



Network Video Recorder F-NVR110

User Manual

V2.0.0

This manual applies to the following product model: F-NVR110

Xiamen Four-Faith Communication

Files Revised Record

Date	Version	Remark	Author
2021-10-28	V1.0.0	The initial release	WWR
2021.11.09	V1.0.0		Jonas

Copyright Declaration

All materials or contents contained in this document are protected by copyright law. All Copyrights are owned by Xiamen Four-Faith communication technology co., LTD. Four-Faith without company's written permission, any person may not be any content in any way on this document copying, distribution, reproduction, connection, transmission, such as the use of any commercial purposes, but for non-commercial purposes, personal use, download or print (on the condition that may not be modified, and shall retain the copyright in the material or other ownership).

Trademark Statement

Four-faith is registered trademarks of Xiamen Four-Faith communication technology co., LTD. Without prior written permission, no one shall use the name of Xiamen Four-Faith

and the trademarks and marks of Four-Faith in any way.    





Note: There may be differences in accessories and interfaces for different models. Please refer to the actual product for details.

Contents

Chapter 1 Product Introduction	1
1.1. Product Overview.....	1
1.2. Product Features.....	2
1.3. Product Specification	3
Chapter 2 Installation of Device	6
2.1. Power Supply Installation.....	6
2.2. Hard Disk Installation	6
Chapter 3 Web Page Configuration.....	9
3.1. Configuration Connection	9
3.2. Login Configuration.....	9
3.2.1. PC IP Address Setting	9
3.2.2. Install Web Plugin	10
3.2.3. Login to the Box Web Page.....	10
3.3. Real-Time Video	11
3.3.1. Real-Time Monitoring	11
3.3.2. Video Preview	12
3.3.3. PTZ Control	13
3.3.4. Preview Split-Screen Transition	13
3.4. Playback	14
3.4.1. Picture Playback.....	14
3.4.2. Video Playback	15
3.5. System Configuration.....	17
3.5.1. IPC Management.....	17
3.5.1.1. Channel Setting.....	18
3.5.1.2. Code Setting.....	19
3.5.1.3. OSD Setting.....	20
3.5.2. Video Management.....	21
3.5.2.1. Record Setting.....	21
3.5.2.2. Capture	23
3.5.2.3. FTP Upload	24
3.5.3. Storage Management.....	25
3.5.3.1. Storage Status.....	25
3.5.4. Event Management	25
3.5.4.1. Alarm Setting	25
3.5.5. Application Management	27
3.5.5.1. Serial Port Setting	27
3.5.5.2. GPS Setting.....	29

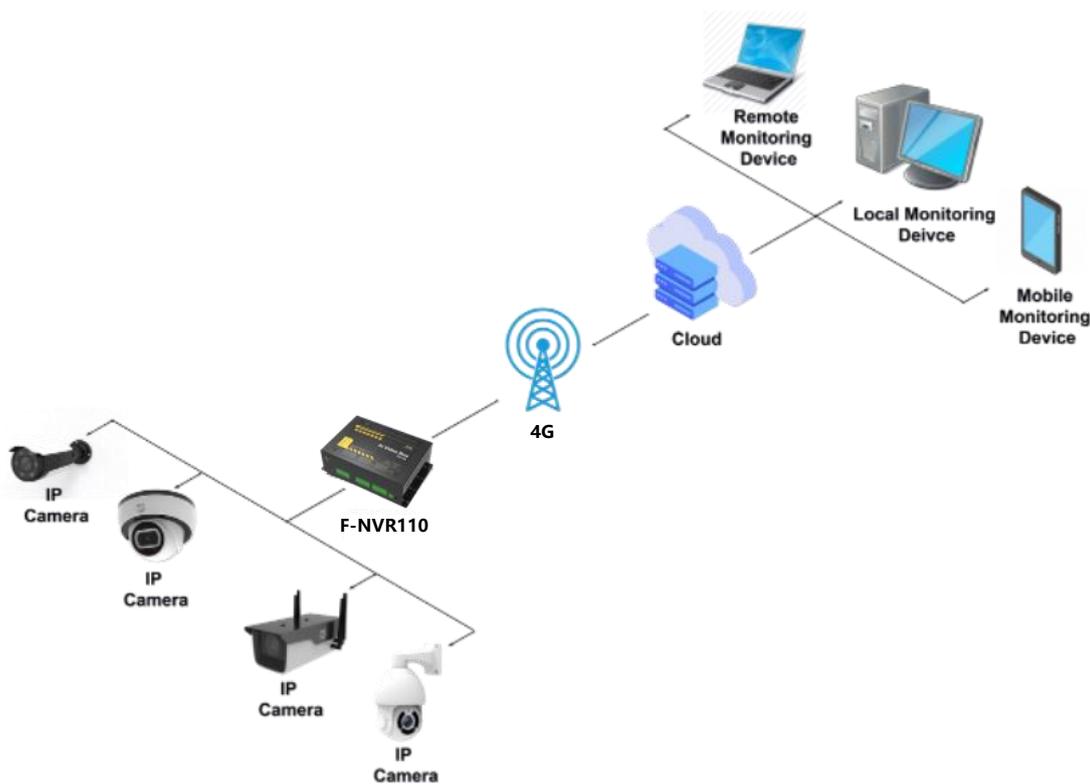
3.5.6.	System Management.....	29
3.5.6.1.	General Setting	30
3.5.6.2.	Account.....	31
3.5.6.3.	Upgrade and Maintenance.....	32
3.5.6.4.	System Information	34
3.5.7.	Network Management	37

Chapter 1 Product Introduction

1.1. Product Overview

The F-NVR110 is a next-generation NVR terminal independently developed by Four-Faith. It integrates advanced 4G/Wi-Fi communication technology, AI intelligent image recognition, 8-channel 1080p video input with PoE power supply, and 1-channel intercom input/output. It supports real-time recording, local storage, remote viewing, GPS positioning, motion detection, alarm recording with protection, and alarm event reporting to the platform. The device allows local/remote playback and export of recorded videos, GPS remote positioning, hard drive error detection, health monitoring, and remote error reporting to the platform. It offers multiple WAN options (Wi-Fi/wired) and comes with a series of video server solutions to meet the needs of both small-scale and large-scale users.

System Framework:



1.2. Product Features



Industrial-grade Design

- ▶ High-performance industrial-grade wireless module
- ▶ Metal casing, protection grade IP30. Metal housing and system safety isolation
- ▶ Industrial-grade components



Stability & Reliability

- ▶ WDT Watchdog design to ensure system stability
- ▶ Support plug & play, automatically set up and start to record
- ▶ Built-in 1.5KV electromagnetic isolation protection for Ethernet interface
- ▶ SIM/UIM card interface built-in 15KV ESD protection
- ▶ Built-in reverse phase protection and over voltage protection for power interface



Standard & Convenience

- ▶ Built-in 8 POE network interfaces, supporting 802.3AF and AT protocols
- ▶ Front-end edge integration and equipment intercommunication linkage
- ▶ Easy to use, flexible, multiple working mode options
- ▶ Plug and play, automatically completes the configuration of all IP cameras



High Performance

- ▶ Support various IoT protocol
- ▶ HDMI video output up to 4K (3840X2160) resolution
- ▶ Support third party ONVIF Profile S/T camera
- ▶ Support IPC event trigger & image capture
- ▶ H.265, optimized in bit rate, bandwidth, and storage usage, 50% off than H.264.
- ▶ Support MQTT, Modbus RTU and other protocols
- ▶ Support remote management & upgrade

1.3.Product Specification

Hardware	
Model	F-NVR110
Items	Contents
CPU	ARM Cortex A7 Dual-core 1.3GHz
FLASH	512MB
DDR3	1GB
Video	
Items	Contents
Input	8 channels HD IP Video Input
Output	1 x HDMI, Resolution(@30fps): 3840x2160, 1920x1080, 1280x720, 1024x768
Decoding Format	H.265 / H.264
Video Input Protocol	ONVIF (3.0), PELCO, RTSP, etc.
Capability	4x1080p@30fps
Recording Resolution	4MP/3MP/1080p/UXGA/720p/VGA/4CIF
Audio	
Items	Contents
Input	8 channels from IPC
Audio Compression	G711-Alaw, G711-Ulaw, AAC-LC
Sample Rate	8KHz, 16KHz
Voice Talkback	1 x RCA Input, 1 x RCA Output G726 compression standard
Storage	
Items	Contents
Hard Disk	2 x 2.5-Inch, SATA Interface HDD/SSD, with heating pad
Capability	Up to 6TB each HDD (Optional)
MicroSD Card	1 x MicroSD Slot Storage up to 512GB

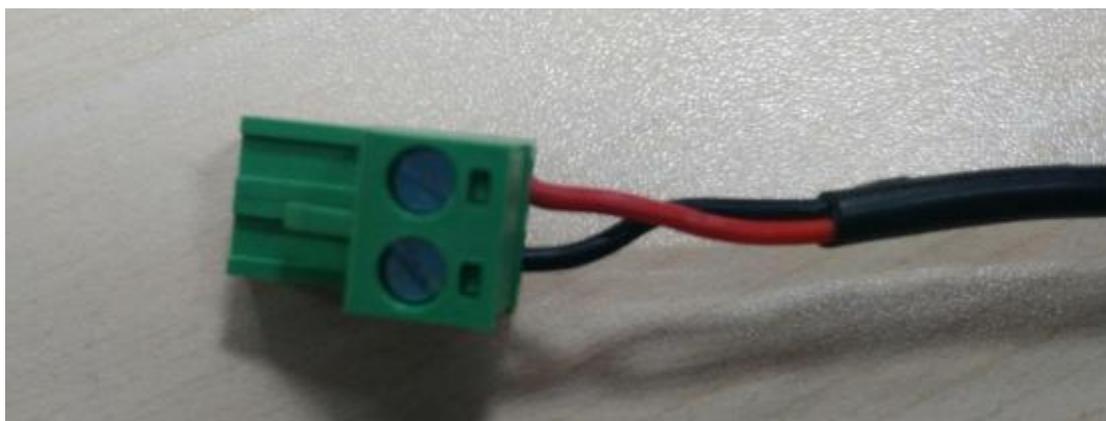
Interface	
Model	F-NVR110
Items	Contents
WAN	1 x 10M/100M/1000M RJ45 Ethernet Port
LAN	8 x 10M/100M/1000M RJ45 Ethernet Port Support PoE 802.3af/at
Serial Port	2 x RS232, 3 x RS485/RS232 Multiplex
Analog Input	8 12, 16, 24 bits ADC (3 choose 1)
Relay	2 Electric load 5A 250V AC/30V DC
USB	2 x standard USB2.0
Digital Input	6
Digital Output	4 Support 5V or 12V output voltage, current 500mA
GPS/Beidou	Dual positioning module, supporting GPS and Beidou (Optional)
WIFI	AP, Client mode
Cellular (Optional)	
Items	Contents
Standard & Band	4G LTE FDD, LTE TDD, EVDO, WCDMA, TD-SCDMA, CDMA1X, GPRS/EDGE
Bandwidth	LTE Cat20: Downstream rate 350Mbps, uplink rate 150Mbps FDD-LTE: Downstream rate 150Mbps, uplink rate 50Mbps TD-LTE: Downstream rate 130Mbps, uplink rate 35Mbps
Transmit Power	< 23dBm
Sensitivity	< -97dBm
Power	
Items	Contents
Power Supply	Terminal Block
Power Range	Non-PoE: DC 12V PoE: DC 48V
Power Consumption	Non-PoE < 24W PoE < 60W Standby Current < 10mA (12V)

WIFI	
Items	Contents
Standard & Band	Support IEEE802.11b/g/n, 2.4G, support AP & Client mode
Bandwidth	IEEE802.11b/g: Maximum speed rate 54Mbps IEEE802.11n: Maximum speed rate 150Mbps
Transmit Power	26dBm (11b), 21.5dBm (11g), 20dBm (11n)
Sensitivity	<-72dBm @ 54Mbps
General	
Items	Contents
Casing	Metal, IP30
Dimensions	182 x 152 x 80mm (Not include antenna)
Weight (without HDD)	2.9 KG (Not include HDD and other accesories)
Working Temperature	-35°C ~ + 75°C (+31°F ~ +167°F)
Working Humidity	90% (non-condensing)

Chapter 2 Installation of Device

2.1. Power Supply Installation

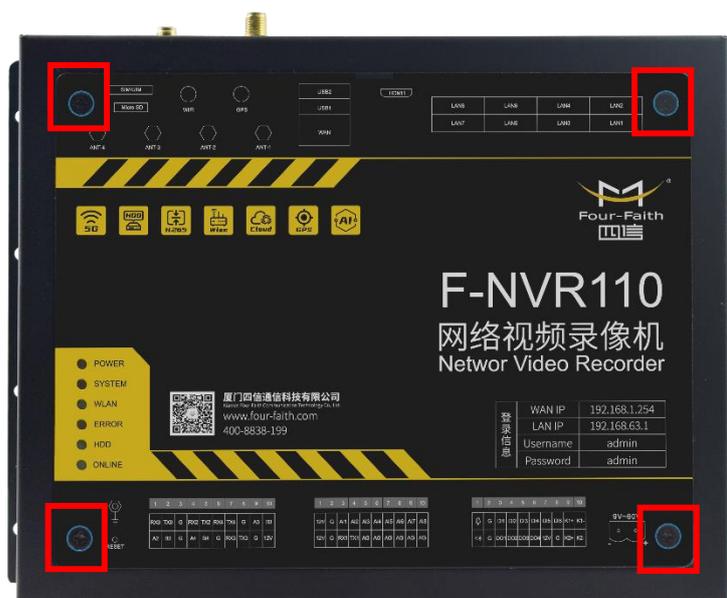
Remove the power adapter and power terminal from the package, install the positive and negative terminals of the power adapter on the power terminal in the correct access mode:



2.2. Hard Disk Installation

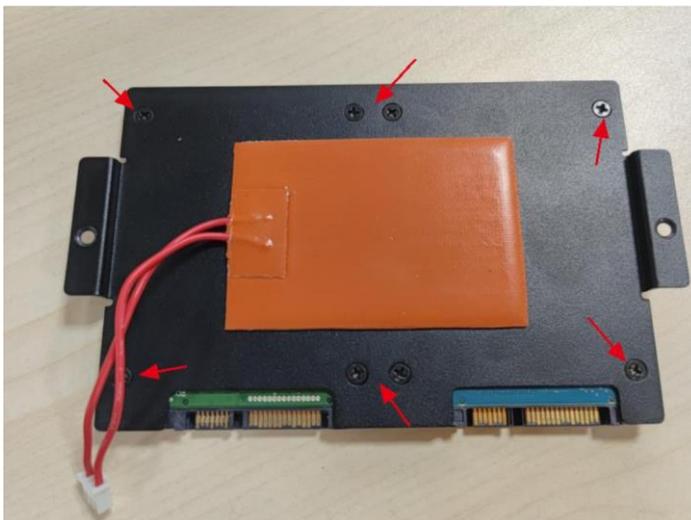
The main steps of hard disk installation are as follows:

1. Remove the four screws on the cover plate of the device, and continue to remove the two screws that fix the hard disk bracket after removing the cover.

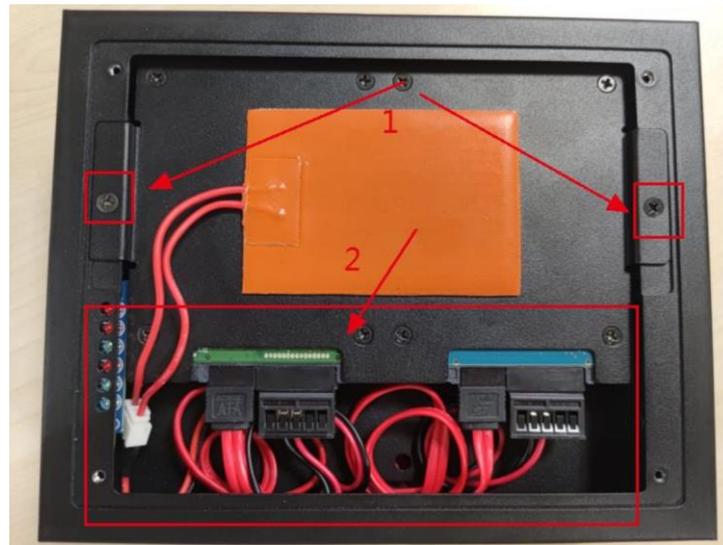




2. Fix the hard disk on the hard disk bracket in the following orientation and lock the screws.



3. Attach the hard drive bracket where the hard drive is installed to the lid of the device, and lock the two screws to secure the hard drive bracket. After that, refer to the screenshot below to connect the hard disk heating cable, SATA power cable, and data cable to the corresponding locations.



4. Cover the upper cover plate removed from the first step and lock the four screws.

Remarks: Screw specification: M3*5mm, Black cross countersunk head

Chapter 3 Web Page Configuration

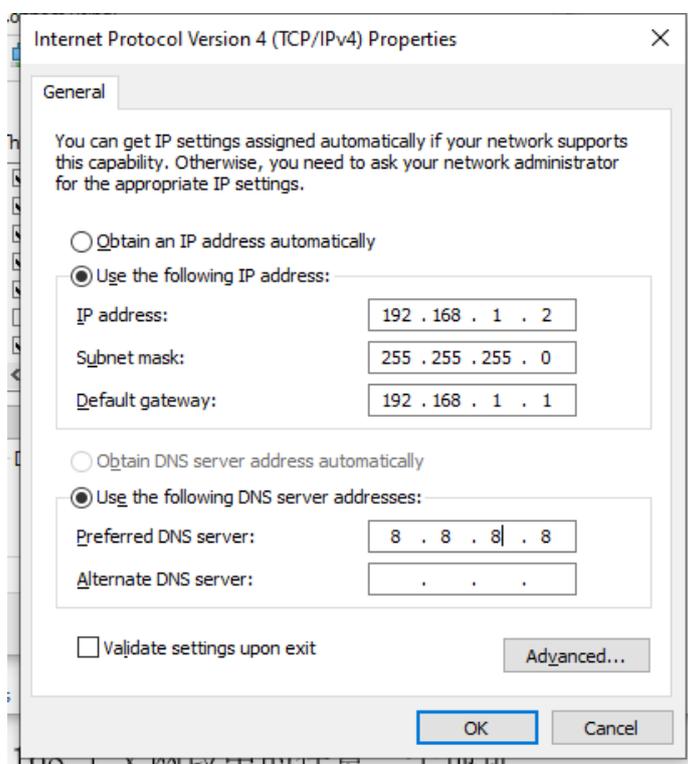
3.1. Configuration Connection

Before configuring the NVR, you need to connect the Box 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 192.168.1.9(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.



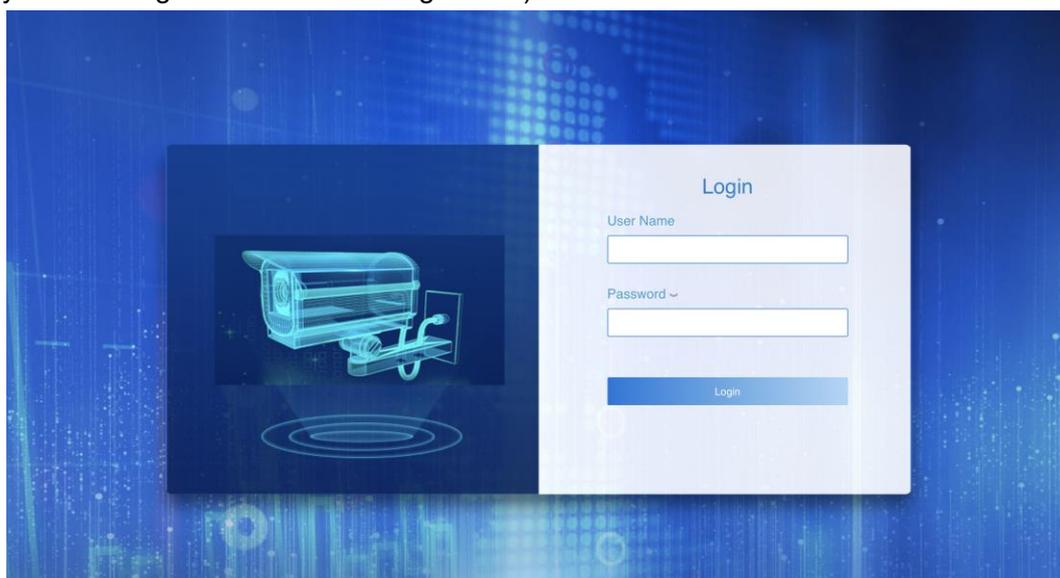
3.2.2. Install Web Plugin

If you are using Internet Explorer, run the executable webVideoPlugin-xxx.exe program. In addition, you can use Google Chrome, this product supports plug-in-free video playback.

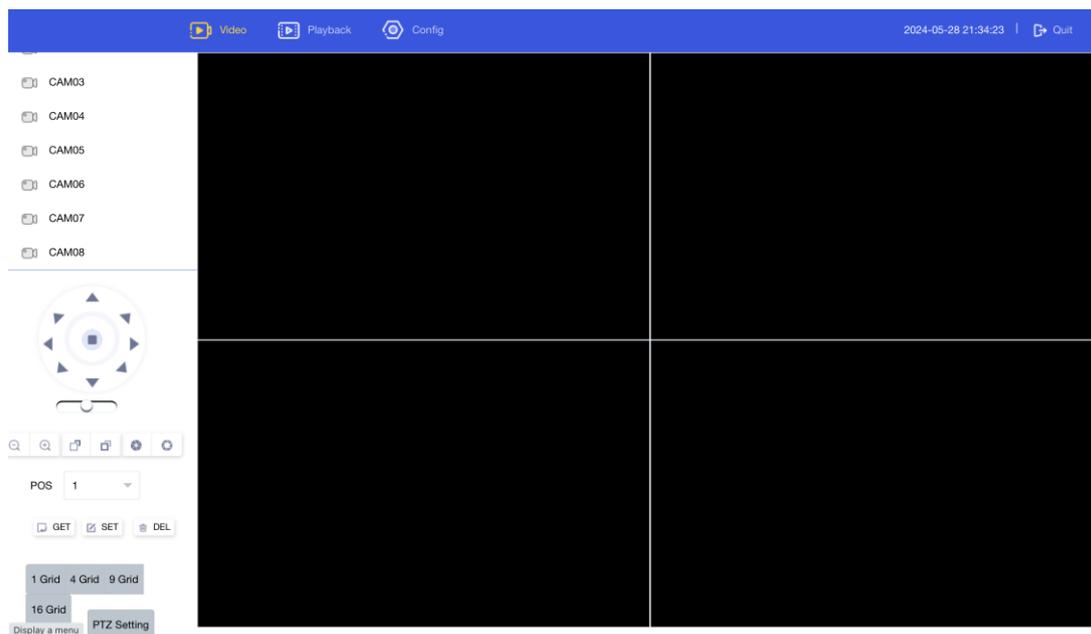
3.2.3. Login to the Box Web Page

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.

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 (You can set this on the "System Configuration > System Management > User Management").



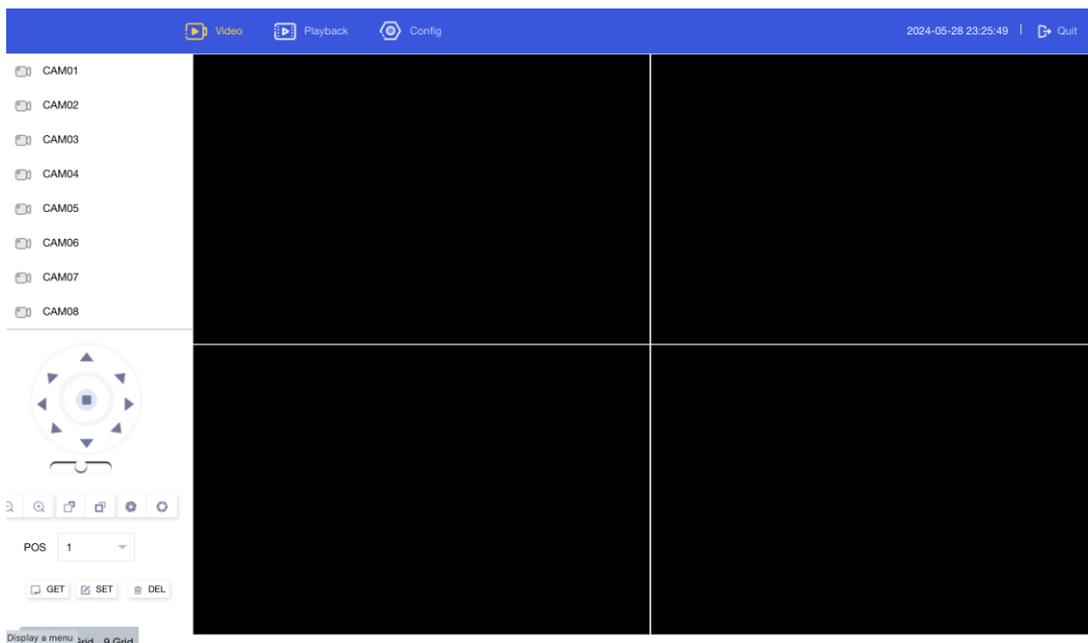
After login to the NVR Web management tool, user can go to the web main page.



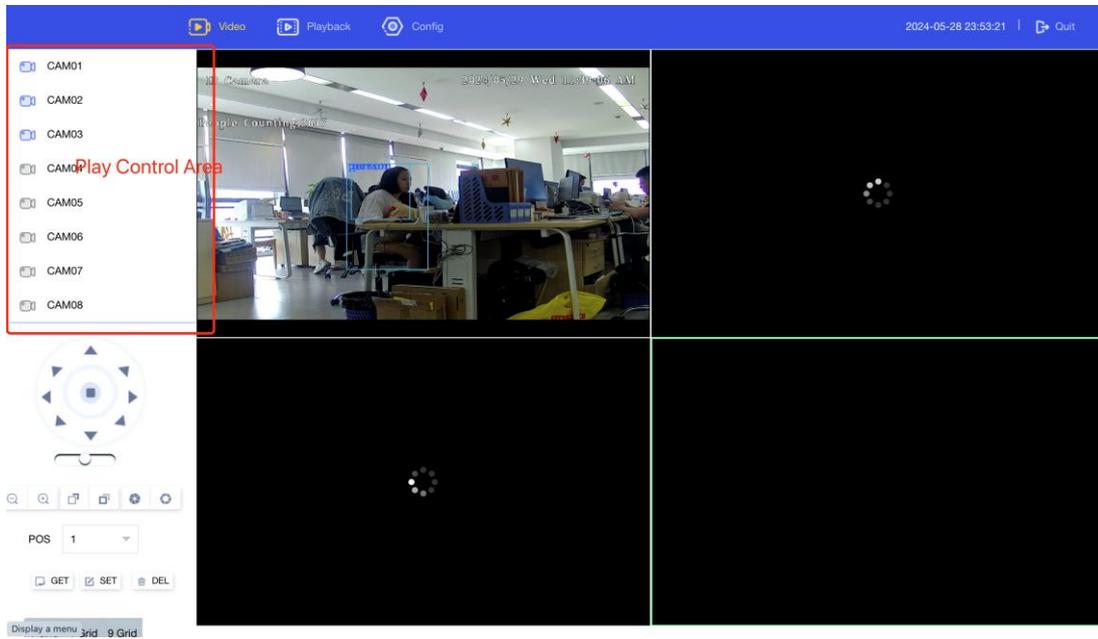
3.3. Real-Time Video

3.3.1. Real-Time Monitoring

Real-time monitoring includes: video preview, PTZ control, and split-screen switching and Preset points settings.



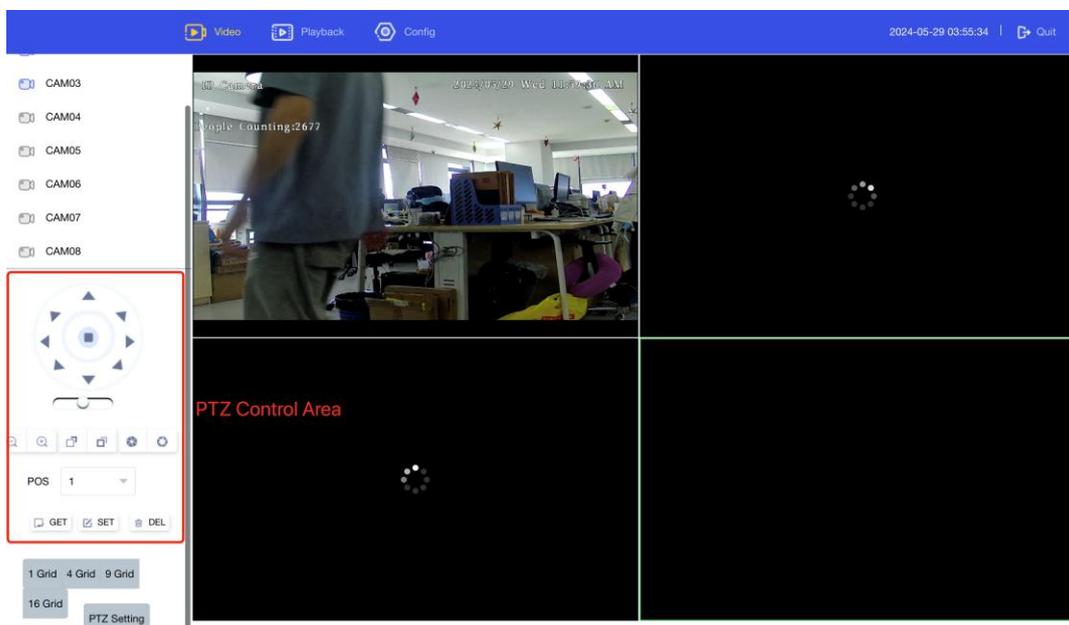
3.3.2. Video Preview



Enable: Select the video playing window on the right and click the channel name in the "Play Control Area" on the left to play the real-time preview of the clicked video in the selected play window (if the play window is not selected, the first free window will start playing).

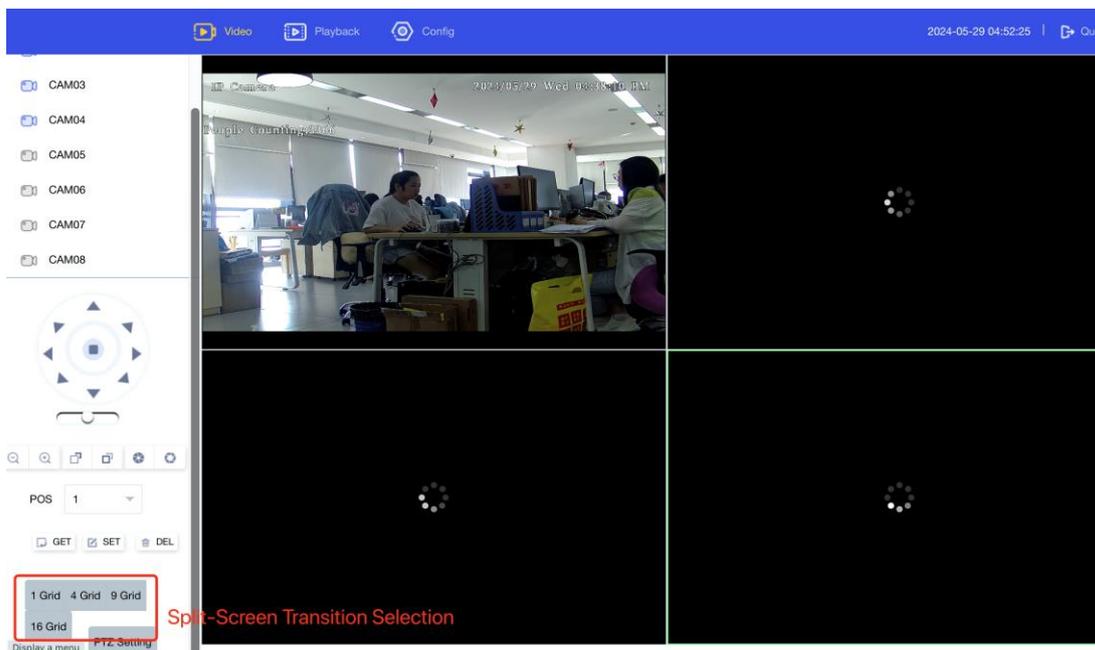
Disable: Click the "Play Control Area" channel again to close the video of the corresponding preview channel.

3.3.3. PTZ Control



Click the video playing window, select the channel, and click the "PTZ Control Area" on the left to control the PTZ of the selected channel.

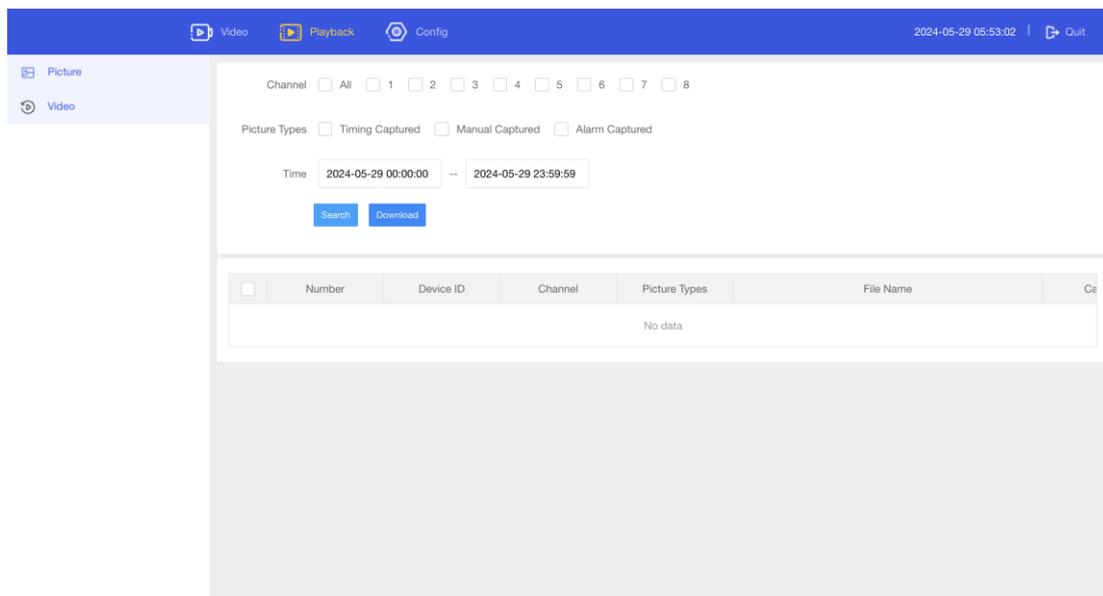
3.3.4. Preview Split-Screen Transition



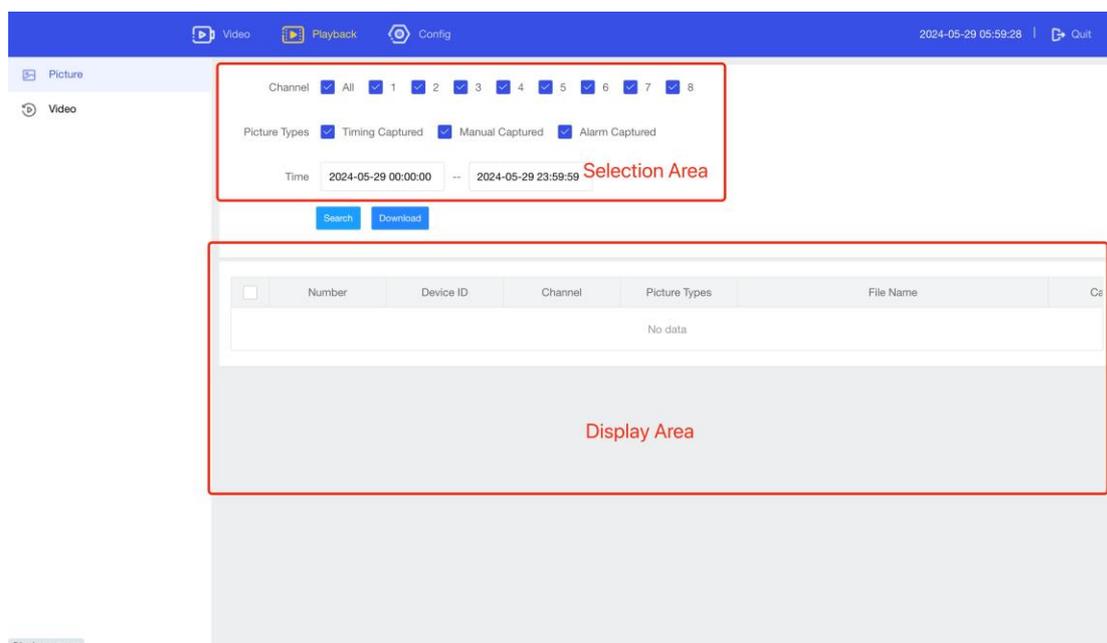
Click "Split PTZ Area" on the left to switch the number of split screens in the video playing window. This model supports up to 4 channels of real-time playing.

3.4. Playback

Click the "Playback" button on the top navigation bar to enter the playback function. The playback function includes: picture playback, video playback, click the left control navigation bar to switch functions.



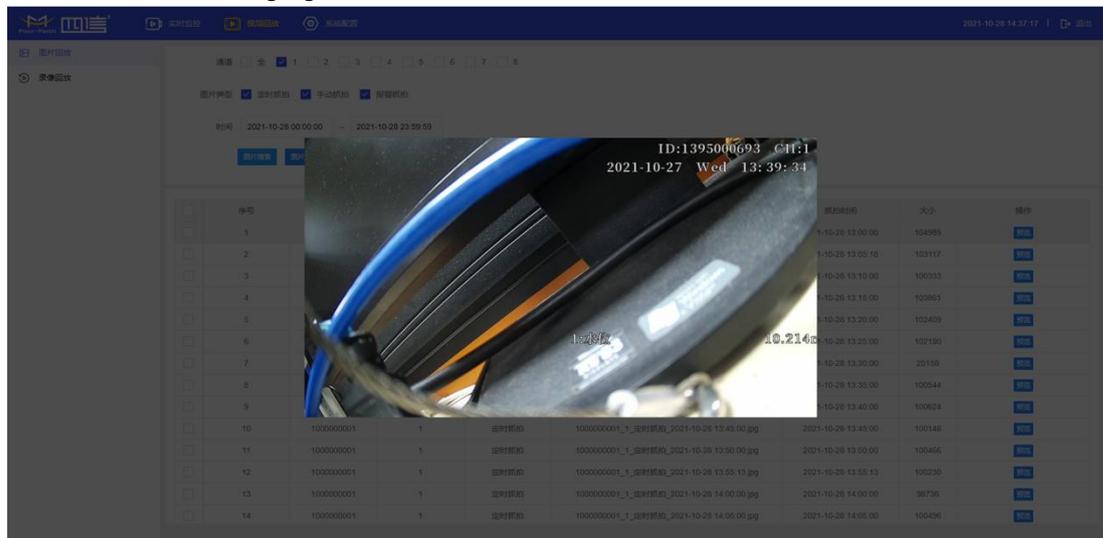
3.4.1 Picture Playback



In the Selection area, filter the required images and select the following items: channel, image type, and image storage time range.

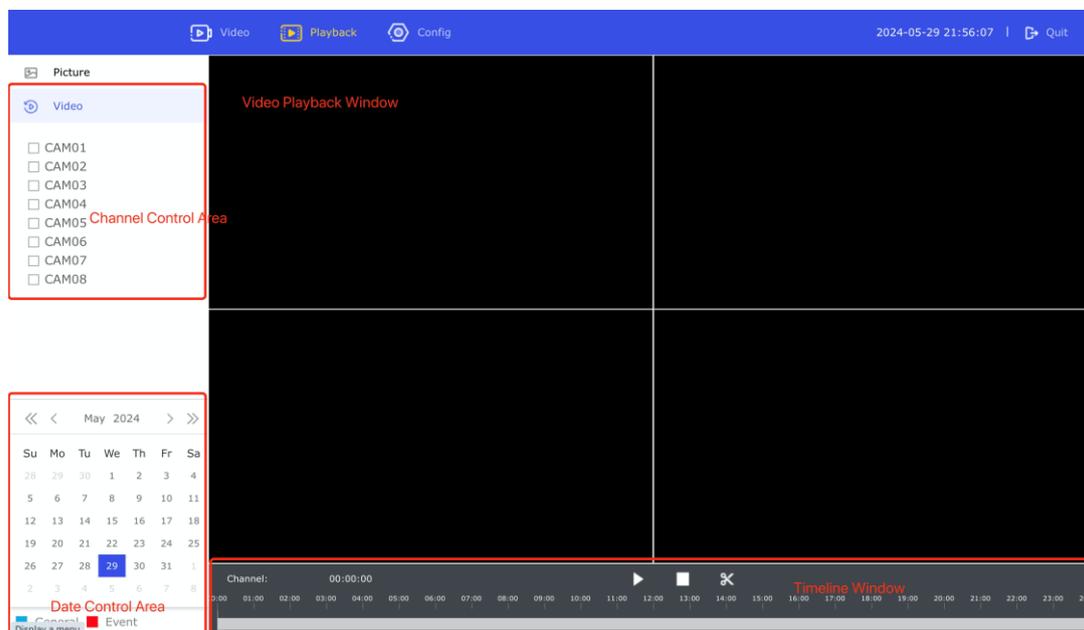
Search: Click the "Search" button, the searched images will be displayed in the "Display Area", and more than 50 images will be displayed in pagination.

Preview: Click "Preview" in the "Display Area" to preview the corresponding image, as shown in the following figure.



Download: Select the checkbox next to the "number", and then click the "Download" button to download the images in batches.

3.4.2 Video Playback



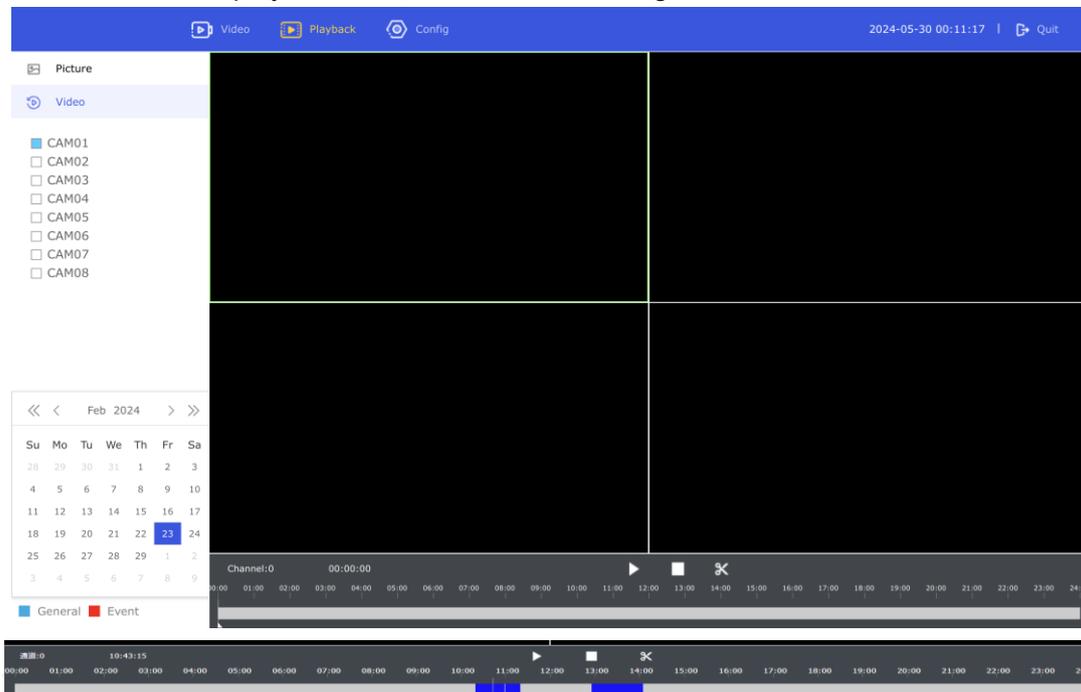
The control and display areas are roughly divided into: channel control area, date control area, video playback window, and timeline control window.

Examples:

Search: Click on channel 1 in the channel control area, and then the date control area

will show the date of the video that existed within a month. On the date of the recording

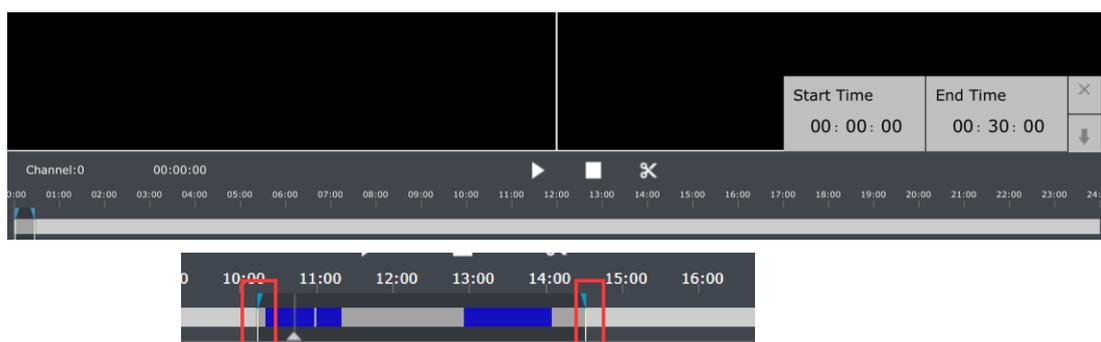
“”, the recording data of the current day will be searched by default, and displayed in the “Timeline Display Window”, as detailed in the figure below.

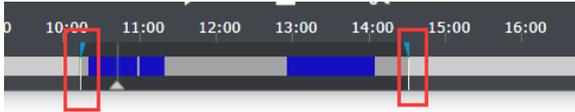


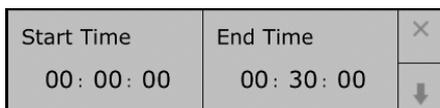
Play: Click the "Timeline Display Window" with the recording area, click "” button to start playing the video, and click the recording area of the progress bar during playing to jump to the corresponding time point to play.

Stop: Click "” button to turn off all playing.

Video download: Click "” button, and the download window will pop up as shown in the figure below



You can drag  to adjust the downloaded video range, or you can directly modify the time value in



to adjust the downloaded video range, click 

to start the download, if it is IE, the download directory is in the storage directory configured by the plug-in, if it is other browser, the download directory is in the browser's common

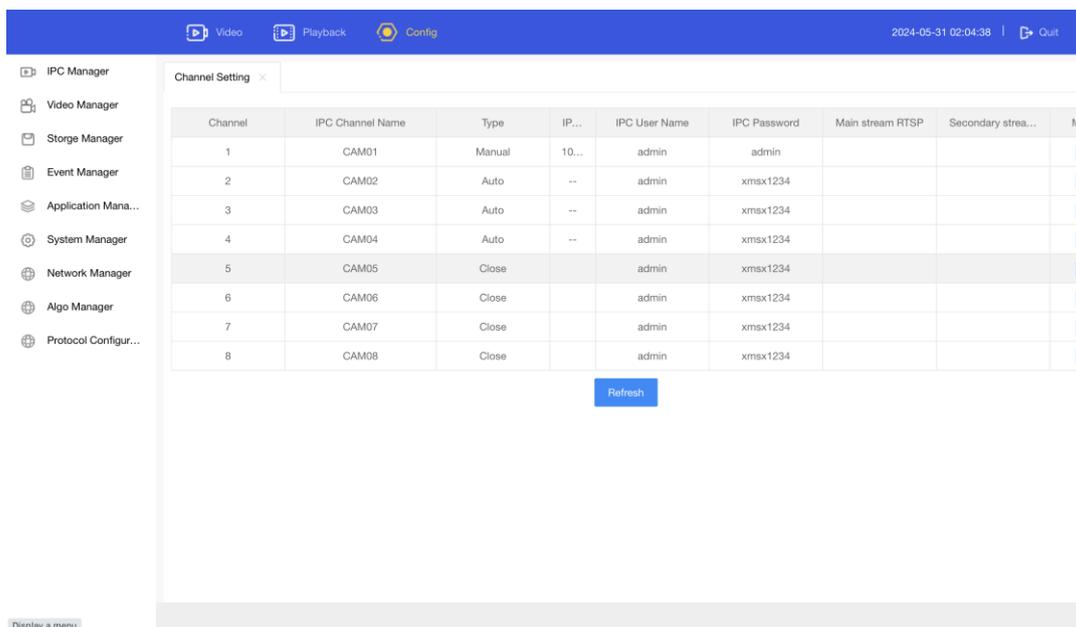
download directory.

Multi-channel operation: Multiple videos can be played at the same time, but only one of the corresponding playback channels can be selected to download the videos of the corresponding channel, and there is no multi-channel download.

3.5. System Configuration

Click the button "Config" on the top navigation bar to enter the system configuration function.

The system configuration functions mainly include: IPC Management, Video Management, Storage Management, Event Management, Application Management, System Management, Network Management, Algo Management, and Protocol Configuration.



3.5.1. IPC Management

IPC Management includes Channel Setting, Code Setting, Output Setting.

3.5.1.1. Channel Setting

Channel	IPC Channel Name	Type	IPC Address	IPC User Name	IPC Password	Main ...	S...	Modify
1	CAM01	Manual	10.168.1.235	admin	admin			Edit
2	CAM02	Auto	--	admin	xmsx1234			Edit
3	CAM03	Auto	--	admin	xmsx1234			Edit
4	CAM04	Auto	--	admin	xmsx1234			Edit

[Refresh](#)

Edit: Clicking the "Edit" button is to edit the properties of a channel.

Edit
×

Channel

IPC Channel Name

Type

IPC Address IPC Search

IPC User Name

IPC Password

Submit
Cancel

Channel properties contain:

IPC Channel Name: Displays the name of the channel location displayed in the real-time monitoring and video playback channel.

Type: Close, Manual, Auto, RTSP URL, DHCP.

Manual: You need to search for the IPC by clicking the IPC Search Button, or manually enter the address of the IPC, and the search button can only search for the IPC connected to the LAN port.

If you select Manual for Type, you need to manually enter the IPC address, log in to the IPC device and set it to IP Set to 192.168.63.XX network segment, if the http port of the IPC is not 80, please set it accordingly, for example: 192.168.63.XX:8080

Auto: NVR automatically selects the connection way to connect with IPC, user only need to input the IPC User Name and IPC Password.

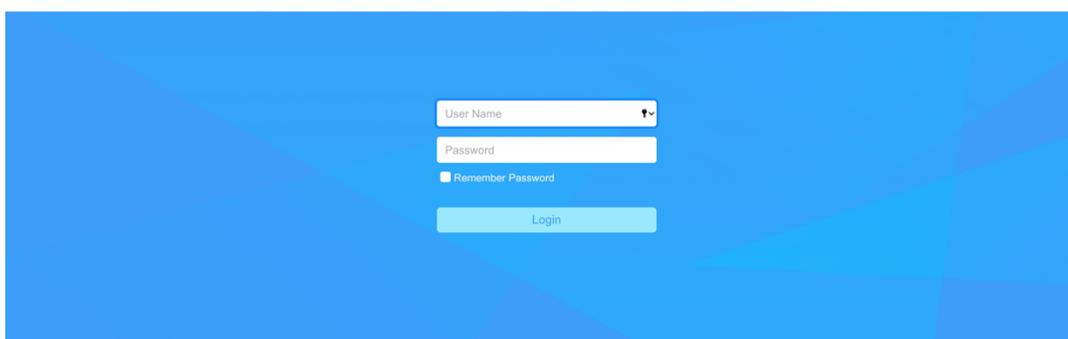
RTSP URL/DHCP: RTSP URL mode needs to input IPC address and port, RTSP stream.(IPC ONVIF User Name and Password)

Close: As named.

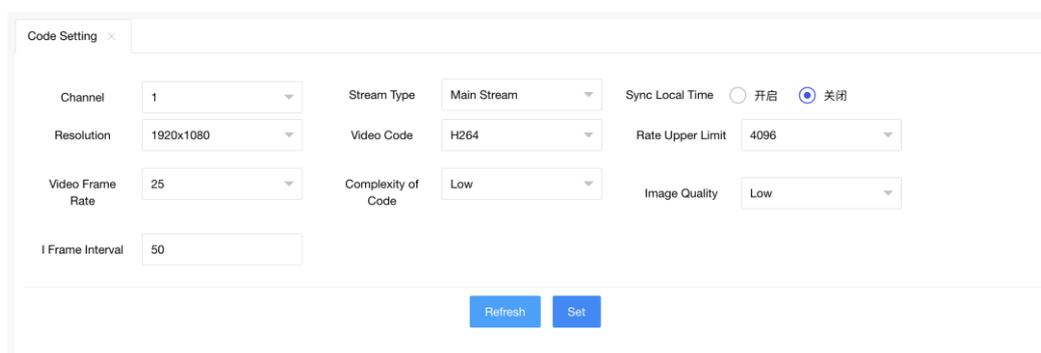
IPC Username, IPC Password: Note that it is the username and password of the ONVIF account of the IPC.

IPC Link: Channel port forwarding can directly use the IP and forwarding port of NVR to directly access the webpage of the IPC without connecting the LAN port, and complete some configurations specific to some IPC, if the webpage video of the IPC is not used port 80, you also need to configure the port forwarding of the video through the port forwarding in "Network Management". After clicking the "IPC Link" button, in a new window through the http:// http://10.168.1.235, as shown below.

English ▼



3.5.1.2. Code Setting



Channel: When switching channels, the NVR will obtain the supported Stream Type, Resolution, Video Code, Rate Upper Limit, Video Frame Rate, Complexity, Image Quality, I-Frame Interval from IPC.

Stream Type: Configure the parameters of different streams of the IPC to switch the stream, including the Main Stream and Sub Stream.

Synchronize Local Time: Generally enabled, otherwise some IPC may refuse access

because the time is out of sync.

Resolution: Toggling the Resolution of the corresponding Stream.

Video Code: Switch the coding of the corresponding stream: F-NVR110 supports H264 and H265 video encoding, do not configure other coding formats.

Rate Upper Limit: You can choose according to your needs, the higher the bitrate, the better the image quality.

Video Frame Rate: You can choose according to your needs.

Complexity: You can choose according to your needs, and the more complex it is, the higher the bitrate.

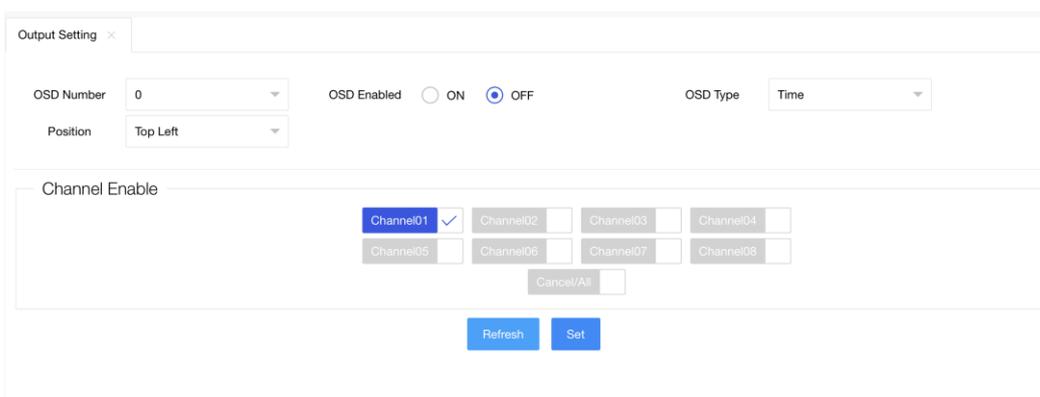
Image quality: You can choose according to your needs, the better quality it has, the higher the bitrate.

I-frame interval: can be selected according to your needs.

Configuration suggestions:

- 1) If the storage requirements are relatively high, set the resolution to a relatively high resolution, and same for the frame rate, and transmit it to the network at the same time, If the transmission quality is required to be high, you do not need to choose the Sub Stream bitrate, and the video and network transmission are coded all through the Main Stream.
- 2) If the network bandwidth is limited, but there are relatively high requirements for storage, you can turn on the Sub Stream bitrate, the data encoded by the Main Stream will be used for local storage, and the data encoded by the Sub Stream will be used for network transmission.

3.5.1.3. OSD Setting



OSD Number: 4 OSD control channel.

OSD Enabled: The corresponding channel OSD is enabled.

OSD Type: Including Time, Device ID, IPC Channel Name, GPS Information, Alarm, Extended Text, and Element Information(AI).

Position: Includes Top Left, Top Right, Bottom Left, Bottom Right, and Custom.

When the type is Extended Text: Configurable text 1~text 4 content.

When the position is customized, you can configure the start coordinates of the

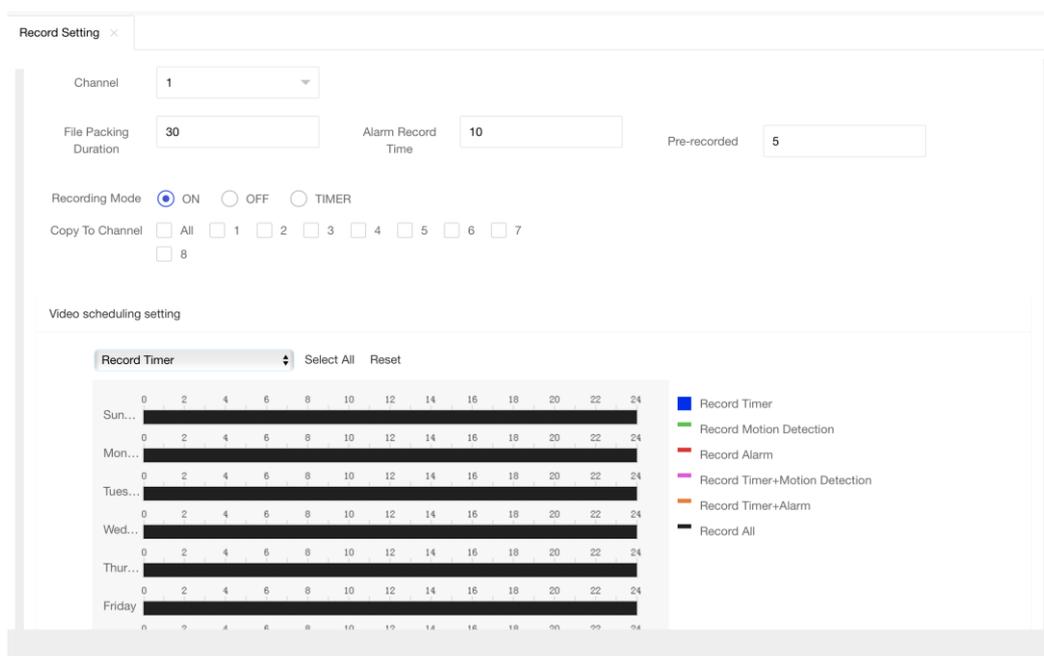
corresponding OSD content through the coordinate system, which is $x(-1.0\sim1.0),y(-1.0\sim1.0)$.

Boot Channel: The corresponding OSD control is only for the selected IPC channel.

3.5.2. Video Management

Video Management includes Record Setting, Capture, FTP Upload, and Camera Power.

3.5.2.1. Record Setting



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 10 to 30 minutes.

Alarm Record Time: The duration of alarm recording, you can set the recording duration of the triggered alarm. The alarm time-lapse recording range is 1~30 minutes.

Pre-recorded:

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.

Recording Mode:

- When the Recording Mode is "OFF", the selected channels are not recorded.

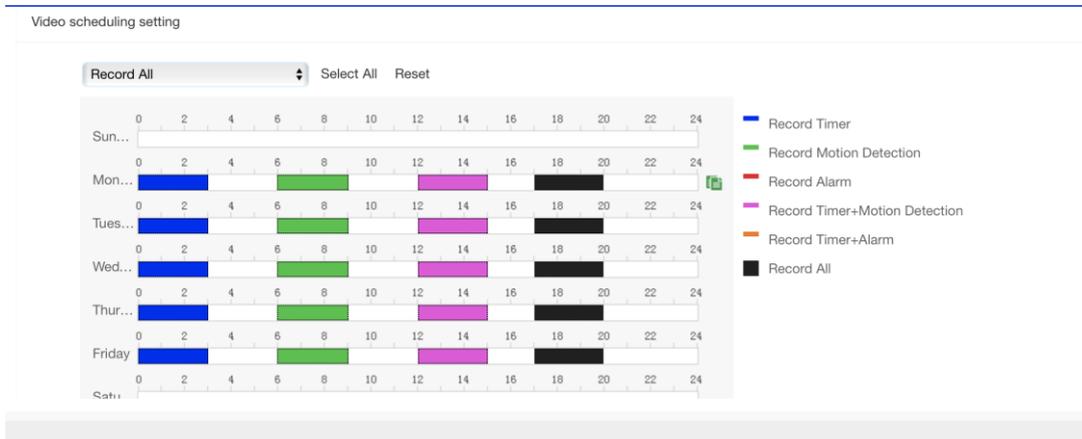
- When the Recording Mode is "ON", you can configure the recording schedule for the Selected channels, including File Packing Duration, Alarm Record Time, Pre-recorded, modes that trigger the recording, and the time periods in which they are enabled.
- TIMER Recording Mode: Users can set Timer Record Interval and Timer Record Time in this mode.

Copy To Channel:

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

Video Scheduling Setting: flexible configuration, specific operations are required, up to 4 Recording Modes can be configured in 1 day, pay attention to the Recording Mode of the video time period.

For Example:



Explanation:

Monday to Friday:

0~3 o'clock will be timed to record, and the video recording is similar to the timer-only mode.

6~9 o'clock, the motion detection recording will be triggered, and the recording will only be triggered when the motion detection occurs, and the recording will not be recorded during other time periods.

12~15 o'clock will be timed + motion detection recording, under normal circumstances, timing recording, when motion detection occurs, motion detection recording will be triggered.

17~20 o'clock will be timed + motion detection + alarm recording, priority alarm recording > motion detection > timing, when the high priority recording occurs, will stop the low priority recording, enter the high priority recording.

There is no video recording on Saturdays and Sundays.

3.5.2.2. Capture

Capture ×

Server Address Config
Custom ▼

Upload Address

Upload Address Port

Channel
1 ▼

Enable Timed Capture
 ON OFF

Timed Capture Interval(Second)

Enable Motion Detection Capture
 ON OFF

Motion Detection Capture Interval(Second)

Refresh
Set

Server Address Config: Automatic Obtain, Custom

Automatic Obtain: The default option is Automatic Obtain, and the captured pictures will be sent to Four-Faith's network platform

Custom: If necessary, the captured images will be sent to the specified address (the server needs to implement the corresponding HTTP receiving program), and set the reporting address here

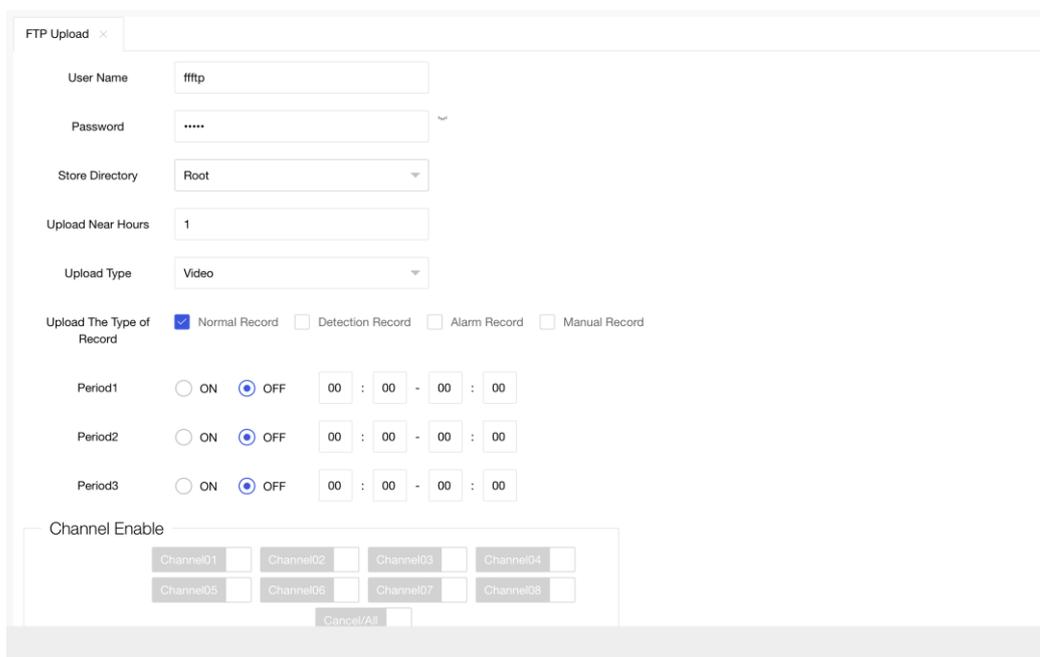
Enable Timed Capture: Enable or disable Timed Capture

Timed Capture Interval (Second): Set the Timed Capture Interval

Enable Motion Detection Capture: Enable or disable motion detection capture

Motion Detection Capture Interval (Second): Set the motion detection trigger interval

3.5.2.3. FTP Upload



Upload Address Configuration: Automatic Obtain and Custom

Automatic Obtain: Four-Faith Video Platform issues FTP upload address (to be implemented).

Custom: Manually configure the FTP address and port

Upload Mode: PASV and PORT

Upload Address: IP (domain name) + port

User Name and Password: FTP account

Upload Near Hours: The data from the previous hours to the present is retrieved during the reporting period, and the retrieved data is reported.

Store Directory: Root, One Level, Two Level

One Level and Two Level: choose Device ID, Date(yyyy-mm), Custom

First Level, Second Level: If the Directory is in Custom mode, the directory name is customized.

Upload Type: Video, Picture.

Upload The Type of Record: When the Upload Type is Video(Normal, Alarm, Detection, Manual), or when the Upload Type is Picture (Record Timer, Networking Manual, Record Alarm)

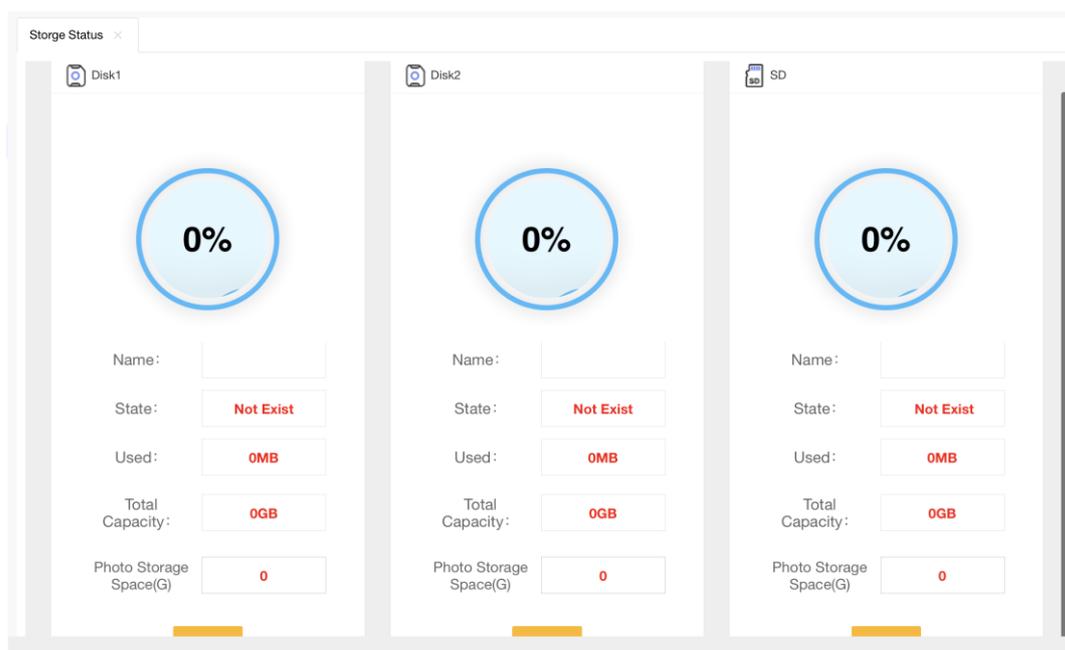
Time period 1, Time period 2, and Time period 3: The time period in which Videos and Pictures are reported.

Channel Enable: Select the channel to upload videos and pictures.

3.5.3. Storage Management

Storage Management includes Storage Status

3.5.3.1. Storage Status



Read the status of the current device disk and SD Card:

Name: Device node.

State: Not Exist, Uninitialized, Initialized

Used, Total Capacity: As named.

Photo Storage Space(G): The amount of storage allocated to the Pictures

Refresh: Updates the status of the current disk and SD Card.

Format: Format a disk that has not been initialized or needs to be reformatted, and reallocate Picture storage space.

3.5.4. Event Management

Event Management includes Alarm Setting.

3.5.4.1. Alarm Setting

Alarm Setting includes Alarm Linkage, Alarm Record, and Alarm Parameters.

Alarm Linkage:

Alarm Setting ×

Alarm Linkage
Alarm Record
Alarm Parameters

Alarm Input ▼
DI1

Linkage Switch ▼
Off

Alarm Mode ▼
High to Low

Associated Output DO1 DO2 DO3 DO4 Relay 1 Relay 2

Refresh
Set

Alarm Input: DI1~DI6

Linkage Switch: ON/OFF

Alarm Mode: pull-up alarm (Low Level to High Level), pull-down alarm (High Level to Low Level)

Associated Output: Users can select the Associated Output interface.

Alarm Record:

Alarm Setting ×

Alarm Linkage
Alarm Record
Alarm Parameters

Alarm Input ▼
DI1

Record Channel

Channel01 <input checked="" type="checkbox"/>	Channel02 <input type="checkbox"/>	Channel03 <input type="checkbox"/>	Channel04 <input type="checkbox"/>
Channel05 <input type="checkbox"/>	Channel06 <input type="checkbox"/>	Channel07 <input type="checkbox"/>	Channel08 <input type="checkbox"/>

Refresh
Set

Alarm Input: DI1~DI6

Record Channel: The video record channel when DI triggers the alarm.

Alarm Parameters:

Alarm Setting ×

Alarm Linkage Alarm Record Alarm Parameters

Alarm Effect Times(s)

Alarm Output Times(s)

Users can set Alarm Effect Times and Alarm Output Times(seconds).

3.5.5. Application Management

Application Management includes Serial Port Setting, GPS Setting and Record Export

3.5.5.1. Serial Port Setting

Serial Port Setting ×

Serial Port

Baud Rate

Data Bits

Stop Bits

Parity

Flow Control

Function

Protocol Type

- Serial Port:** 1 corresponds to 232 serial ports (RX2, TX2) or 485 ports (A2, B2)
- Baud Rate, Data Bits, Stop Bits, Parity, Flow Control:** Serial Port Communication Parameters
- Function:** PTZ (Cloud Platform), Application, Close, LCD Display, LED Display
- PTZ (Cloud Platform):** The Cloud Platform used to control the camera on the 485.
- Application:** Serial RTU function

Close: As named.

LCD Display, LED Display: As named

When the Serial Port Function is Application:

Function	Application
Protocol Type	TCP(DTU)
Server IP	0.0.0.0
Server Port	0
Device Number	
Device ID	
Data Escape	<input type="radio"/> ON <input checked="" type="radio"/> OFF
Keep Alive Interval(s)	30
Local Modbus Enable	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Modbus Slave ID	1
Serial ADC Type	Current

Protocol Type: UDP (DTU), Simple UDP, TCP (DTU), Simple TCP, TCP Server, TCST, Modbus TCP, Close: all as clients.

TCP server, TCST, Modbus TCP: The device itself acts as a server.

Close: Generally used for the collection of features in the specification version.

Server IP, Server Port: the IP address and port address of the server and client.

Device Number: a parameter in DTU mode, used to distinguish devices by socket, the input limit is 0~9 digits, length = 11.

Device ID: A PARAMETER IN TCP (DTU) MODE THAT IS USED TO DISTINGUISH DEVICES IN SOCKETS

Data Escape: a parameter in TCP (DTU) mode, used for TCP subcontracting 0xfd->0xfd 0xed 0xfe->0xfd 0xee

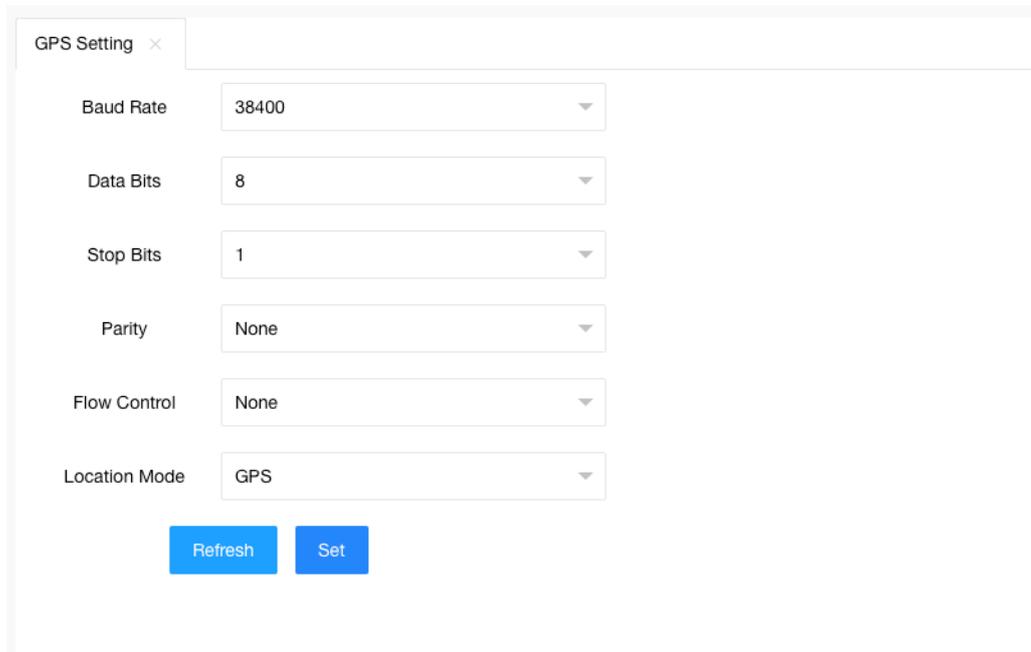
Keep Alive Interval(s): Stay connected.

Local Modbus Enable: Local Resource Acquisition (DI, ADC)

Modbus Slave ID: The address of the device collected by Modbus for local resource collection (DI, ADC).

Serial ADC Type: Current, Voltage.

3.5.5.2. GPS Setting



Parameter	Value
Baud Rate	38400
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None
Location Mode	GPS

Buttons: Refresh, Set

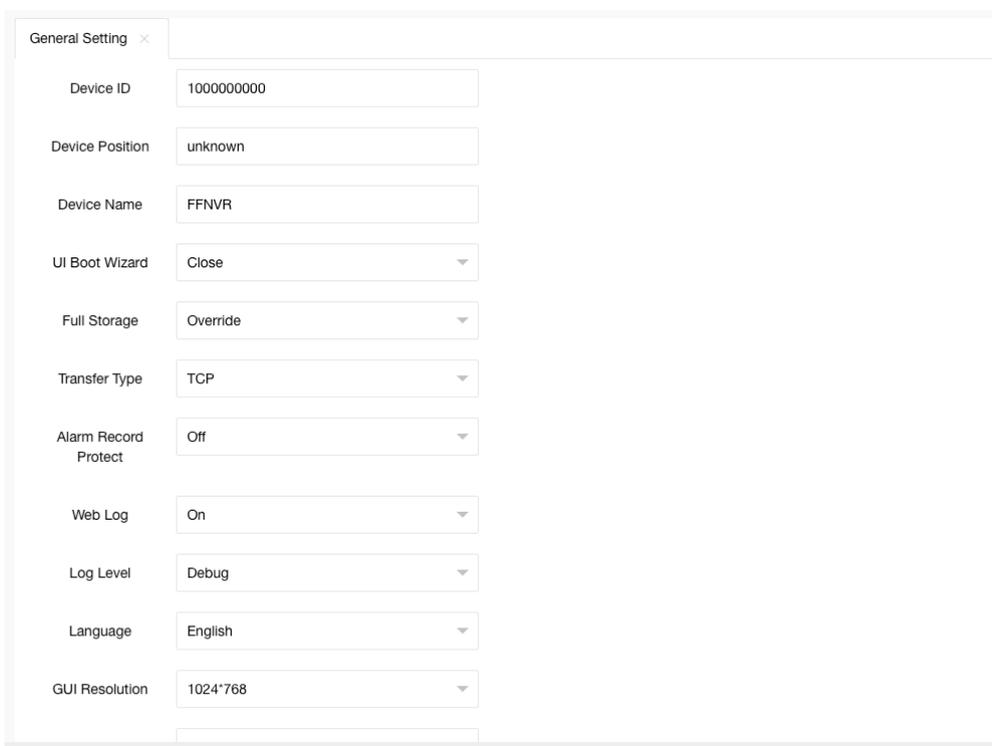
Baud Rate, Data Bits, Stop Bits, Parity, and Flow Control: common parameters of serial ports.

Location Mode: GPS, Beidou, GPS+Beidou.

3.5.6. System Management

System Management includes General Setting, Account, Upgrade and Maintenance, System Information, and Command Debugging.

3.5.6.1. General Setting



Setting	Value
Device ID	1000000000
Device Position	unknown
Device Name	FFNVR
UI Boot Wizard	Close
Full Storage	Override
Transfer Type	TCP
Alarm Record Protect	Off
Web Log	On
Log Level	Debug
Language	English
GUI Resolution	1024*768

- 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).
- UI Boot Wizard:** UI Boot Wizard has Close and Open function.
- 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 overriding, when the device video storage is full, the device automatically overwrites the old video content from scratch with new video content.
- Transfer Type:** The platform uses RTP (TCP) without plug-ins, and the platform uses TCP mode if there are plug-ins. 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.
- Alarm Record Protect:** 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).
- Web Log:** Print some of the program's logs into a file that can be called by the web, in the system information.
- Log Level:** Open web log information can be under the system information log

information to view the latest logs to facilitate error location. Trace, Debug, Normal, Warning, Error, Fatal, and the logs will output logs with a ratio greater than or equal to the set level.

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

GUI resolution: 1024*768, 1280*720, 1920*1080, 3840*2160, HDMI output UI resolution.

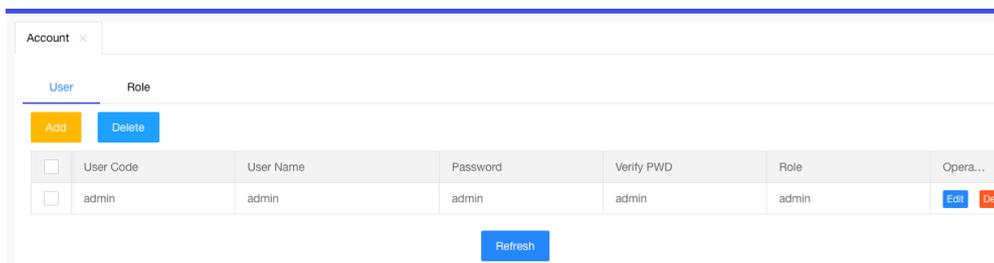
WebVideoProtocol: WebSockets, and Http.

WebVideoPort: User can set WebVideoPort, for example 8800.

3.5.6.2. Account

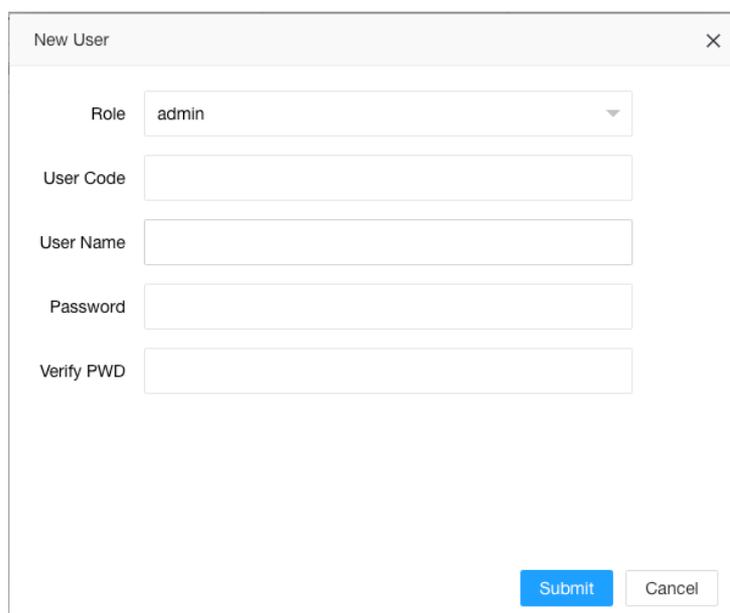
Account includes User Management and Role Management.

1. User



User operation includes Add, Delete, and Edit.

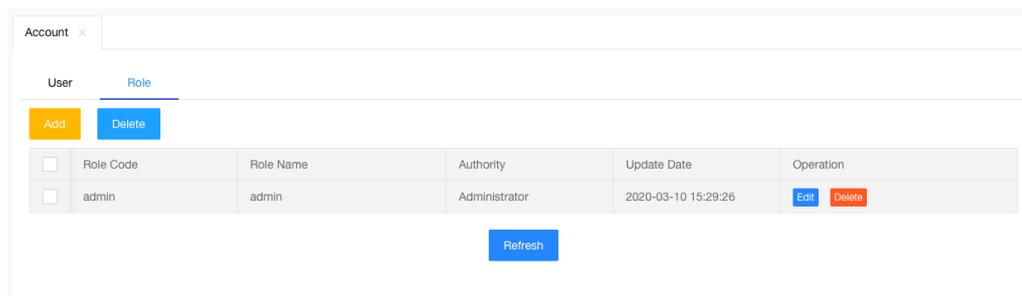
Add: Click the "Add" button and enter the Role, User Code, User Name, and Password.



Delete: Deletes the existing user and retains the admin user by default.

Edit: Click the "Edit" button to modify the role, code, name, and password of the selected user.

2. Role



Role operation includes Add, Delete, and Edit.

Add: Click the "Add" button to add Role Code, Role Name, and Authority (Administrator, Operator, Viewer).

Delete: Deletes the existing role and retains the admin role by default.

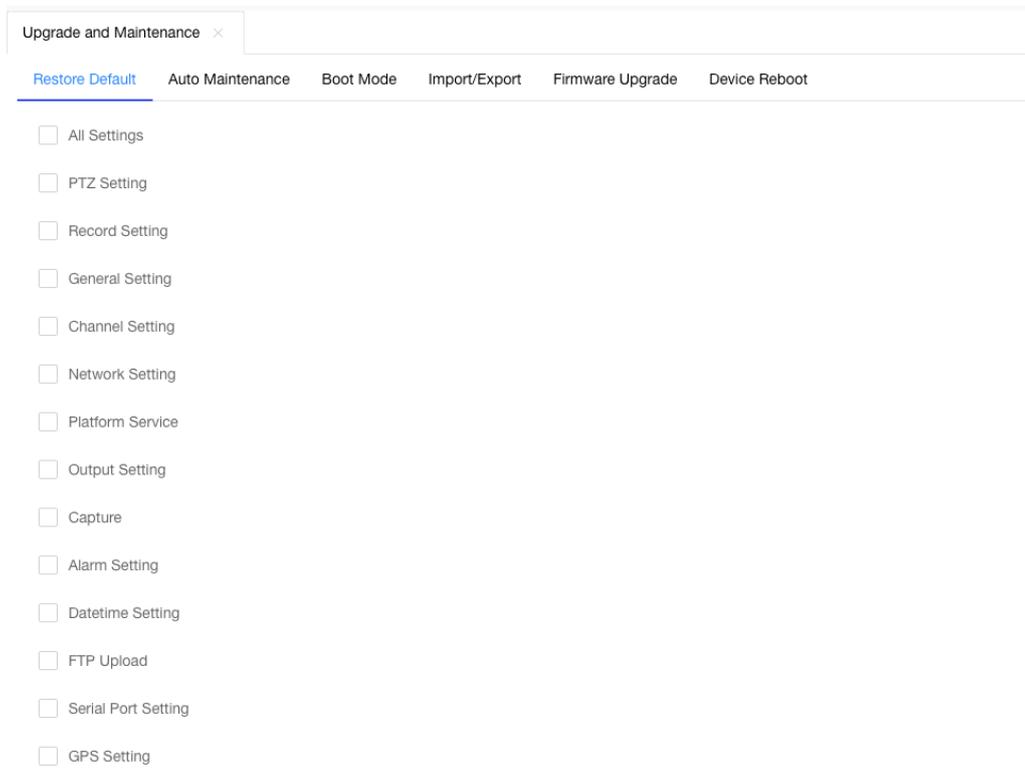
Edit: Click the "Edit" button to modify the properties of the selected character.

3.5.6.3. Upgrade and Maintenance

Upgrade and Maintenance includes Restore Default, Auto Maintenance, Boot Mode, Import/Export, Firmware Upgrade, and Device Reboot.

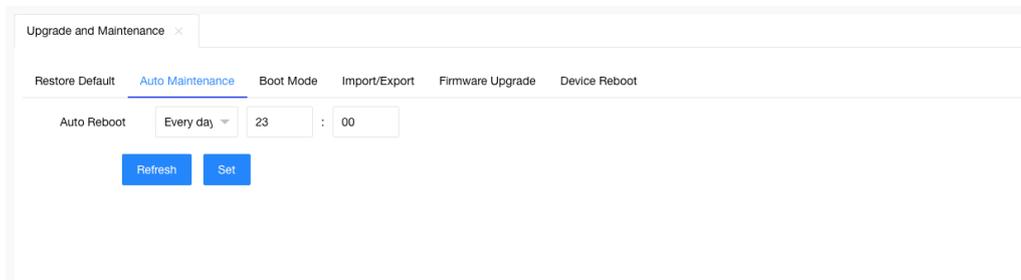
1. Restore Default

Restore the corresponding configuration parameters to the factory configuration according to the selected option. You can select all items to be restored, or you can select specific items to restore specific parameters.



2. Auto Maintenance

Scheduled Auto Reboot function: Users can set the device Auto Reboot Time, they can choose Never, Every day, or Any day of the week, and then set the Auto Reboot time.



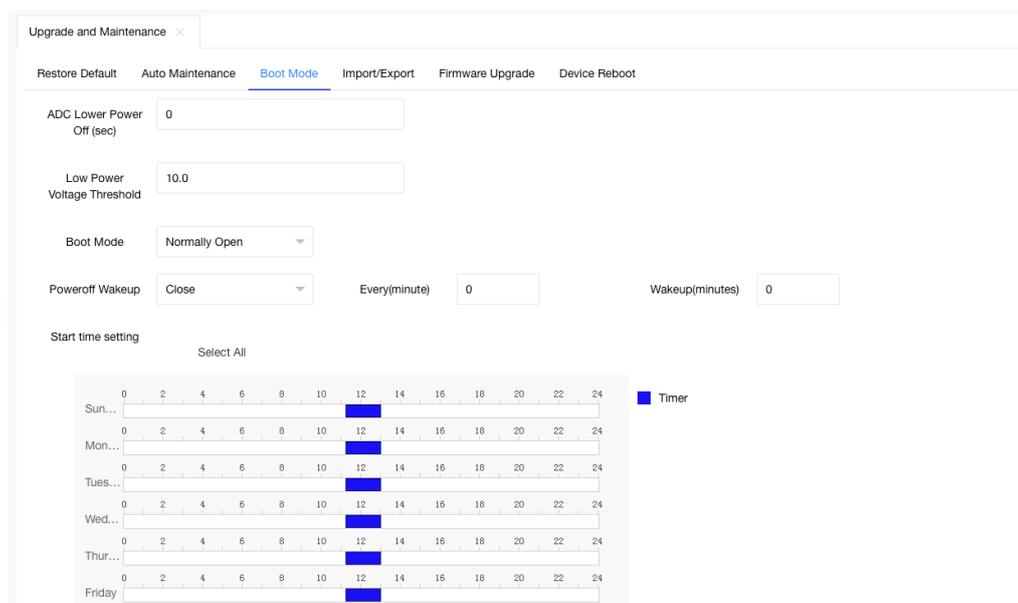
3. Boot Mode

ADC Lower Power Off: Users can set ADC Lower Power Off Time, the unit is second.

Low Power Voltage Threshold: for example 10.0

Boot Mode: include Normally Open and Timer

Poweroff Wakeup: Close and On

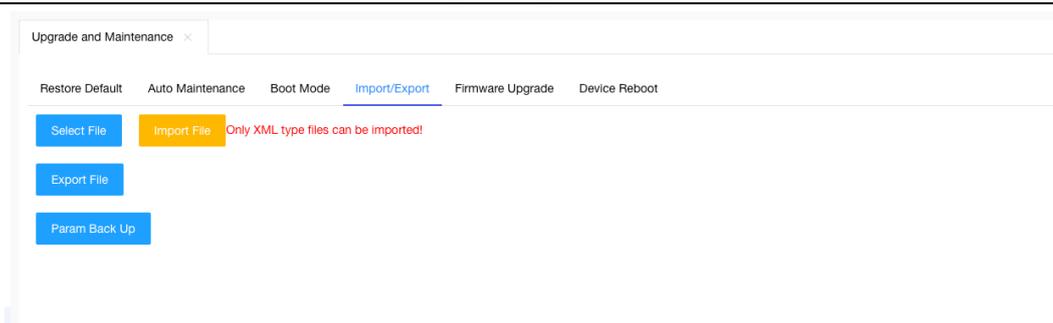


4. Import/Export

Import File: Load the parameter configuration file and restore the device settings to the content of the configuration file, the import file must be in XML format.

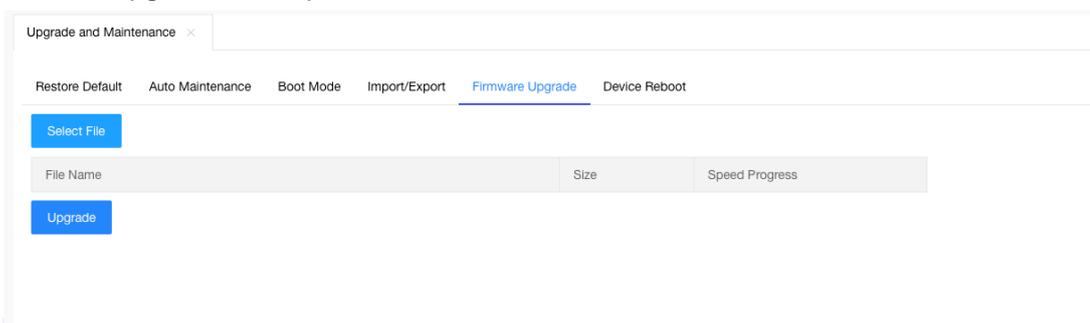
Export File: Export the current device parameter configuration in the form of a file, and the export file is stored in XML format.

Param Back Up: Parameters Back up function



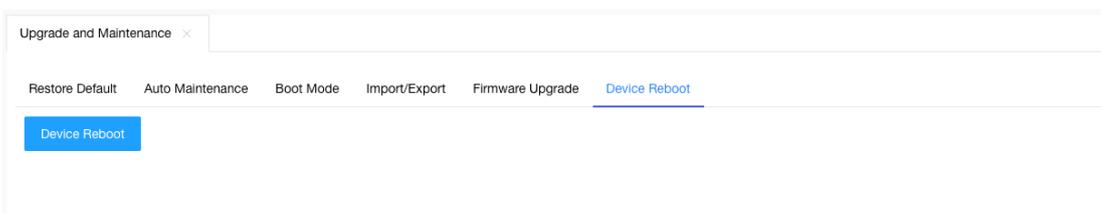
5. Firmware Upgrade

Click "Select File" to pop up the interface of selecting the file to be upgraded, select the package to be upgraded from the local area, 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 and not do the upgrade processing. Please wait patiently for the upgrade to end, as the "Upgrade Successful" or "Upgrade Failed" message will be displayed on the web after the upgrade is completed.



6. Device Reboot

Device Reboot Button



3.5.6.4. System Information

System information includes Device Information, System Version, System Log, Current Log, and More Logs

1. Device information

System Operation Time: System Boot Time, Running Time, and Average CPU Usage.

Record Status: Channel Number, Record Status (Camera Disconnected, No Recording, Normal Recording, Motion Detection Recording, Alarm Recording)

OpenVPN Status: Connection Status and Network Address

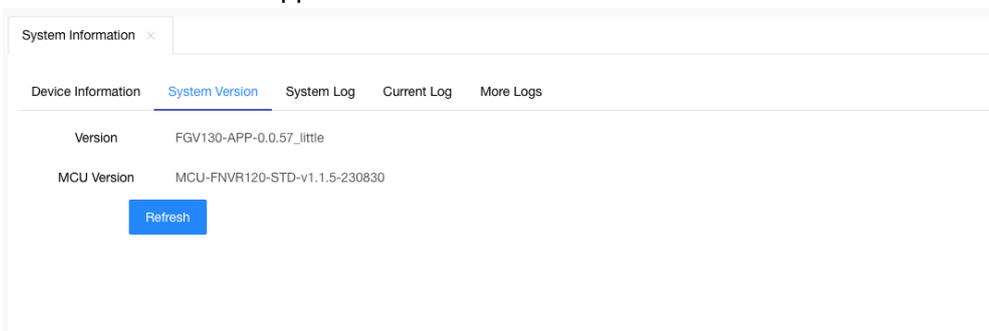
4G Network Status: Network Interface(4G), Connection Status, Dialing Card(Main/Backup), Signal Strength, Module Information, SIM Card Status, Network Type (GSM/WCDMA/TD-FDD/NR, Wire, WLAN etc.), Network Address (Assigned Network Address).

GPS status: Hardware (Exist, Non-Exist), Antenna (Connected, Not Connected), location (Positioned, Not Positioned), Number of Satellites, Latitude, Longitude.

WIFI Status: Connection Status, Signal Strength, Signal Quality.

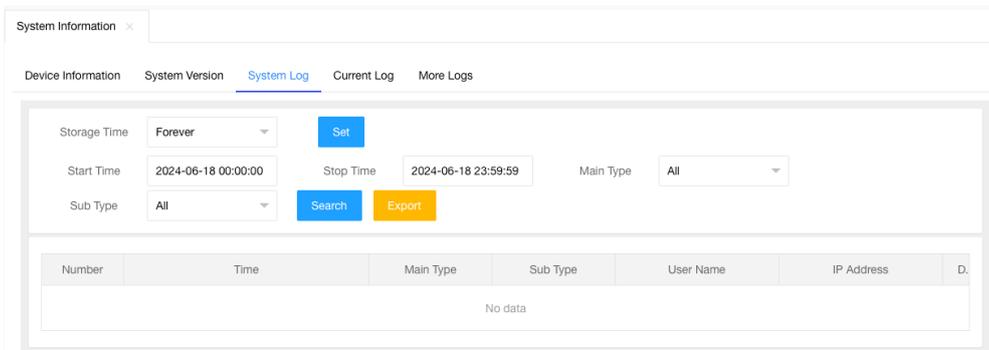
2. System Version

Displays the software and hardware version information of the device, including the system file version and application version information.



3. System Log

You can filter the system logs recorded by the device based on the search criteria.



4. Current Log

The current debugging information is output to facilitate technical location of the problem, and the TXT format file can be exported.

System Information ×

Device Information
System Version
System Log
Current Log
More Logs

```

alarmevent[ debug 2024-06-18 15:25:07] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:806, PID:1100 @:delete alarm video and photo!
alarmevent[ debug 2024-06-18 15:25:08] FILE:handle_alarm.c, FUN:delUserdata, LINE:800, PID:1100 @:data partition is near full!

```

Refresh

5. More Logs

Users can choose NVR Log Type and Log Day to Export

System Information ×

Device Information
System Version
System Log
Current Log
More Logs

Log Type

NVR ▾

Log Day

2 ▾

Export

3.5.7. Network Management

Networking

Networking Enable

Wired Wifi 3G/4G

Networking Parameter Setting

Network Adapter

IP Mode

IP Address

Subnet Mask

Gateway

Primary DNS

Secondary DNS

HTTP Port

RTSP Port

MAC

Network Priority 1. 2. 3.

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

Subnet Mask

DHCP Configuration

Initial IP

Final IP

DNS

HTTP Port

RTSP Port

MAC

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

Password

IP Address

Subnet Mask

Gateway

Primary DNS

Secondary DNS

HTTP Port

RTSP Port

MAC

Network Priority 1. Wired 2. Wifi 3. 3G/4G

5G/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	3G/4G ▼
Dialing Number	*99***1# (UMTS/3G/3.5G) ▼
User Name	<input style="width: 90%;" type="text" value="xxx"/>
Password	<input style="width: 90%;" type="password" value="..."/>
APN	<input style="width: 90%;" type="text" value="xxx"/>
PIN	<input style="width: 90%;" type="password" value="..."/>
Dial Mode	AUTO ▼
keep Online Mode	None ▼
IP of keep Online Server	<input style="width: 20px;" type="text" value="8"/> . <input style="width: 20px;" type="text" value="8"/> . <input style="width: 20px;" type="text" value="8"/> . <input style="width: 20px;" type="text" value="8"/>
HTTP Port	<input style="width: 90%;" type="text" value="80"/>
RTSP Port	<input style="width: 90%;" type="text" value="554"/>
MAC	<input style="width: 20px;" type="text" value="22"/> : <input style="width: 20px;" type="text" value="33"/> : <input style="width: 20px;" type="text" value="44"/> : <input style="width: 20px;" type="text" value="55"/> : <input style="width: 20px;" type="text" value="66"/> : <input style="width: 20px;" type="text" value="77"/>
Network Priority	1. Wired ▼ 2. Wifi ▼ 3. 3G/4G ▼

Refresh
Set

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.