

|                           |                      |       |
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## **F - NVR100 User Manual**

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## Directory

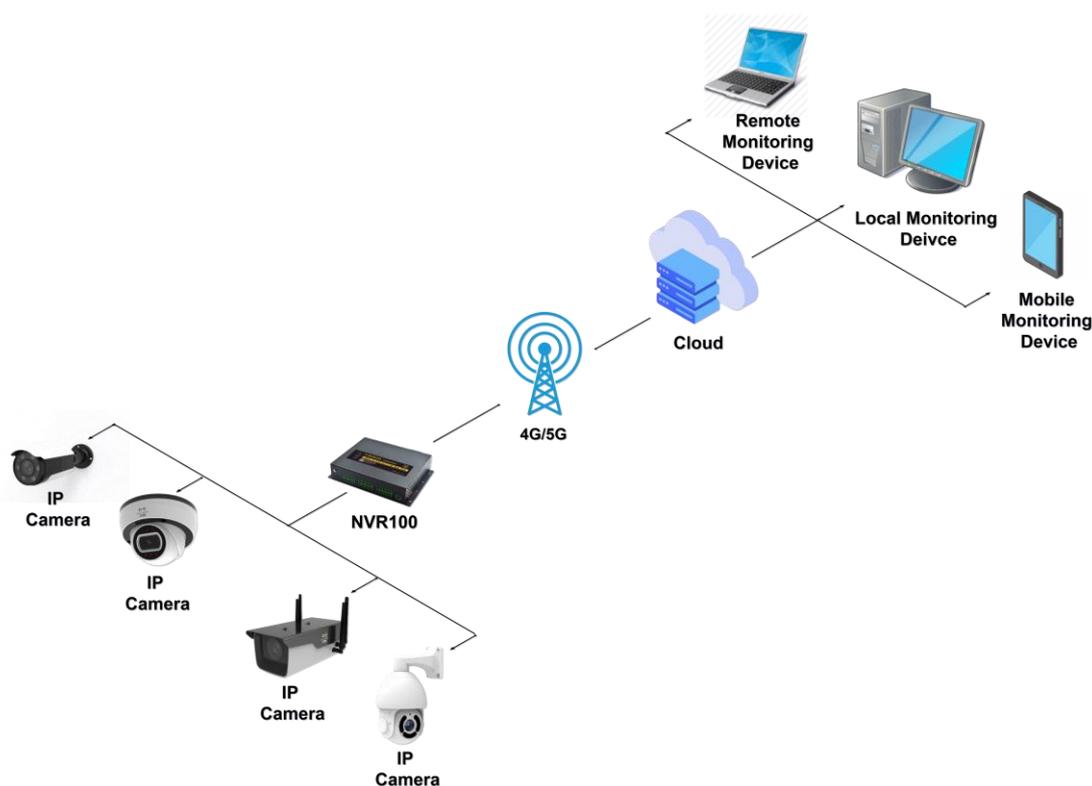
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# Chapter 1 Product Introduction

## ● 1.1 Product Overview

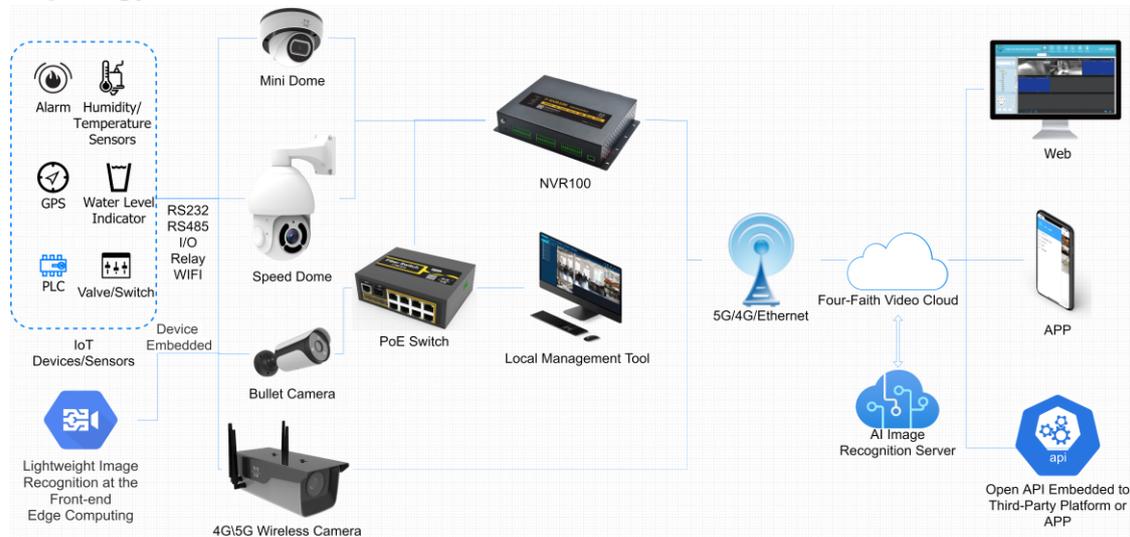
F – NVR100 is Four-Faith company independent research and development of a new generation of NVR terminals, the integration of advanced 4G/WIFI communications technology, with 8 road POE power supply of 1080 p video input and 1 road, real-time video intercom input and output of local store/remote viewing, GPS, mobile video and alarm, alarm, video frame test protection and alarm event reporting platform, support the local/remote video playback of video and export function, GPS remote positioning, hard disk error detection, hard disk health detection, and remote platform error reporting function, selection of WAN port (4G/WIFI/cable). There are a series of supporting video server solutions, to achieve the different needs of small or large users.

### System Framework:



The product has been widely used in the public transportation, tourism, industrial control industry video and audio monitoring, such as city bus, custom bus, bus station, sightseeing bus, long-distance passenger bus, tourist attractions, industrial minerals and other places.

## Topology:



## 1.2 Product Features

### Outdoor Application Design

- High performance processor ARM Cortex A7 Dual-core 1.3GHz
- Wide power input (DC 9~60V)
- Wide temperature design (-10°C~75°C)
- Metal shell, good heat dissipation, impact resistance
- Waterproof, dustproof, moisture-proof suitable for outdoor use (add waterproof water tank)
- Compact, light, flexible installation
- TF, SIM card and SATA are easy to install
- Low power consumption design, video standby state to achieve data acquisition and upload

### Stable and Reliable

- WDT watch dog design to ensure system stability
- The use of a complete anti-drop mechanism to ensure the terminal always online
- Use hard disk storage to ensure high speed reading and writing of data and safe and stable
- Ethernet interface built-in 2.0KV electromagnetic isolation protection
- RS232/RS485 interface is lightning proof and surge proof
- SIM/UIM card interface built-in 15KV ESD protection
- Antenna interface lightning protection (optional)

### Powerful Function

- Up to 8 channels full real-time coding, standard H. 264, H. 265 decoding format, lower code stream, better picture quality.
- 4 way and 8 way display switch, according to different needs to choose.
- Support 4 or 8 channels of video and audio synchronous recording and playback.
- Support up to 8 channels 1080p IPC access, 4 channels 1080p decoding, support IPC event trigger video (motion detection, block alarm, etc.).
- IPC image capture and video recording.
- Support USB flash drive upgrade/remote upgrade/local web upgrade and another multiple upgrade methods.
- Support the external power supply of maximum 8-way PSE, support 802.3.AF, 802.3.AT.
- Support 3 ways RS232/RS485 multiplexing interface, convenient peripheral access and data transmission.
- Support 1 way RS232 debugging interface, convenient debugging and data collection.
- Support 8 channels analog input interface: 12-bit ADC, support 0~ 5V voltage signal, 0~20mA current signal, 16-bit / 24-bit ADC support 0~ 10V voltage signal, 0~20mA current signal, choose one of three options.
- Support 6 ways digital input.
- Support 4 ways digital output, support 5V or 12V voltage output, drive current 500mA.
- Support 2 relay output, shock load 5A 250VAC/30VDC.
- Support circuit board high temperature alarm, low temperature hard disk heating.
- Abundant indicator light, can quickly check the running state of the machine.
- Powerful server platform and client tools.
- A variety of media transmission, can be applied to a variety of network environment.
- Intelligent bitrate adjustment function to solve the impact of network bandwidth fluctuation in wireless environment.
- A variety of data export methods, USB flash drive local export, remote client download, local network data export.
- The removable hard disk can be directly mounted via USB cable to achieve the quick export and preview of data in the hard disk on the computer.
- Support a variety of video audio recording mode, manual video, timing video, motion detection video and alarm video.
- 6 working modes are operate simultaneously: monitoring, video recording, playback, backup, network and cloud platform.
- Support double code stream, main code stream for local storage, to ensure high image quality; Secondary code stream network real-time transmission, to solve the bandwidth bottleneck problem.
- Support HDMI output, HDMI effective resolution up to 3840\*2160@30fps.
- Local storage support hard disk, SD card, automatic overwrite.

- Support alarm video recording protection mechanism, can protect important video.
- Stable storage, sudden power failure is not easy to be destroyed.
- Power protection function, after power off the machine to ensure the integrity of data preservation.
- Low voltage data protection function.
- Rich switch mode, timing, normally open mode.
- WIFI module support client default and AP mode switching.
- Local configuration graphical interface, easy to operate.
- Voice intercom function.
- Rich configuration device parameters, local UI configuration, local network configuration, client remote configuration.
- The local plug-in supports IE.
- Support NTP, built-in RTC, support timing restart, timing switch function.
- Support 4G network, WIFI and wired LAN three link network intelligent switching function, can achieve intelligent switching according to the preset priority.
- Support GPS/ Beidou positioning function (optional).

## ● 1.3 Product Specifications

### Hardware System

| Item  | Content  |
|-------|--|
| CPU   | High-performance ARM architecture A7 dual-core @ 1.3 GHz processor |
| FLASH | 64 MB  |
| DDR3  | 512 MB   |

### Video & Audio Parameters

| Item              | Content                 |   |
|-------------------|-------------------------|---|
| IPC Video Capture | Input                   | 8-channel digital HD video input<br>Maximum 8 channel 1080p digital camera input                      |
|                   | Output                  | 1 channel HDMI HD output<br>Support resolution: 3840*2160@30fps, 1920*1080@30fps, 1280*720@30fps, etc |
|                   | Video Decoding Standard | H. 265 / H. 264 decoding  |
|                   | Network Video Access    | ONVIF (version 3.0), RTSP, etc  |

|                       |                            |   |
|-----------------------|----------------------------|---|
|                       | Protocol                   |   |
|                       | Video Decoding Performance | 4 x 1080p @ 30 fps H. 265 / H. 264 decoding<br>8 x 720p @ 30 fps H. 265 / H. 264 decoding |
|                       | Video Storage Resolution   | 12 MP / 8 MP / 6 MP / 5 MP / 3MP / 4MP / 1080P/ UXGA / 720P / VGA / 4CIF/ 2CIF/CIF /QCIF  |
|                       |                            |   |
| IPC Audio Acquisition | Input                      | 8-channel IPC terminal audio input acquisition  |
|                       | Output                     | 8 GUI interface audio playback  |
|                       | Audio Coding Standard      | G711-alaw, G711-Ulaw, ACC-LC  |
|                       | Audio Sampling Rate        | The sampling rate is 8KHz and 16KHz   |
| Voice Intercom        | The input                  | 1, 3.5 mm port (electrical level: 2.0 the Vp - p, impedance: 1 k $\Omega$ )               |
|                       | The output                 | 1, 3.5 mm port (electrical level: 2.0 the Vp - p, impedance: 1 k $\Omega$ )               |
|                       | Audio Compression Standard | ADPCM   |
|                       | Audio bit rate             | 32 Kbps   |
|                       | Voice Intercom             | G726  |

### Storage Parameters

| Item                | Content  |
|---------------------|--|
| Hard Disk Type      | 2.5-inch HDD/SSD drive with SATA interface                                 |
| Hard Drive Capacity | HDD: maximum capacity up to 4TB (optional)                                 |
| Hard Disk Access    | 1 hard drive with standard SATA interface, pluggable, support SATA3.0 rate |
| Hard Disk Heating   | 1 hard drive with a heating pad  |
| TF Card Type        | Standard Micro SD card   |
| TF Card Capacity    | 128GB (optional)   |
| TF Card Access      | 1 TF card, standard Micro SD card slot, support hot plug                   |

**Wireless Parameters**

| Item                    | Content   |
|-------------------------|---|
| The Wireless Module     | Industrial wireless module (optional menu module or no module)  |
| Standard                | Support TDD LTE/FDD - LTE/EVDO/WCDMA/TD-SCDMA/CDMA1X/GPRS/EDGE<br>Single mode, multi - mode or full - network communication is optional   |
| The Theory of Bandwidth | FDD LTE(downlink rate 150Mbps, uplink rate 50Mbps)<br>TDD LTE(downlink rate 130Mbps, uplink rate 35Mbps)<br>CDMA2000 1X EVDO Rev A (downlink rate 3.1Mbps, uplink rate 1.8Mbps)<br>WCDMA(downlink rate 42Mbps, uplink rate 5.76Mbps)<br>TD-SCDMA (downlink rate 4.2Mbps, uplink rate 2.2Mbps) |
| Transmission Power      | The < 23 DBM  |
| Reception Sensitivity   | < - 97 DBM  |

**GPS Parameters**

| Item                 | Content   |
|----------------------|---|
| GPS Module           | Industrial GPS module (optional Beidou module)                                    |
| Receiver Type        | 50 channels<br>GPSL1 (1575.42mhz) C/A code<br>Support WAAS and EGNOS, MSAS, GAGAN |
| Maximum Update Rate  | 5 Hz  |
| Positioning Accuracy | Location: 2.5m CPE<br>SBAS: 2.0 m CPE   |
| Sensitivity          | Tracking: - 160 dBm<br>Recapture: -160 dBm<br>Cold start: -146 dBm                |

**WIFI Parameters**

| Item                        | Content   |
|-----------------------------|---|
| Standard and Frequency Band | Support IEEE 802.11b /g/n, 2.4GHz, 1T1R                     |
| The Theory of Bandwidth     | IEEE 802.11b/g: up to 54Mbps<br>IEEE 802.11n: up to 150Mbps |
| Security Encryption         | Support WEP, WPA, WPA2 and other encryption methods         |

|                       |   |
|-----------------------|---|
| Transmission Power    | 20dBm (11n), 21.5dBm (11g), 26dBm (11b) |
| Reception Sensitivity | < - 72 dBm @ 54Mbps                     |
| Application           | Support client mode, AP mode            |

### Other External Interfaces and Indicators

| Number | Item                      | Content  |
|--------|---------------------------|--|
| 1      | WAN                       | 1 RJ45 10M/100M/1000M adaptive Ethernet port   |
| 2      | LAN                       | 8 RJ45 10M/100M adaptive Ethernet port, support POE power AF&AT (optional)   |
| 3      | Serial Interface          | 3, standard RS485/RS232 serial interface time division multiplexing, support for expansion                         |
| 4      | The USB Interface         | 2, USB2.0  |
| 5      | Digital Input             | 6  |
| 6      | Digital Output            | 4 channels, 2 channels support relay output  |
| 7      | ADC Acquisition Interface | 8, support 12 bits, 16 bits, 24 bits ADC (choose one of three) support 0~ 5V voltage signal, 0~20mA current signal |
| 8      | System Reset Key          | 1, restore the factory default, long press 10 seconds  |
| 9      | Indicator Light           | POWER: Power indicator   |
|        |                           | SYS: System operation indicator  |
|        |                           | WLAN: Ethernet interface indicator light   |
|        |                           | ERROR: Video ERROR alarm indicator   |
|        |                           | HDD: Hard drive indicator  |
|        |                           | ONLINE: 4G status indicator  |

### Power Supply

| Item               | Content                     |
|--------------------|-----------------------------|
| Power Interface    | Terminal Block              |
| Power Supply Range | DC 9 ~ 60V                  |
| Power Consumption  | Non-POE < 24 W, POE < 120 W |
| Standby Current    | < 10 mA (12 V)              |

## Physical Properties

| Item       | Content   |
|------------|---|
| Casting    | Metal, IP30                                       |
| Dimensions | 182 x 152 x 45mm (Excluding antenna and mounting) |
| Weight     | 1.5kg (Excluding antenna and mounting parts)      |

## The other Parameters

| Item                | Content                          |
|---------------------|----------------------------------|
| Working Temperature | - 10 ~ + 75°C ( + 14 ~ + 167 °F) |
| Storage Temperature | - 40 ~ + 85°C ( - 40 ~ 185 °F)   |
| Working Humidity    | 90% (non-condensing)             |

## Interface Pin Definition

Panel indicator light (MODE screen printing will be modified)

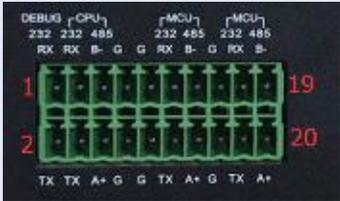


| Number | Item            | Content  |
|--------|-----------------|--|
| 1      | Indicator Light | POWER Indicator: POWER on  |
|        |                 | SYS: Video system power indicator: standby is off, and the video system is always on   |
|        |                 | WLAN: Gigabit network indicator light: no WLAN connection off, access to WLAN port light   |
|        |                 | ERROR: Video ERROR indicator light: the video will go out if there is no ERROR, and the video will flash if there is an ERROR        |
|        |                 | HDD: Indicator of hard disk working status: it is always on when the hard disk is not connected, and the read-write data is flashing |
|        |                 | Online: module working status indicator light: the module will be off if it is not Online or not connected to the Internet           |

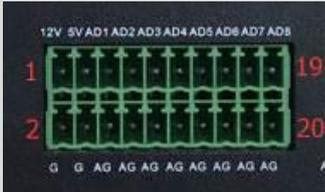
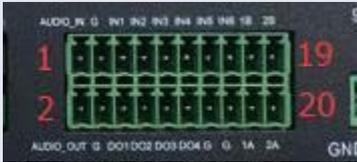
## The Front Panel



## Stitch Definition

| Number | Identification    | Picture   | Definition  | Instructions   |
|--------|-------------------|---|---|--|
| 1      | Grounding Screw   |   | Pin 1: GND  | Access to the chassis.   |
| 2      | Reset             |  | Pin 1: RESET  | Parameters restore factory default. Press this button for more than 10 seconds to restore factory default parameters of NVR device.  |
| 3      | Double Block<br>1 |  | Pin 1:<br>DEBUG_RS232_RX<br>Pin 2:<br>DEBUG_RS232_TX<br>Pin 3:<br>CPU_RS232_RX<br>Pin 4:<br>CPU_RS232_TX<br>Pin 5:<br>CPU_RS485_B -<br>Pin 6: | Pin 1/2: Debug RS232, main CPU debugging interface.<br>Pin 3/4/5/6 : CPU_RS232 and RS485 hydraulic and environmental version sensor acquisition, internal multiplexing transmission, RS485 can be connected to the head.<br>Pin 11/12/13/14: |

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  | CPU_RS485_A -<br>Pin 7: GND<br>Pin 8: GND<br>Pin 9: GND<br>Pin 10: GND<br>Pin 11:<br>MCU_RS232_RX<br>Pin 12:<br>MCU_RS232_TX<br>Pin 13:<br>MCU_RS485_B -<br>Pin 14:<br>MCU_R485_A +<br>Pin 15: GND<br>Pin 16: GND<br>Pin 17:<br>MCU_RS232_RX<br>Pin 18:<br>MCU_RS232_TX<br>Pin 19:<br>MCU_RS485_B -<br>Pin 20:<br>MCU_R485_A + | MCU_RS232 and<br>RS485 hydraulic and<br>environmental version<br>sensor collection.<br>Pin 17/18/19/20:<br>MCU_RS232 and<br>RS485 hydraulic and<br>environmental version<br>sensor collection. |
|--|--|--|--|--|

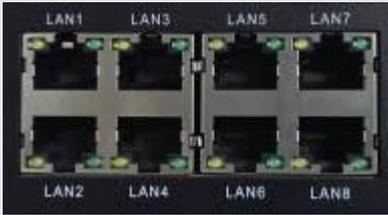
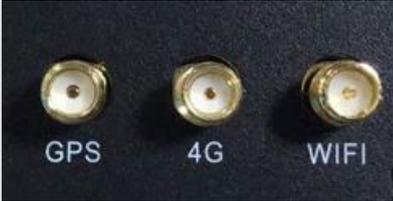
|   |                   |   |   |   |
|---|-------------------|---|---|---|
| 4 | Double Block<br>2 |    | <p>Pin 1: 12V<sub>0</sub>_OUT<br/>         Pin 2: GND<br/>         Pin 3: 5V<sub>0</sub>_OUT<br/>         Pin 4: GND<br/>         Pin 5: AD1<br/>         Pin 6: GND<br/>         Pin 7: AD2<br/>         Pin 8: GND<br/>         Pin 9: AD3<br/>         Pin 10: GND<br/>         Pin 11: AD4<br/>         Pin 12: GND<br/>         Pin 13: AD5<br/>         Pin 14: GND<br/>         Pin 15: AD6<br/>         Pin 16: GND<br/>         Pin 17: AD7<br/>         Pin 18: GND<br/>         Pin 19: AD8<br/>         Pin 20: GND</p> | <p>Pin 1: +12V power output, maximum output current 0.5A.<br/>         Pin 3: +5V power output, maximum output current 0.5A<br/>         Pin 5/7/9/11/13/17/19: ad1-8 input<br/>         Buffered 12 - or 24-bit analog input.<br/>         0 ~ 5V voltage signal input<br/>         4 ~ 20mA current signal input (optional)</p>   |
| 5 | Double Block<br>3 |  | <p>Pin 1: AUDIO_IN<br/>         Pin 2: AUDIO_OUT<br/>         Pin 3: GND<br/>         Pin 4: GND<br/>         Pin 5: DIN1<br/>         Pin 6: DOUT1<br/>         Pin 7: DIN2<br/>         Pin 8: DOUT2<br/>         Pin 9: DIN3<br/>         Pin 10: DOUT3<br/>         Pin 11: DIN4<br/>         Pin 12: DOUT4<br/>         Pin 13: DIN5<br/>         Pin 14: GND<br/>         Pin 15: DIN6<br/>         Pin 16: GND</p>   | <p>Pin 1: linear audio input, the linear level, impedance: 1KΩ<br/>         Pin 2: linear audio output, level: 2.0 the V<sub>p-p</sub> impedance: 1KΩ<br/>         Pin 5/7/9/11/13/15: Optical isolation of digital input, active low level<br/>         Pin 6/8/10/12: Digital output, single output power supply standard 5V (default) or 12V, output maximum current</p> |

|   |          |  |   |
|---|----------|--|---|
|   |          |  | <p>Pin 17: RELAY1B 100mA.</p> <p>Pin 18: RELAY1A Pin 17/18: The first relay output</p> <p>Pin 19: RELAY2B Pin 19/20: The second relay.</p> <p>Pin 20: RELAYAB</p> <p>Maximum switching voltage: 30VDC/250VAC</p> <p>Maximum switching current: 5A</p> <p>Maximum switching power: 150W/1250VA</p> |
| 6 | DC Input |  | <p>Pin 1: GND</p> <p>Pin 2: Power</p> <p>DC input voltage range: 9V~60V, note the POE version must use A 48V power adapter, adapter can choose 48V 1.25A or 48V 2.5A</p>  |

Rear Panel:



### The Interface Definition

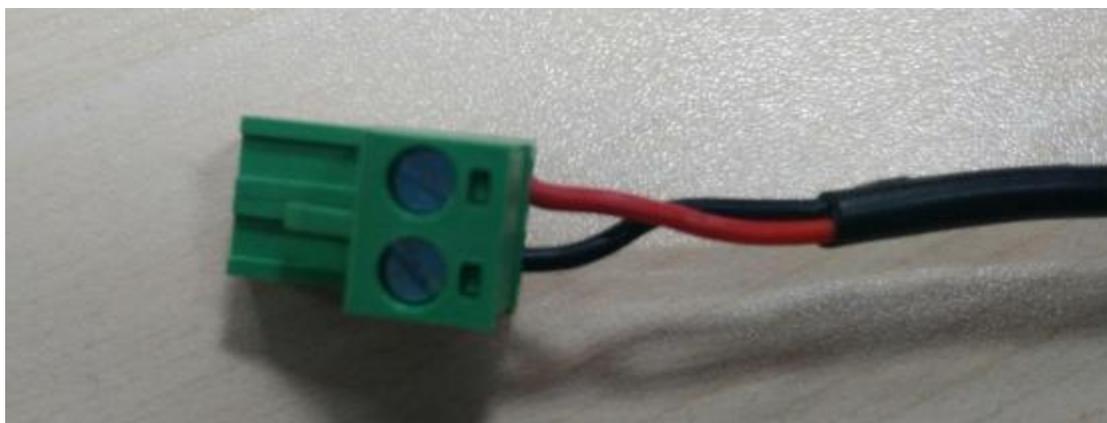
| Number | Identification         | Picture   | Definition  | Instructions   |
|--------|------------------------|---|---|--|
| 1      | LAN1-8 Interface       |  A network interface panel with eight ports labeled LAN1 through LAN8. LAN1-4 are on the top row and LAN5-8 are on the bottom row.   | Lan1-8 webcam input interface, gateway address 192.168.63.1 | 10M/100M adaptive Ethernet port, support POE power AF&AT (Optical)                                   |
| 2      | HDMI                   |  A standard HDMI port on a black panel with the label "HDMI" below it.   | HDMI  | Video output, standard HDMI interface  |
| 3      | WLAN + 2 USB2.0        |  A panel with a WLAN port (RJ45) at the top, two USB2.0 ports in the middle, and a small circular port labeled "G" at the bottom right. The label "USB" is at the bottom. | WLAN<br>USB   | RJ45<br>10M/100M/1000M adaptive Ethernet port.<br>USB2.0: supports mouse and USB flash drive access. |
| 4      | Antenna                |  Three SMA connectors labeled GPS, 4G, and WIFI.   | GPS<br>4G<br>WIFI   | GPS: Directional antenna.<br>4G: Main 3G/4G antenna.<br>WIFI: WIFI antenna.                          |
| 5      | Micro SD<br>SD&SIM/UIM |  A panel with a Micro SD slot at the top and a SIM/UIM slot at the bottom. The label "SIM / UIM" is at the bottom.   | Micro SD<br>SIM/UIM   |  |

|   |           |  |   |  |
|---|-----------|--|---|--|
| 6 | Hard Disk |   | <p>SATA heating chip<br/>power interface<br/>SATA hard disk<br/>power interface<br/>SATA data interface</p> |  |
| 7 | 4G Module |  | 4G Module   |  |

## Chapter 2 Installation of Device

### 2.1 Power Supply Installation

Remove the power adapter and power terminal from the package, install the positive and negative terminals of the power adapter on the power terminal in the correct access mode:



### 2.2 Hard Disk Installation

1. Disassemble the machine shell and install M3\*25+6 yin-yang copper column (in the accessories) at the shown position:



2. Fixing of hard disk and heating gasket.

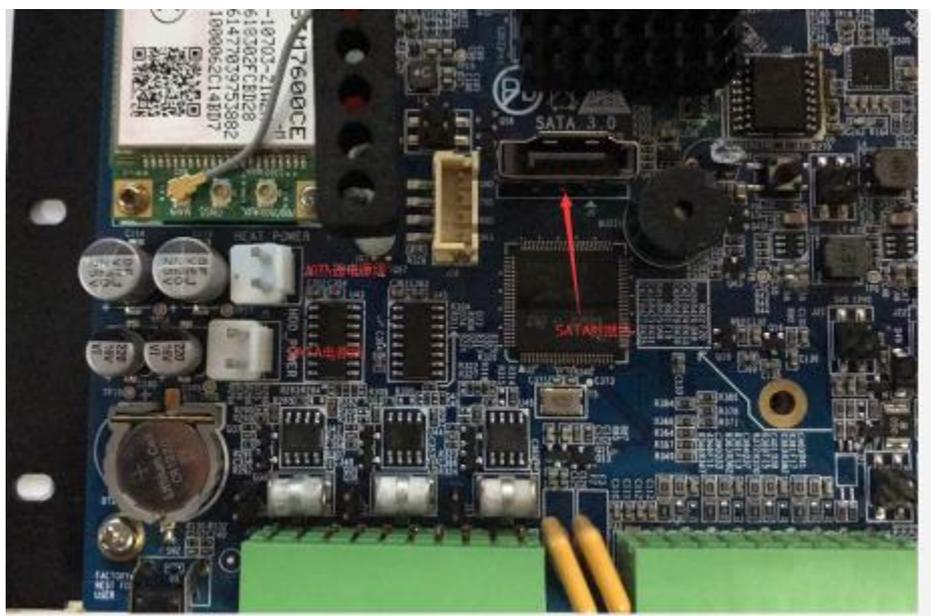
- Put an insulating sticker between the hard disk and the sheet metal of the support plate (to prevent the conductivity of the hard disk and the sheet metal of the support plate).
- Use M3\*5 round head screw to lock the hard disk on the support plate.
- Attach the heater, connect SATA data cable and SATA power cord.



3. Fix the hard disk on the device and connect the power supply and data cable.
- Use M3\*5 round head screws to lock the sheet metal of the whole hard disk support onto M3\*25+6 copper column.



- Connect SATA data line, SATA power line and heater line to the corresponding seat.



## Chapter 3 NVR Web Page Configuration

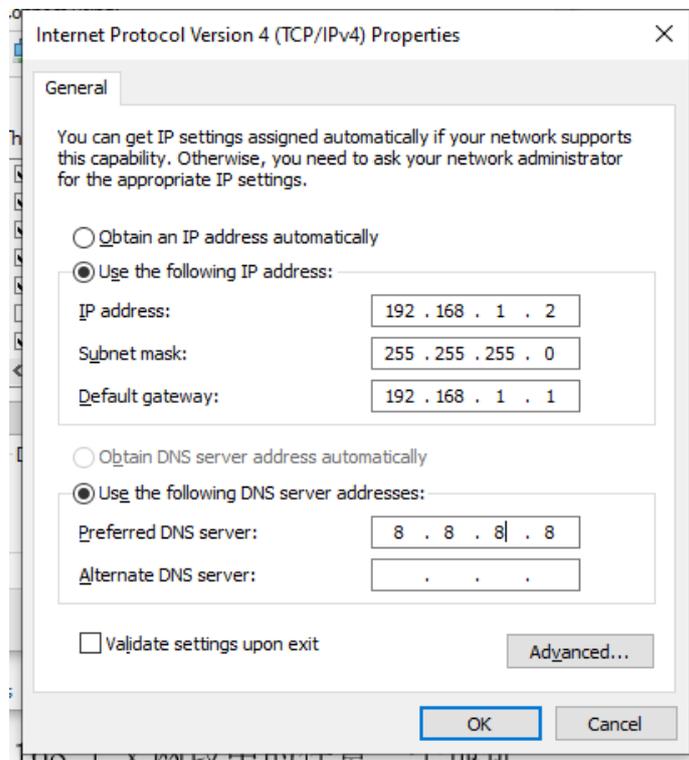
### 3.1 Configuration Connection Diagram

Before configuring the NVR, you need to connect the NVR to the PC for configuration through the factory configured network cable or WIFI. When connecting with WIFI, you must turn on the WIFI function and configure the corresponding routing SSID and password.

### 3.2 Login Configuration

#### 3.2.1 PC IP Address Setting

Set the IP address of PC to 192.168.1.2(or other IP address of 192.168.1 network segment), set the subnet mask to 255.255.255.0, and set the default gateway to 192.168.1.1. DNS is set to a locally available DNS server.



### 3.2.2 Install Web Plugin

Run the ff-video-plugin.exe, by using IE



FF-video-Plugin\_  
2.4.6.exe

### 3.2.3 Login to the NVR Web Page

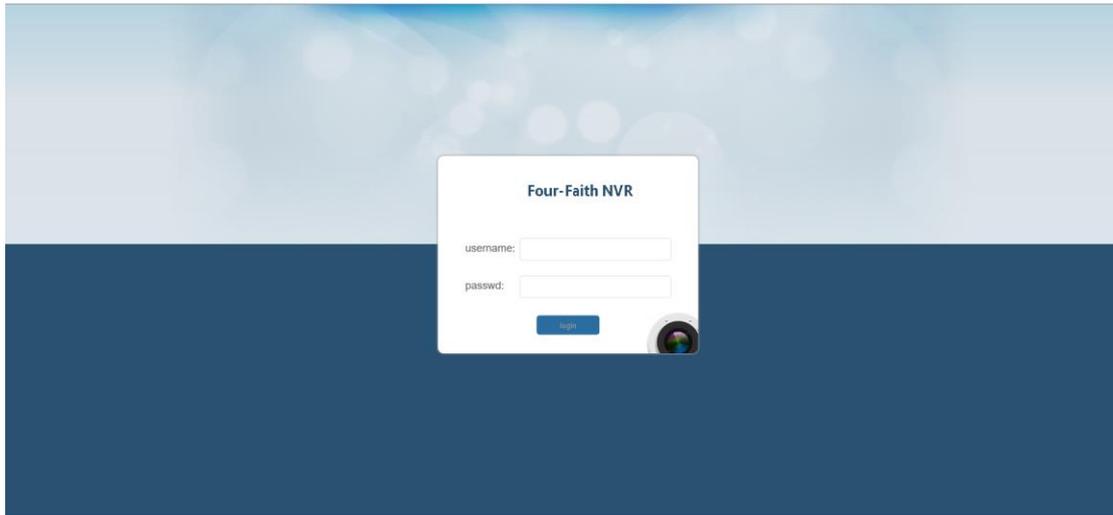
This chapter describes the main functions of each page. Web tools can be accessed through a web browser using a computer connected to the NVR. There are five level pages: video, video settings, system configuration, system management, system information.

The video page is the OCX control of video related functions, and the video setting is the related functions of video function parameter configuration. System configuration is divided into two pages: general settings, coding settings, network settings, network services, output mode, alarm settings, time settings.

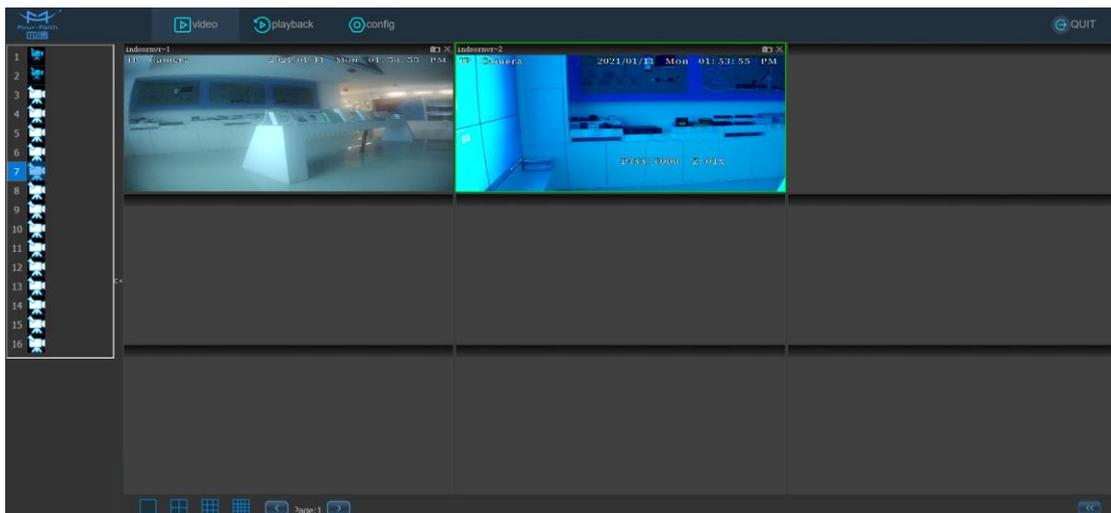
System management is divided into two levels: hard disk management, user management, automatic maintenance, default recovery, system upgrade, boot mode, restart.

System information is divided into two pages: log information, version information.

Access the device's web-based Web management tool, launch IE or another browser, and enter the device's default IP address 192.168.1.254 in the "address" field. Press Enter. If you login to the Web page for the first time, you can see the page as follows, and prompt the user to enter the username and password. The default username and password of the device is admin (can be set and modified in the user management page).



After login to the NVR Web management tool, user can go to the web main page.



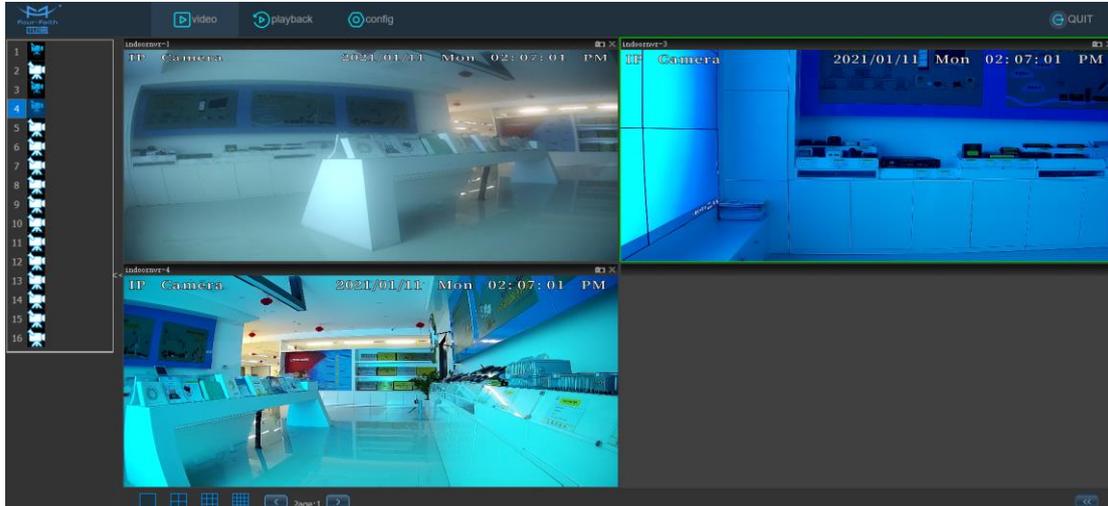
## 3.3 Management and Configuration

### 3.3.1 Video Viewing



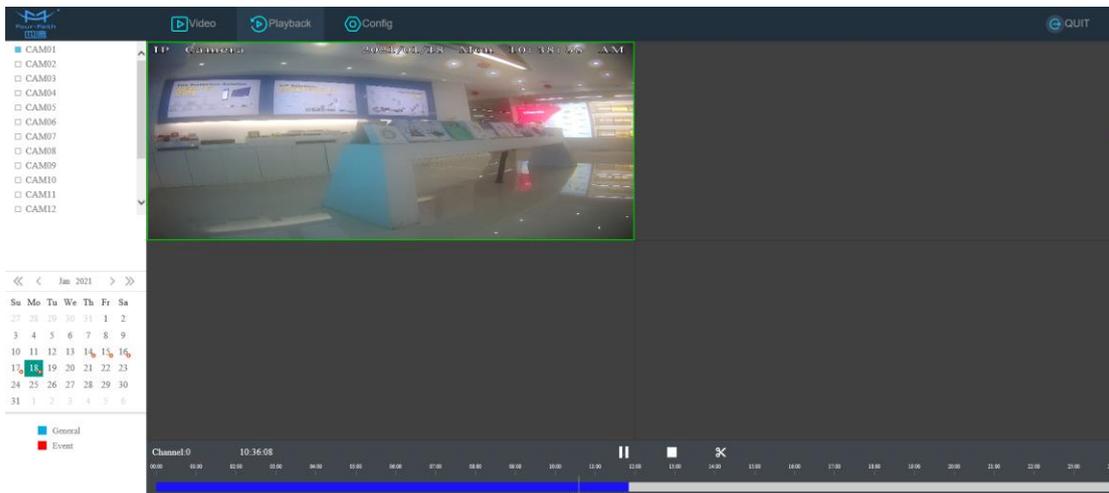
① **Video Preview:**

User can view the real-time monitoring video on the video preview interface. According to the configured video channels to use 4/8 split screen display.



### 3.3.2 Video Playback

Click the "Playback" button and the following interface will appear.



① **Video Search:**

User can select the video channel number and the date to search the video playback.

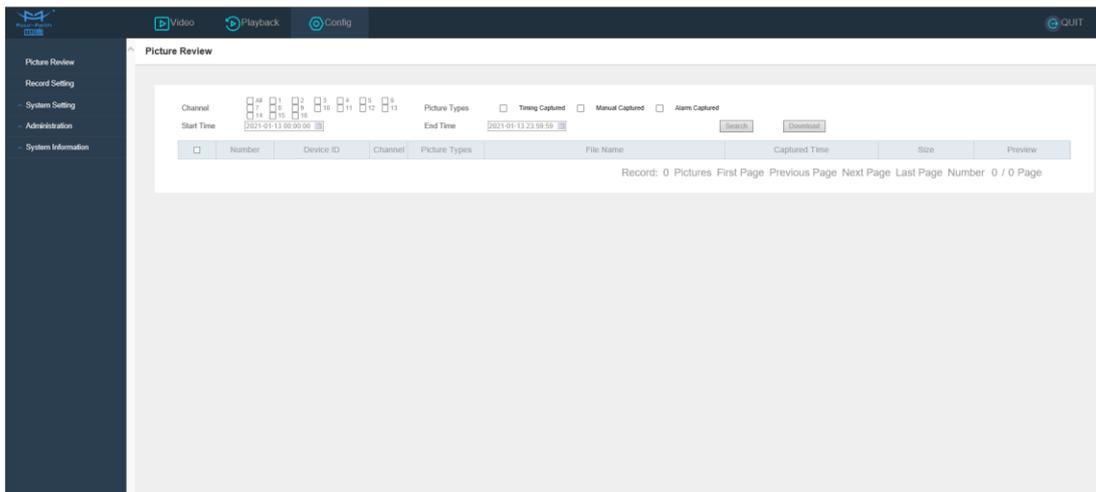
② Video Playback:

After the searching, the video recording will display on the playback interface. Select the time period and click the play button to play recording video.



3.3.3 System Configuration

Click the " Config " button and the following interface will appear.



### ① Picture Review:

Users can search capture pictures in the storage server by selecting a device. Before searching the picture, the user must first fill in the selection searching condition, and the server returns results according to the searching condition.

Picture Review

Channel:  All  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16

startdate: 2021-01-01 00:00:00

picture type:  Timer  Manual  Alarm

enddate: 2021-01-11 23:59:59

| <input type="checkbox"/> | sequence | deviceid  | channel | picture type | filename                              | time                | size   | preview |
|--------------------------|----------|-----------|---------|--------------|---------------------------------------|---------------------|--------|---------|
| <input type="checkbox"/> | 1        | indoornvr | 1       | Manual       | indoornvr_1_0_2021-01-05 16:19:37.jpg | 2021-01-05 16:19:37 | 419548 |         |

total: 1 pictures First Page Previous Page Next Page Last Page 1 / 1 Page

### ② Record Settings:

Record Settings is the recording strategy for setting the currently selected video channel, including file packaging duration, alarm recording duration, pre-recording duration and recording mode.

Record Setting

Record Channel Setting

Channel: 1

File Packing Duration: 30 Minute(s)

Alarm Record Time: 30 Minute(s)

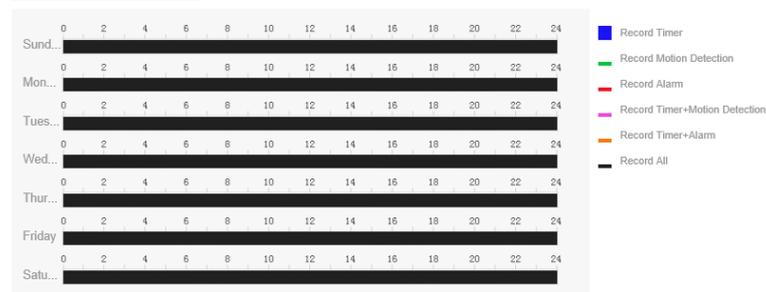
Pre-recorded: 5 Second(s)

Recording Mode:  On  Close

Copy to Channel:  All  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16

Video scheduling setting: (Alarm level is highest priority and common level is lowest priority)

Record Timer:



- **File Packaging Duration:**

In order to facilitate file retrieval and playback, the video file packaging time is too long which is unfavorable to the time spent on file retrieval and playback. If the video file packaging time is too short, the file is too trivial. So that it is not conducive to management. File packaging time ranges from 5 to 30 minutes.

- **Alarm Record Time:**

Users can setting the alarm recording time on this web page. The range is 1~30 minutes.

- **Pre-recording Duration:**

For the alarm recording, it may be necessary to know what happened in the previous period before the alarm was triggered. The pre-recording duration can be set according to the requirements of the device. According to the length set by the channel, the video within the set time before the alarm occurs can be stored in the recording. Pre-recording ranges from 0 to 5 seconds.

- **Video Mode:**

1. Different video channel configurations can be set as different recording parameters. When the user selects the "channel" and setting the parameters, the parameters will be automatically updated to the current channel.
2. When user choose the mode is "Configurable", the video channel allow to setting the video trigger condition (Alarm level has highest priority, commonly has lowest priority)
3. When user choose the mode is "Close", the current channel will not record.

- **Copy to Channel:**

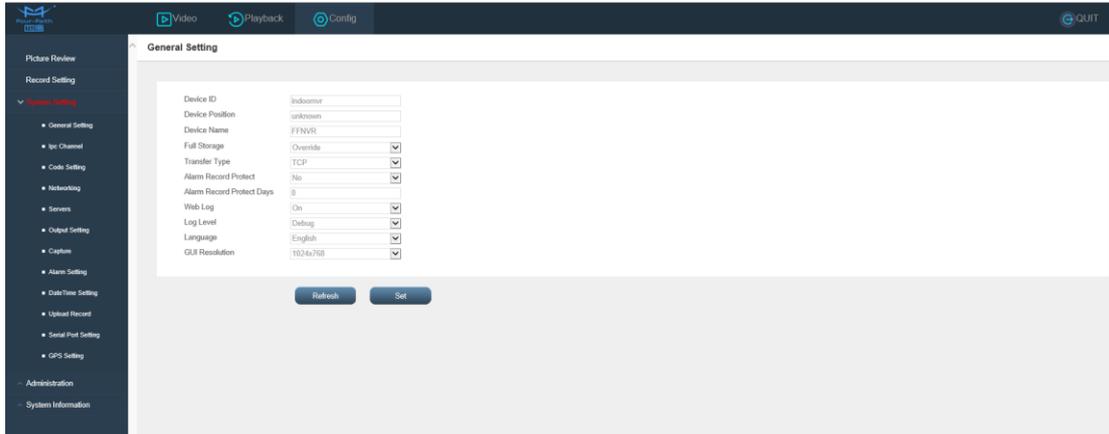
Copy the configuration of the video channel to the selected channel.

- **Video Trigger Condition Setting:**

User can check the conditions for video triggering. If it is general setting, detection and alarm are checked at the same time. So the priority of trigger video is "alarm" > "detect".

### ③ System Settings:

Users can setting the those parameters on the NVR web page such as general setting, IPC channel setting, code setting and so on.



#### ● General Setting

General setting allows user to setting the device general configuration such as device ID, device position, data transmission type and other parameters.

#### General Setting

|                           |   |
|---------------------------|---|
| Device ID                 | <input type="text" value="indoomvr"/>   |
| Device Position           | <input type="text" value="unknown"/>    |
| Device Name               | <input type="text" value="FFNVR"/>      |
| Full Storage              | <input type="text" value="Override"/> ▼ |
| Transfer Type             | <input type="text" value="TCP"/> ▼      |
| Alarm Record Protect      | <input type="text" value="No"/> ▼       |
| Alarm Record Protect Days | <input type="text" value="0"/>          |
| Web Log                   | <input type="text" value="On"/> ▼       |
| Log Level                 | <input type="text" value="Debug"/> ▼    |
| Language                  | <input type="text" value="English"/> ▼  |
| GUI Resolution            | <input type="text" value="1024x768"/> ▼ |

**Device ID:**

Set the device ID number and modify it according to the actual needs.

**Device Position:**

Device position is the location information installed by the device, which can be configured with 0-20 characters (10 Chinese characters). The device name can be configured with 0-20 characters (10 Chinese characters).

**Full Storage:**

When the storage full option is at stop recording, the device automatically stops recording when the recording the storage device is full; For overwriting, when the device video storage is full, the device automatically overwrites the old video content from scratch with new video content.

**Storage Device:**

You can choose hard disk, SD card, hard disk +SD card options. If you choose the hard disk +SD card, the video will be stored on the hard disk and SD card at the same time, which can backup the video file and prevent accidental loss.

**Video Loop Out Method:**

The device can display and view the video locally and configure the UI locally. Now it supports VGA and BNC, and users can choose according to their own display.

**Alarm Video Protection:**

If the alarm video protection is on and the video is fully covered, it will automatically skip the alarm video and not cover it. The protection time is based on locking the alarm video protection (days).

**Transfer Type:**

Transfer type means the transmission of video data to the server, including RTP/UDP/TCP. RTP is the streaming media transmission mode corresponding to the first-phase server, which is not supported by the post-phase server. UDP/TCP is the streaming media transmission mode corresponding to the phase ii server. UDP is a supplement to the RTP for retransmission of lost packets. Real-time transmission is stronger than that of TCP, and it is not easy to have a Mosaic.

**Log Level:**

Open web log information can be under the system information log information to view the latest logs to facilitate error location.

## Language:

Set the web display language, currently only support simplified Chinese and English.

- **IPC Channel:**

ipc Channel

| Channel | ipc Channel Name | ipc Address       | Type   | Edit | ipc Link |
|---------|------------------|-------------------|--------|------|----------|
| 1       | CAM01            | 192.168.63.100:80 | Manual |      |          |
| 2       | CAM02            | 192.168.63.101:80 | Manual |      |          |
| 3       | CAM03            | 192.168.63.102:80 | Manual |      |          |
| 4       | CAM04            | 192.168.63.103:80 | Manual |      |          |
| 5       | CAM05            | 192.168.63.104    | Manual |      |          |
| 6       | CAM06            |                   | Close  |      |          |
| 7       | CAM07            | 192.168.63.100    | Manual |      |          |
| 8       | CAM08            |                   | Close  |      |          |
| 9       | CAM09            |                   | Close  |      |          |
| 10      | CAM10            |                   | Close  |      |          |
| 11      | CAM11            |                   | Close  |      |          |
| 12      | CAM12            |                   | Close  |      |          |
| 13      | CAM13            |                   | Close  |      |          |
| 14      | CAM14            |                   | Close  |      |          |
| 15      | CAM15            |                   | Close  |      |          |
| 16      | CAM16            |                   | Close  |      |          |

[Refresh](#)

User can configure the IPC channel settings such as IPC address, IPC username, IPC password and so on.

## Camera Type:

Code close is to close the IPC configuration of the current channel with no output. Code manual allows user to setting the IPC address, IPC username and IPC password. Code auto will generate IP address of IPC automatically that user cannot edit. But user can also set the IPC username and password.

## IPC Address:

When the camera type select to code manual, user need to enter the IPC address manually. Please log in the IPC device and set its IP address to 192.168.63.xx network segment. If the HTTP port of the IPC is not 80, please set it accordingly.

IPC search: click IPC search and the IPC search page pops up. IPC devices in the LAN will be searched automatically and the corresponding IPC will be selected.

IPC settings: click IPC settings and the page will jump to the IPC login page.

- **Code Setting:**

**Code Setting**

|                    |  |   |
|--------------------|--|---|
| Channel            | <input type="text" value="1"/>           | ▼ |
| Type               | <input type="text" value="Manual"/>      | ▼ |
| Sync Local Time    | <input checked="" type="checkbox"/>      |   |
| Stream Type        | <input type="text" value="Main Stream"/> | ▼ |
| Rate Type          | <input type="text" value="Change Rate"/> | ▼ |
| Image Quality      | <input type="text" value="Lower"/>       | ▼ |
| Video Frame Rate   | <input type="text" value="25"/>          | ▼ |
| Rate Upper Limit   | <input type="text" value="8192"/>        | ▼ |
| Resolution         | <input type="text" value="2560x1920"/>   | ▼ |
| Video Code         | <input type="text" value="H264"/>        | ▼ |
| Complexity of Code | <input type="text" value="Medium"/>      | ▼ |
| I Frame Interval   | <input type="text" value="40"/>          |   |

**Code Stream Type:**

User can set the stream type to main stream, subcode stream and third stream.

**Code Rate Type:**

User can set the code rate type to change rate and fixed rate.

**Image Quality:**

User can select the image quality according to the user's requirement.

**Resolution:**

User can change the recording video's resolution.

**Video Frame Rate:**

User can change the video frame rate from 1 to 25.

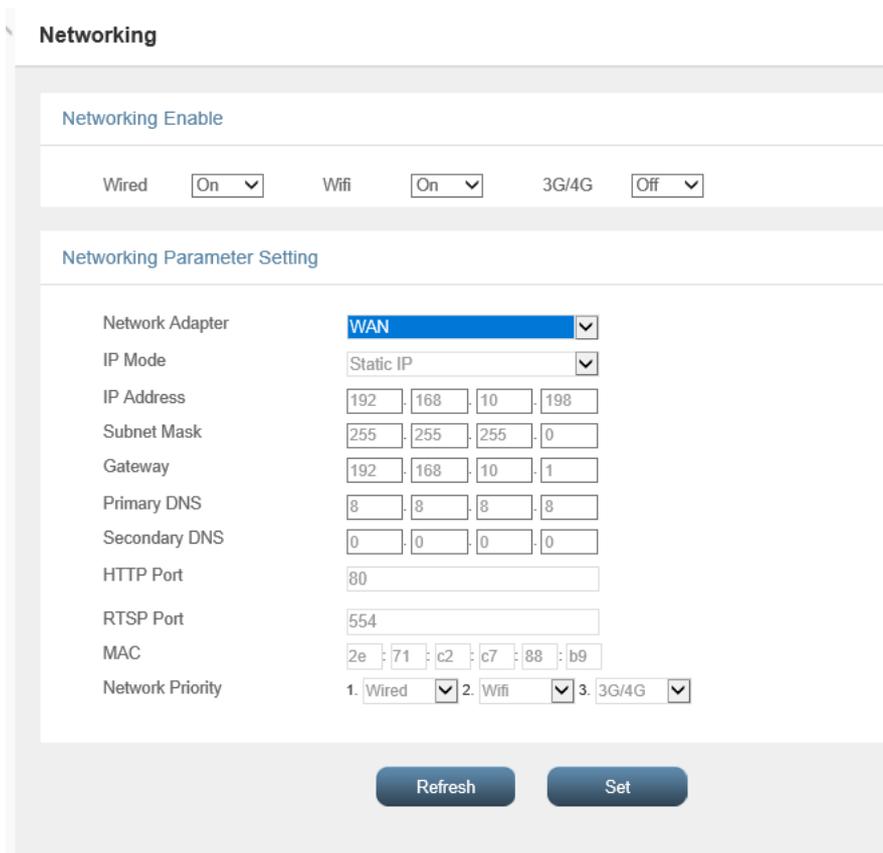
**I Frame Interval:**

User can edit the I frame interval according to the user's requirement.

**Configuration Recommendations:**

If the storage requirements are high, set the resolution to a higher resolution and frame rate. If the requirements for network transmission are high, you can choose no sub-code rate. Video recording and network transmission use the data encoded all the way. If the network bandwidth is limited, but there is a high demand for storage, the sub-code rate can be turned on. The data encoded by the main code stream will be used for local storage, while the data encoded by the sub-code stream will be used for network transmission.

- **Network Setting:**



**Network Enablement:**

User can turn on or off the different network connection option such as wired, WIFI and 3G/4G.

**HTTP Port:**

Allow user to configure the HTTP port. When the device is restarted, the browser must use IP plus port to access the device. If the HTTP port is configured as "800", enter the address in the browser: http://192.168.9.127:800.

**Network Priority:**

If configured as "wired", "WIFI" and "3G/4G" in turn, NVR device has priority over network wired communication mode to communicate with the server under the condition that the cable enable is turned on. When the wired communication is abnormal, it will switch to WIFI mode. If WIFI is also abnormal, it will switch to 3G/4G mode.

**Network Adapter:**

User can change the network adapter type such as WAN, LAN, WIFI and 3G/4G.

**WAN Configuration:**

User can edit the parameters of WAN such as IP mode, Primary DNS, Gate way and so on.

Networking Parameter Setting

|                  |   |
|------------------|---|
| Network Adapter  | <input type="text" value="WAN"/>  |
| IP Mode          | <input type="text" value="Static IP"/>  |
| IP Address       | <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="10"/> . <input type="text" value="198"/>  |
| Subnet Mask      | <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>   |
| Gateway          | <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="10"/> . <input type="text" value="1"/>  |
| Primary DNS      | <input type="text" value="8"/> . <input type="text" value="8"/> . <input type="text" value="8"/> . <input type="text" value="8"/>   |
| Secondary DNS    | <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/>   |
| HTTP Port        | <input type="text" value="80"/>   |
| RTSP Port        | <input type="text" value="554"/>  |
| MAC              | <input type="text" value="2e"/> : <input type="text" value="71"/> : <input type="text" value="c2"/> : <input type="text" value="c7"/> : <input type="text" value="88"/> : <input type="text" value="b9"/> |
| Network Priority | 1. <input type="text" value="Wired"/> 2. <input type="text" value="Wifi"/> 3. <input type="text" value="3G/4G"/>  |

**LAN Configuration:**

User can edit the parameters of LAN such as LAN IP, start IP, end IP and so on.

Networking Parameter Setting

|                    |                             |
|--------------------|-----------------------------|
| Network Adapter    | LAN                         |
| LAN IP             | 192 . 168 . 63 . 1          |
| Subnet Mask        | 255 . 255 . 255 . 0         |
| DHCP Configuration |                             |
| Initial IP         | 192 . 168 . 63 . 2          |
| Final IP           | 192 . 168 . 63 . 254        |
| DNS                | 114 . 114 . 114 . 114       |
| HTTP Port          | 80                          |
| RTSP Port          | 554                         |
| MAC                | 22 : 33 : 44 : 55 : 66 : 77 |
| Network Priority   | 1. Wired 2. Wifi 3. 3G/4G   |

**WIFI Configuration:**

User can edit the parameters of WIFI such as WIFI mode, IP mode, end IP and so on. SSID and password of wireless router must be configured.

Networking Parameter Setting

|                  |                             |
|------------------|-----------------------------|
| Network Adapter  | Wifi                        |
| Mode             | Client                      |
| IP Mode          | Static IP                   |
| ID               | wifi_client                 |
| Password         | .....                       |
| IP Address       | 192 . 168 . 1 . 253         |
| Subnet Mask      | 255 . 255 . 255 . 0         |
| Gateway          | 192 . 168 . 1 . 1           |
| Primary DNS      | 8 . 8 . 8 . 8               |
| Secondary DNS    | 0 . 0 . 0 . 0               |
| HTTP Port        | 80                          |
| RTSP Port        | 554                         |
| MAC              | 22 : 33 : 44 : 55 : 66 : 77 |
| Network Priority | 1. Wired 2. Wifi 3. 3G/4G   |

**4G/3G Configuration:**

User can edit the 4G/3G configuration and must configure the dialing number, username, password, APN, PIN code, online persistence detection, online persistence detection IP.

Networking Parameter Setting

|                          |   |
|--------------------------|---|
| Network Adapter          | <input type="text" value="3G/4G"/>  |
| Dialing Number           | <input type="text" value="*99***1# (UMTS/3G/3.5G)"/>  |
| User Name                | <input type="text" value="xxx"/>  |
| Password                 | <input type="password" value="..."/>  |
| APN                      | <input type="text" value="xxx"/>  |
| PIN                      | <input type="password" value="..."/>  |
| Dial Mode                | <input type="text" value="AUTO"/>   |
| keep Online Mode         | <input type="text" value="None"/>   |
| IP of keep Online Server | <input type="text" value="8"/> . <input type="text" value="8"/> . <input type="text" value="8"/> . <input type="text" value="8"/>   |
| HTTP Port                | <input type="text" value="80"/>   |
| RTSP Port                | <input type="text" value="554"/>  |
| MAC                      | <input type="text" value="22"/> : <input type="text" value="33"/> : <input type="text" value="44"/> : <input type="text" value="55"/> : <input type="text" value="66"/> : <input type="text" value="77"/> |
| Network Priority         | 1. <input type="text" value="Wired"/> 2. <input type="text" value="Wifi"/> 3. <input type="text" value="3G/4G"/>  |

**Call Center Number:**

General unicom 3G select "\*99# (UMTS/3G/3.5G)"  
 Telecom 3G option "#777(CDMA/EVDO)"  
 Mobile 3G select "\*98\*1# (TD-SCDMA)"  
 "#99\*\*\*3# (4G/5G)" is the unified choice for all 4G/5G.

**Username and Password:**

Generally do not fill in or write (card) depending on the module.

**APN:**

Generally, do not fill in or write (card) depending on the module.

**PIN:**

Not by default.

**Online Maintenance:**

"None", "ping", "route", "PPP".In order to turn off the 3G/4G online holding function, in other ways, it can communicate with the online holding server to detect whether the 3G/4G is online or not, and automatically redial if it is abnormal.

- **Server:**

**Servers**

|                          |   |        |
|--------------------------|---|--------|
| Platform Access Mode     | Four Faith  | ▼      |
| Signaling Server Address | 119.3.9.86  | : 1131 |
| Register Name            | indoormvr   |        |
| GPS Server               | 192.168.1.76  | : 7000 |
| GPS ID                   | 000000  |        |
| GPS Protocol             | NMEA 0183   | ▼      |
| GPS Connect Type         | TCP   | ▼      |
| GPS Upload Interval      | 30  |        |
| GPS Fields               | <input type="checkbox"/> GPRMC <input type="checkbox"/> GPGGA <input type="checkbox"/> GPVTG <input type="checkbox"/> GPGSA <input type="checkbox"/> GPGSV <input type="checkbox"/> GPGLL |        |

**Platform Access Mode:** Four-Faith, GB28181.

➤ **Platform access mode select the option of Four-Faith:**

**Servers**

|                          |   |        |
|--------------------------|---|--------|
| Platform Access Mode     | Four Faith  | ▼      |
| Signaling Server Address | 119.3.9.86  | : 1131 |
| Register Name            | indoormvr   |        |
| GPS Server               | 192.168.1.76  | : 7000 |
| GPS ID                   | 000000  |        |
| GPS Protocol             | NMEA 0183   | ▼      |
| GPS Connect Type         | TCP   | ▼      |
| GPS Upload Interval      | 30  |        |
| GPS Fields               | <input type="checkbox"/> GPRMC <input type="checkbox"/> GPGGA <input type="checkbox"/> GPVTG <input type="checkbox"/> GPGSA <input type="checkbox"/> GPGSV <input type="checkbox"/> GPGLL |        |

**Signaling Server Address:** Device video platform address, only need to configure the login server address, other server addresses are given by the login server communication. The address can be represented by a domain name. For users without fixed IP, the device can be connected to the platform through the domain name if they need to apply for a domain name.

**Video Device ID:** Uniformly managed and distributed by the video platform.

**GPS Server:** Device GPS platform address, also can use the domain name login.

**GPS ID:** Uniformly managed and distributed by the GPS server platform.

**GPS Protocol:** NMEA0183, four faith

**GPS Connection Type:** TCP, UDP

**GPS Upload Interval:** Sets the interval of GPS upload data.

**GPS Field:** Check relevant fields according to actual needs.

➤ **Platform access mode select the option of GB28181:**

**Servers**

|                              |                          |
|------------------------------|--------------------------|
| Platform Access Mode         | GB28181                  |
| Open                         | <input type="checkbox"/> |
| GB28181 Server ID            | 34020000002000000001     |
| GB28181 Server Region        | 3402000000               |
| GB28181 Server IP            | 192.168.1.2              |
| GB28181 Server Port          | 5060                     |
| Device ID                    | 34020000001320000001     |
| Registered Password          | •••••                    |
| Local Port                   | 5060                     |
| Registered Expires(s)        | 3600                     |
| Keep Live Interval(s)        | 60                       |
| Keep Live Timeouts           | 3                        |
| Transfer Type                | UDP                      |
| Channel Related Information: |                          |
| Total Channel Number         | 1                        |
| Channel 1 Code               | 34020000001321000001     |
| Stream Type                  | Main Stream              |

**Open:** Enable access to GB28181 platform.

**Server ID:** Uniformly managed and distributed by the server platform.

**Region:** The domain name of the server platform.

**Server IP:** The IP address of the server platform.

**Server Port:** The port of the server platform.

**Device ID:** Uniformly managed and distributed by the server platform.

**Registered Password:** Uniformly managed and distributed by the server platform.

**Local Port:** NVR technology SIP signaling port, default is 5060.

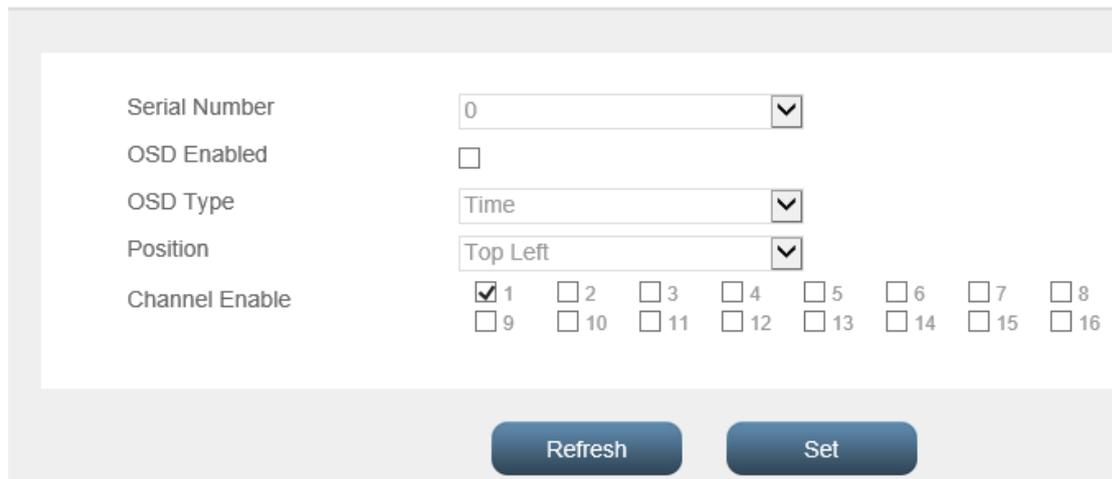
**Registered Expires:** Validity of SIP registration initiated by NVR and re-registered upon expiration.

**Keep Alive Interval:** The keep alive packet sending interval that NVR keeps in contact with the server.

● **Output Setting:**

The output mode mainly configures OSD output parameters, which refers to adding defined or user-defined fonts to the encoded video stream to identify or identify the status information of the channel or device.

**Output Setting**



Serial Number: 0

OSD Enabled:

OSD Type: Time

Position: Top Left

Channel Enable:  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16

Refresh Set

**OSD Enabled:** The OSD information for the corresponding location can be turned on or off.

**OSD Type:**

- **Time:** When OSD type is selected as time, encode and display the system time at the specified location on the screen in real time format as "yyyy-mm-dd hh:mm:ss".
- **Device ID:** OSD type is selected as "Device ID" to encode and display the device ID at the specified location on the screen.
- **Device Position:** OSD type is selected as "Device Position ", encoding and displaying the device position information configured in the general settings page at the specified location on the screen.
- **GPS Information:** OSD type is selected as "GPS Information" to encode and display GPS positioning or GPS antenna switching information at the specified position on the screen.

- **Alarm:** OSD type is selected as "Alarm", encoding and displaying alarm information at the specified position on the screen (only when an alarm event occurs).
- **Extended Text:** When the OSD type is selected as "Extended Text", the text content to be displayed can be entered into the OSD text, displaying up to 10 Chinese characters or 20 characters.

● **Capture:**

### Capture

Server Address Config

Upload Address Configuration Automatic Obtain ▼

Channel Config

Channel 1 ▼

Enable Timed Capture

Timed Capture Interval(Second) 3600

Enable Motion Detection Capture

Motion Detection Capture Interval(Second) 3600

Refresh
Set

**Server Address Configuration:** User can set upload capture address configuration such as automatic obtain and custom.

**Automatic obtain:** The default option is automatic obtain, so the captured pictures will be sent to Four-Faith's network platform.

**Custom:** If it is necessary to send the capture pictures to the designated address, user can set the address here.

**Enable Timed Capture:** Open or close timed capture.

**Timed Capture Interval (Second):** Setting the timing capture interval.

**Enable Motion Detection Capture:** Turn on or off motion detection capture.

**Motion Detection Capture Interval (s):** Setting the motion detection capture interval.

● Alarm Setting:

### Alarm Setting

#### Alarm Linkage Config

|     | Status | Alarm Mode    | DO1  |
|-----|--------|---------------|------|
| DI1 | Off ▼  | Low to High ▼ | No ▼ |
| DI2 | Off ▼  | Low to High ▼ | No ▼ |

#### Alarm Record Config

|                  |                            |                             |                             |                             |                             |                             |                             |                             |
|------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| DI1 Alarm Record | <input type="checkbox"/> 1 | <input type="checkbox"/> 2  | <input type="checkbox"/> 3  | <input type="checkbox"/> 4  | <input type="checkbox"/> 5  | <input type="checkbox"/> 6  | <input type="checkbox"/> 7  | <input type="checkbox"/> 8  |
|                  | <input type="checkbox"/> 9 | <input type="checkbox"/> 10 | <input type="checkbox"/> 11 | <input type="checkbox"/> 12 | <input type="checkbox"/> 13 | <input type="checkbox"/> 14 | <input type="checkbox"/> 15 | <input type="checkbox"/> 16 |
| DI2 Alarm Record | <input type="checkbox"/> 1 | <input type="checkbox"/> 2  | <input type="checkbox"/> 3  | <input type="checkbox"/> 4  | <input type="checkbox"/> 5  | <input type="checkbox"/> 6  | <input type="checkbox"/> 7  | <input type="checkbox"/> 8  |
|                  | <input type="checkbox"/> 9 | <input type="checkbox"/> 10 | <input type="checkbox"/> 11 | <input type="checkbox"/> 12 | <input type="checkbox"/> 13 | <input type="checkbox"/> 14 | <input type="checkbox"/> 15 | <input type="checkbox"/> 16 |

#### Alarm Parameters Config

|             |            |                       |                                |
|-------------|------------|-----------------------|--------------------------------|
| OSD Display | No ▼       | Alarm Effect Times(s) | <input type="text" value="0"/> |
| Alarm Mode  | Low to H ▼ | Alarm Output Times(s) | <input type="text" value="0"/> |

**Alarm Linkage Config:**

The status option can enable or disable the corresponding alarm event. Alarm mode include high to low alarm and low to high alarm.

**Alarm Record Config:**

Configure the video channel associated with the alarm event. The diagram below:

**Alarm Parameters Config:**

Including OSD display configuration, alarm mode, alarm effective time, alarm output time.

- **OSD Display:** It is used to configure OSD display when there is alarm. The same IO input alarm within the effective time of the alarm will be regarded as the same event. For example, a new alarm event occurs in the same IO input alarm video beyond the effective time.

- **Alarm Mode:** It is configured as pull-up alarm if and only if IO input changes from low to high jump, and vice versa.
- **Alarm Output Time:** It is the time period of alarm linkage IO output. If the time exceeds this configuration, IO output will be turned off again.

- **Datetime Setting:**

### Date Time Setting

|             |   |                                       |   |
|-------------|---|---------------------------------------|---|
| Device Time | <input type="text" value="2021-01-13"/>                         | <input type="text" value="17:19:06"/> | <input type="button" value="Set"/>            |
| Local Time  | <input type="text" value="2021-01-13 17:21:39"/>                |                                       | <input type="button" value="Sync to Device"/> |
| Time Zone   | <input type="text" value="(GMT+08:00) China Coast, Hong Kong"/> |                                       |   |
| Sync Mode   | <input type="text" value="Off"/>                                |                                       |   |

**Device Time:** It is to set the system time of NVR device, and update the hardware RTC time after setting successfully. After you can directly modify the device time on the WEB page, click the "Set" button to save the device time setting.

**Sync with local time:** Click the "Sync to Device" button to synchronize the current PC time to the NVR device.

**Sync Mode:** There are three modes of automatic synchronization: off, GPS synchronization and NTP synchronization.

- **GPS Sync:** The system will synchronize the GPS time to the device system and RTC after GPS positioning with a synchronization interval of 24 hours;
- **NTP Sync:** The NTP address and the time zone of the current device must be set, and the synchronization interval is 24 hours.
- **Off:** To turn off automatic synchronization.

● **Upload Record:**

**Upload Record**

|                               |  |
|-------------------------------|--|
| Upload Address Configuration  | Automatic Obtain   |
| Username                      | ffffp  |
| Password                      | •••••  |
| Upload Recent Hours of Record | 1  |
| Channel                       | <input type="checkbox"/> All <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8<br><input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 |
| Upload The Type of Record     | <input type="checkbox"/> Normal Record <input type="checkbox"/> Detection Record <input type="checkbox"/> Alarm Record <input type="checkbox"/> Manual Record  |
| Period1                       | 00:00-23:59  |
| Period2                       | 00:00-23:59  |
| Period3                       | 00:00-23:59  |

● **Serial Port Setting:**

**Serial Port Setting**

|               |             |
|---------------|-------------|
| Serial Port   | 1           |
| Baud Rate     | 9600        |
| Data Bits     | 8           |
| Stop Bits     | 1           |
| Parity        | None        |
| Flow Control  | None        |
| Function      | Application |
| Protocol Type | Close       |

User can set the serial port parameters according to requirements, including baud rate, data bit, stop bit and other parameters.

**Function:** User can select application, PTZ (cradle head) and GPS as serial port function.

**Protocol Type:** The protocol type options including UDP(DTU), simple UDP, TCP (DTU), simple TCP, TCP server, TCST, Modbus TCP and close.

- **UDP (DTU) and TCP (DTU) and Modbus TCP and TCST:** Protocols corresponding to data transfer.
- **Simple TCP/UDP and TCP server:** Simple data passthrough.
- **Server IP:** User can edit the server address.
- **Server Port:** User can edit the server port.
- **Device Number:** Parameters that to be set for the DTU protocol.
- **Keep Alive interval (s):** Parameters that to be set for the DTU protocol.
- **Local Modbus Enable:** Turn on or off Modbus function.
- **Modbus Slave ID:** Parameters to be set by Modbus protocol.

- **GPS Setting:**

**GPS Setting**

|                   |       |   |
|-------------------|-------|---|
| Baud Rate         | 38400 | ▼ |
| Data Bit          | 8     | ▼ |
| Stop Bit          | 1     | ▼ |
| Verification Mode | None  | ▼ |
| Flow Control      | None  | ▼ |
| Location Mode     | GPS   | ▼ |

Refresh Set

Users can edit the GPS parameters including baud rate, data bit, stop bit, verification mode, flow control and location mode.

**Location Mode:** User can set the location mode as GPS, Beidou or GPS + Beidou according to the user's actual situation.

④ Administration:

- Hard Disk Management:

### Hard Disk Management

| Number | Position | Disk | Capacity | Init State |
|--------|----------|------|----------|------------|
| 1      | HD1      | sda  | 500GB    | inited     |
| 2      | HD2      | sdb  | 500GB    | inited     |

Picture Memory(0~(Max-1)G)

Format
Refresh

The device allocates the storage space in advance for each file of the same size to store the video and prevent the file system from being damaged due to the abnormal power failure of the device.

System will take long time for format or partition. We suggested that users should use it carefully. Please be patience when system doing the formatting or partition. In addition, user should also prevent the interruption during the formatting or partition.

- Account:

The user can modify the username and password that use for login the device WEB and UI.

#### Account

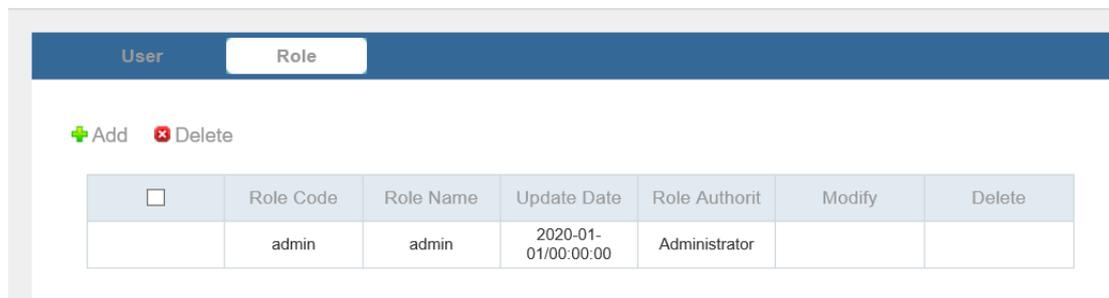
User
Role

+ Add    x Delete

| <input type="checkbox"/> | User Code | User Name | Password | Verify PWD | Role  | Modify  | Delete |
|--------------------------|-----------|-----------|----------|------------|-------|---|--------|
| <input type="checkbox"/> | admin     | admin     | admin    | admin      | admin | <a href="#" style="color: #0056b3; text-decoration: none;">Modify</a> |        |

In addition, user also can check the role information.

**Account**



| <input type="checkbox"/> | Role Code | Role Name | Update Date         | Role Authority | Modify | Delete |
|--------------------------|-----------|-----------|---------------------|----------------|--------|--------|
|                          | admin     | admin     | 2020-01-01/00:00:00 | Administrator  |        |        |

- **Auto Maintenance:**

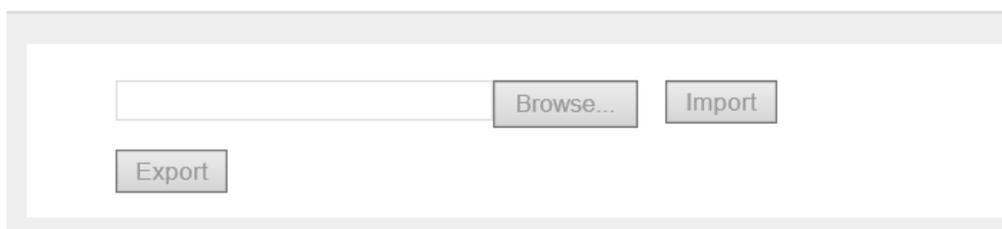
**Auto Maintenance**



User can configure the timing automatic reboot. You can reboot the device according to the reboot time setting.

- **Import and Export:**

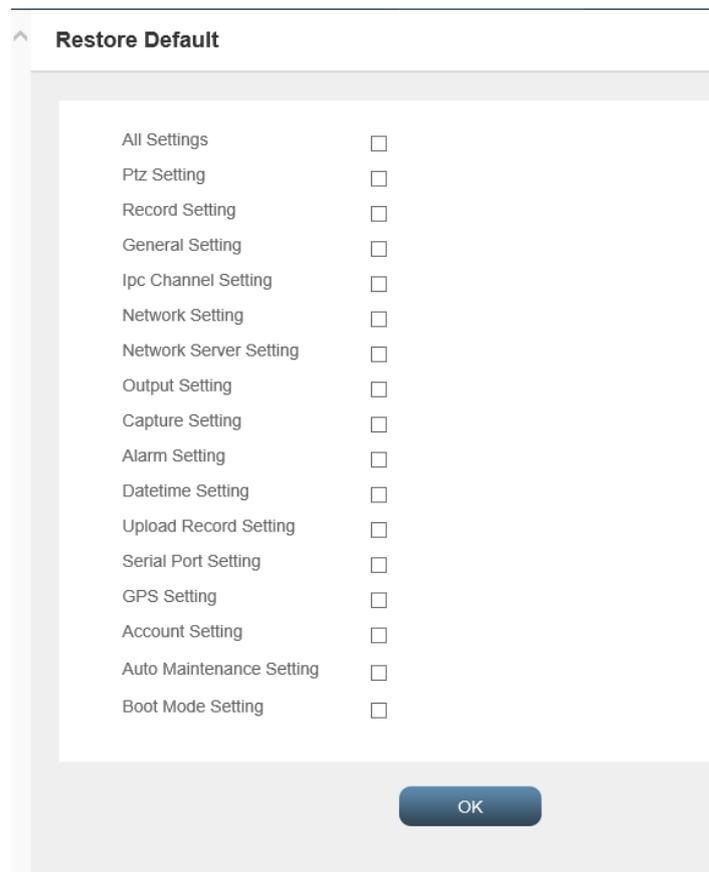
**Import/Export**



- **Export:** Exports the current device configuration as a file.
- **Import:** Load the parameters configuration file and restore the device settings to the contents of the configuration file.

- **Restore Default:**

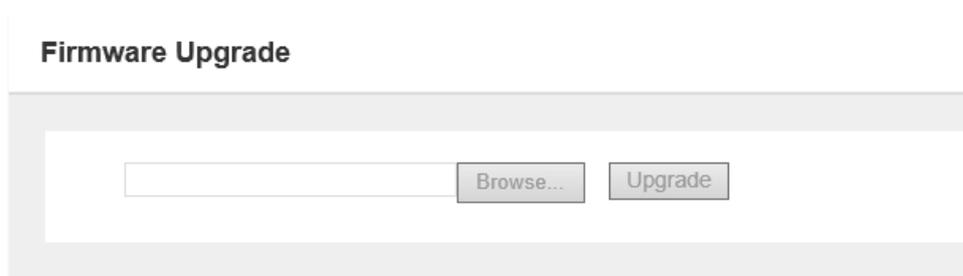
The configuration parameters corresponding to the selected option are restored to the factory configuration. User can choose to restore them all or select specific items for specific functional parameters.



| Setting                  | Checkbox                 |
|--------------------------|--------------------------|
| All Settings             | <input type="checkbox"/> |
| Ptz Setting              | <input type="checkbox"/> |
| Record Setting           | <input type="checkbox"/> |
| General Setting          | <input type="checkbox"/> |
| Ipc Channel Setting      | <input type="checkbox"/> |
| Network Setting          | <input type="checkbox"/> |
| Network Server Setting   | <input type="checkbox"/> |
| Output Setting           | <input type="checkbox"/> |
| Capture Setting          | <input type="checkbox"/> |
| Alarm Setting            | <input type="checkbox"/> |
| Datetime Setting         | <input type="checkbox"/> |
| Upload Record Setting    | <input type="checkbox"/> |
| Serial Port Setting      | <input type="checkbox"/> |
| GPS Setting              | <input type="checkbox"/> |
| Account Setting          | <input type="checkbox"/> |
| Auto Maintenance Setting | <input type="checkbox"/> |
| Boot Mode Setting        | <input type="checkbox"/> |

OK

- **Firmware Upgrade:**



Firmware Upgrade

Click "Browse" to pop up the file interface to be upgraded, select the file package to be upgraded from the local location, click "open" and then click the "upgrade" button on the WEB page to upgrade the device system. If the upgraded version is the version of the current device, the device will automatically ignore the upgrade process.

Please wait patiently for the upgrade to finish, after finish the web will be prompted with “Update Successful” or “Update Failure”.

- **Boot Mode:**

Boot mode configuration including ADC lower power off time setting and boot mode setting.

The boot mode of the device includes 2 modes: normally open and timer.

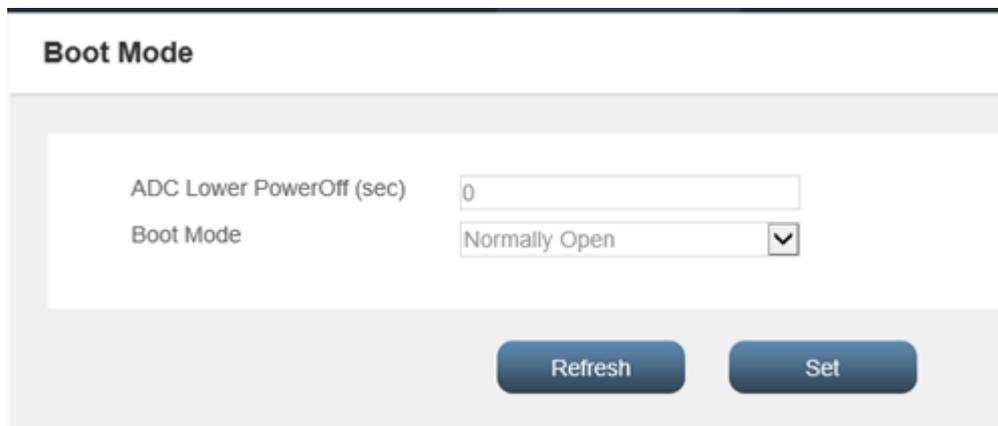
### **ADC Lower Power Off Time**

When the system input voltage is insufficient during the startup period, the system can automatically shut down to protect the machine, and the system can automatically shut down after the configured low voltage delay shutdown time. When the system voltage is restored, the machine can be started automatically (during the startup period).

### **Boot Mode**

- **Normally Open Mode**

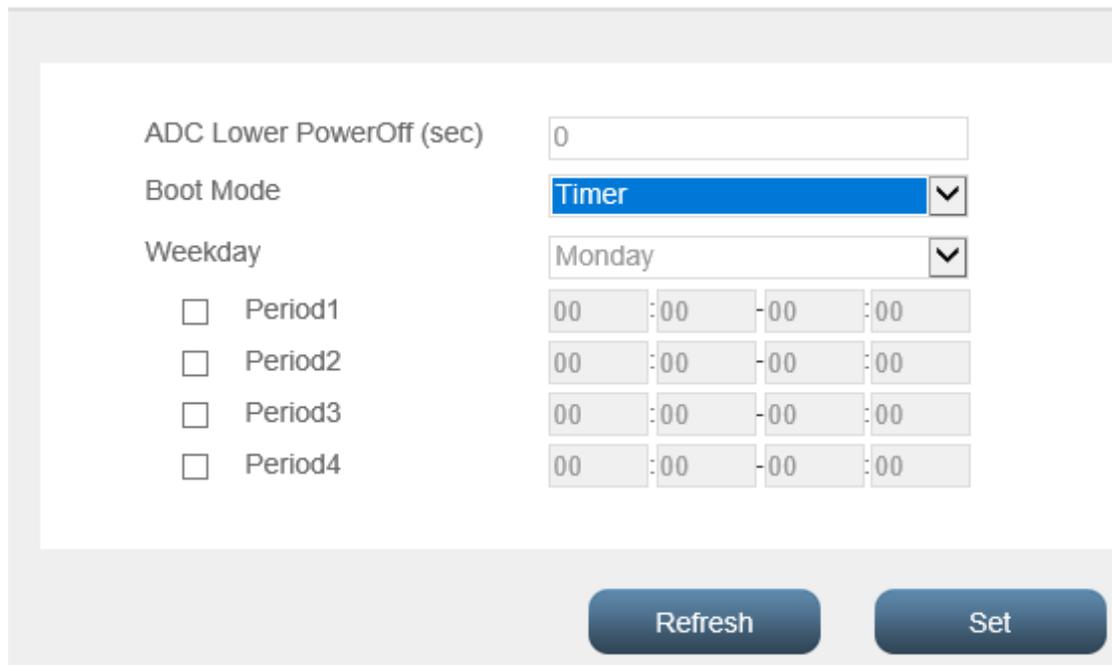
In normal mode, the remote control can switch the machine on and off.



The screenshot shows a web interface titled "Boot Mode". It contains two configuration fields: "ADC Lower PowerOff (sec)" with a text input field containing the value "0", and "Boot Mode" with a dropdown menu currently set to "Normally Open". Below these fields are two buttons: "Refresh" and "Set".

➤ **Timer Mode**

**Boot Mode**



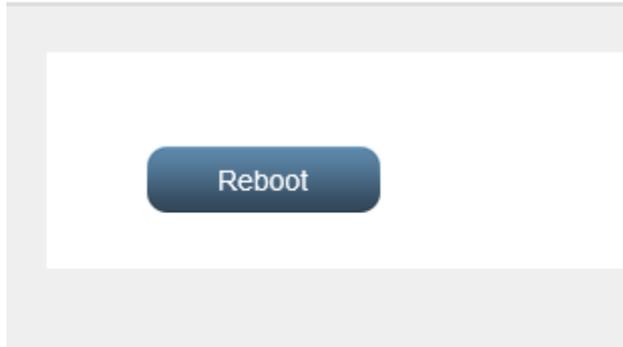
|                                  |        |     |     |     |
|----------------------------------|--------|-----|-----|-----|
| ADC Lower PowerOff (sec)         | 0      |     |     |     |
| Boot Mode                        | Timer  |     |     |     |
| Weekday                          | Monday |     |     |     |
| <input type="checkbox"/> Period1 | 00     | :00 | :00 | :00 |
| <input type="checkbox"/> Period2 | 00     | :00 | :00 | :00 |
| <input type="checkbox"/> Period3 | 00     | :00 | :00 | :00 |
| <input type="checkbox"/> Period4 | 00     | :00 | :00 | :00 |

In the timer mode, the remote control can be switched on and off. It can be switched on during the timing period and off during the timing period. The ACC switch is invalid. At most four switch time periods can be set on a regular day.

- (1) During the time period of regular shutdown, press "start up" for the remote control, and then the device will start up normally. When the next time period of regular shutdown occurs, the device will shut down.
- (2) When the remote control is in a time period of regular shutdown, press "start up" and the device will start up normally. If the remote control is "shut down" again, the device will shut down. When the next time period of regular shutdown occurs, the device will start up normally.
- (3) When the device is running to the next time period, the device will start up.
- (4) During the time period of regular startup, press "shutdown" for the remote control, and then the device will be turned off. If the remote control is turned on again, it can be turned on normally. When the time comes for regular shutdown, it can be turned off normally.

- **Reboot:**

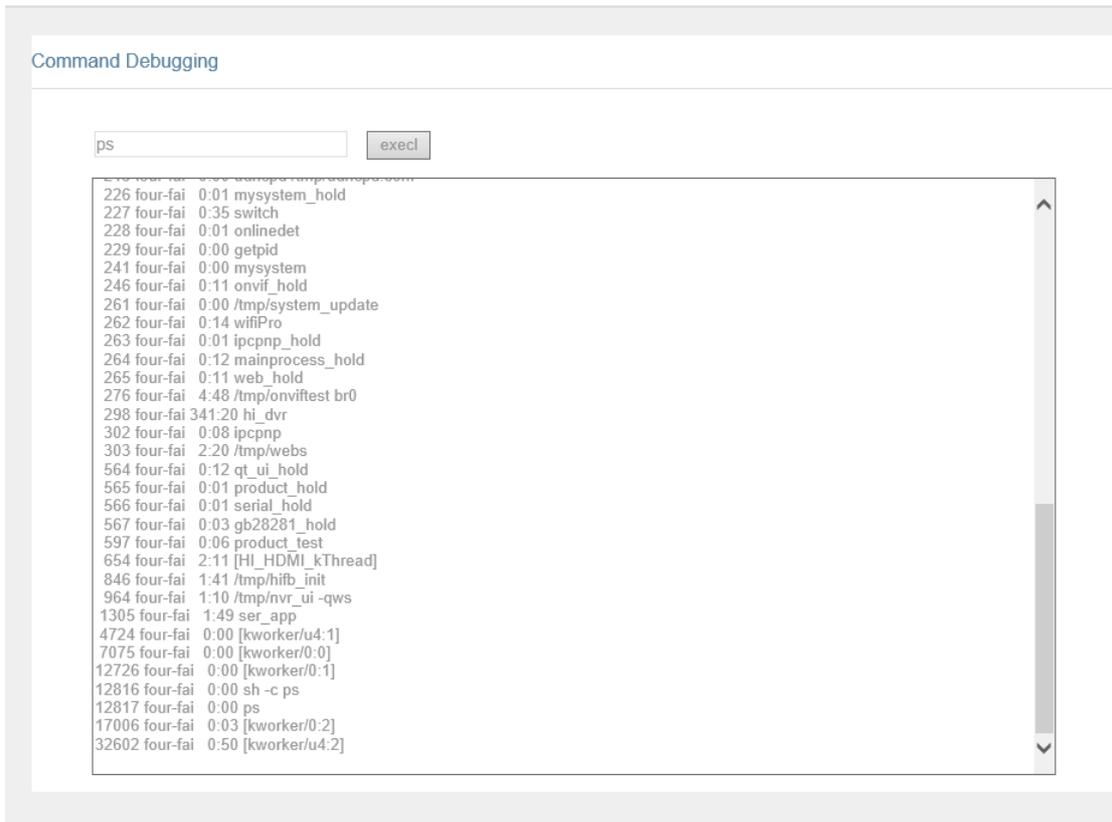
### Reboot



Reboot the NVR device

- **Command Debugging:**

#### Command Debugging



User can enter the command such as ps, route, ifconfig to check the system log.

⑤ System Information

● System Status:

**System Status**

---

**3G/4G Network Status**

| Network Interface | Connection Status | Signal Strength | Signal Quality | Module    | SIM Card  | Network Type | Network Addr |
|-------------------|-------------------|-----------------|----------------|-----------|-----------|--------------|--------------|
| 3G/4G             | Haven't Dial      | 0dbm            | 0%             | No Module | Not Exist | NULL         |              |

---

**Wifi Status**

| Network Interface | Connection Status  | Signal Strength | Signal Quality |
|-------------------|--------------------|-----------------|----------------|
| WIFI              | Wifi Not Connected | 0dbm            | 0%             |

---

**GPS Status**

| Hardware  | Antenna     | Location       | Number Of Satellites | Longitude | Latitude |
|-----------|-------------|----------------|----------------------|-----------|----------|
| Not Exist | Not Connect | Not Positioned | 0                    | 0.0       | 0.0      |

---

**Store Status**

| Device | Capacity | Used     | Health Status |
|--------|----------|----------|---------------|
| HD1    | 500GB    | 512000MB | inited        |
| HD2    | 500GB    | 247808MB | inited        |

---

**Record Status**

| Channel Number | Record Status     |
|----------------|-------------------|
| channel1       | Normal Record     |
| channel2       | Normal Record     |
| channel3       | Normal Record     |
| channel4       | Normal Record     |
| channel5       | Normal Record     |
| channel6       | Camera Disconnect |
| channel7       | Camera Disconnect |
| channel8       | Camera Disconnect |
| channel9       | Camera Disconnect |
| channel10      | Camera Disconnect |
| channel11      | Camera Disconnect |
| channel12      | Camera Disconnect |
| channel13      | Camera Disconnect |
| channel14      | Camera Disconnect |
| channel15      | Camera Disconnect |
| channel16      | Camera Disconnect |

---

**System Operation Time**

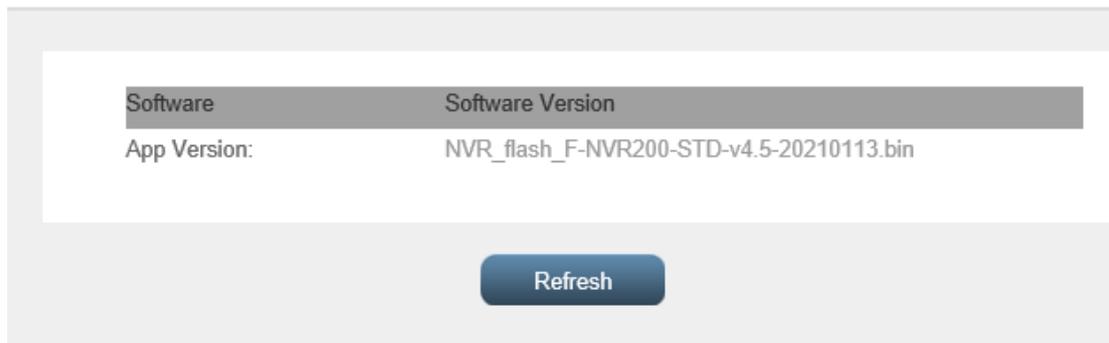
11:01:59 up 21:18, 0 users, load average: 33.70, 31.90, 32.25

[Refresh](#)

The system status shows the 3G/4G network status, WIFI status, storage status, GPS status, record status and system running time of the NVR device.

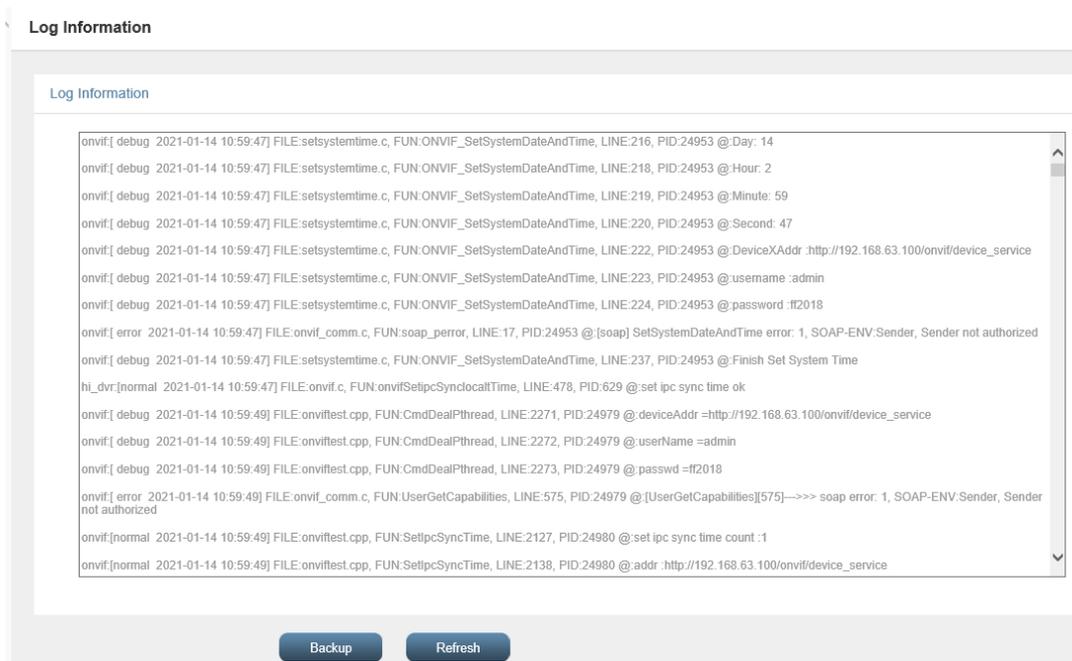
- **3G/4G Network Status:** 3G/4G dialing, wireless module name, SIM card status, wireless signal.
  - **WIFI Status:** WIFI connection status and signal strength.
  - **GPS Status:** Display the GPS information such as antenna, location, longitude and other parameters.
  - **Storage Status:** Display the storage information of the current storage medium (including total capacity, used).
  - **Recording Status:** Display the current recording status of all video channels of the device (normal, alarm, motion detection, manual, no video recording).
  - **System Operation Time:** Display system operation time.
- **Version:**

### Version



Display device software and hardware related version information: including system version, application version information, MCU software version information.

- **Log Information:**



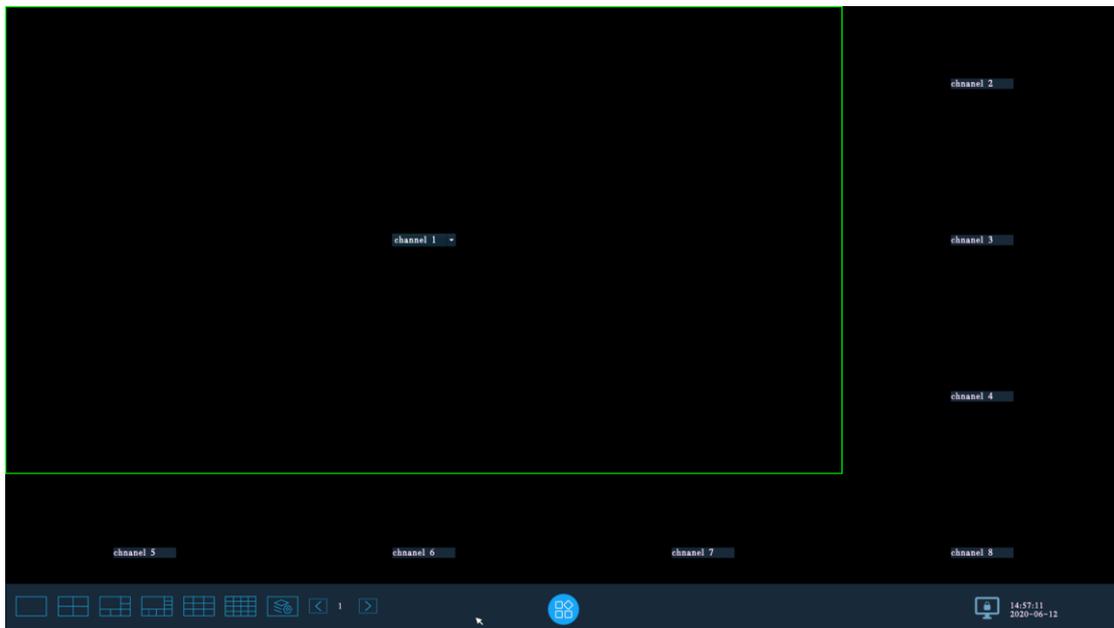
Display and download the latest log information of the device, which can be used to judge the abnormal state of the device:

- **Refresh:** Refresh the latest log information.
- **Backup:** User can download the latest log information to your computer for enquiry.

## Chapter 4 NVR System Configuration

User can connect a screen directly to the NVR's HDMI port and use the embedded UI to operate the NVR. We recommend user to use this UI to get better experience. The embedded UI configuration is similar as the web page configuration. Hence, we won't go into the setting details again.

### 4.1 Live View



#### 4.1.1 Toolbar

 Full Screen

 4 Screens

 6 Screens

 8 Screens

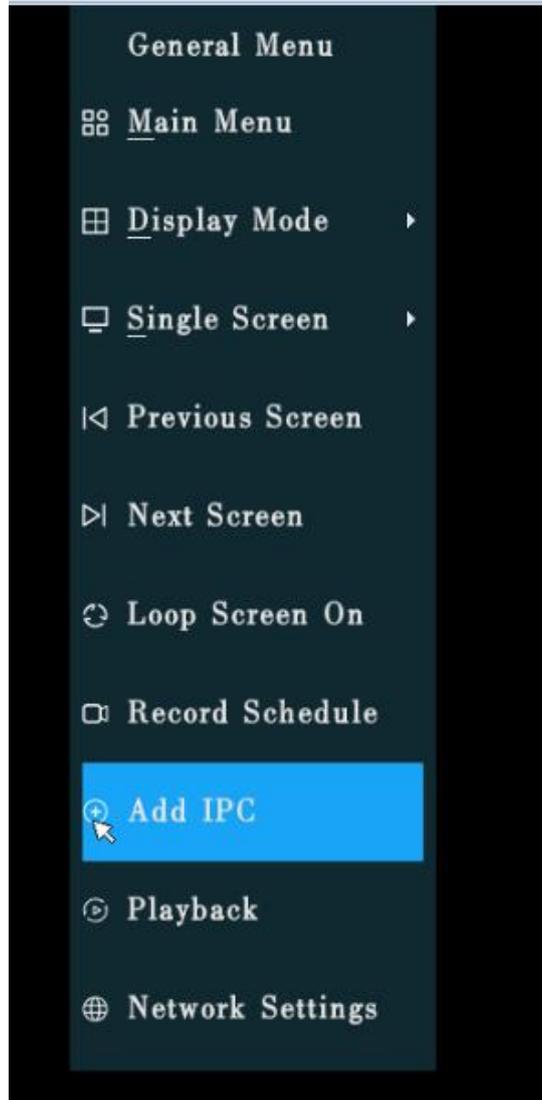
 9 Screens

 16 Screens

 Lock Screen

### 4.1.2 Quick Menu

On the Live View page, right click the mouse on any place to show the quick menu.



**Main Menu:** Switch to the main menu display.

**Mode:** Switch to different display mode.

**Previous Screen:** Move all the screen back 1 slot.

**Next Screen:** Move all the screen forward 1 slot.

**Loop:** Loop all screens.

**Recording Plan:** Switch to the recording plan page.

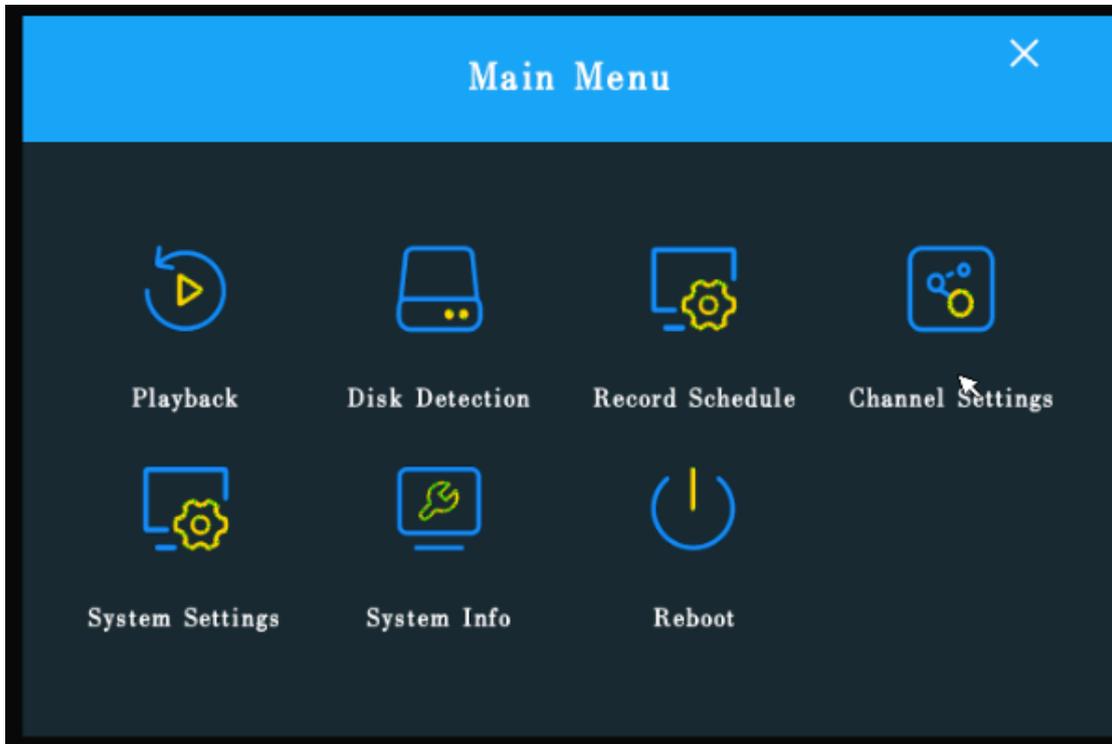
**Add IPC:** Switch to the Channel Setting page.

**Playback:** Switch to Playback page.

**Network:** Switch to the network setting page.

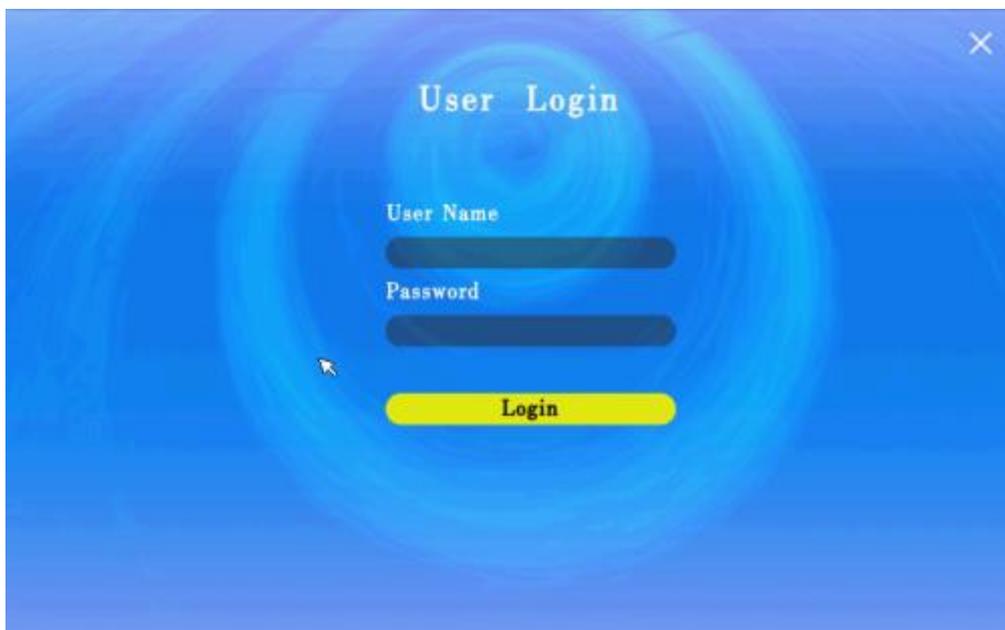
## 4.2 Main Menu

Main Menu is shown as below:



Including Playback, Hard Disk, Recording Plan, Channel Setting, System Setting, System Info and Reboot.

## 4.2.1 User Login



If the user has not logged in, he can only operate some functions of the "video preview interface", and access to operations without permission.

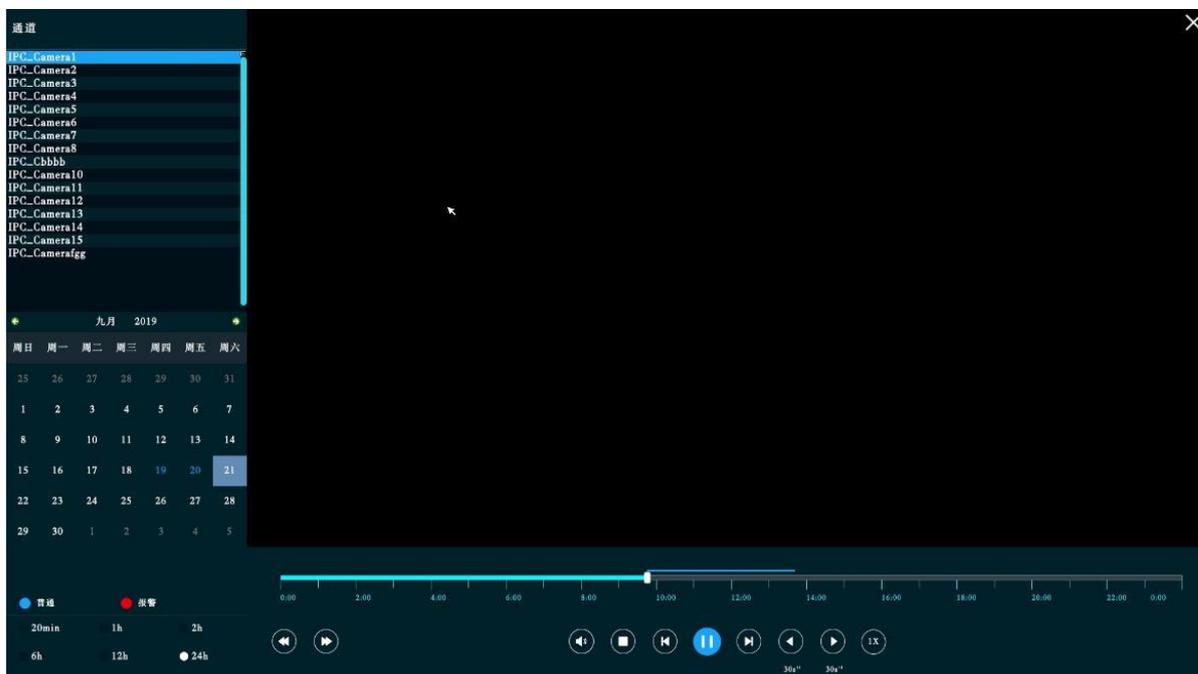
The username and password are both "admin" by default, users can modify them.

### How to use the soft keyboard:

When the cursor selects the input box, click again to pop up the system software keyboard, and click the characters on the keyboard to enter.

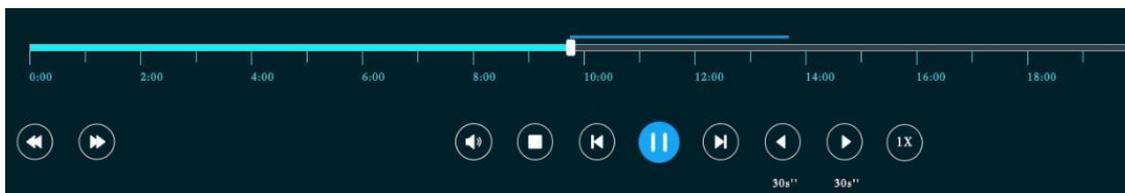
After logging in, the user jumps to the corresponding page to be visited.

## 4.2.2 Video Playback Interface



The video playback query interface displays the video information by selecting the specified channel and the month and date to be queried.

On the monthly calendar, the date of recording will be set to the specified color, blue is for ordinary recording, and red is for alarm recording on the current day. Select the designated channel, and the recording of the specified time will be displayed on the time axis. The blue line represents the ordinary recording, and the red line represents the alarm recording



The time length of the timeline can be selected:

“20min”, “1h”, “2h”, “3h”, “6h”, “12h”, “24h”

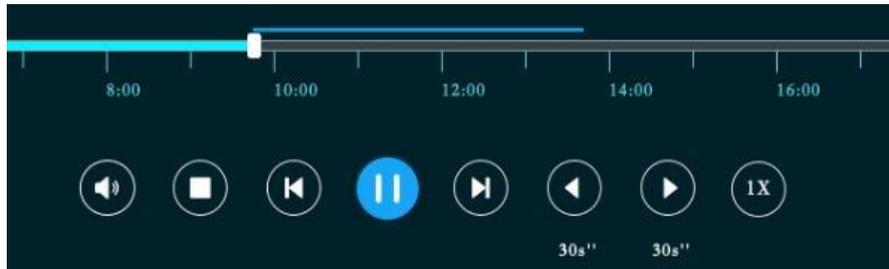




The time axis is shifted upwards, such as the current selection of 24h, click this button to display the contents of the previous day.



The time axis is shifted upwards, such as the current selection of 24h, click this button to display the content of the next day.



-Sound switch button



-Not yet to configure



-Previous video



-Pause playback



-Next video



-Video skips forward for 30s

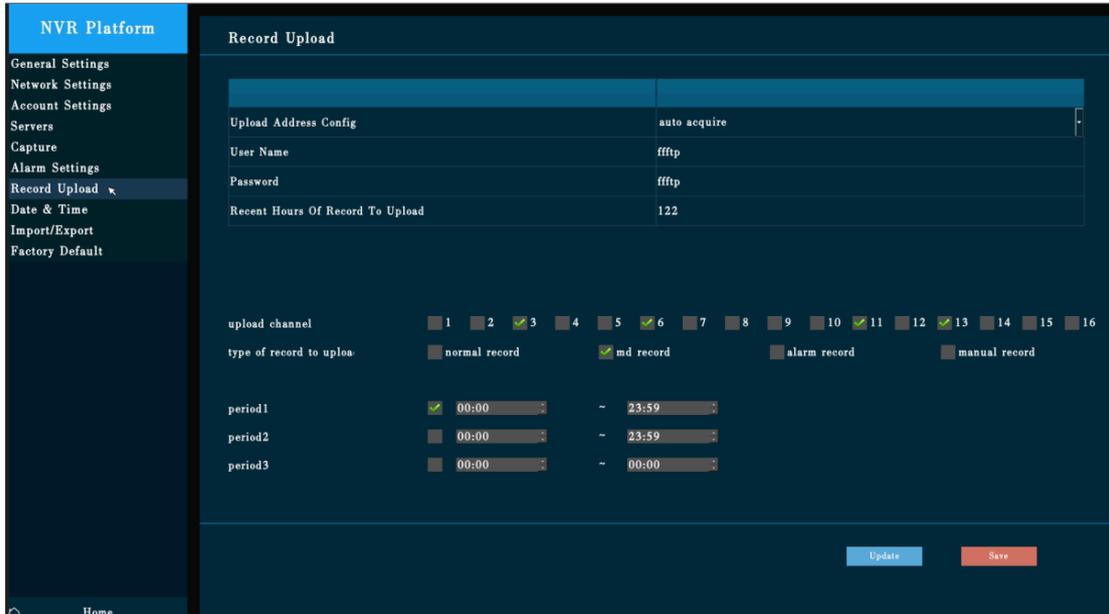


-Video skips backward for 30s



-Multiple playback

### 4.2.3 Record Schedule Interface

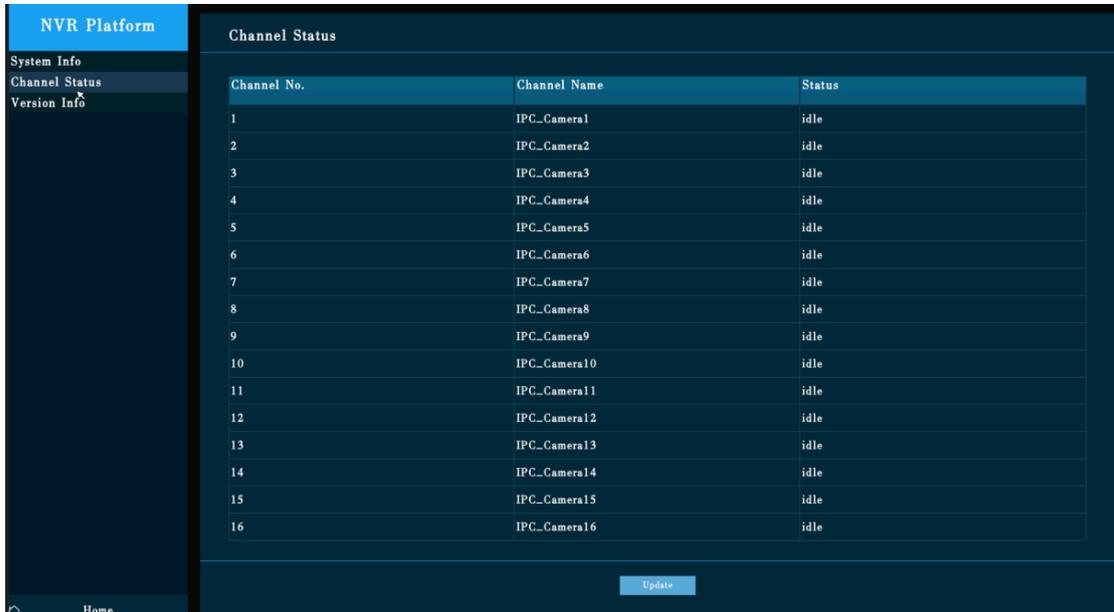


The recording schedule is configured by using a table.

The abscissa is 0-24 blocks, each block represents one hour, and the ordinate represents Monday to Sunday.

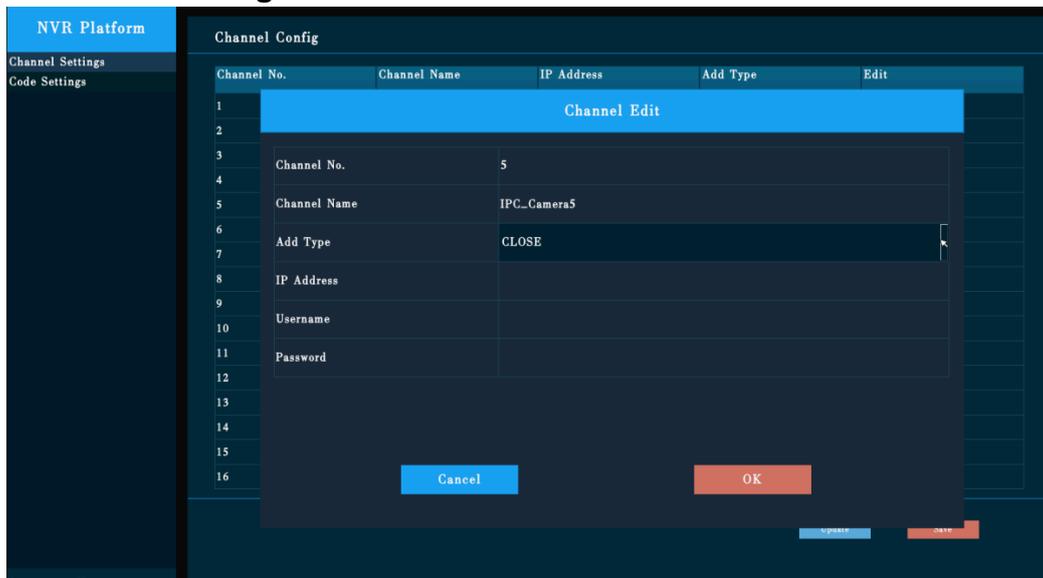
Select the specified block and fill the time in the grid (after selecting the time grid, click the corresponding color rectangle with the mouse) to specify the recording type.

### 4.2.4 Channel Setting Interface



The content of the channel configuration page can be previewed but not edited. To edit the channel information, click the icon of the corresponding channel  and the system will pop-up the channel editing interface.

- **Channel Settings:**



User can edit the channel parameters such as channel name, IP address type, username and so on.

● Code Settings:



On the code settings interface, user can edit the parameter such as stream type, rate type, video frame rate, maximum frame rate and so on

### 4.2.5 System Setting Interface

● General Settings:



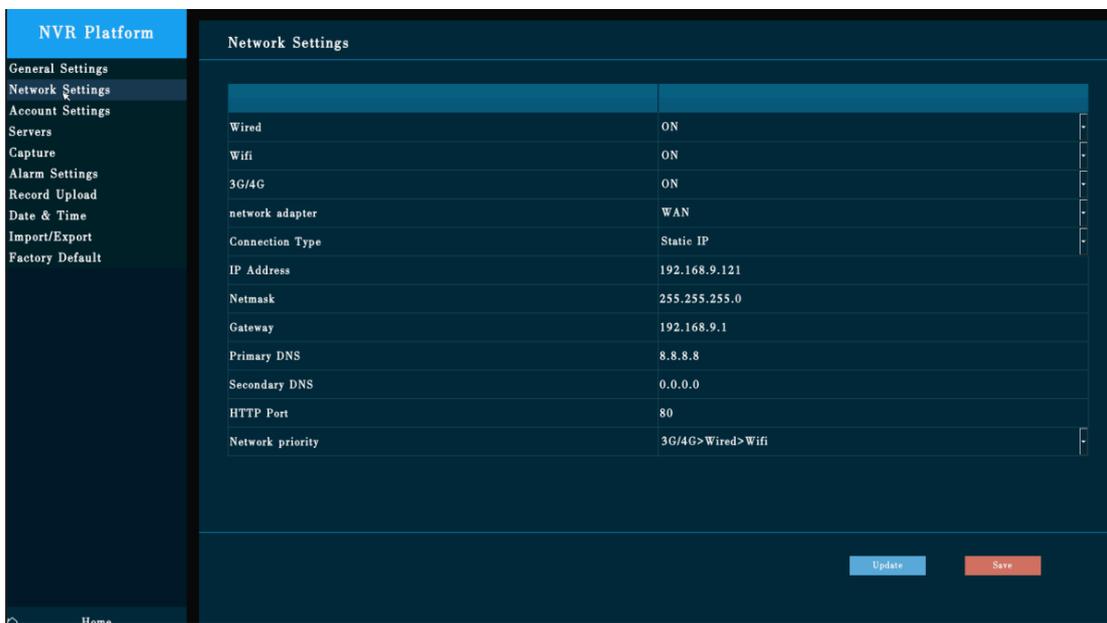
**Display Mode:** Set the default video preview display mode of the UI after the device restart.

**Loop Screen:** Set whether the default loop video preview after the device restart.

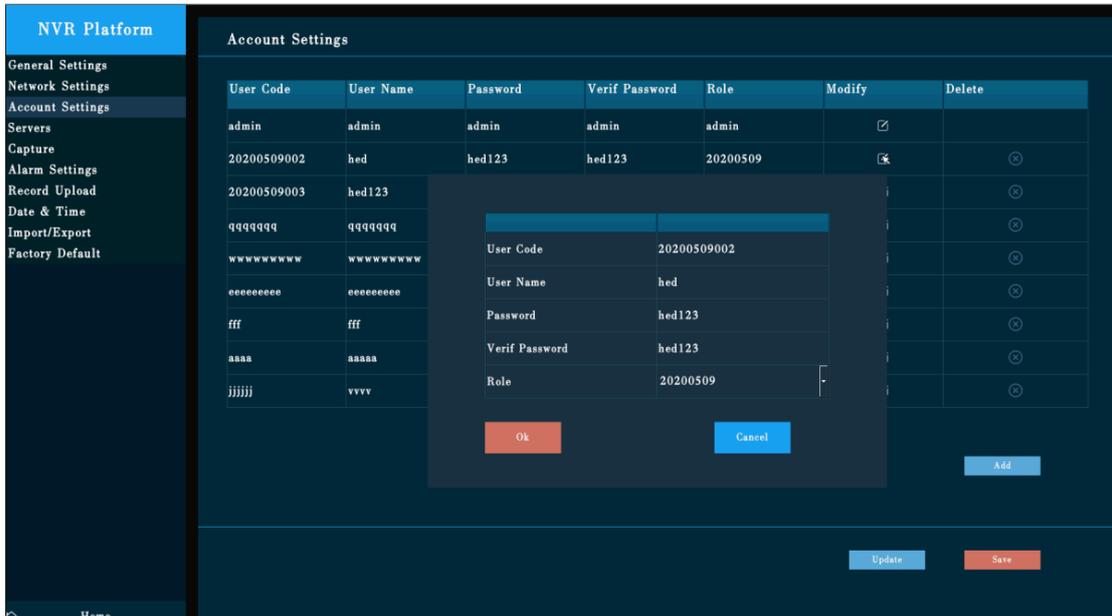
**Loop Screen Time:** Set how often the default loop video preview after the device restart.

● **Network Setting:**

After successful configuration, the settings will automatically restart.



- **Account Settings:**



In the account setting interface can display the current account's information such as username, password, user code and so on. In addition, user can edit the current account information at this page. Besides, User can also add new account and enter the new account's information.

- **Server:**

User can check the server information such as platform access mode, video server, video server port and register name.

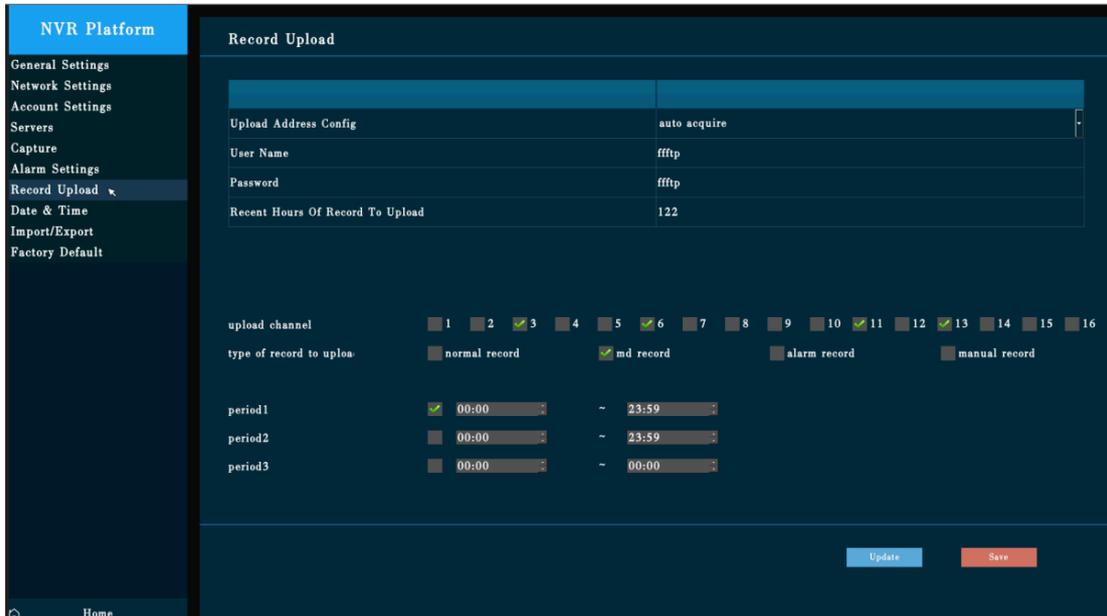
- **Capture:**

User can edit the capture configuration at capture interface such as upload address config, regular capture, MD capture and other parameters.

- **Alarm Settings:**

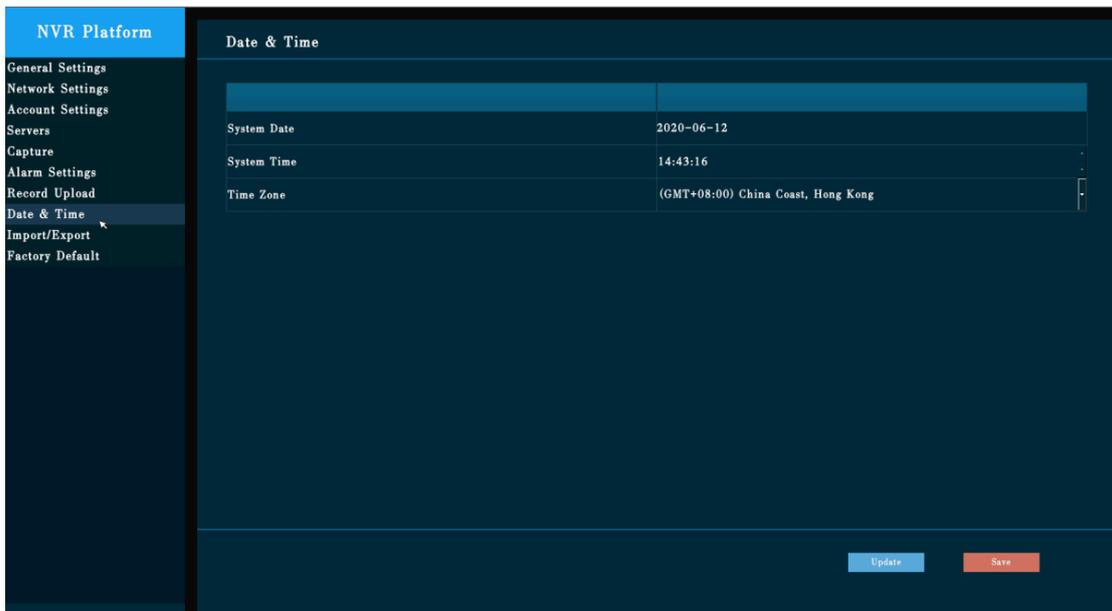
User can edit the alarm configuration at alarm setting interface such as OSD display, alarm mode, alarm effect times and other parameters.

● Record Upload:



User can edit the record upload configuration at this interface such as type of record to upload, record period and other parameters.

● Date & Time:

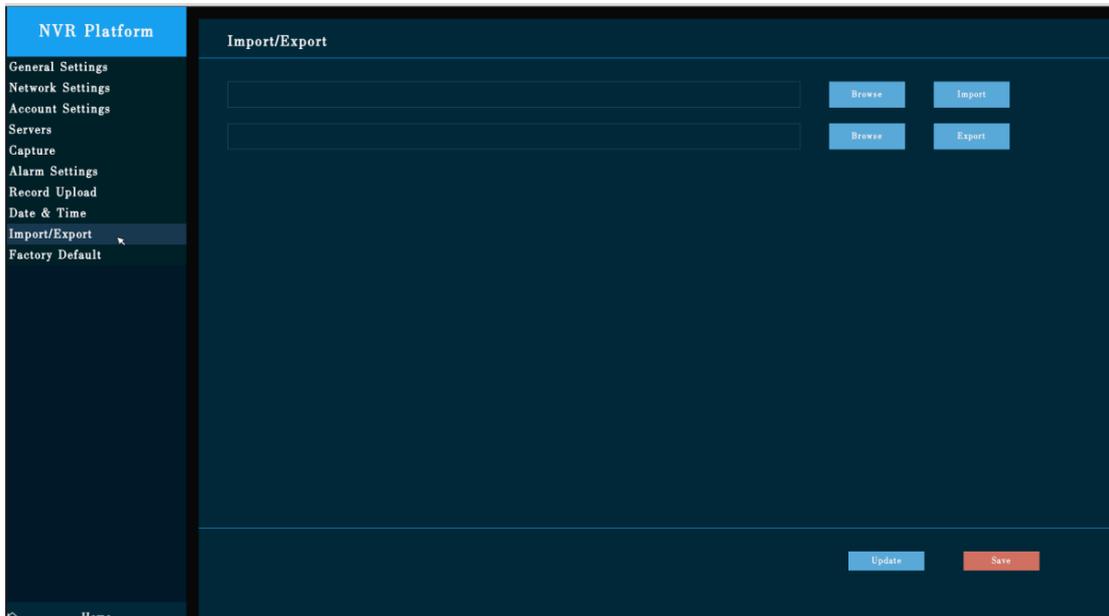


**System Date:** Set the system date.

**System Time:** Set the system time.

**Time Zone:** Set the time zone of the system.

- **Import and Export:**

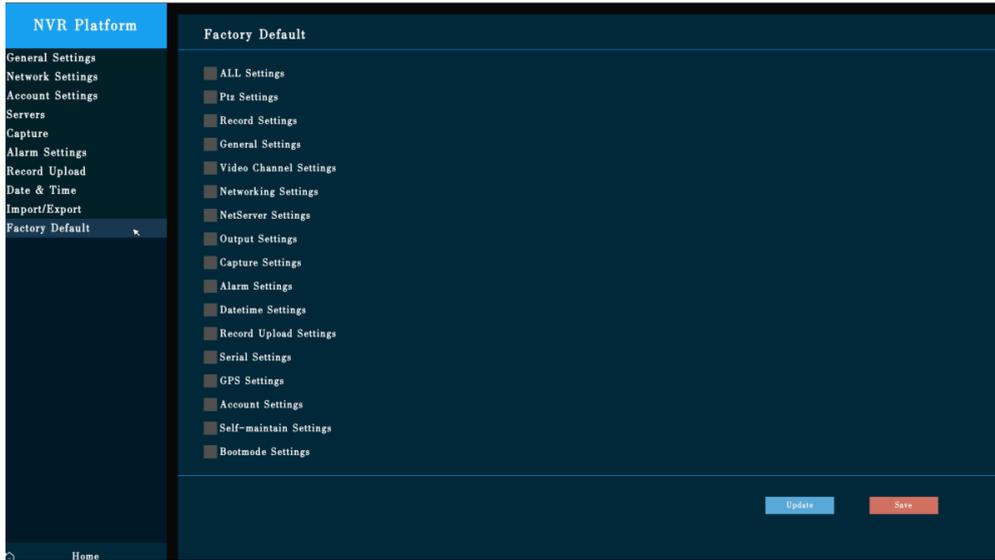


To use this function, you need to connect with USB drive.

**Import:** Import the device configuration file of USB drive to the device and select the file to be imported through "Preview".

**Export:** Guide the device configuration file to the USB drive, and select the path to be exported through "Preview".

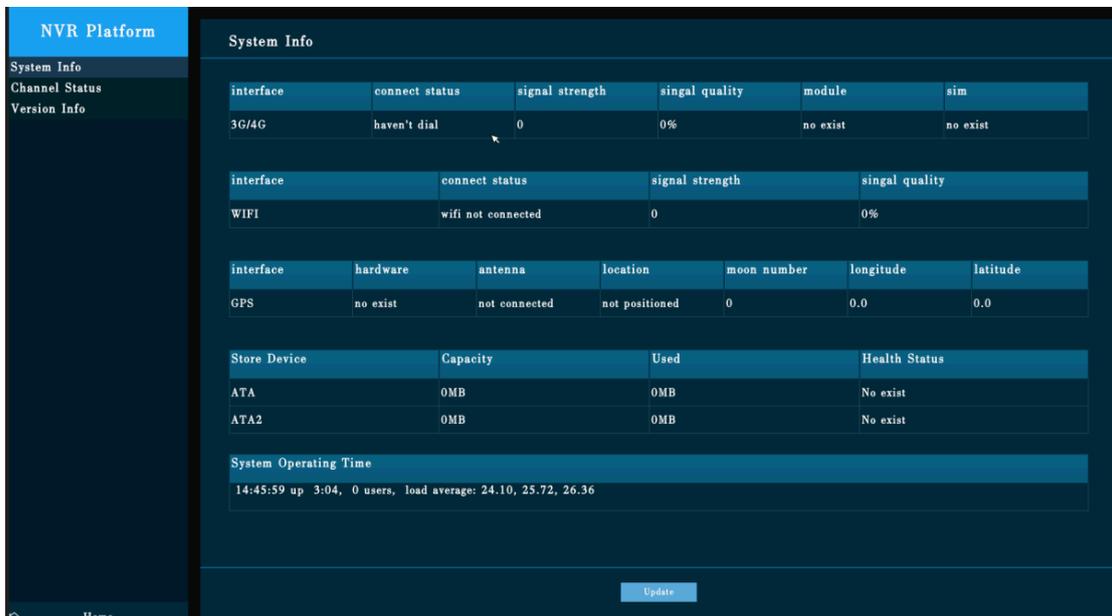
- **Factory Default:**



User can set to the default value of each setting in order to achieve the configuration parameters of the device can be restored to the factory default parameters.

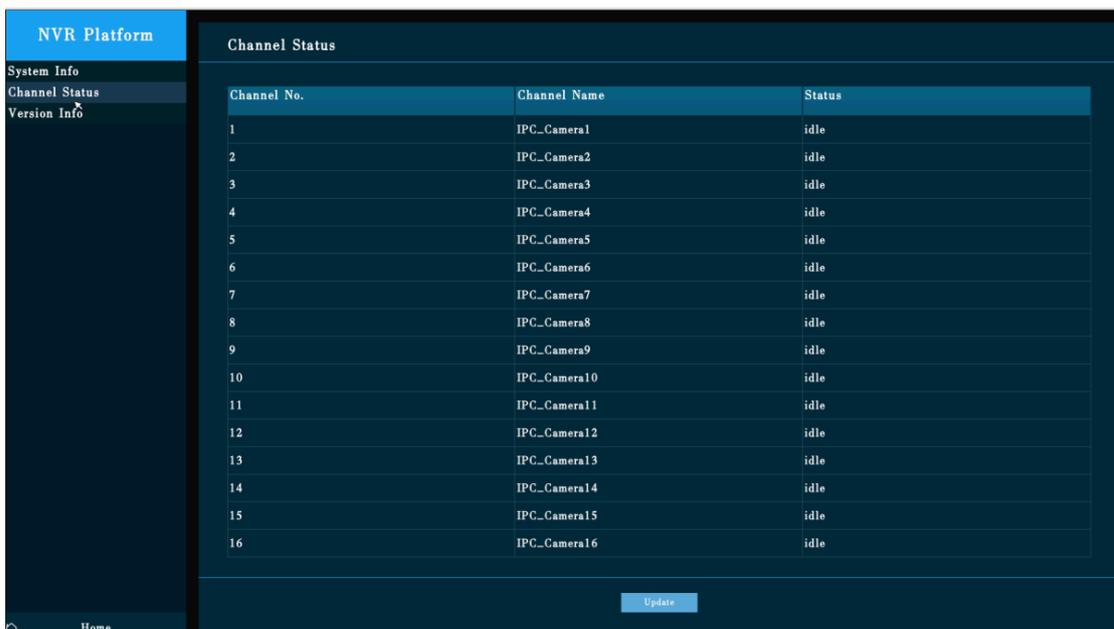
## 4.2.6 System Information Interface

- **System Information:**



The system information interface is use for checking the system status such as WIFI status, 3G/4G network status, GPS status, storage device status and system operation time.

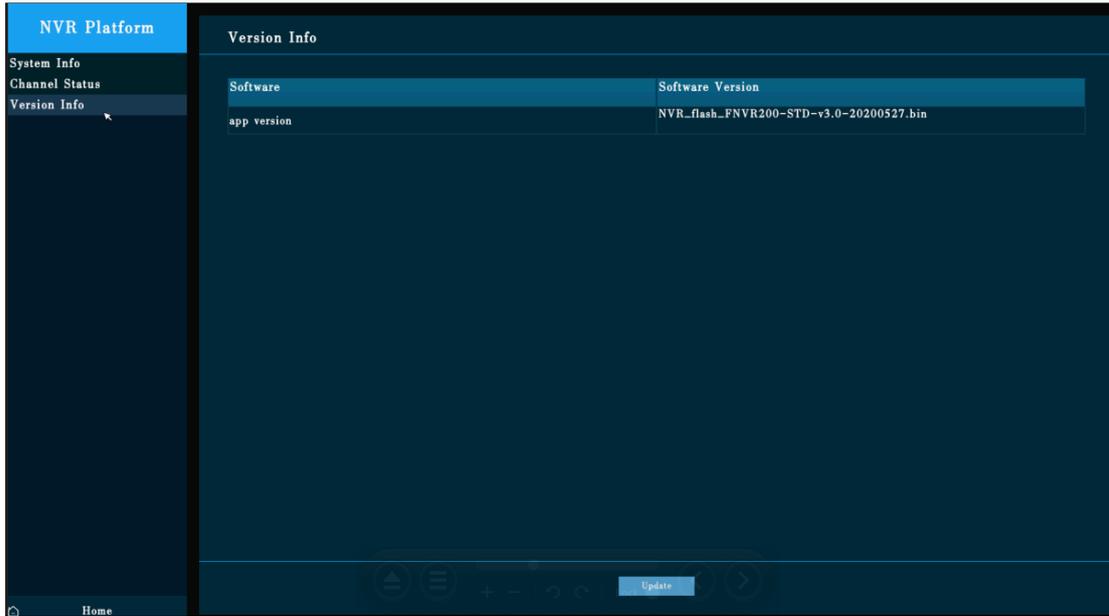
- **Channel Status:**



| Channel No. | Channel Name | Status |
|-------------|--------------|--------|
| 1           | IPC_Camera1  | idle   |
| 2           | IPC_Camera2  | idle   |
| 3           | IPC_Camera3  | idle   |
| 4           | IPC_Camera4  | idle   |
| 5           | IPC_Camera5  | idle   |
| 6           | IPC_Camera6  | idle   |
| 7           | IPC_Camera7  | idle   |
| 8           | IPC_Camera8  | idle   |
| 9           | IPC_Camera9  | idle   |
| 10          | IPC_Camera10 | idle   |
| 11          | IPC_Camera11 | idle   |
| 12          | IPC_Camera12 | idle   |
| 13          | IPC_Camera13 | idle   |
| 14          | IPC_Camera14 | idle   |
| 15          | IPC_Camera15 | idle   |
| 16          | IPC_Camera16 | idle   |

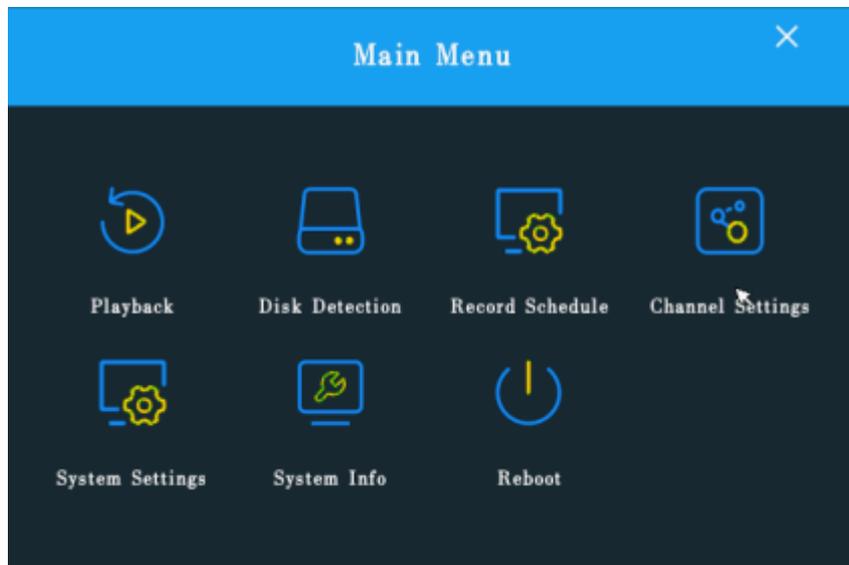
On the channel status interface, user can check the status of each channels.

- **Version Information:**



The version information interface shows the current NVR software version.

#### 4.2.7 Device Reboot



User can click the reboot button to reboot the NVR.

