Output

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

Step 1 From main menu->Setting->Event->Alarm output, Enter alarm output interface. See Figure 4-75.

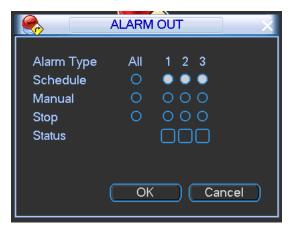


Figure 4-75

Step 2 Select alarm output mode for each channel.

- Auto: The corresponding event triggers the alarm output or cancels alarm.
- Manual: Forcedly trigger alarm output.
- Stop: Forcedly cancel or close alarm output.
- Status: It is to view alarm output port status. The alarm is enabled if the icon is highlighted.

Step 3 Click OK.

On Status item, it is to view each alarm output port status. — means there is an alarm

output. means there is no alarm output.

### 4.3.5 RS232

It is to set RS232 function, baud rate and etc.

Step 1 From Main Menu->Setting->System->RS232, Enter RS232 interface. See Figure 4-76.

### 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 indicator light box, touch screen and etc.
- Baud rate: You can select proper baud rate.
  - ♦ The console and transparent COM default value is 115200.
  - ♦ Control keyboard, PTZ, ITS default value is 9600.
- 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.

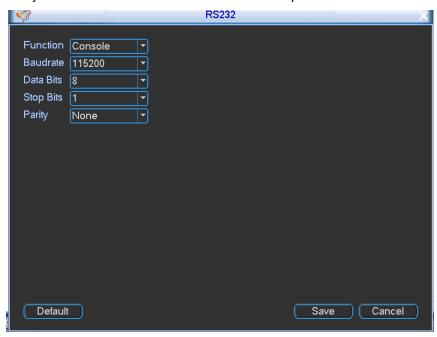


Figure 4-76

### 4.3.6 Account

It is to manage user, user group and security questions.

For the user name, the string max length is 31-byte, and for the user group, the string max length is 15-byte. The user name can only contain English letters, numbers and "\_"、"@"、"."

- The default user amount is 64 and the default group amount is 20. System account adopts two-level management: group and user. The user authorities shall be smaller than group authorities (The **admin** user authorities are set by default).
- For group or user management, there are two levels: admin and user. The user name shall be unique and one user shall only belong to one group.

# 4.3.6.1 Add User

Step 1 From main menu->Advanced->Account, Enter Account interface. See Figure 4-77.

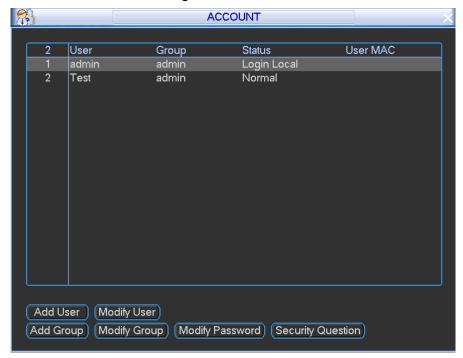


Figure 4-77

Step 2 Click Add user button in Figure 4-77. Enter Add user interface. See

Figure 4-78.

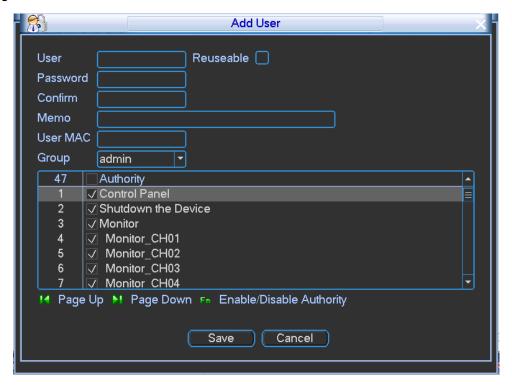


Figure 4-78

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

Step 4 Click Save button.

Device pops up dialogue box. Click OK button.

### 4.3.6.2 Modify User

It is to change user memo information, MAC address, user group, rights. For admin user, you can change designated email information, enable/disable unlock pattern.

Step 1 From main menu->Advanced->Account,
Select a user and then click Modify user button, enter Modify user interface. See Figure 4-79 or Figure 4-80 (admin).

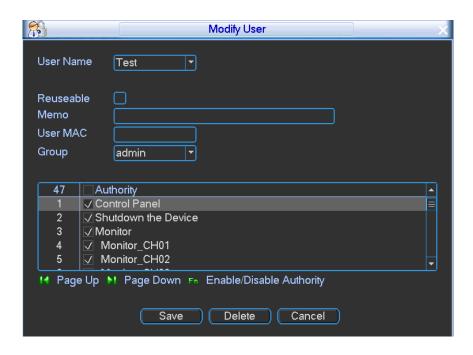


Figure 4-79

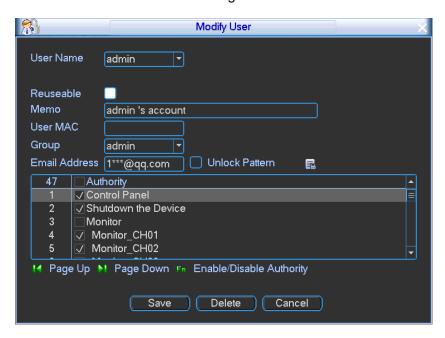


Figure 4-80

Step 2 Modify the user information.



- Cannot delete admin.
- Select a user and then click Delete button to delete a user.
- For admin, you can change the email address information you set during initialization process, or check the unlock pattern box to change unlock pattern, See Figure 4-80
- Step 3 Click Save button.

# 4.3.6.3 Add User Group

It is to add a user group, set group rights.

Step 1 From main menu->Advanced->Account,
Click Add Group, enter Add group interface. See Figure 4-81.

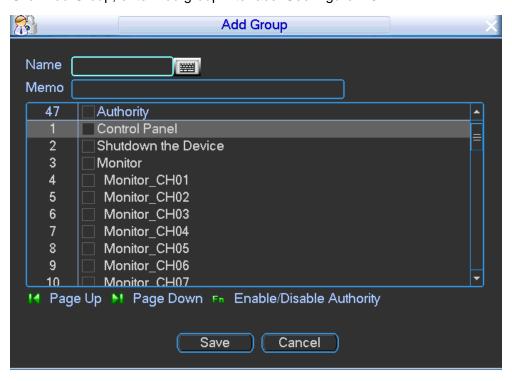


Figure 4-81

- Step 2 Input user group name and memo, select rights from the dropdown list.
- Step 3 Click Save button.

# 4.3.6.4 Modify User Group

It is to modify user group name, memo or rights.

Step 1 From main menu->Advanced->Account,
Click Modify Group, enter Modify group interface. See Figure 4-82.



Figure 4-82

Step 2 Select a group and change user group name, memo, or rights.



- Cannot change admin/user group name.
- Select a group and then click Delete to delete a group.
- Step 3 Click Save button.

# 4.3.6.5 Change Password

It is to change user password.

Step 1 From main menu->Advanced->Account,
Click Modify password, enter Modify password interface. See Figure 4-83.

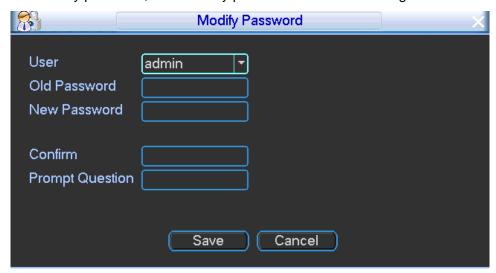


Figure 4-83

Step 2 Input user name and then input old password. Input new password twice to complete setup.



Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding "", "", ";", ";", "&"). The password shall contain at least two categories. Usually we recommend the strong password.

Step 3 Click Save button.

# 4.3.6.6 Security Question



This function is for **admin** user only.

It is to change security questions. After you successfully answered security questions, you can reset admin account password.

- Step 1 From main menu->Advanced->Account, Enter Account interface.
- Step 2 Click Security question, Enter security question interface. See Figure 4-84.

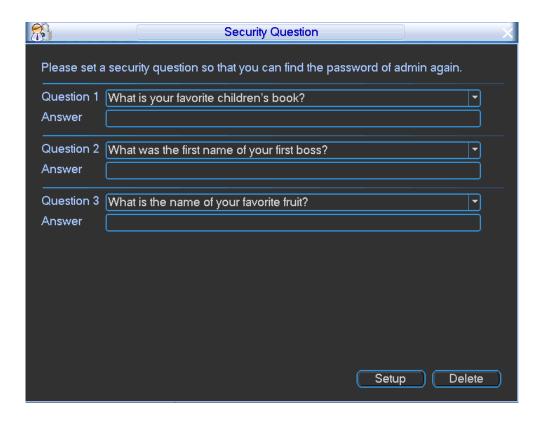


Figure 4-84

- Step 3 Input proper security question answers.
- Step 4 Click Setup button.

System pops up a dialogue box, please click OK. After successfully set security questions, you can answer the security questions to reset **admin** password.

# Note

Input correct security answers and then click Delete button at the bottom of the interface, you can reset security questions and answers.

### 4.3.6.7 Reset Password

If you forgot **admin** password, you can reset the password by email or by answering the security questions.

Please follow the steps listed below.

- Step 1 Go to the device login interface. See Figure 4-85 or Figure 4-86.
  - If you have set unlock pattern, device displays unlock pattern login interface. See Figure 4-85. Click "Forgot unlock pattern", device goes to Figure 4-86.
  - If you have not set unlock pattern, device displays password interface. See Figure 4-86.

# Note

Click Switch user button, DVR goes to general user login interface. The default user name is **admin**. Click the user name and then select a user from the dropdown list; you can login via other account.

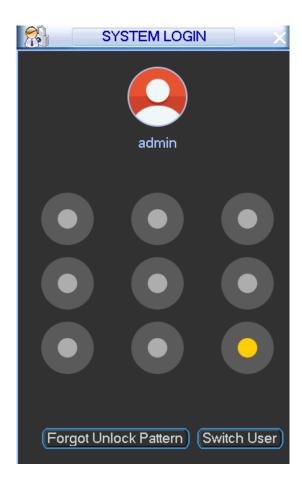


Figure 4-85

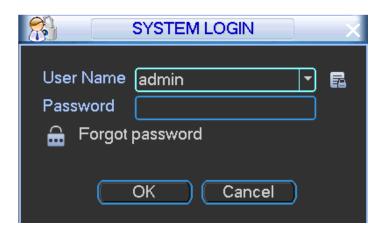


Figure 4-86

# Step 2 Click

- If you have not input email address information when you are initializing the device, the interface is shown as in Figure 4-87. Please input an email address and then click Next button, devices goes to Figure 4-88.
- If you have input email when you are initializing the device, device goes to Figure 4-88.

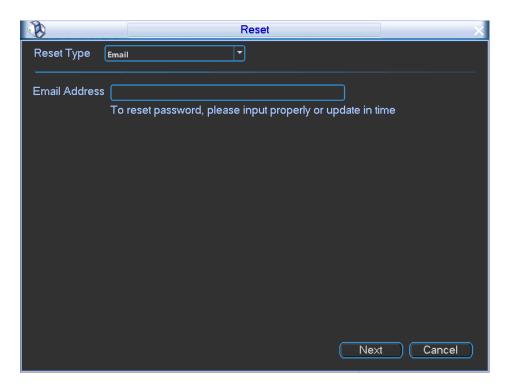


Figure 4-87



Figure 4-88

# Step 3 Reset login password.

There are two ways to reset the password: Scan QR code and reset by email/security questions (local menu only)

Email

In Figure 4-88, follow the prompts on the interface to scan the QR code, and then input the security code you get via the assigned email.



- For the same QR code, max scan twice to get two security codes. Refresh the QR code if you want to get security code again.
- ♦ The security code on your email is only valid for 24 hours.
- Security questions

In Figure 4-87, select security question from the drop down list. Device displays security question interface. See Figure 4-89. Please input the correct answers here.

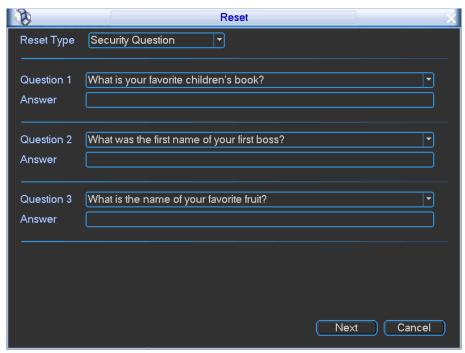


Figure 4-89

# Step 4 Click Next button.

Device displays reset password interface. See Figure 4-90.

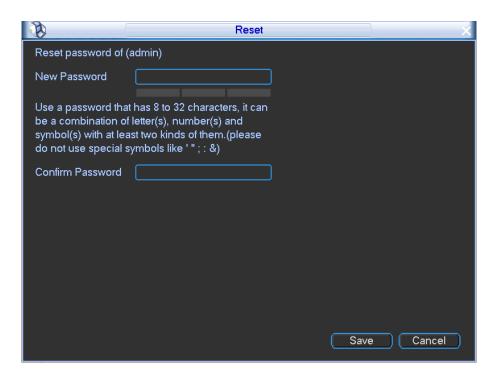


Figure 4-90

Step 5 Input new password and then confirm.



STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. The password shall be at least 8-digit containing at least two types of the following categories: letters, numbers and symbols. We also recommend you change your password periodically especially in the high security system.

Step 6 Click Save button to complete the setup.

### 4.3.6.8 Online Users

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.

You can disconnect one user or block one user if you have proper system right.

Step 1 From main menu->Info->System->Online user, Enter online user interface. See Figure 4-91.

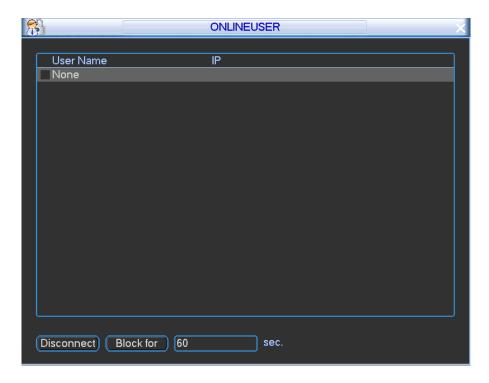


Figure 4-91

# 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.

# Note

- The max block period is 65535 seconds.
- System detects there is any newly added or deleted user in each five seconds and refresh the list automatically.

# 4.3.7 TV Adjust

It is to adjust TV output setup.

Step 1 From main menu->Advanced->TV adjust, Enter TV adjust interface. See Figure 4-92.



Figure 4-92

- Step 2 Please drag slide bar to adjust each item.
- Step 3 Click OK button.

# 4.3.8 HDD

It is to view current HDD information such as type, status, total space, record time and etc. Or you can format HDD, change HDD properties, set alarm operations and etc.

# 4.3.8.1 Configuring HDD

It is to view HDD type, format HDD and etc.

Step 1 On the main menu, from Advanced->HDD manager.

Enter HDD manager interface. See Figure 4-93.

Device displays current HDD information such as type, status, capacity and record time.

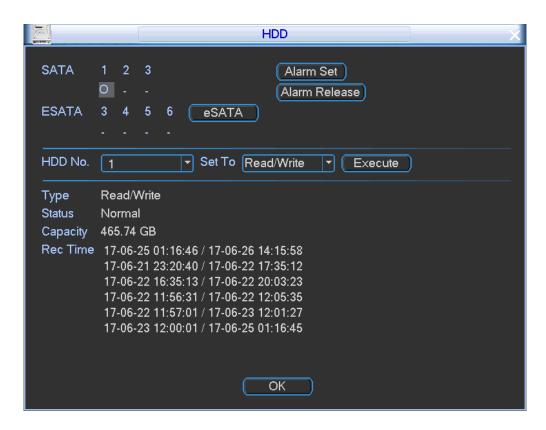


Figure 4-93

Step 2 Select a HDD from the dropdown list and operate.

When HDD is working properly, system is shown as O. When HDD error occurred, system is shown as X.

- Alarm set: Click alarm set button, the interface is shown as below. See Figure 4-94.
   (This interface is just like the abnormal setup). Please refer to chapter 4.3.4.3
   Abnormal for detailed information.
- HDD operation: You can select a 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.
- Record time: It is to display record start time and end time of current HDD.

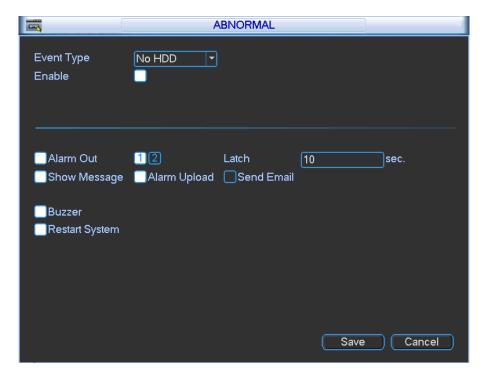


Figure 4-94

Step 3 Click OK button.

### 4.3.8.2 HDD Info

It is to list HDD type, total space, free space, and status.

On the main menu, from Info->HDD, Enter HDD info interface. See Figure 4-95.

o means current HDD/SD card is normal.. - means there is no HDD.

If disk is damaged, system shows as "?". Please remove the broken hard disk before you add a new one.

Once there is a hard disk confliction, please check hard disk time and system time is the same or not. Please go to setting then general to modify system time. At last, reboot the system to solve this problem.

After system booted up, if there is any confliction, system goes to HDD information interface directly. Please note, system does not ask you to deal with it forcedly.

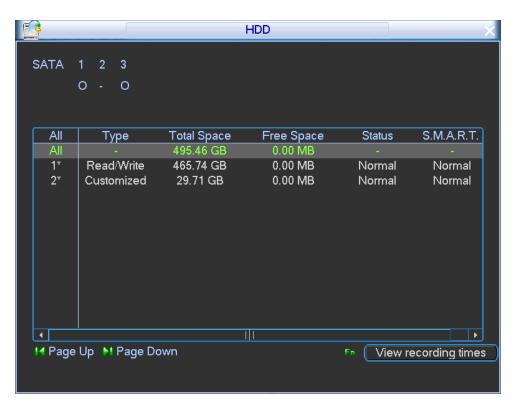


Figure 4-95

| Parameter                          | Function  |  |  |
|------------------------------------|---|--|--|
| SATA                               | 1-3 means system max supports 3HDDs.  |  |  |
|                                    | When HDD is working properly, system is shown as O "_" means there is no HDD. |  |  |
| SN                                 | You can view the HDD amount the device connected to;                          |  |  |
|                                    | * means the second HDD is current working HDD.                                |  |  |
| Туре                               | The corresponding HDD property.   |  |  |
| Total space                        | The HDD total capacity.   |  |  |
| Free space                         | The HDD free capacity.  |  |  |
| Status                             | HDD can work properly or not.   |  |  |
| S.M.A.R.T                          | Click to view HDD detailed information.                                       |  |  |
| Page up                            | Click it to view previous page.   |  |  |
| Page down                          | Click it to view the next page.   |  |  |
| View recording time                | Click it to view HDD record information (file start time and end time).       |  |  |
| View HDD<br>type and<br>capability | Click it to view HDD property, status and etc,                                |  |  |

# 4.4 System Maintenance

### 4.4.1 Maintenance Requirements

To guarantee device proper operation and device safety, please follow the instructions listed below to manage, backup and maintain the device.

- Check the monitor video regularly.
- Delete the inactive user or user group regularly.
- Change device password each three months.
- Check and analyze system log, process the abnormal event in time.
- Backup device configuration files.
- Reboot and delete old files regularly.
- Upgrade firmware in time.

# 4.4.2 System Info

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

### 4.4.2.1 Version

It is to view version information and release date.

On the main menu, from Info->Version, enter version interface. See Figure 4-96.

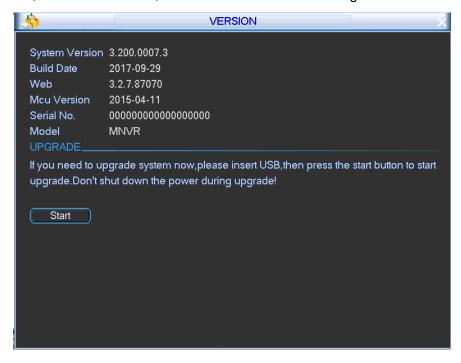


Figure 4-96

### 4.4.2.2 Device

It is to view ACC status, voltage, record status, HDD status, GPS status, DSS registration status, 3G dial status, Wi-Fi connection status.

On the main menu, from Info->Device, enter Device interface. See Figure 4-97.

Click Details button to view the detailed information.

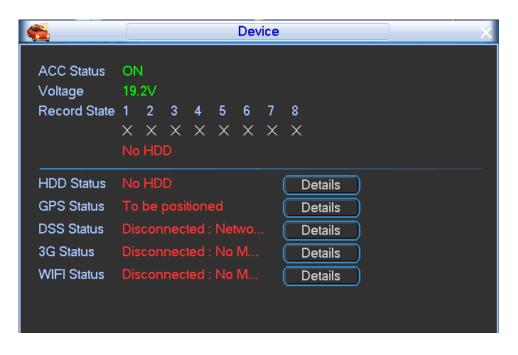


Figure 4-97

### 4.4.2.3 Satellite

It is to display satellite positioning status, longitude/latitude and searched results. On the main menu, from Info->Satellite, enter Satellite interface. See Figure 4-98.



Figure 4-98

# 4.4.2.4 Log

It is to view and backup system log file.

On the main menu, from Info->Log, enter Log interface. See Figure 4-99.

- Start time/end time: Pleased select start time and end time, then click search button. You can
  view the log files in a list. System max displays 100 logs in one page. It can max save 1024
  log files. Please use page up/down button on the interface or the buttons of the front panel to
  view more.
- Backup: Please select a folder you want to save; you can click the backup button to save the
  log files. After the backup, you can see there is a folder named Log\_time on the backup path.
  Double click the folder, you can see the log file
- Details: Click the Details button or double click the log item, you can view the detailed information. See Figure 4-100. Here you can use rolling bar to view information, or you can use Page up/Page down to view other log information.

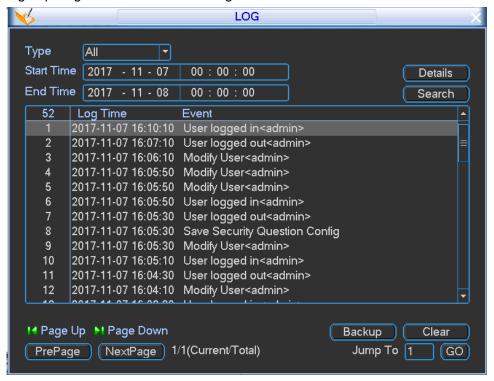


Figure 4-99

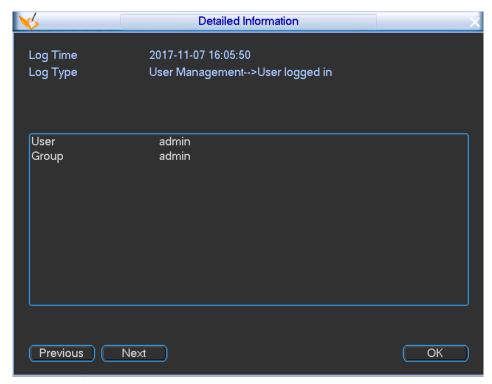


Figure 4-100

### 4.4.2.5 BPS

It is to view current video data stream (Kb/S) and occupied hard disk storage (MB/h). On the main menu, from Info->BPS, enter BPS interface. See Figure 4-101.

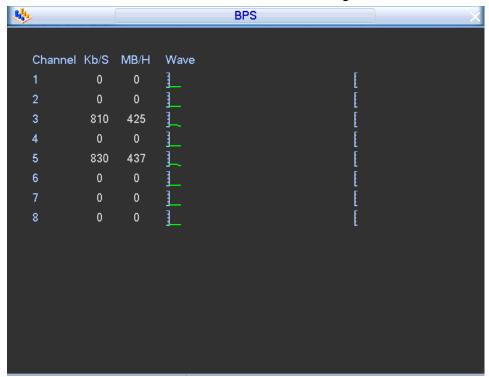


Figure 4-101

# 4.4.3 Auto Maintenance

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.

On the main menu, from Vehicle->Maintain, enter maintain interface. See Figure 4-102.

# Note

The auto boot up and ACC delay function is only valid when vehicle ACC signal connection is OK.
 The auto shut down has higher priority than ACC delay. If you enable these two functions at the same time, the ACC delay function is null.

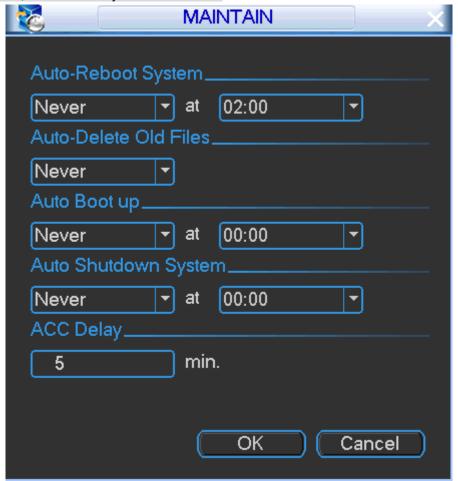


Figure 4-102

### 4.4.4 Backup and Resume

It is to backup device configuration information, log, restore device configuration information or default settings.

# 4.4.4.1 Backup and Resume Configuration

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

### **Preparation**

Device has connected to the USB device.

Step 1 From Main menu->Advanced->Import/Export, Enter import/export interface. See Figure 4-103.



Click Refresh button to find the device if you go to the Import/export interface and then connect the USB device.

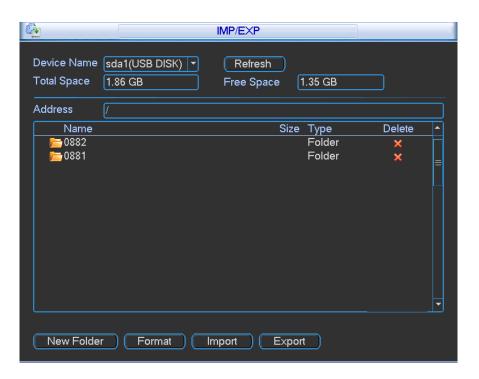


Figure 4-103

#### 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.

### 4.4.4.2 Backup Log

It is to backup system log file.

### **Preparation**

Device has connected to the USB device.

Step 1 From Main menu->Info->Log,

Enter Log interface. See Figure 4-104.

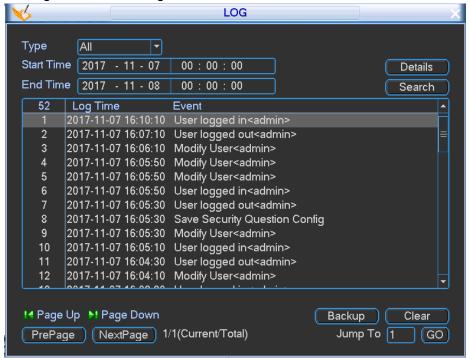


Figure 4-104

- Step 2 Select log type and then set start time and end time, click Search button.

  Device displays event name and occurred time. Click the Details button or double click the log item to view the detailed information.
- Step 3 Select logs and then click Backup button. Enter Backup interface. See Figure 4-105.

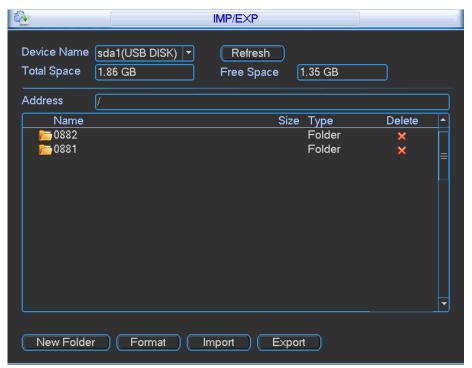


Figure 4-105

Step 4 Select a folder you want to save logs.

Step 5 Click Start

Device pops up successfully backed up dialogue box.

Step 6 Click OK button.

### 4.4.4.3 Default

When device is running slowly or configuration error occurred, you can use default function to try to fix the problem.



### Caution!

- After some items restore the default settings, some customized information may become loss.
   Please be careful!
- Click restore default button, all system items restore factory default settings. Please be careful!
- Step 1 From Main menu->Setting->Default,

Enter default interface. See Figure 4-106.

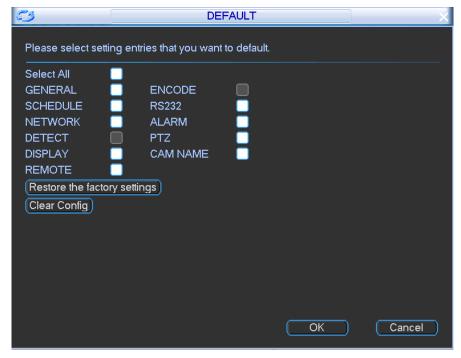


Figure 4-106

Step 2 Check an item (items) you want to restore factory default settings.



Check All to select all items at the same time.

Step 3 Select corresponding operations.

- Clear config: Select an item (items) and then click Clear config button, device deletes current configurations and restore default settings.
- Click Restore the factory settings button, all system configurations restore factory default settings.

### Step 4 Click OK

Device restores default settings after reboot.

# 4.4.5 Upgrade Firmware

It is to upgrade device firmware via the connected peripheral device.

### **Preparation**

Device has connected to the peripheral device that contains the firmware.

Step 1 From Main menu->Version->Log,

Enter Log interface. See Figure 4-107.

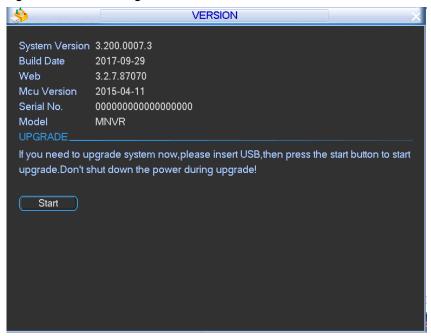


Figure 4-107

### Step 2 Click Start,

Enter system upgrade interface. See Figure 4-108.

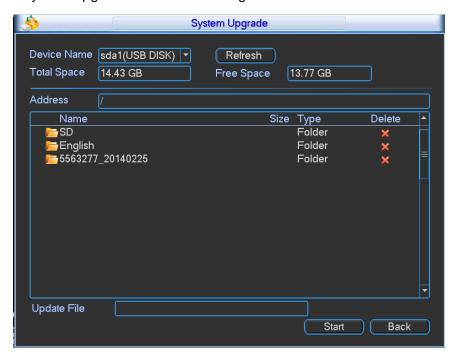


Figure 4-108

Step 3 Select upgrade file and then click Start button.

Device pops up dialogue box after upgrade is complete.

Step 4 Click OK button.

### 4.4.6 Sniffer

Using peripheral connected storage device to backup sniffer data. The backup data is for engineer to analyze network status.

### **Preparation**

Device has connected to the peripheral device such as USB device.

- Step 1 From Main menu->Info->Network test, Enter network test interface.
- Step 2 Connect peripheral device such as USB device and then click Refresh button, Device detects peripheral device and displays its name.
- Step 3 Set Sniffer data path.
  - Click Browser,
     Enter browse interface. See Figure 4-109.

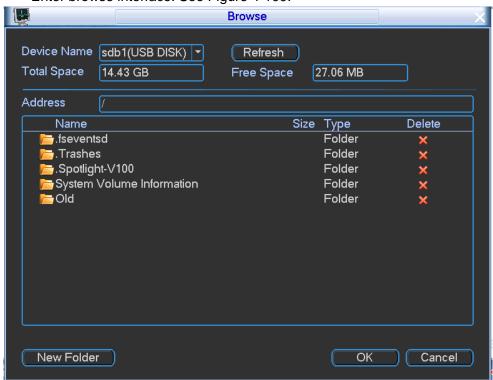


Figure 4-109

2. Set Sniffer data saved path.

# Note

- Click refresh to view the latest total space, free space, and file list information.
- Click to release space.
- Click New folder to create a new folder on the peripheral device.
- Click OK.

Enter Network Test interface.

Step 4 Click to begin sniffer data.

# $\square_{\mathsf{Note}}$

- Collect data from one LAN port at one time.
- Exit network test if the sniffer begins. You can go to the WEB to view the video and etc.
- Step 5 Click to stop sniffer.

The backup data file name is Ethernet card name-Time.pcap. See Figure 4-110. On the PC use Wireshark to open the sniffer file.

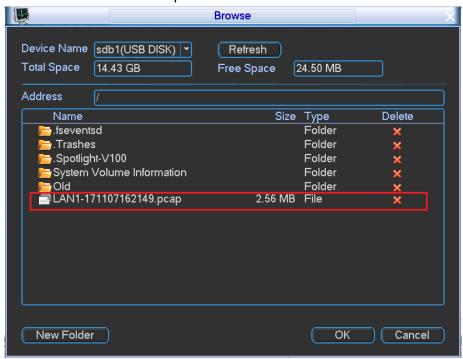


Figure 4-110

# 4.5 Shutdown

Double click shutdown button, system pops up a dialogue box for you to select. See Figure 4-111.

- Logout menu user: Log out menu. You need to input password when you login the next time.
- Restart system: System begins rebooting.
- Switch user: You can use another account to login.

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

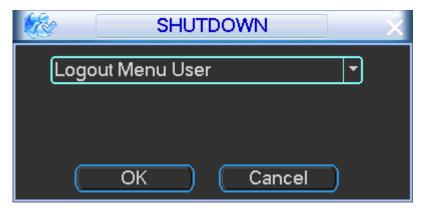


Figure 4-111

# **5 WEB OPERATION**

There might be slightly difference in the interface due to different series.

### 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.
- Current series product supports various browsers such as Internet Explorer.

## 5.2 Device Initialization

If it is your first time to use the device or you have restored factory default setup, please set a login password of **admin** (system default user).

# Note

For your device safety, please keep your login password of **admin** well after the initialization steps, and change the password regularly.

Please follow the steps listed below.

- Step 1 Open the browser and then input the DVR IP address in the address column (Default IP address is 192.168.1.108.).
- Step 2 Click Enter button.

Device displays device initialization interface. See Figure 5-1.

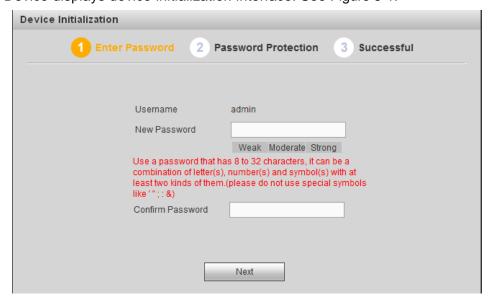


Figure 5-1

- Step 3 Set login password of admin.
  - User name: The default user name is admin.
  - Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding "'", """, ";", ":", "&"). The password shall contain at least two categories. Usually we recommend the strong password.



STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.

Step 4 Click Next, device goes to the following interface. See Figure 5-2.



Figure 5-2

Step 5 Set security questions.

# Note

- After setting the security questions here, you can use the email you input here or answer
  the security questions to reset admin password. Refer to chapter 5.3 Reset password
  for detailed information.
- Cancel the email or security questions box and then click Next button to skip this step.
- Email: Input an email address for reset password purpose. Scan the QR code to reset the password, you need to receive the security code by the email. Input the security code to reset the password of admin. In case you have not input email address here or you need to update the email information, please go to the Setup->System->Account to set. Refer to chapter 5.6.5.5.1.2 Modify user for detailed information.
- Security question: Set security questions and corresponding answers. Properly answer
  the questions to reset admin password. In case you have not input security question
  here or you need to update the security question information, please go to the local
  menu->Setting->System->Account->Security question to set. Refer to chapter 4.3.6.6

Security question for detailed information.

# Note

If you want to reset password by answering security questions, please go to the local menu interface.

Step 6 Click OK to complete the device initialization setup. See Figure 5-3.



Figure 5-3

# 5.3 Reset Password

If you forgot **admin** password, you can reset the password by email or by answering the security questions (local menu only).

Please follow the steps listed below.

Step 1 Go to the device login interface. See Figure 5-4.



Figure 5-4

Step 2 Click Forgot password, enter the following interface. See Figure 5-5.

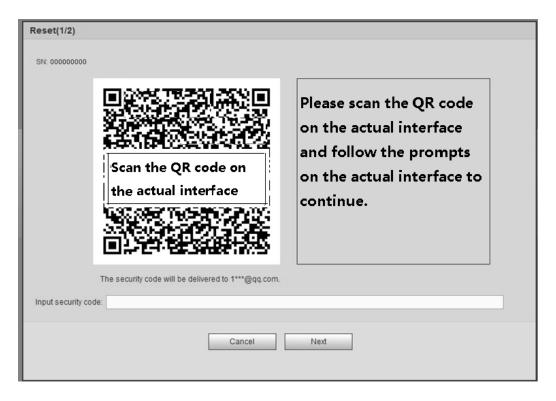


Figure 5-5

Step 3 Follow the prompts on the interface and then scan the QR code to get the security code.



### **WARNING**

- For the same QR code, max scan twice to get two security codes. Refresh the QR code if you want to get security code again.
- ♦ The security code on you email is only valid for 24 hours.
- ♦ After five times security code failure, the admin account will be locked for 5 minutes.
- Step 4 Input the security code on the email and then click Next button.
- Step 5 Input new password and then confirm.



### **WARNING**

STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. The password shall be at least 8-digit containing at least two types of the following categories: letters, numbers and symbols. We also recommend you change your password periodically especially in the high security system.

Step 6 Click OK button to complete the setup.

# 5.4 Login

Open browser and input DVR address in the address column. For example, if your DVR IP is 10.10.3.16, then please input http:// 10.10.3.16 in IE address column. See Figure 5-6.

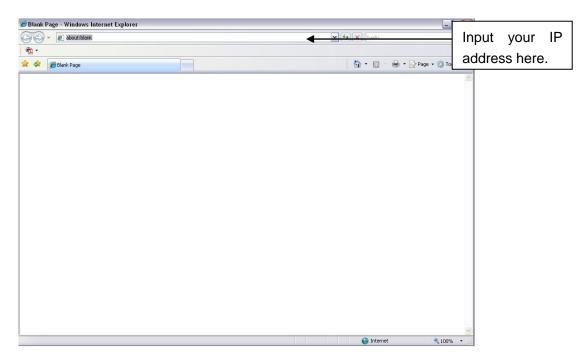


Figure 5-6

System pops up warning information to ask you whether install webrec.cab control or not. Please click yes button.

If you can't download the ActiveX file, please modify your settings as follows. See Figure 5-7.

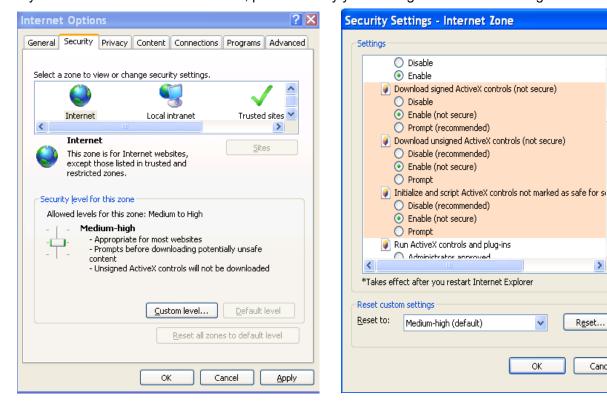


Figure 5-7

After installation, the interface is shown as below. See Figure 5-8.

Please input your user name and password.

Default factory name is **admin** and password is what you set in chapter 5.2 Device Initialization. Click Login to login.

>

Reset...

Cancel



Figure 5-8

# 5.5 Main Interface

After you logged in, you can see the main interface. See Figure 5-9.



Figure 5-9

This main window can be divided into the following sections.

- Section 1: there are five function buttons: Preview (chapter 5.5.1), Setup (chapter 5.6),
   Playback (chapter 5.8), Alarm (chapter 5.9), Info (chapter 5.7) and logout (chapter 5.10).
- Section 2: There are channel numbers.

Please refer to Figure 5-10 for main stream (M) and sub stream (S) switch information.



Figure 5-10

Section 3: Start dialogue button.

You can click this button to enable audio talk. Click 【▼】 to select bidirectional talk mode. There are four options: DEFAULT, G711a, G711u, PCM, and AMR. After you enable the bidirectional talk, the Start talk button becomes End Talk button and it becomes yellow. See Figure 5-11.





Figure 5-11

 Section 4: Instant record button. Click it, the button becomes yellow and system begins manual record. See Figure 5-12. Click it again, system restores previous record mode..



Figure 5-12

Section 5: Local play button.

The Web can playback the saved (Extension name is dav) files in the PC-end. Click local play button, system pops up the following interface for you to select local play file. See Figure 5-13.



Figure 5-13

- Section 6: From the left to the right, you can see video quality/fluency/ full screen/vertical-sync/1-window/4-window/6-window/8-window/9-window. You can set video fluency and real-time feature priority.
- Section 7: PTZ operation panel. Please refer to chapter 5.5.2 for detailed information.
- Section 8: Image setup and alarm setup. Please refer to chapter 5.5.3 for detailed information.
- Section 9: It is to display several channels at one window. Please refer to chapter 5.5.4 for detailed information.

#### 5.5.1 Real-time Monitor

In section 2, left click the channel name you want to view, you can see the corresponding video in current window.

On the top left corner, you can view device IP(10.10.6.129), channel number(1), network monitor

bit stream(2466Kbps) and stream type (M=main stream. S=Sub stream). See Figure 5-14.

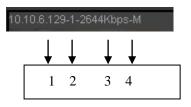


Figure 5-14

On the top right corner, there are six unction buttons. See Figure 5-15.

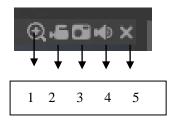


Figure 5-15

- 1: Digital zoom: Click this button and then left drag the mouse in the zone to zoom in. right click mouse system restores original status.
- 2: Local 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.
- 3: Snapshot picture. You can snapshot important video. All images are memorized in system client folder PictureDownload (default).
- 4: Audio :Turn on or off audio.(It has no relationship with system audio setup )
- 5: Close video.

### 5.5.2 PTZ

Before PTZ operation, please make sure you have properly set PTZ protocol. (Please refer to chapter 4.2.2).

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.              |  |  |
| 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,.                 |  |  |

| Parameter       | Function   |
|-----------------|--|
| Tour            | Select Tour from the dropdown list.  |
|                 | <ul> <li>Input preset value in the column. Click Add preset button, you</li> </ul> |
|                 | 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.                                       |

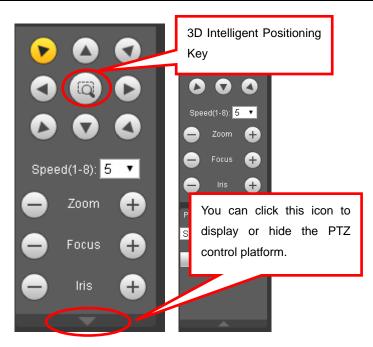


Figure 5-16

# 5.5.3 Image/Relay-out

Select one monitor channel video and then click Image button in section 8, the interface is shown as Figure 5-17.

5.5.3.1 Image

Here you can adjust its brightness, contrast, hue and saturation. (Current channel border becomes green).

Or you can click Reset button to restore system default setup.

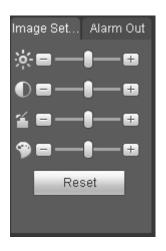


Figure 5-17

### 5.5.3.2 Relay output

Here you can select alarm output channel, the select channel alarm mode becomes manual when the alarm is enabled. See Figure 5-18. It is corresponding to the alarm output 1/2 of the rear panel. Please refer to chapter 2.8.1 for detailed information.



Figure 5-18

### 5.5.4 Zero-channel encoding

System allows you to preview several channels on one channel. It supports 1/4-window. See Figure 5-19.

Please note only the product of this icon supports current function.



Figure 5-19

# 5.6 Setup

### **5.6.1** Camera

### 5.6.1.1 Conditions

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

On the main interface, from Setup->Camera->Conditions, enter conditions interface. See Figure 5-20.

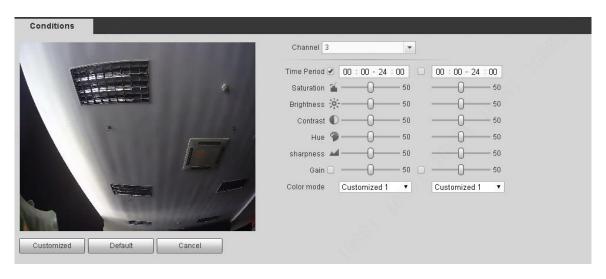


Figure 5-20

Please refer to the following sheet for detailed 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 bright. 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.   |  |
| Contrast    | It is to adjust monitor window contrast. 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. |  |
| Saturation  | It is to adjust monitor window saturation. The larger the number, the strong the color is.  |  |
| Gain        | The gain 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 video effect.  |  |
| Color mode  | It is to set color mode. Color modes include: standard, soft, customized and etc.   |  |

# 5.6.1.2 Video and Audio

# 5.6.1.2.1 Encode

On the main interface, from Setup->Camera->Encode, the encode interface is shown as

# below. See Figure 5-21.

| Encode             | Snapshot            | Overlay | Path               |         |          |  |
|--------------------|---------------------|---------|--------------------|---------|----------|--|
| Channel            | 3                   | •       |                    |         |          |  |
| Main Stream        |                     |         | Sub Stream         |         |          |  |
| Code-Stream Type   | Regular             | •       | ✓ Video Enable     |         |          |  |
| Compression        | H.264               | •       | Compression        | H.264   |          |  |
| Resolution         | 1920*1080(1920x1080 | D) •    | Resolution         | D1      | <u> </u> |  |
| Frame Rate(FPS)    | 30                  | •       | Frame Rate(FPS)    |         | <u></u>  |  |
| Bit Rate Type      | CBR                 |         | Bit Rate Type      | CBR     | ▼ (40)   |  |
| Bit Rate           | 2048                | ▼ Kb/S  | Bit Rate           | 1024    | ▼ Kb/S   |  |
| Reference Bit Rate | 0-0Kb/S             |         | Reference Bit Rate | 0-0Kb/S |          |  |
|                    |                     |         |                    |         |          |  |
|                    | Save                | Refresh |                    |         |          |  |
|                    |                     | 1.00011 |                    |         |          |  |

Figure 5-21

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 sub 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, MJPG.  |  |  |
| Resolution         | System supports various resolutions, you can select from the dropdown list. The higher the resolution is, the better the video quality is. The first channel and then second channel maximally support 1080P. The third and the fourth channel maximally support 720P.        |  |  |
| Frame Rate         | PAL: 1~25f/s; NTSC: 1~30f/s.  |  |  |
| Bit Rate           | <ul> <li>Main stream: You can set bit rate here to change video quality. The large the bit rate is, the better the quality is. Please refer to recommend bit rate for the detailed information.</li> <li>Extra stream: In CBR, the bit rate here is the max value.</li> </ul> |  |  |
|                    | In dynamic video, system needs to low frame rate or video quality to guarantee the value. The value is null in VBR mode.  |  |  |
| Reference bit rate | Recommended bit rate value according to the resolution and frame rate you have set.   |  |  |
| Audio enable       | System supports G711a/PCM/G711µ. The options may vary   |  |  |

|                     | due to different series.  |
|---------------------|---|
| Watermark<br>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 85-digit. The character can only include number, character and underline. |

# 5.6.1.2.2 Snapshot

On the main interface, from Setup->Camera->Encode->Snapshot, the snapshot interface is shown as in Figure 5-22.



Figure 5-22

Please refer to the following sheet for detailed information.

| Parameter     | Function  |
|---------------|---|
| Snapshot type | There are two modes: Regular(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    | It is to set snapshot picture size.                               |
| Quality       | It is to set the image quality. There are six levels.             |
| Interval      | It is to set snapshot frequency.                                  |
| Сору          | Click it; you can copy current channel setup to other channel(s). |
|               |   |

### 5.6.1.2.3 Overlay

It is to set video overlay information on multiple-screen preview mode. Device has enabled time title, plate title, speed title overlay by default.

On the main interface, from Setup->Camera->Encode->Overlay, the video overlay interface is shown as in Figure 5-23.

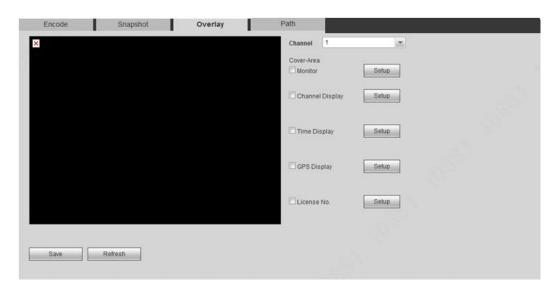


Figure 5-23

Please refer to the following sheet for detailed information.

| Parameter                    | Function  |
|------------------------------|---|
| Cover-area<br>(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.  |

### 5.6.1.2.4 Path

On the main interface, from Setup->Camera->Encode->Path, the storage path interface is shown as in Figure 5-24.

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.

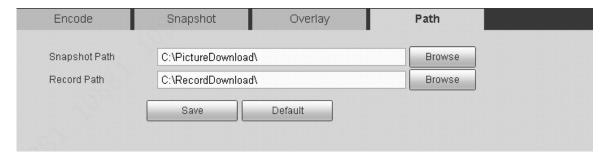


Figure 5-24

### 5.6.1.3 Channel Name

Here you can set channel name.

On the main interface, from Setup->Camera->CAM Name, enter channel name interface. See Figure 5-25.



Figure 5-25

### 5.6.2 Network

# 5.6.2.1 TCP/IP

On the main interface, from Setup->Network->TCP/IP, the TCP/IP interface is shown as in Figure 5-26.

| TCP/IP          |                             |
|-----------------|-----------------------------|
| IP Version      | IPv4 ▼                      |
| MAC Address     | 00 . 00 . 23 . 34 . 45 . 55 |
| Mode            | Static                      |
| IP Address      | 10 . 15 . 23 . 31           |
| Subnet Mask     | 255 . 255 . 0 . 0           |
| Default Gateway | 10 . 15 . 0 . 1             |
| Preferred DNS   | 8 . 8 . 8 . 8               |
| Alternate DNS   | 8 . 8 . 4 . 4               |
| MTU             | 1500                        |
|                 | LAN Download                |
|                 | Save Refresh                |

Figure 5-26

Please refer to the following sheet for detailed information.

| Parameter         | Function  |  |  |
|-------------------|---|--|--|
| Mode              | There are two modes: static mode and the DHCP mode.   |  |  |
|                   | <ul> <li>The IP/submask/gateway are null when you select the<br/>DHCP mode to auto search the IP.</li> </ul>      |  |  |
|                   | <ul> <li>If you select the static mode, you need to set the<br/>IP/submask/gateway manually.</li> </ul>           |  |  |
|                   | <ul> <li>If you select the DHCP mode, you can view the<br/>IP/submask/gateway from the DHCP.</li> </ul>           |  |  |
|                   | <ul> <li>If you switch from the DHCP mode to the static mode, you<br/>need to reset the IP parameters.</li> </ul> |  |  |
| Mac Address       | It is to display host Mac address.  |  |  |
| мти               | Max transmission unit.  |  |  |
| 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 addres | s 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 Connection

On the main interface, from Setup->Network->Connection->Connection, the connection interface is shown as in Figure 5-27.

| Connection Setting | HTTPS  |  |
|--------------------|--|--|
|                    |  |  |
| TCP Port           | 37777  | (1025~65535)   |
| UDP Port           | 37778  | (1025~65535)   |
| HTTP Port          | 80   | (1~65535)  |
| HTTPS Port         | 443  | (1~65535)  |
| RTSP Port          | 554  | (1~65535)  |
| RTSP Format        | rtsp:// <username>:<passw< th=""><th>ord&gt;@<ip address="">:<port>/cam/realmonitor?channel=1&amp;subtype=0</port></ip></th></passw<></username> | ord>@ <ip address="">:<port>/cam/realmonitor?channel=1&amp;subtype=0</port></ip> |
|                    | channel: Channel, 1-8; subt  | type: Code-Stream Type, Main Stream 0, Sub Stream 1.                             |
|                    |  |  |
|                    | Save Re  | efresh Default   |
|                    |  |  |

Figure 5-27

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 0 to 128. The default setup is 128. |
| 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.   |

### 5.6.2.3 HTTPS

In this interface, you can set to make sure the PC can successfully login via the HTTPS. It is to guarantee communication data security. The reliable and stable technology can secure the user information security and device safety.

On the main interface, from Setup->Network->Connection->HTTPS, enter HTTPS interface. See Figure 5-28.

# Note

You need to implement server certificate again if you have changed device IP.

You need to download root certificate if it is your first time to use HTTPS on current PC.

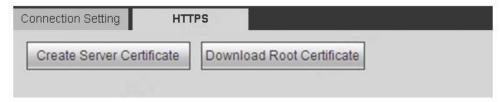


Figure 5-28

### 5.6.2.3.1 Create Server Certificate

If it is your first time to use this function, please follow the steps listed below.

In Figure 5-28, click Create Server Certificate button, input country name, state name and etc. Click Create button. See Figure 5-29.

### Note

Please make sure the IP or domain information is the same as your device IP or domain name.

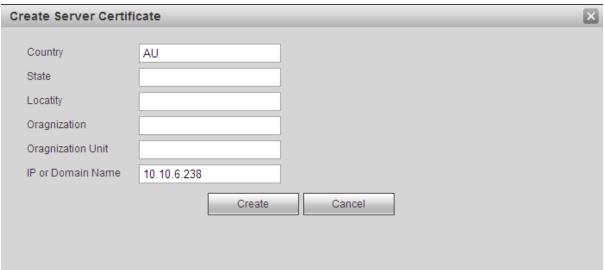


Figure 5-29

You can see the corresponding prompt. See Figure 5-30. Now the server certificate is successfully created.



Figure 5-30

### 5.6.2.3.2 Download root certificate

In Figure 5-28, click Download Root Certificate button, system pops up a dialogue box. See Figure 5-31.



Figure 5-31

Click Open button, you can go to the following interface. See Figure 5-32.

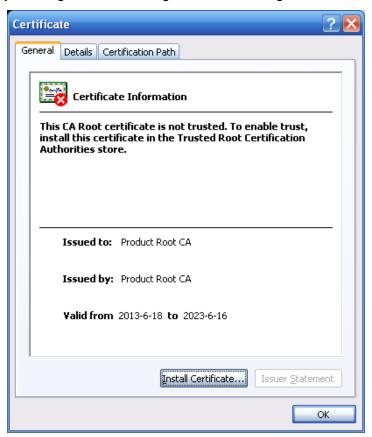


Figure 5-32

Click Install certificate button, you can go to certificate wizard. See Figure 5-33.



Figure 5-33

Click Next button to continue. Now you can select a location for the certificate. See Figure 5-34.



Figure 5-34

Click Next button, you can see the certificate import process is complete. See Figure 5-35.



Figure 5-35

Click Finish button, you can see system pops up a security warning dialogue box. See Figure 5-36.

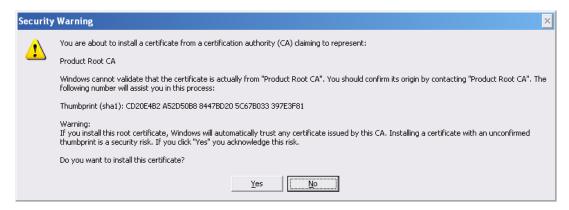


Figure 5-36

Click Yes button, system pops up the following dialogue box, you can see the certificate download is complete. See Figure 5-37.



Figure 5-37

# 5.6.2.3.3 View and set HTTPS port

From Setup->Network->Connection->Connection, you can see the following interface. See Figure 5-38.

You can see HTTPS default value is 443.

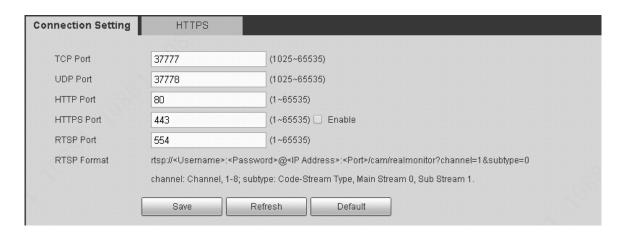


Figure 5-38

#### 5.6.2.3.4 Login

Open the browser and then input <a href="https://xx.xx.xx.xx.xx:port">https://xx.xx.xx.xx.xx:port</a>.

xx.xx.xx: is your device IP or domain mane.

Port is your HTTPS port. If you are using default HTTPS value 443, you do not need to add port information here. You can input <a href="https://xx.xx.xx.xx">https://xx.xx.xx</a> to access.

Now you can see the login interface if your setup is right.

### 5.6.2.4 Wi-Fi

#### Please note this function is for the device of Wi-Fi module.

From Setup->Network->3G/4G, the 3G/4G interface is shown as in Figure 5-39.



Figure 5-39

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.

#### 5.6.2.5 3G/4G

From Setup->Network->3G/4G, the 3G/4G interface is shown as in Figure 5-40.

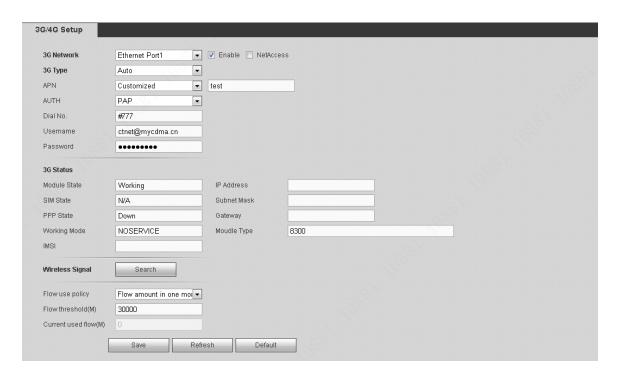


Figure 5-40

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/Dial No.   | Here is the important parameter of PPP.  |
| Authorization  | It includes PAP,CHAP,NO_AUTH.  |
| Pulse interval | It is to set time to end 3G connection after you close extra<br>stream monitor. For example, if you input 60 here, system ends<br>3G connection after you close extra stream monitor 60 seconds. |

## **Important**

- If the pulse interval is 0, then system does not end 3G connection after you close the extra stream monitor.
- Pulse interval here is for extra stream only. This item is null if you are using main stream to monitor.

#### 5.6.2.6 DDNS

DDNS(Dynamic Domain Name Server) is to dynamically refresh the DNS domain name and IP address if the device IP address has changed frequently. The user can use the domain to access the device.

## Preparation

Before the operation, make sure the device supports DNS type and go to the DDNS service provider website to register the domain name via the PC.

From Setup->Network->DDNS, the DDNS interface is shown as in Figure 5-41.



After you successfully registered and logged in the DDNS website, you can view all connected device information of current login user.

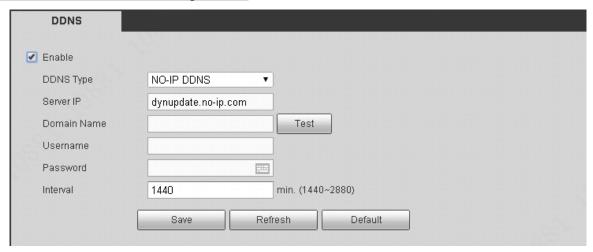


Figure 5-41

Please refer to the following sheet for detailed information.

| Parameter     | Function   |
|---------------|--|
| Server Type   | You can select DDNS protocol from the dropdown list and then enable DDNS function. |
| Server IP     | DDNS server IP address   |
| Server Port   | DDNS server port.  |
| Domain Name   | Your self-defined domain name.   |
| User          | The user name you input to log in the server.                                      |
| Password      | The password you input to log in the server.                                       |
| Update period | Device sends out alive signal to the server regularly.                             |
|               | You can set interval value between the device and DDNS server here.                |

After setting, click Save button.

Input full domain name on the browser and click Enter button. The setting is right if you can view device WEB interface. Otherwise, please check the parameters.

### 5.6.2.7 Email

From Setup->Network->Email, the email interface is shown as in Figure 5-42.

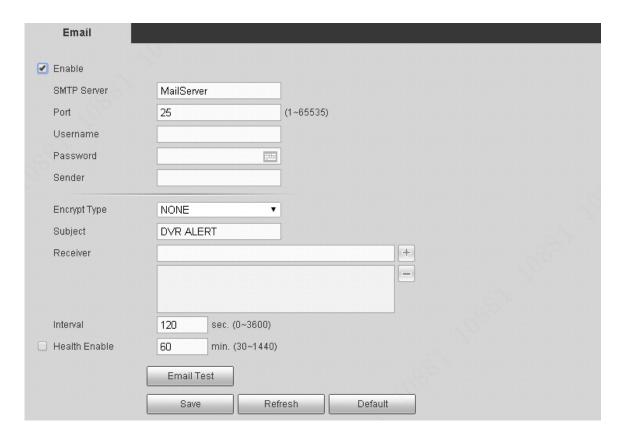


Figure 5-42

| 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<br>(Encryption<br>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.   |

| Parameter     | Function  |
|---------------|---|
|               | 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   | Please check the box here to enable this function.              |
| enable        |   |
| Update period | This function allows the system to send out the test email to   |
| (interval)    | 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.  |

#### 5.6.2.8 FTP

The FTP interface is to set FTP information.

From Setup->Network->FTP, enter FTP interface. See Figure 5-43.

Please set the FTP as your remote storage location. System can save record file or snapshot picture to the FTP once the network is offline or malfunction.

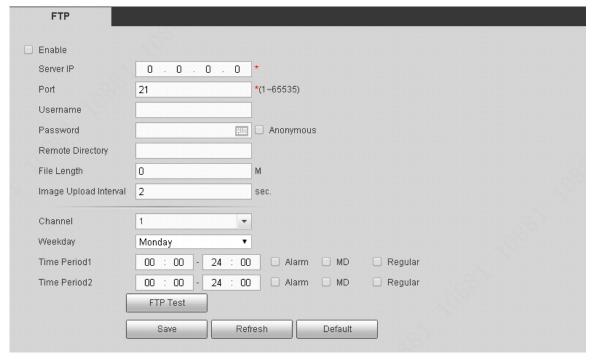


Figure 5-43

#### 5.6.2.9 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 Setup->Network->P2P, enter P2P interface. See Figure 5-44.

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



Figure 5-44

#### 5.6.3 **Event**

#### 5.6.3.1 Video detect

#### 5.6.3.1.1 Motion detect

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

From Setup->Event->Detect->Motion detect, enter motion detect interface. See Figure 5-45.



Figure 5-45

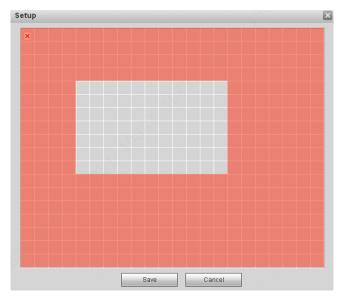


Figure 5-47



Figure 5-46

| Parameter         | Function  |
|-------------------|---|
| Enable            | You need to check the box to enable motion detect function.  Please select a channel from the dropdown list.  |
| 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 motion detection zone. The interface is shown as in Figure 5-47.  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. |
| Record<br>channel | System auto activates channel(s) to record once an alarm occurs.  Note  |
|                   | <ul> <li>Make sure you have enabled motion detect alarm record</li> </ul>   |

| Parameter       | Function   |
|-----------------|--|
|                 | function. Refer to chapter 5.6.4.1 Schedule for detailed information.  |
|                 | <ul> <li>Make sure you have enabled auto record. Refer to chapter<br/>5.6.4.3 Record control for detailed information.</li> </ul>  |
| 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<br>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.   |
| Log             | Check the box here, system can record motion detect event log.   |
| Alarm out       | 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.  |
|                 | Note   |
|                 | <ul> <li>Make sure you have enabled email function. Refer to chapter<br/>5.6.2.7 Email for detailed information.</li> </ul>  |
| Snapshot        | You need to check the box here to enable this function. You can set corresponding channel to snapshot when motion detect alarm occurs.   |
|                 | Note   |
|                 | <ul> <li>Make sure you have enabled event (trigger) snapshot. Refer<br/>to chapter 5.6.1.2.2 Snapshot for detailed information.</li> </ul>                                       |
|                 | <ul> <li>Make sure you have enabled auto snapshot. Refer to chapter<br/>5.6.4.3 Record control for detailed information.</li> </ul>  |
| Tour            | Click setup button to select tour channel. System begins 1-wiindow or multiple-window tour display among the channel(s) you set to record when an alarm occurs. See Figure 5-46. |
|                 | Note   |
|                 | <ul> <li>Make sure you have set tour interval and tour mode. Refer to<br/>chapter 5.6.5.2.2 Tour for detailed information.</li> </ul>  |
|                 | <ul> <li>Preview window restores previous split mode after alarm tour<br/>ended.</li> </ul>  |

5.6.3.1.2 Video loss

From Setup->Event->Detect->Video loss, the video loss interface is shown as in Figure 5-48.

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

For detailed setups, please refer to chapter 5.6.3.1.1 Motion detect for detailed information.

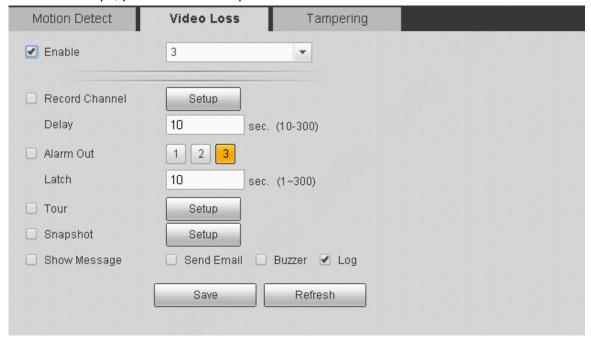


Figure 5-48

#### 5.6.3.1.3 Tampering

From Setup->Event->Detect->Tampering, the tampering (camera masking) interface is shown as in Figure 5-49.

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

For detailed setups, please refer to chapter 5.6.3.1.1 Motion detect for detailed information.

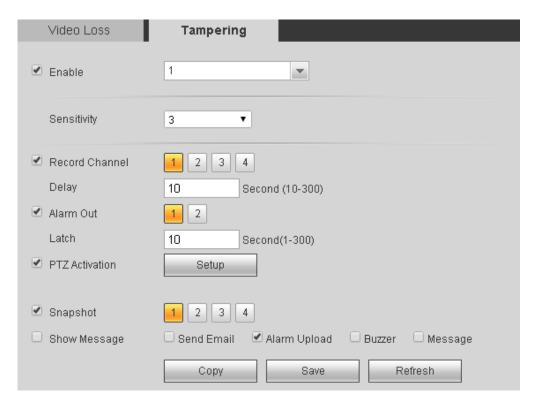


Figure 5-49

#### 5.6.3.2 Alarm

Before operation, please make sure you have properly connected alarm devices such as buzzer.

The local alarm interface is shown as in Figure 5-50.

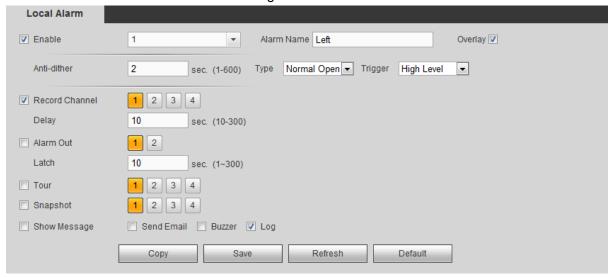


Figure 5-50

| Parameter | Function   |
|-----------|--|
| Enable    | You need to check the box to enable this function. |
|           | Please select a channel from the dropdown list.    |

| There are six periods in one day. Please draw a circle to enable corresponding period.  Select date. If you do not select, current setup applies to today only. You can select all week column to apply to the whole week.  Click OK button, system goes back to local alarm interface, please click save button to exit.  Type Normal open or normal close.  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.  Overlay Please highlight the box here to enable this function. It can overlay alarm information on the video screen when an alarm 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.  Note  Make sure you have enabled motion detect alarm record function. Refer to chapter 5.6.4.1 Schedule for detailed information.  Make sure you have enabled auto record. Refer to chapter 5.6.4.3 Record control for detailed information.  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. The buzzer beeps when an alarm occurs.  Check the box here to enable this function. The beeps when an alarm occurs.  Check the box here, system can record local alarm event log.                             | Parameter      | Function   |
|--|----------------|--|
| There are six periods in one day. Please draw a circle to enable corresponding period.  Select date. If you do not select, current setup applies to today only. You can select all week column to apply to the whole week.  Click OK button, system goes back to local alarm interface, please click save button to exit.  Type Normal open or normal close.  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.  Overlay Please highlight the box here to enable this function. It can overlay alarm information on the video screen when an alarm 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.  Note  Make sure you have enabled motion detect alarm record function. Refer to chapter 5.6.4.1 Schedule for detailed information.  Make sure you have enabled auto record. Refer to chapter 5.6.4.3 Record control for detailed information.  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. The buzzer beeps when an alarm occurs.  Check the box here to enable this function. The beeps when an alarm occurs.  Check the box here to enable this function. The beeps when an alarm occurs. | Period         | This function becomes activated in the specified periods.            |
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| 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.  Log  Check the box here, system can record local alarm event log.  Alarm upload  System can upload the alarm signal to the center  | Record Delay   | System can delay the record for specified time after 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.  Log Check the box here, system can record local alarm event log.  Alarm upload System can upload the alarm signal to the center   |                | ended. The value ranges from 10s to 300s.                            |
| 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.  Log Check the box here, system can record local alarm event log.  Alarm upload System can upload the alarm signal to the center   | Alarm out      | Enable alarm activation function. You need to select alarm           |
| 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.  Log Check the box here, system can record local alarm event log.  Alarm upload System can upload the alarm signal to the center   |                | output port so that system can activate corresponding                |
| 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.  Log Check the box here, system can record local alarm event log.  Alarm upload System can upload the alarm signal to the center  |                | alarm device when an alarm occurs.                                   |
| 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.  Log  Check the box here, system can record local alarm event log.  Alarm upload  System can upload the alarm signal to the center   | Latch          | System can delay the alarm output for specified time after           |
| host screen if you enabled this function.  Buzzer Check the box here to enable this function. The buzzer beeps when an alarm occurs.  Log Check the box here, system can record local alarm event log.  Alarm upload System can upload the alarm signal to the center  |                | an alarm ended. The value ranges from 1s to 300s.                    |
| Buzzer  Check the box here to enable this function. The buzzer beeps when an alarm occurs.  Log  Check the box here, system can record local alarm event log.  Alarm upload  System can upload the alarm signal to the center  | Show message   | System can pop up a message to alarm you in the local                |
| beeps when an alarm occurs.  Check the box here, system can record local alarm event log.  Alarm upload System can upload the alarm signal to the center   |                | host screen if you enabled this function.                            |
| Log Check the box here, system can record local alarm event log.  Alarm upload System can upload the alarm signal to the center  | Buzzer         | Check the box here to enable this function. The buzzer               |
| log.  Alarm upload System can upload the alarm signal to the center  |                | beeps when an alarm occurs.  |
| Alarm upload System can upload the alarm signal to the center  | Log            | Check the box here, system can record local alarm event              |
|  |                | -  |
| (Including clarm contar  | Alarm upload   |  |
|  |                | (Including alarm center.   |
|  | Send Email     |  |
| to alert you when an alarm occurs.   |                | to alert you when an alarm occurs.                                   |

| Parameter | Function  |
|-----------|---|
|           | Note  |
|           | Make sure you have enabled email function. Refer to   |
|           | chapter 5.6.2.7 Email for detailed information.   |
| Snapshot  | You need to check the box here to enable this function.   |
|           | You can set corresponding channel to snapshot when an   |
|           | alarm occurs.   |
|           | Note  |
|           | Make sure you have enabled event (trigger) snapshot.  |
|           | Refer to chapter 5.6.1.2.2 Snapshot for detailed  |
|           | information.  |
| Tour      | Click setup button to select tour channel. System begins 1-window or multiple-window tour display among the channel(s) you set to record when an alarm occurs. See Figure 5-46. |
|           | Note  |
|           | Make sure you have set tour interval and tour mode. Refer   |
|           | to chapter 5.6.5.2.2 Tour for detailed information.   |
|           | Preview window restores previous split mode after alarm   |
|           | tour ended.   |

# 5.6.3.3 Abnormal

From main menu->Setup->Event->Abnormal, enter abnormal interface.

It includes three types: HDD/User/Device. See Figure 5-51 through Figure 5-53.



Figure 5-51

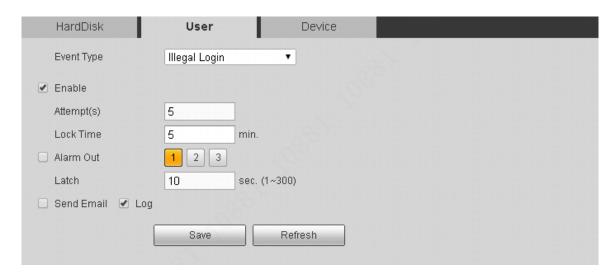


Figure 5-52

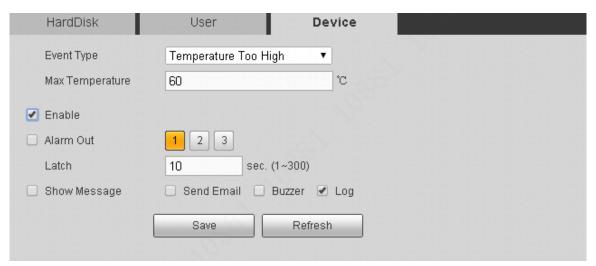


Figure 5-53

| Parameter  | Function   |
|------------|--|
| Event Type | The abnormal events include:   |
|            | <ul> <li>HDD: No disk, disk error, disk no space;</li> </ul>   |
|            | User: Illegal login.   |
|            | <ul> <li>Device: Temperature too high, battery low voltage, over speed,<br/>low speed, collision, turnover.</li> </ul>   |
| 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 0s to 300s. The default setup is 10 seconds.   |
|            | The o second means there is no delaying time.  |
| Less than  | ou can set the minimum percentage value here. The device can generate an alarm when HDD capacity or the voltage is not sufficient. This item is for disk no space/battery low voltage type only. |

| Parameter          | Function   |
|--------------------|--|
| Attempt(s)         | It is to set login attempt times. Once the login attempt exceeds the threshold you set here, current account will be locked. This function is for illegal login only.    |
| Lock time          | It is to set account lock time once its login attempt has exceeded the threshold you set. This function is for illegal login only.                                       |
| Max<br>Temperature | The device can generate an alarm once the device temperature is higher than the threshold you set. This item is for temperature too high type only.                      |
| Show<br>message    | System can pop up a message to alarm you in the local host screen if you enabled this function.  |
| Alarm<br>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.  Note  Make sure you have enabled email function. Refer to chapter 5.6.2.7 |
| Buzzer             | Email for detailed information.  Check the box here to enable this function. The buzzer beeps when an alarm occurs.  |
| Log                | Check the box here, system can record corresponding alarm log.   |
| Restart<br>system  | Check the box here, system will restart automatically after 3 minutes if there is no HDD.  |

# 5.6.3.4 Alarm Out

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

From Setup->Event->Alarm output, enter alarm output interface. See Figure 5-54.

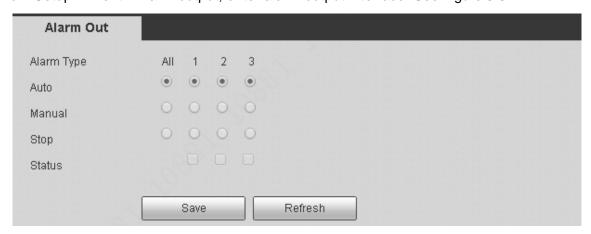


Figure 5-54

| 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. |
| Alarm<br>release | Click the button, you can clear all alarm output status.                                     |

### 5.6.4 Storage

#### 5.6.4.1 Schedule

In this interfaces, you can add or remove the schedule record/snapshot setup.

From Setup->Storage->Schedule, enter schedule interface. See Figure 5-55.

There are three record modes: general (auto).motion detect 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.
- Yellow color stands for motion detect record/snapshot.



Figure 5-55

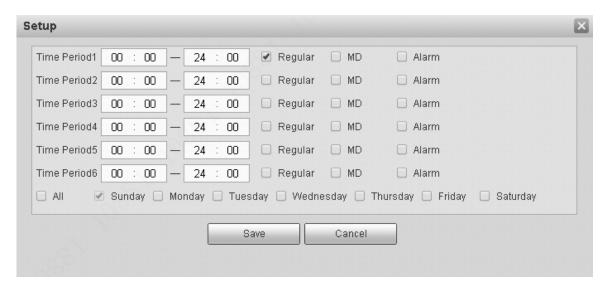


Figure 5-56

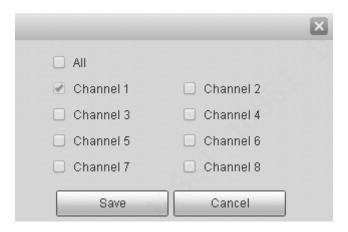


Figure 5-57

| 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.   |
| Redundancy | Check the box here to enable redundancy function. Please note this function is null if there is only one HDD.   |
| Record     | Check the box here to enable record function.  Note   |
|            | When alarm type is MD/alarm, please enable the corresponding channel to record. For example, when alarm type is MD, please refer to chapter 5.6.3.1.1 Motion detect to enable motion detect record function, and refer to 5.6.4.3 Record control to set auto record function. |
| Snapshot   | Check the box here to enable record function.   |

| Parameter                        | Function  |
|----------------------------------|---|
|                                  | Note  |
|                                  | When alarm type is MD/alarm, please enable the corresponding channel to snapshot. For example, when alarm type is MD, please refer to chapter 5.6.3.1.1 Motion detect to enable motion detect snapshot function, and refer to 5.6.1.2.2 Snapshot to set Event snapshot function.  |
| Holiday                          | Check the box here to enable holiday function.  |
| Setup<br>(Sunday to<br>Saturday) | Click the Setup button, you can set record period. See Figure 5-56. 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.  |
| Setup<br>(Holiday)               | Click the Setup button, you can set record period. See Figure 5-56. There are six periods in one day. If you check Holiday box, current channel shall record as your holiday setup here.  |
| Сору                             | Copy function allows you to copy one channel setup to another. After setting in channel, click Copy button, you can go to interface Figure 5-57. 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 Storage

Here you can see storage device information. You can also operate the read-only, write-only, hot swap and format operation.

From Setup->Storage->HDD manage, enter HDD manage interface. See Figure 5-58.



Figure 5-58

From Setup->Storage->Record, the record control interface is shown as in Figure 5-59.

| Record      | L   |   |     |    |   |
|-------------|-----|---|-----|----|---|
| Main Stream | All | 1 | 2   | 3  | 4 |
| Auto        | •   | • | •   | •  | • |
| Manual      | 0   | 0 | 0   | 0  | 0 |
| Stop        | 0   | 0 | 0   | 0  | 0 |
| inapshot    |     |   |     |    |   |
| Enable      | 0   | 0 | 0   | 0  | 0 |
| Stop        | •   | • | •   | •  | • |
|             |     |   | Sar | 20 |   |
|             |     |   | O a | /6 |   |

Figure 5-59

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.              |
| Auto       | System enables auto record function as you set in record schedule |
|            | setup (general, motion detect 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/ | Check the corresponding All button, you can enable or disable all |
| stop all   | channels record.  |

# **5.6.5** System

5.6.5.1 General

The general interface includes General, date/time and holiday setup.

5.6.5.1.1 General

From Setup->System->General, the general interface is shown as in Figure 5-60.

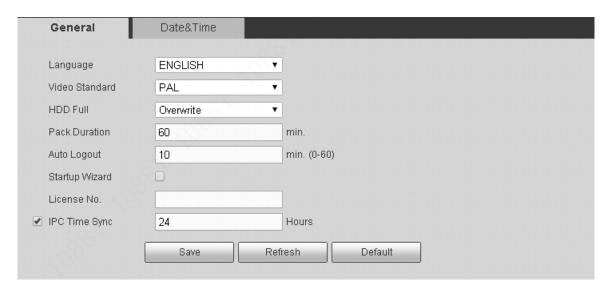


Figure 5-60

| Parameter         | Function   |
|-------------------|--|
| Language          | You can select the language from the dropdown list.  Please note the device needs to reboot to get the modification activated. |
| Video<br>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 modes: stop/overwrite.                            |
| Pack<br>duration  | Here is for you to specify record duration. The value ranges from 1 to 120 minutes. Default value is 60 minutes.               |
| Auto logout       | Here is for you to set auto logout interval once login user remains inactive for a specified time.                             |
| Startup<br>wizard | Check the box to enable startup wizard function.   |
| License No.       | Set vehicle plate number.  |
| IPC Time<br>Sync  | You can input an interval here to synchronize the IPC time with the DVR.   |

#### 5.6.5.1.2 Date and time

The date and time interface is shown as in Figure 5-61

| General     | Date&Time                           |
|-------------|-------------------------------------|
| Date Format | YYYY MM DD ▼                        |
| Time Format | 24-HOUR ▼                           |
| System Time | 2017 - 11 - 06 15 : 45 : 38 Sync PC |
| ☐ DST       |                                     |
| DST Type    | O Date   Week                       |
| Begin Time  | Jan ▼ Last Week ▼ Sunday ▼ 00 : 00  |
| End Time    | Jan ▼ Last Week ▼ Sunday ▼ 00 : 00  |
| Timing Mode | DSS ▼                               |
|             | Save Refresh Default                |

Figure 5-61

| Parameter      | Function  |
|----------------|---|
| Date format    | Here you can select date format from the dropdown list.   |
| Time<br>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.   |

# 5.6.5.2 Display

# 5.6.5.2.1 Display

From main menu->Setup->System->Display->Display, here you can set preview mode and overlay time or channel name. See Figure 5-62.



Figure 5-62

| Parameter                         | Function  |
|-----------------------------------|---|
| Resolution                        | It is to set video resolution. Please note the system needs to reboot to activate current setup.        |
| Transparency                      | Here is for you to adjust transparency. The lower the value is, the more transparent the local menu is. |
|                                   | ·   |
| Channel<br>display/GPS<br>display | Check the box here, you can view GPS information and channel number on the monitor video.               |

#### 5.6.5.2.2 Tour

From main menu->Setup->System->Display->Tour, the tour interface is shown as in Figure 5-63. Here you can set tour interval, split mode, motion detect tour and alarm tour mode.

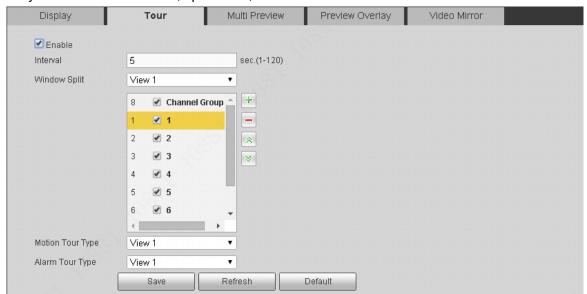


Figure 5-63

Please refer to the following sheet for detailed information.

| <u> </u>                     |   |  |
|------------------------------|---|--|
| 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 1/4/8/9-window according to device channel amount. |  |
| Motion<br>tour/Alarm<br>tour | Here you can set motion detect tour/alarm tour window mode. System supports 1/4/8/9-window now.                       |  |

#### 5.6.5.2.3 Zero-channel Encoding

It is to enable and set zero-channel encoding function so that you can view several video sources at one channel from WEB.

From main menu->Setup->System->Display->Zero-channel encoding, enter zero-channel interface. See Figure 5-64.



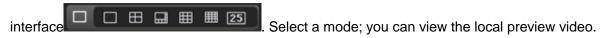
Figure 5-64

| Parameter   | Function  |  |
|-------------|---|--|
| Enable      | This function is disabled by default. 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. You can set according to device      |  |
|             | capability.   |  |
| Resolution  | The resolution value may vary due to different device capabilities. |  |
|             | Please select from the dropdown list.                               |  |
| Frame rate  | The frame rate value may vary due to different device capabilities. |  |
|             | Please select from the dropdown list.                               |  |
| Bit Rate    | The default setup is 1024Kb/S. The bit rate value may vary due to   |  |
|             | different device capabilities and frame rate setups. Please select  |  |
|             | from the dropdown list.   |  |

Click Save to complete the 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, you can use WEB to view the corresponding video.

Login the Web and you can select zero-channel encoding mode at the right corner of the



#### 5.6.5.2.4 Preview

From main menu->Setup->System->Display->Preview, the preview overlay interface is shown as in Figure 5-65. 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.

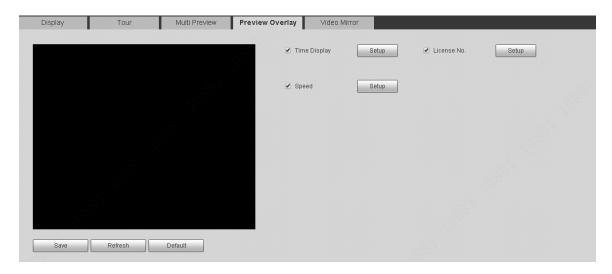


Figure 5-65

#### 5.6.5.2.5 Video Mirror

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

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



Figure 5-66

#### 5.6.5.3 RS232

From main menu->Setup->System->RS232, the RS232 interface is shown as in Figure 5-67.

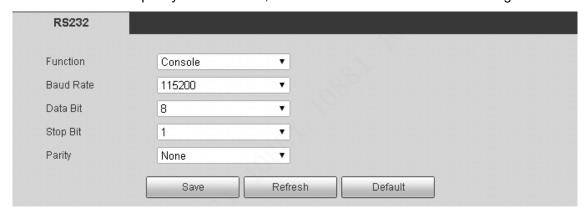


Figure 5-67

| Parameter | Function                                       |
|-----------|--|
| Function  | Select the corresponding COM control protocol. |
|           | Default setup is console.                      |

| Parameter | Function  |  |
|-----------|---|--|
|           | <ul> <li>Default setup is console.</li> <li>Console is for you to use the COM or mini-end software to upgrade or debug the program.</li> <li>The control keyboard is for you to control the device via the special keyboard.</li> <li>Transparent COM (adapter) is to connect to the PC to transfer data directly.</li> <li>Network keyboard is for you to use the special keyboard to control the device.</li> </ul> |  |
|           | <ul> <li>PTZ: Use COM to control the PTZ.</li> <li>ITS: Connect to mobile light box or touch screen.</li> </ul>   |  |
| 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.   |  |

# 5.6.5.4 PTZ

From main menu->Setup->System->PTZ, the PTZ interface is shown as in Figure 5-68. 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.

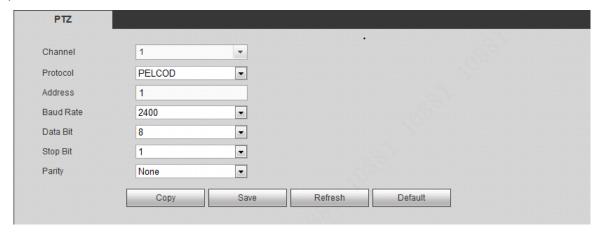


Figure 5-68

| Parameter | Function                             |
|-----------|--------------------------------------|
| Channel   | Select PTZ camera connected channel. |
| PTZ Type  | There are two options: local/remote. |

| Parameter | Function  |
|-----------|---|
|           | Please select remote type if you are connecting to the network                  |
|           | PTZ.  |
| Protocol  | Select the corresponding dome protocol such as PELCOD.                          |
| 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. |

#### 5.6.5.5 Account

It is to manage user, user group and security questions.

- For the user name, the string max length is 31-byte, and for the user group, the string max length is 15-byte. The user name can only contain English letters, numbers and "\_", "@", ".".
- The default user amount is 64 and the default group amount is 20. System account adopts two-level management: group and user. The user authorities shall be smaller than group authorities (The **admin** user authorities are set by default).
- For group or user management, there are two levels: admin and user. The user name shall be unique and one user shall only belong to one group.

#### 5.6.5.5.1 User

From main window->Setup->System->Account->User, enter user interface. See Figure 5-69. In this interface you can add/remove user and modify user name.

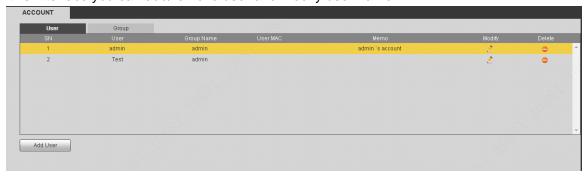


Figure 5-69

#### 5.6.5.5.1.1 Add user

It is to add a name to group and set the user rights.

From main window->Setup->System->Account->User, click Add user button. See Figure 5-70. Input user name and input password twice to confirm. Check the boxes to select rights.

For convenient setup, please make sure the admin user has the higher rights than the general user.



Figure 5-70

#### 5.6.5.5.1.2 Modify user

It is to modify the user property, belonging group, password and rights. For **admin**, you can change its email address.

From main window->Setup->System->Account->User, select a user and then click to modify its information. See Figure 5-71.

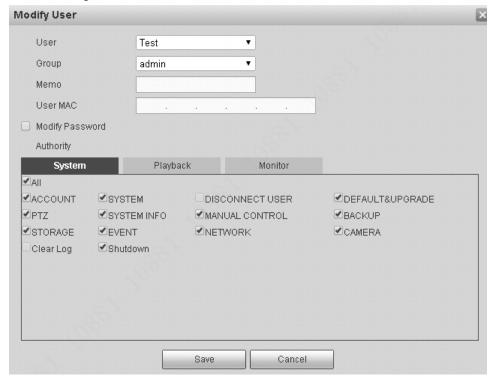


Figure 5-71

For the **admin**, the interface is shown as below. See Figure 5-72.

You can change email information. The email address here is to reset password purpose.



Figure 5-72

#### 5.6.5.5.1.3 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.

From main window->Setup->System->Account->User, select a user and then click its information.

Check the Modify password box, enter the following interface. See Figure 5-65.

Input old password and then input new password twice to confirm.

For admin, you can change its email information too.



#### **WARNING**

STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. The password shall be at least 8-digit containing at least two types of the following categories: letters, numbers and symbols. We also recommend you change your password periodically especially in the high security system.



Figure 5-73

#### 5.6.5.5.2 Group

The group management interface can add/remove group, modify group password and etc. From main menu->Setup->System->Account->Group, the interface is shown as in Figure 5-74.



Figure 5-74

# 5.6.5.5.2.1 Add group

It is to add group and set its corresponding rights.

From main menu->Setup->System->Account->Group, click Add group button. See Figure 5-75. Please input the group name and then check the box to select the corresponding rights.

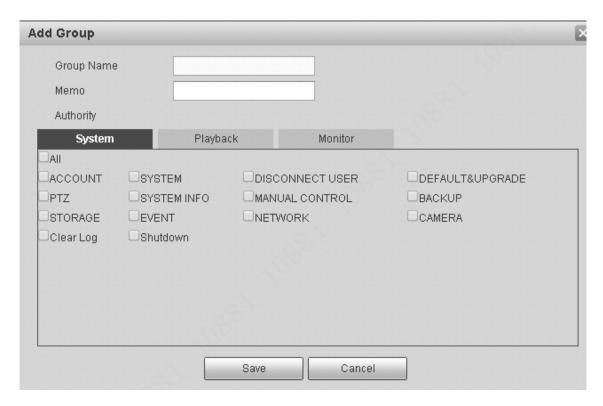


Figure 5-75

#### 5.6.5.5.2.2 Modify group

From main menu->Setup->System->Account->Group, select a group and then click , you can see an interface is shown as in Figure 5-76.

Here you can modify group information such as memo and rights.

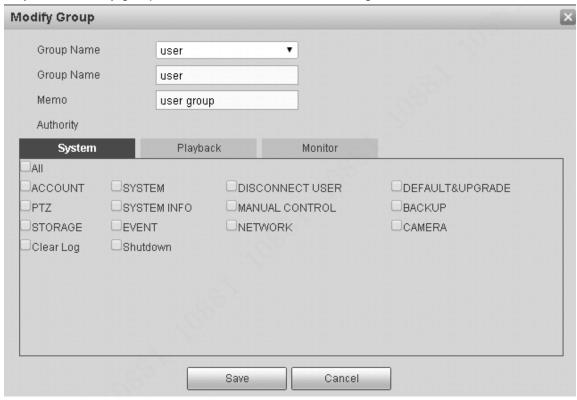


Figure 5-76

# 5.6.5.6 Import/Export

From main menu->Setup->System->Import/export, the interface is shown as in Figure 5-77.



Figure 5-77

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. |  |  |

#### 5.6.5.7 Default

From main menu->Setup->System->Default, the default setup interface is shown as in Figure 5-78.

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

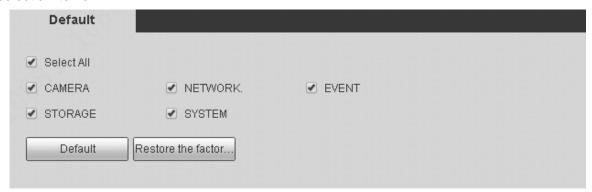


Figure 5-78

### 5.6.5.8 Upgrade

From main menu->Setup->System->Upgrade, the upgrade interface is shown as in Figure 5-79. 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.

#### **Important**

Improper upgrade program may result in device malfunction!



Figure 5-79

# 5.6.6 Vehicle

# 5.6.6.1 Speed

Here you can set speed ratio, mileage, speed source and etc. See Figure 5-80.

| Speed Ratio        | 6400                |              |       |  |
|--------------------|---------------------|--------------|-------|--|
| Mileage Ratio      | 1                   |              |       |  |
| Mileage Cumulation | Always              | •            |       |  |
| Mileage(KM)        | 0.0                 |              |       |  |
| Start Mileage      | 0.0                 | KM(Such as 1 | .0KM) |  |
| Speed source       | Pulse&Position Info |              |       |  |
|                    |                     |              |       |  |

Figure 5-80

Please refer to the following sheet for detailed information.

| Parameter             | Function  |  |  |
|-----------------------|---|--|--|
| Speed ratio           | The parameter to calculate speed.                     |  |  |
|                       | Speed ratio Vehicle actual running speed              |  |  |
|                       | Default speed ratio Disiplayed speed on the interface |  |  |
| Speed                 | Speed value.  |  |  |
| Mileage ratio         | Speed mileage correction.                             |  |  |
| Mileage<br>cumulation | Select cumulation type.                               |  |  |
| Mileage               | Display mileage value.                                |  |  |
| Clear:                | Clear mileage value.                                  |  |  |
| Start<br>mileage      | Set start mileage value.                              |  |  |
| Speed source          | Select speed source.                                  |  |  |

#### 5.6.6.2 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 5-81.

| CUSTOM BACKUP                           | SUSTOM BACKUP                           |  |  |  |
|---|---|--|--|--|
| Key setup: Plate, 3G/4G, auto register. | Key setup: Plate, 3G/4G, auto register. |  |  |  |
| Detailed Information                    |   |  |  |  |
| There are no backup records.            |   |  |  |  |
|   |   |  |  |  |
|   |   |  |  |  |
|   |   |  |  |  |
|   |   |  |  |  |
|   |   |  |  |  |
|   |   |  |  |  |
| Backup                                  | Restore Delete                          |  |  |  |
|   |   |  |  |  |
|   |   |  |  |  |

Figure 5-81

Please refer to the following sheet for detailed information.

| 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 Information

#### 5.7.1 Version

From Setup->Info->Version, the version interface is shown as in Figure 5-82.

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

| VERSION               |                                      |
|-----------------------|--------------------------------------|
|                       |                                      |
| Device Type:          | MNVR                                 |
| Record Channel:       | 8                                    |
| Alarm In:             | 8                                    |
| Alarm Out:            | 3                                    |
| SN:                   | 00000000000000000                    |
| Web:                  | 3.2.7.87070                          |
| Onvif Client Version: | 2.2.1                                |
| System Version:       | 3.200.0007.3, Build Date: 2017-09-29 |

Figure 5-82

# 5.7.2 Log

Here you can view system log.

From Setup->Info->Log, enter log interface. See Figure 5-83.

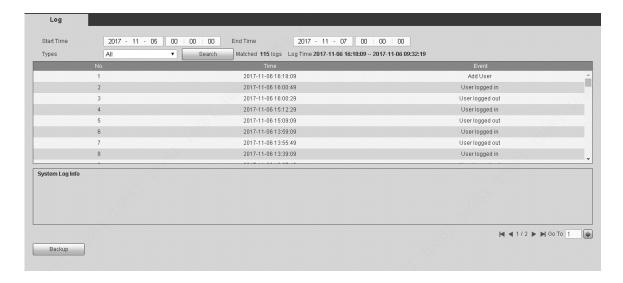


Figure 5-83

Please refer to the following sheet for log parameter information.

| Parameter            | Function  |  |
|----------------------|---|--|
| Туре                 | 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.  |  |

# 5.7.3 Online User

It is to view currently online user.

From Setup->Info->Online user, enter online user interface. See Figure 5-84.



Figure 5-84

#### 5.7.4 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 5-47.



Figure 5-85

#### 5.7.5 Network Sniffer

Using peripheral connected storage device to backup sniffer data. The backup data is for engineer to analyze network status.

#### **Preparation**

Device has connected to the peripheral device such as USB device.

From main window->Setup->Info->Network sniffer, enter network sniffer interface. See Figure 5-86.

Select Ethernet card from the dropdown list, and then set saved path. Check target filer and then set IP address.

Click Start to begin sniffer.

Click Stop to stop.



Figure 5-86

# 5.8 Playback

Click Playback button, you can see an interface is shown as in Figure 5-87.

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.

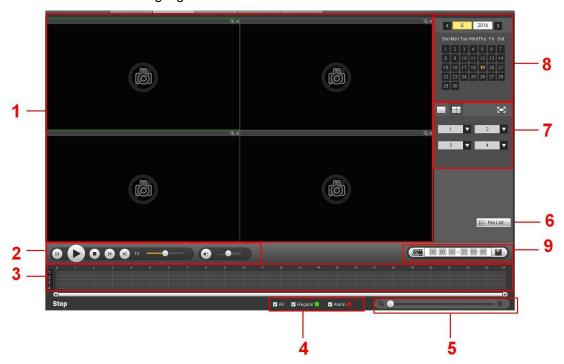


Figure 5-87

| SN | Function         | Description   |
|----|------------------|---|
| _  | Tanotion         |   |
| 1  | Display window   | Click to switch window amount.  During the playback process, double click a window to zoom in.                      |
| 2  |                  |   |
|    |                  | From left to right: pause/play/stop/previous frame/next frame/slow  |
|    | Playback control | play/fast play/volume.  |
|    | pane.            | Note  |
|    |                  | The next frame button is only valid when record is in pause mode.   |
|    |                  | Once the volume button becomes the audio is mute.   |
| 3  |                  | It is to display the record type and its period in current search criteria.   |
|    |                  | <ul> <li>Use the mouse to click one point of the color zone in the time<br/>bar, system begins playback.</li> </ul> |
|    | Time bar         | 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  | Record type      | In any play mode, the time bar will change once you modify the  |

|   |                 | <del>,</del>  |
|---|-----------------|---|
|   |                 | search type.  |
|   |                 | Right now system supports general, MD(motion detect) and            |
|   |                 | alarm.  |
| 5 | Time bar unit   | You can adjust the time on the time bar to search record files.     |
| 6 | File list       | Please refer to chapter 5.8.3 for detailed information.             |
| 7 | Window mode and | There are two window modes: 1/4-channel.                            |
|   |                 | Change window mode, select record channel, the time bar can         |
|   | channel options | refresh accordingly.  |
| 8 |                 | Blue: There is record file or image.                                |
|   | Calendar        | Green: System current date.   |
|   |                 | Click a date, you can view record file information on the time bar. |
| 9 | Clip and save   | Please refer to chapter 5.8.2 for detailed information.             |
|   | record          |   |

#### 5.8.1 Playback Record

There are three playback modes: Click play button/click any valid file position in the time bar/double click any file in the file list.

# 5.8.2 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 5-88. Click save button.



Figure 5-88

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.

# 5.8.3 File List

Then please click file list button (Button 6 in Figure 5-87), you can see the corresponding files in the list. See Figure 5-89.

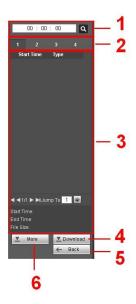
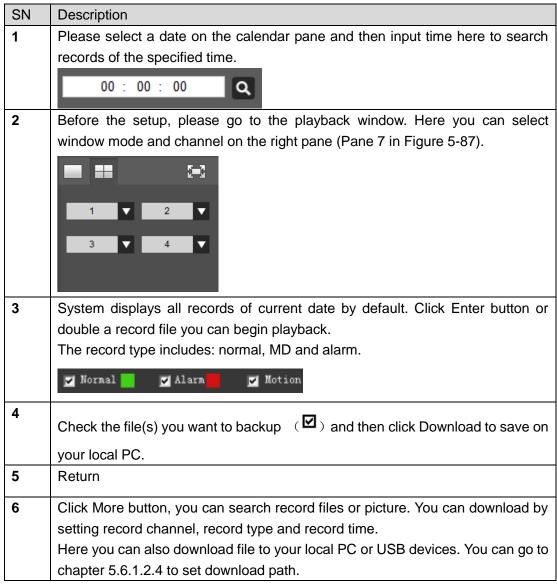


Figure 5-89



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 5-90 and the download by time interface is shown as in Figure 5-91.

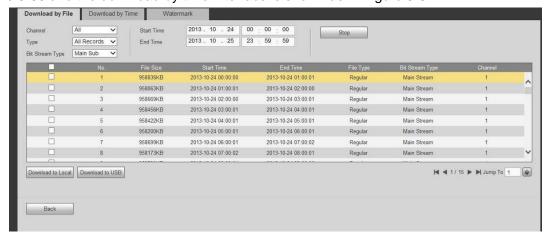


Figure 5-90

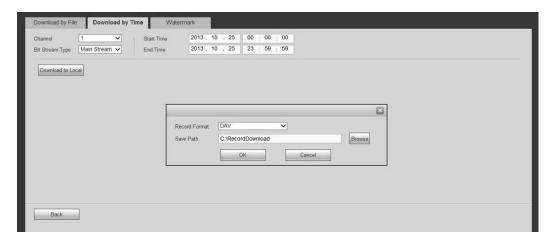


Figure 5-91

#### Watermark

Watermark interface is shown as In Figure 5-90. Please select a file and then click Verify button to see the file has been tampered with or not



Figure 5-92

# 5.9 Alarm

Click alarm function, you can see an interface is shown as Figure 5-93. Here you can set device alarm type and alarm sound setup.

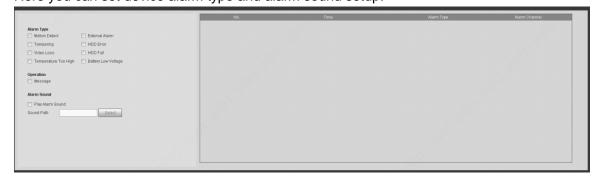


Figure 5-93

Please refer to the following sheet for detailed information.

Please make sure current device can upload the alarm.

| Туре                   | Parameter          | Function   |
|------------------------|--------------------|--|
| Alarm                  | Video loss         | System alarms when video loss occurs.            |
| Type                   | Camera             | System alarms when camera is viciously           |
|                        | masking(Tampering) | masking.   |
|                        | Disk full          | System alarms when disk is full.                 |
|                        | Disk error         | System alarms when disk error occurs.            |
| External alarm Alarm i |                    | Alarm input device sends out alarm.              |
|                        | Temperature high   | System alarms when temperature is high.          |
|                        | Battery low        | System alarms 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                  | Play alarm sound   | System sends out alarm sound when an alarm       |
| Sound                  |                    | occurs. You can specify as you wish.             |
|                        | Sound path         | Here you can specify alarm sound file.           |

# **5.10** Log out

Click log out button, system goes back to log in interface. See Figure 5-94.

You need to input user name and password to login again.



Figure 5-94

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

# 7 FAQ

#### 1. After the vehicle started, the DVR 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.
- Front panel error.
- Main board is damaged.

### 2. DVR often automatically shuts down or stops running.

There are following possibilities:

- Input voltage is not stable or it is too low.
- Improper installation. The components connections are not good.
- HDD malfunction or something wrong with the ribbon.
- Front video signal is not stable.
- Working environment is too harsh, too much dust.
- Hardware malfunction.

#### 3. System cannot detect HDD.

There are following possibilities:

- HDD is broken.
- HDD ribbon is damaged.
- HDD cable connection is loose.
- Main board SATA port is broken.

#### 4. One screen is black.

There are following possibilities:

- The connected camera is broken. Replace the camera.
- Connected cable is damaged. 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.
- Video input signal is too weak or there is no video input signal.
- There is no video input signal or it is too weak.
- Check privacy mask setup or your screen saver.
- DVR 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.
- DVR and monitor resistance is not compatible.
- Video transmission is too long or degrading is too huge.
- DVR 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 data ribbon error.
- HDD malfunction.
- DVR hardware malfunctions.

#### 9. There is no audio when monitor.

There are following possibilities:

- It is not an active picker.
- Audio cable is damaged.
- DVR 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. Cannot log in client-end or web.

There are following possibilities:

- For Windows 98 or Windows ME user, please update your system to Windows 2000 sp4.
   Or you can install client-end software of lower version. Please note right now, our DVR is not compatible with Windows VISTA control.
- ActiveX control has been disabled.
- No dx8.1 or higher. Please upgrade display card driver.
- Network connection error.
- Network setup error.
- Password or user name is invalid.
- Client-end is not compatible with DVR program.

#### 13. 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.

#### 14. 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.

#### 15. 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 damaged.

#### 16. Alarm signal cannot been disarmed.

There are following possibilities:

- Alarm setup is not correct.
- Alarm output has been open manually.
- Input device error or connection is not correct.
- Some program versions may have this problem. Please upgrade your system.

#### 17. 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.

#### 18. 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.

#### 19. 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.

#### 20. Cannot detect SIM card

There are following possibilities:

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

#### 21. My cell phone 3G 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.

#### 22. 3G platform is offline

There are following possibilities:

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

#### 23. 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.

$$q_i = d_i \div 8 \times 3600 \div 1024$$
 (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.

$$m_i = q_i \times h_i \times D_i \tag{2}$$

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**.

$$q_T = \sum_{i=1}^{c} m_i \tag{3}$$

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**.

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

In the formula: a% means alarm occurrence rate

#### **Note**

- This manual is 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.