

**Professional
NVR & Decoder
Manual**

JF TECH

Version 1.1.0

JF TECH(Co.,Ltd)

Contents

1.	Introduction	4
1.1	Product Brief	4
1.2	Main Functions.....	4
2.	Unpacking and cable connection	6
2.1	Unpacking.....	6
2.2	Hard disk installation.....	6
2.3	Shelf Installation.....	7
2.4	Front Panel	7
2.5	Rear panel	8
2.6	Audio & Video input and output connections	9
2.7	Alarm input and output connections	10
2.8	Connect Line 485.....	12
3.	Basic Operations	14
3.1	Turn on	14
3.2	Turn off.....	14
3.3	System Login	14
3.4	Desktop shortcut menu.....	15
4.	Main menu.....	31
4.1	Main menu navigation	31
4.2	Record function.....	32
4.3	Event function	34
4.4	System settings.....	42
4.5	Advanced.....	59
4.6	System Info.....	69
4.7	Shut down system	72
5.	Remote Cloud Operating Instructions.....	73
5.1	Cloud surveillance	73
6.	FAQ and maintenance	76
6.1	FAQ.....	76
6.2	Maintenance	80
Appendix I	Remote controller operation.....	82
Appendix II	Mouse operation.....	83
Appendix III	Hard disk capability calculation.....	84

Note:

Do not place heavy objects on the device regards;

Do not let any solid or liquid to penetrate inside the device;

Please regularly with a brush on the circuit board, connectors, chassis fans, chassis, dust, etc., turn off the power and unplug the power supply before clean;

Do not attempt to disassemble this equipment, repair, or replacement parts.

Environment:

Please place and use this product, avoid direct sunlight or near a heat source at a temperature of 0 °C ~ 40 °C;

Do not install this equipment in a wet environment;

Do not expose this apparatus in smoky, dusty environments;

Avoid strong collision; do not drop the machine;

Please keep this product installed horizontally mounted in a stable place, pay attention to prevent falling product;

Please install in a well-ventilated place, do not block the vents of the product;

Only used within the rated input and output range.

A large, light blue watermark logo is centered on the page. It features a shield-like shape containing the stylized letters 'JF'. Below the shield, the words 'JF TECH' are written in a bold, italicized, sans-serif font.

JF TECH

1. Introduction

1.1 Product Brief

The series NVR is designed especially for security and defense field which is an outstanding digital surveillance product. It introduces embedded LINUX operating system which is more stable. It introduces standard H.264mp video compressed format which insures the high quality image, low coding ratio and single frame playing. It introduces TCP/IP network technology which achieves the strong network communication ability and telecommunication ability.

This device can be used individually, but also form a powerful security monitoring network, with professional network video surveillance platform software, which fully reflects its strong networking and remote monitoring capabilities.

The series NVR are widely used in power systems, telecommunications sector, banking security, industrial enterprises, intelligent buildings, intelligent community, urban roads, airports, railway stations and other surveillance applications.

1.2 Main Functions

➤ Real-time surveillance

Spot interface、analog output interface、VGA interface and HDMI interface, surveillance function through monitor or display.

➤ Storage

Non-working hard disk dormancy processing which is convenient to radiate heat, reduce power and extend the life-span

Special storage format which insures the data safety

➤ Compression

Real-time compression by individual hard disk which insures the audio and video signal stable synchronization

➤ Backup

Through SATA interface and USB interface such as USB equipment, removable hard disk and so on

Through net download the files in the hard disk

➤ Playback

Individual real-time video recording as well as searching, playback, network surveillance, recording check, downloading and so on

Multi-playback mode

Zoom at arbitrary region

➤ Net operating

Real-time monitoring can be carried out remotely via the network (including mobile phone)

Remote PTZ control

Remote video search and real-time playback

➤ **Alarm linkage**

Alarm recording, round robin, the screen prompts, beep, mail, FTP

➤ **Communication interface**

With RS485 interface, alarm input and PTZ control

With RS232 interface, scalable keyboard connection to the master, and connected to the computer serial port for system maintenance and upgrades, and matrix control

With standard Ethernet interfaces, network remote access feature

➤ **Intelligent operating**

Mouse action function

Fast copy and paste operating for the same setting



JF TECH

2.Unpacking and cable connection

2.1 Unpacking

When you receive the product:

First, check whether the packaging equipment has obvious damage. Selection of protective packaging materials during transport can cope with most of the unexpected hit;

Then, remove the device, remove the plastic protective film NVR, check whether there is any visible damage to the outside;

Finally, open the case, check the front panel data cable, power cable, power supply and motherboard fan connector is loose.

➤ Front panel and rear panel

Various interfaces on the front panel and the rear panel of the various key functions are described in detail in the specification;

Please check carefully whether the product model on the front panel with foil products you ordered the same model;

Label affixed to the rear panel, has a very important significance for our service work, please protect. In the company's after-sales service when you contact us, you will need to provide the model and serial number to order the label.

➤ Check

In addition to checking for any obvious signs of damage, but please pay attention to check the front panel data cable, power cable and the motherboard connection is loose.

2.2 Hard disk installation

When you use, first install the hard drive, the machine can install two hard drives inside (capacity no limit).



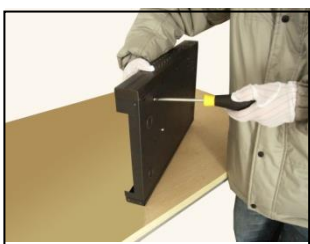
① disassemble the screw



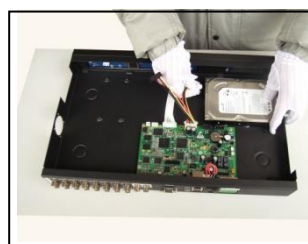
② disassemble the cover



③ fix the screw of hard disk



④ fix the screw of hard disk



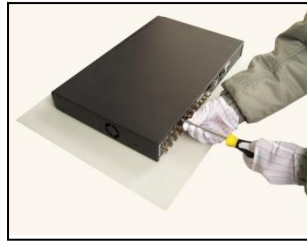
⑤ connect the data wire



⑥ connect the power wire



⑦ cover the machine



⑧ fix the cover

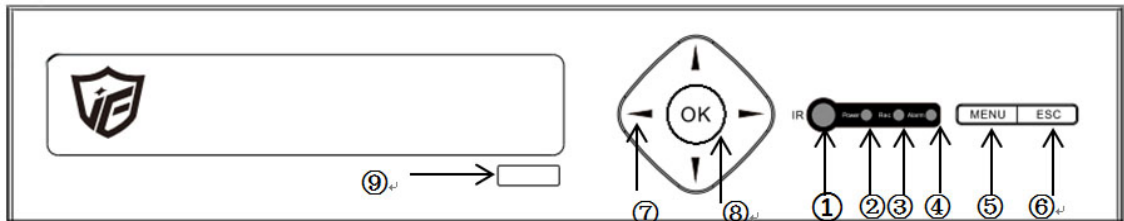
2.3 Shelf Installation

This product chassis specification is standard 1u, so it can be installed in the standard shelf.
Installation steps and attention items:

1. Make sure the temperature in the room lower than 35°C (95°F).
2. Keep the equipment has 15cm (6 inches) space around in order to air's circulation.
3. From bottom to shelf installation.
4. When multiple components install in the frame, please take preventive measures to avoid power socket overload.

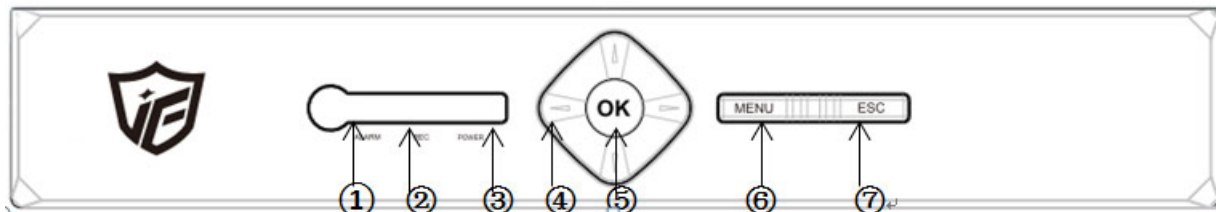
2.4 Front Panel

2.4.1 B series



NO.	Function	NO.	Function	NO.	Function
1	IR	2	Power	3	Record
4	Alarm	5	Menu	6	ESC
7	Direction	8	OK	9	CD-ROM

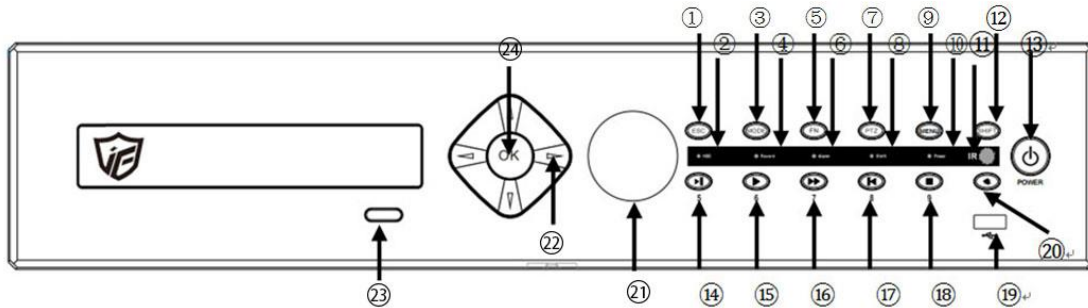
2.4.2 T Series



NO.	Function	NO.	Function	NO.	Function
1	Power	2	Record	3	Menu
4	Direction	5	OK	6	MENU
7	ESC				

1	Alarm Indicator	2	Record Indicator	3	Power Indicator
4	Direction	5	OK	6	Menu
7	ESC				

2.4.3 K Series/F Series

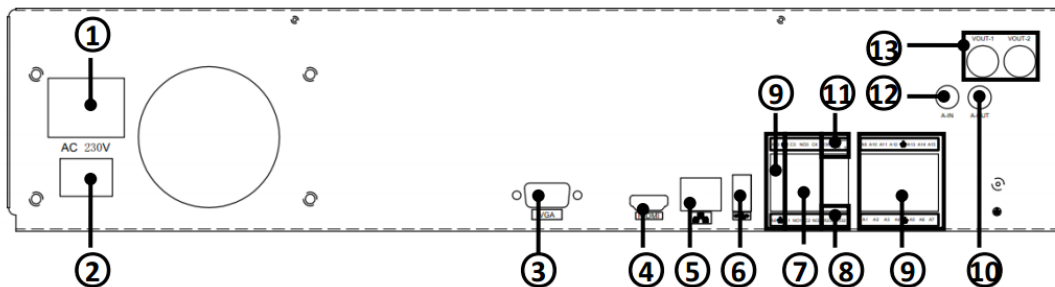


NO.	Function	NO.	Function	NO.	Function	NO.	Function
1	Exit	2	HDD indicator	3	Mode	4	Record indicator
5	Rec	6	Alarm indicator	7	PTZ Control	8	Shift indicator
9	Menu	10	Power indicator	11	IR Receiver	12	Shift
13	Power Switch	14	Next file	15	Play	16	Fast Play
17	Last file	18	Stop	19	USB interface	20	Null
21	Jog wheel	22	Direction	23	CD-ROM switch	24	OK

2.5 Rear panel

2.5.1 rear panel interface diagram

16ch as example



NO.	Function	NO.	Function	NO.	Function
1	AC Input	6	USB interface	11	RS485 interface
2	Power stitch	7	Alarm output	12	Audio input
3	VGA output	8	Rs232 interface	13	BNC output
4	HDMI output	9	Alarm input		

5	Network port	10	Audio output		
---	--------------	----	--------------	--	--

2.6 Audio & Video input and output connections

2.6.1 video input

NVR video input port to the BNC input signal requirements: PAL / NTSC BNC (1.0VP-P, 75Ω).

Video signal should comply with national standards, a higher signal to noise ratio, low distortion, low interference; image must be clear, invisible change, real and natural color, brightness is appropriate.

Ensure stable and reliable camera signal:

Cameras should be installed in a suitable location, to avoid backlighting, low light conditions, or the use of good results backlight compensation cameras, low-light cameras.

Camera and NVR power supply should be common ground, and reliable, in order to ensure the normal operation of the camera.

Ensure stable and reliable transmission line:

Using high-quality, shielded coaxial good video, and based on the transmission distance to choose the right model. If the distance is too far, should be based on the specific circumstances, the use of twisted pair, add video compensation equipment, fiber optic transmission and other ways to ensure signal quality.

Video signal line should avoid strong electromagnetic interference to other equipment and lines, especially should avoid high-voltage current string into.

Lugs ensure good contact:

Signal and shield lines should be firm, well-connected, avoid Weld, lap welding, to avoid oxidation.

2.6.2 Select and connect the video output device

Video output is divided into PAL / NTSC BNC (1.0VP-P, 75Ω) output and VGA output (VGA is optional)

Choose to use computer to replace the monitor should pay attention to the following questions:

1. Do not keep long boot state to extend the life of the equipment;
2. regular degaussing, which will help maintain the normal operation of the display;
3. Away from strong electromagnetic interference devices.

Use TV as a video output device is an unreliable alternative. It also requires minimizing the use of time and strictly controls the interference power caused by neighboring devices. Inferior TV leakage risks may cause damage to other equipment.

2.6.3 SDI video output

Some models support coding for 1080P (720P) SDI video.

2.6.4 Audio input

BNC connector (only one to support intercom function)

Audio input impedance is high, and therefore must be used active pickups.

Similar to the video input audio transmission requires line to avoid interference, avoid

Weld, poor contact, and special attention to prevent a string of high-voltage current into.

2.6.5 Audio output

Audio output signal parameters is generally greater than 200mv 1K Ω (BNC), you can directly connect the low impedance headphones, powered speakers or other sound through power amplifier output devices. In the case of external speakers and microphone cannot be achieved spatial isolation, it is easy to produce output howling phenomenon. At this point the measures to be taken are:

1. The use of directional better pickups;
2. Adjust speaker volume, making it lower than the threshold to produce the whistle;
3. Multi-use environment using sound-absorbing materials decoration, reduce the reflection of the sound, improve the acoustic environment;
4. Adjust the layout of pickups and speakers, but also can reduce the occurrence of howling situations.

2.7 Alarm input and output connections

Before connecting the device, please note the following:

* Note: Some Series devices without alarm input and output functions.

2.7.1 Alarm Input

Alarm input is grounding alarm input;

Alarm input requirements for ground voltage signal;

When the alarm is connected to two NVRs or simultaneously access the NVR or NVR and other devices, need to be isolated by relay.

2.7.2 Alarm Output

NVR alarm output cannot be connected power load (no more than 1A), should constitute the output loop current is too large to prevent damage to the relay. Require the use of high-power load contactors isolation.

2.7.3 PTZ decoder connected

A. must do PTZ decoder and NVR common ground, otherwise there may be common-mode voltage will lead to control PTZ. Recommended to use shielded twisted pair with shielding for common ground connection;

B. prevent high voltage in series, rational layout, good lightning protection measures

C. to be incorporated into the 120 ohm resistor in the remote reduced reflection, to ensure signal quality;

D. NVR 485 AB line cannot be connected with other 485 output;

E. AB line voltage between the decoder requires less than 5V.

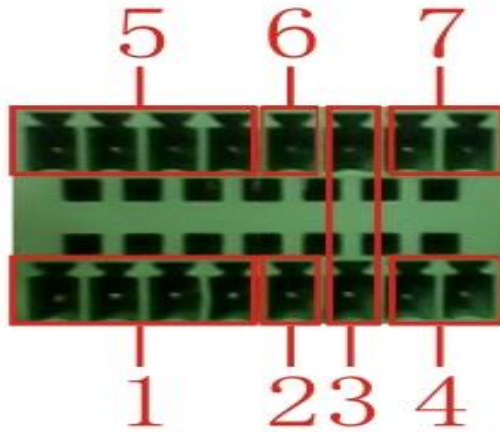
2.7.4 Front-end device requires grounding

Poor grounding may cause the chip to burn.

2.7.5 Any type of alarm input

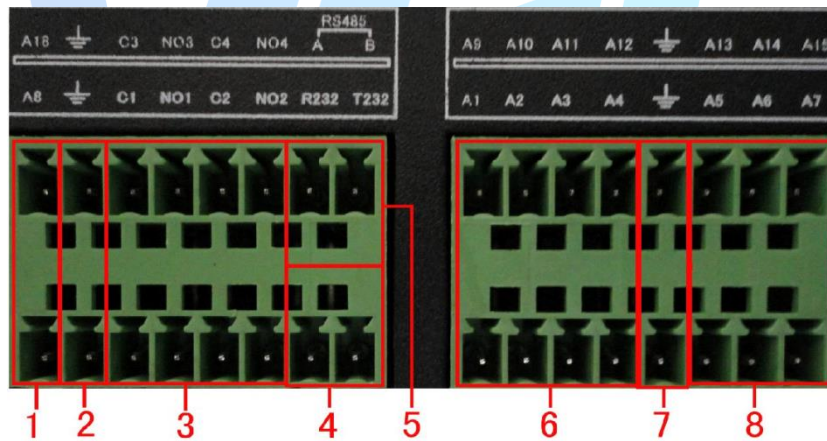
The alarm output unit interface is a normally open type.

8 external alarm interface schematic:



- (1) Alarm input 1,2,3,4
- (2) Ground
- (3) RS232 serial interface to send and receive
- (4) RS485 interface
- (5) alarm inputs 5,6,7,8
- (6) Ground
- (7) alarm output

16 External alarm interface schematic:



① ⑥ ⑧ alarm input ② ⑦ ground ③ alarm output RS485 ④ RS232

Parameters	Meaning
G	GND
R、T	Send and receive serial interface
A、B	485 communication interface

2.7.6 Alarm Input Port Description

8/16 channel alarm input, input type limitation (can be normally open or normally closed);

Alarm detector ground terminal (GND) and com-side parallel (alarm detectors by external power supply);

Ground terminal and the ground terminal NVR alarm detector and then;

NC end alarm detector is connected to NVR alarm input terminal (ALARM);

When using an external power supply required for alarm equipment and NVR common ground.

2.7.7 Alarm Output Port Description

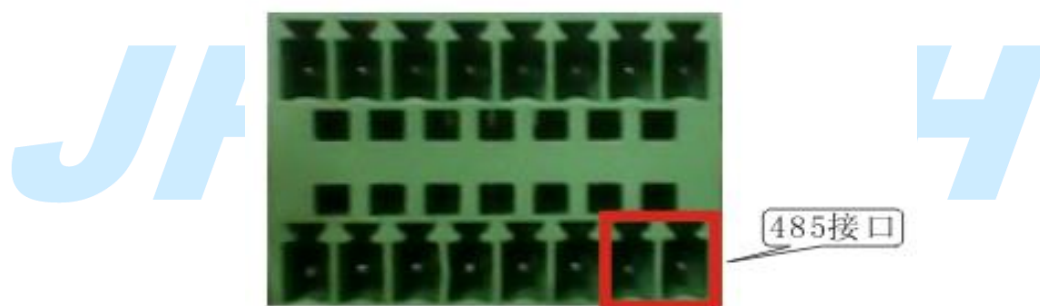
2 channels alarm output (normally open contact), the need for external alarm device power supply;

To avoid overload and damage the host, please refer to the relay relevant parameters when connecting relay relevant parameters Annex.

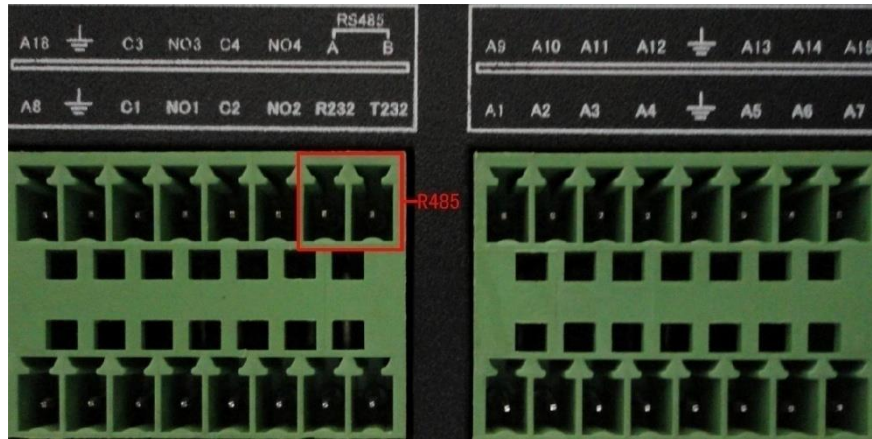
2.7.8 Alarm output Relay terminal parameters

Model: JRC-27F		
Shock material	Silver	
Ratings (Resistive load)	Rated switching capacity	30VDC 2A, 125VAC 1A
	Maximum switching power	125VA 160W
	Maximum switching voltage	250VAC, 220VDC
	Maximum switching current	1A
Insulation	between the same polarity Contacts	1000VAC 1 minute
	between different polarity Contacts	1000VAC 1 minute
	Between coil and contacts	1000VAC 1 minute
Surge voltage	between the same polarity Contacts	1500VAC (10×160us)
Opening time	3ms max	
Turn-off time	3ms max	
Lifetime	Machinery	50×10 ⁶ MIN (3Hz)
	Electrical	200×10 ³ MIN (0.5Hz)
Work environment	-40~+70℃	

2.8 Connect Line 485



8 external alarm 485 Schematic



16 external alarm 485 Schematic



JF TECH

3. Basic Operations

Note: The button is grayed means did not support.

3.1 Turn on

Plug the power supply and turn on the power supply switch. Power supply indicator light shining indicates turning on the video recorder. After the startup you will hear a beep. The default setting of video output is multiple-window output mode. If the startup time is within the video setting time, the timing video recording function will start up automatically. Then the video indicator light of corresponding channel is shining and the NVR is working normally.

Note:

1. Make sure that the input voltage corresponds with the switch of the NVR power supply.

Power supply demands: 220V±10% /50Hz.

Suggest using the UPS to protect the power supply under allowable conditions.

3.2 Turn off

There are two methods to turn off the NVR. Right click mouse to get a desktop shortcut menu, then choose Logout option is called soft switch. Pressing the power supply switch is called hard switch.

Illumination:

1、 Auto resume after power failure

If the NVR is shut down abnormally, it can automatically backup video and resume previous working status after power failure.

2、 Replace the hard disk

Before replacing the hard disk, the power supply switch in the real panel must be turned off.

3、 Replace the battery

Before replacing the battery, the setting information must be saved and the power supply switch in the real panel must be turned off. The NVR uses button battery. The system time must be checked regularly. If the time is not correct you must replace the battery, we recommend replacing the battery every year and using the same battery type.

Note: The setting information must be saved before replacing the battery otherwise information will lose.

3.3 System Login

When the NVR boots up, the user must login and the system provides the corresponding functions with the user purview. There are two user settings. The names are admin, and default and these names have no password. Admin is the super user purview; default's

permissions are preview and video playback. User password can be revised, while their permissions can't be revised; user default is the default login user whose permission can be revised but not its password.

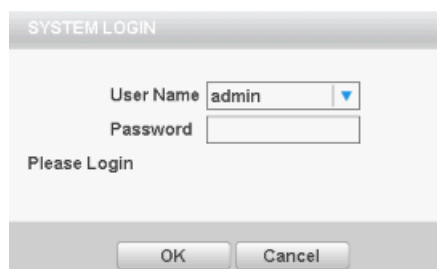


Figure 3.1 Login

Password protection: If the password is continuous wrong three times, the alarm will start. If the password is continuous wrong five times, the account will be locked. (Through reboot or after half an hour, the account will be unlocked automatically). For your system security, please modify your password after first login.

3.4 Desktop shortcut menu

In preview mode you can right click mouse to get a desktop shortcut menu, as the picture 3.3 shows. The menu includes: **main menu, Guide, Quick Set, Record Mode, playback, PTZ control, Coaxial Control, TVI&AHD, High Speed PTZ, color Setting, Output adjust, Logout, View.**

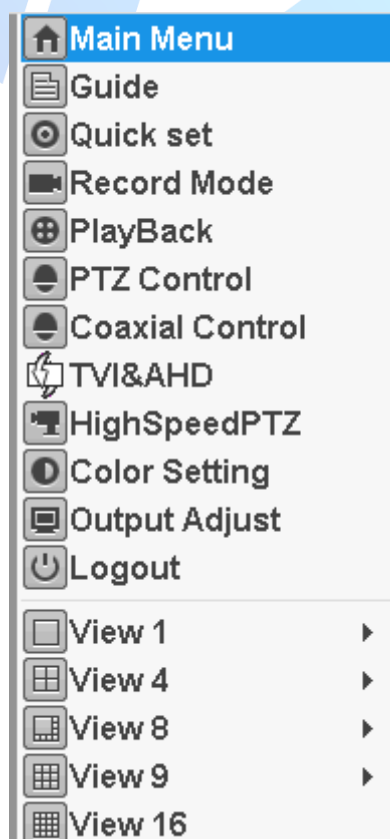


Figure 3.2 shortcut menu

3.4.1 Main menu

When you login, the system main menu is shown as below.

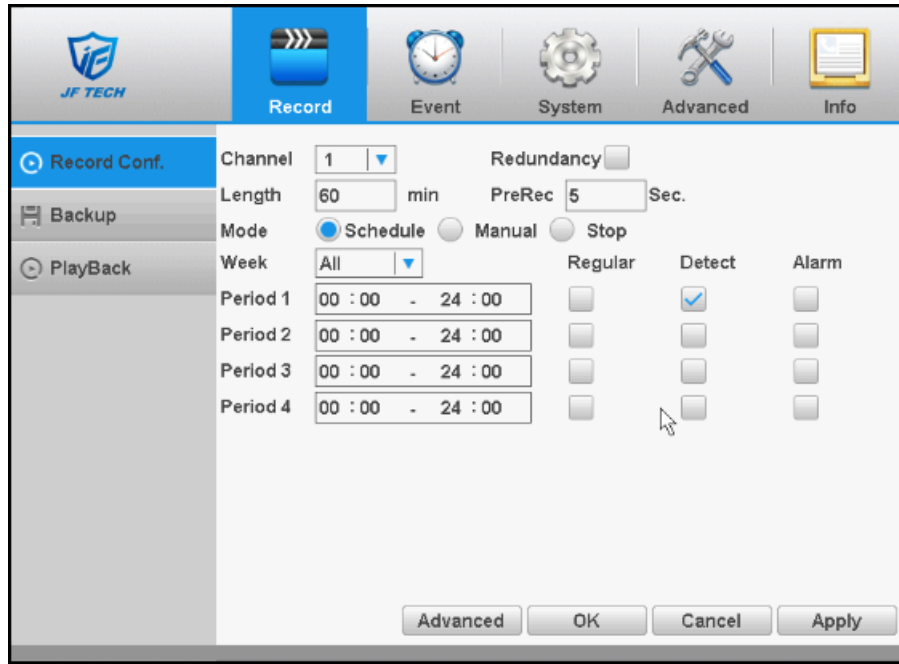


Figure 3.3 main menu

3.4.2 Boot wizard

Provide fast setup to wizard configuration parameters. Including boot wizard, two-dimensional code and digital channel configuration wizard, click "Next" to enter the digital channel configuration wizard.

Boot wizard:

JF TECH

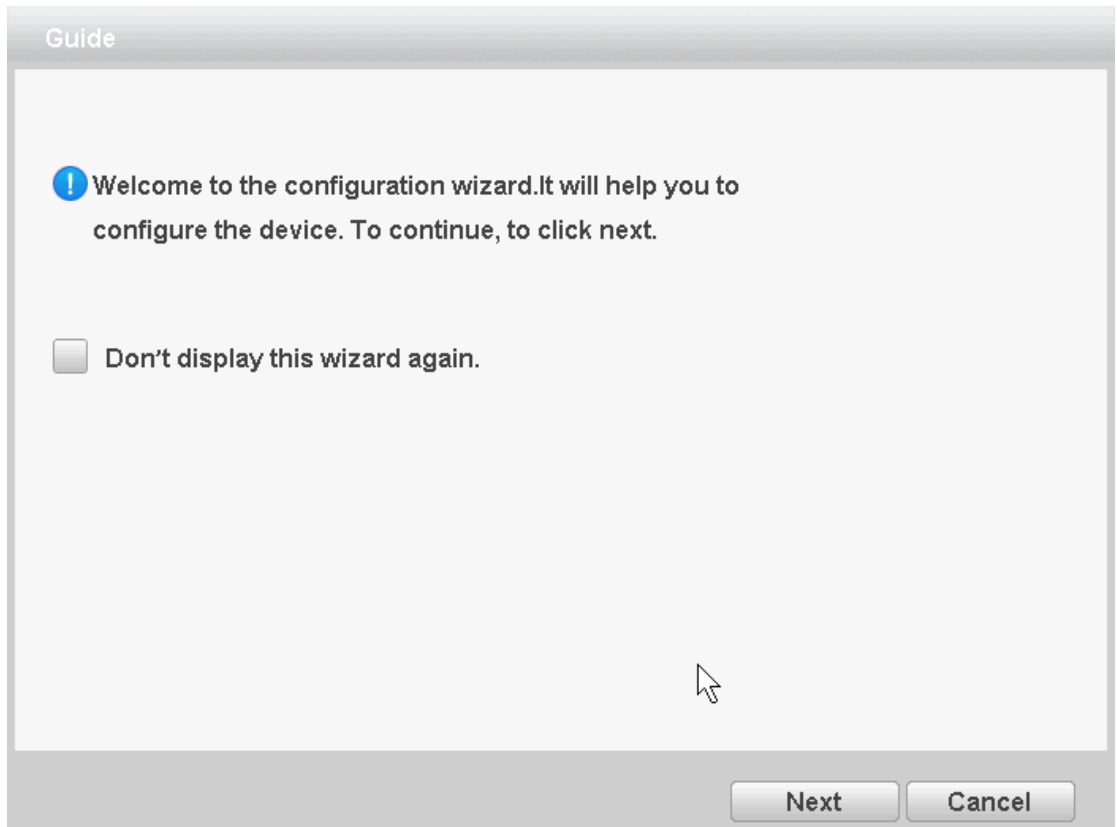


Figure 3.4 Boot wizard interface

[Do not Note] select the highlighted expressed after reboot, no longer automatically pop up boot wizard.

[Next] enter the digital channel configuration wizard interface.

[Cancel] to save the settings and exit this screen wizard interface.

QR Code

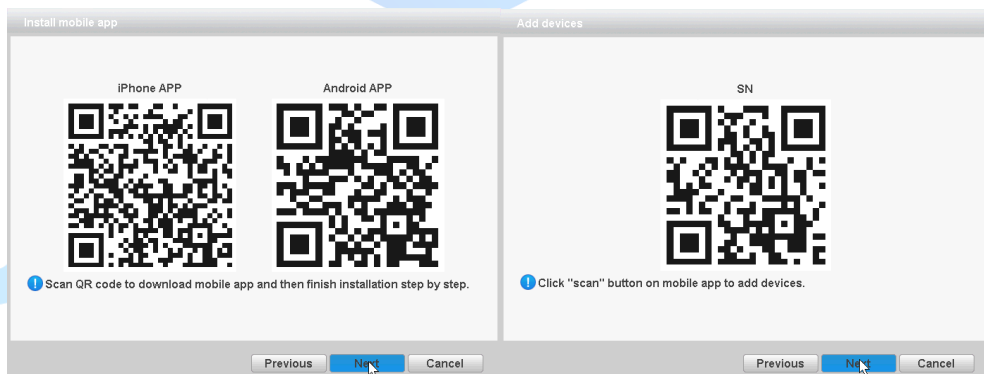


Figure 3.5 QR code interface

Mode selection:

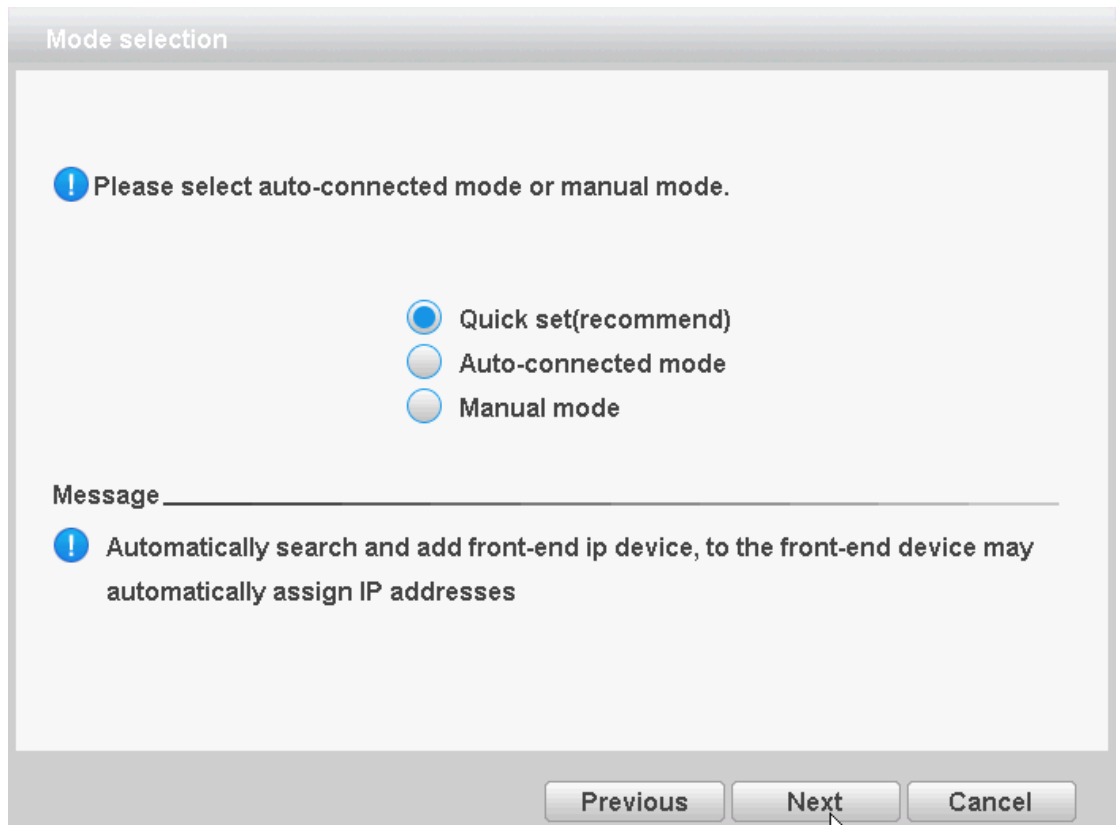


Figure 3.6 mode selection

Click "Next" on the figure 3.4, will pop up APP and SN QR code, and then click next to pop up mode selection. Select the manual mode to enter the digital channel configuration wizard which as shown in Figure 3.7, you can set shortcuts for digital channels; select ad hoc network mode, the device will automatically modify the LAN IP address of the front-end equipment, digital channels and front-end devices connect automatically.

NOTE: If you have the front-end cannot be modified under the networking mode is recommended since set up a separate LAN.

Digital Channel Configuration Wizard:

NOTE: After using this function, the parameters in the configuration of all digital channels will be updated, please caution.

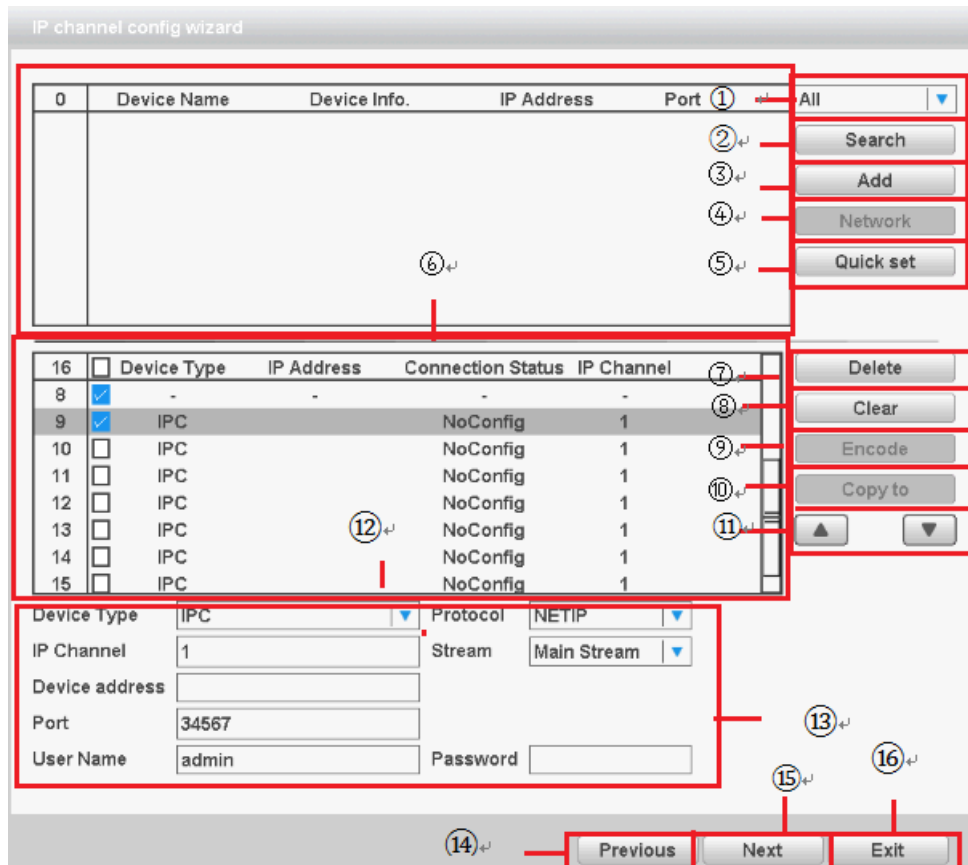


Figure 3.7 Digital Channel Configuration Wizards

Label meanings:

1. Search protocol selection

Includes three search methods, respectively NETIP, ONVIF, ALL

2. Search

Search device

3. Add

Add device

4. Network Settings

The device can be set remotely channel, user name, password; click the Network Settings button, you can set the network of the device, including IP, subnet mask, default gateway (ONVIF protocol devices cannot make network settings).

IP channel config wizard > Network

IP Address	192 . 168 . 19 . 15
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 19 . 1
User Name	admin
Password	

Auto assigned OK Cancel

Figure 3.8 network settings

5. Hotkey settings

Configure all channels by one key.

6. Equipment list display area

This area displays the discovered devices.

7. Delete

Select the device has been configured, click Delete, you can delete the device

8. Clear

Clear all configured channels

9. encoding settings

You can set the front end configured coding

10. Copy to

Some information of selected channels can be copied to other channels, such as user name, password, and other device information, as shown below:

JF TECH

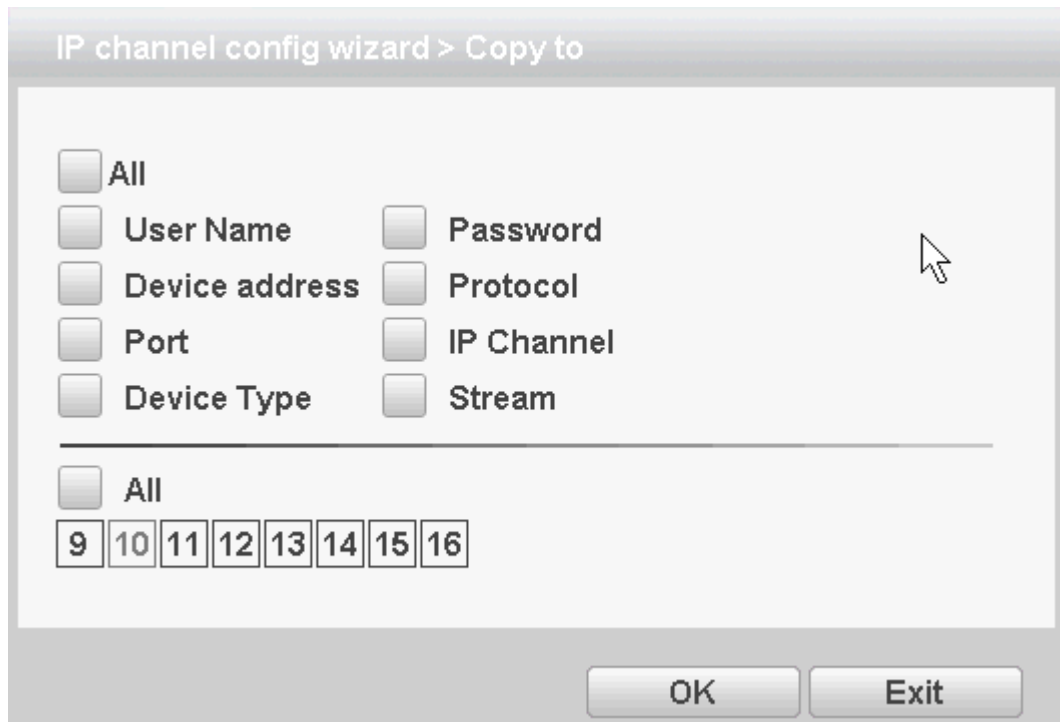


Figure 3.9 Copy to

11. Up and down keys

Click the device in the list, click up and down buttons to move the device up and down.

12. Configuration Status

Configuration status of each channel, including not configured, connected, not online

13. configuration front-end information

The information of the front-end configured, user name, password can be set in this area.

14. Back

Return to the previous screen and that is the boot wizard interface.

15. completed

Add the selected device to the appropriate digital channels, and then enable the channel; the remaining non-selected digital channel is not enabled.

16. Exit

Return to the preview screen.

3.4.3 Playback

There are two methods for you to play the video files in the hard disk. Through shortcut menu or form Main menu>Record->Playback.

Note: The hard disk that saves the video files must be set as read-write or read-only state.

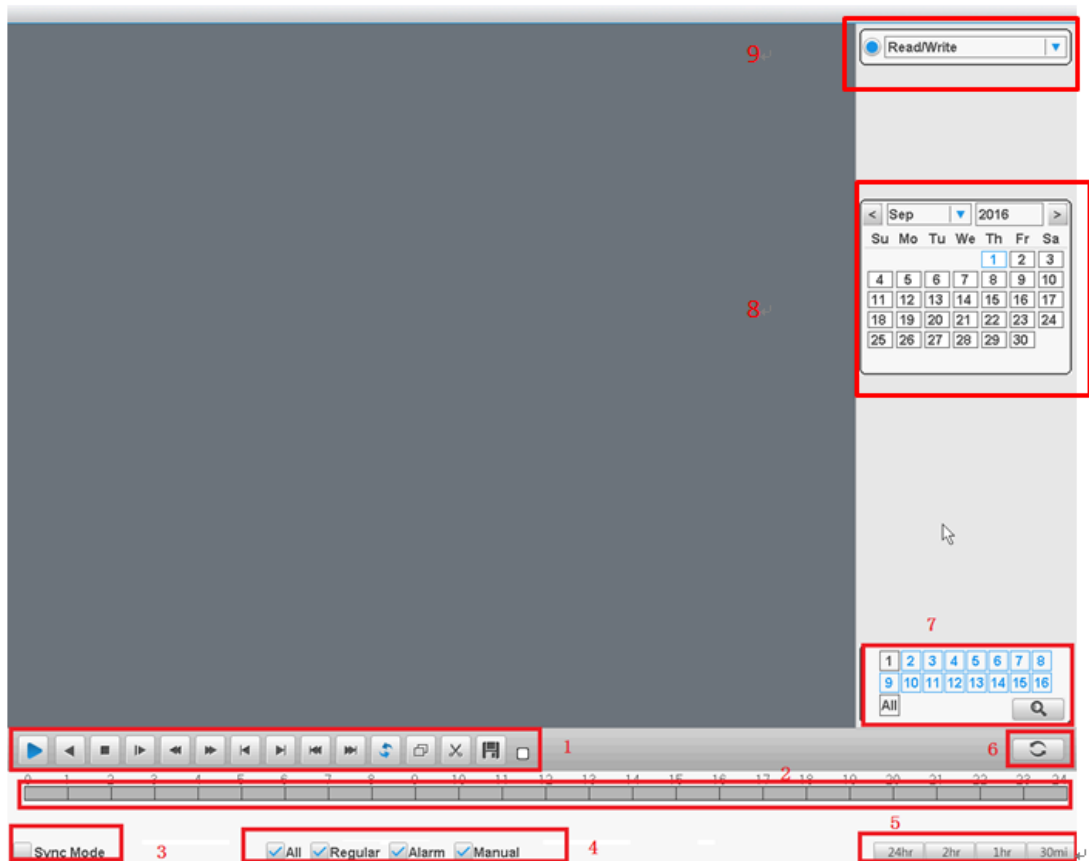


Figure 3.10 Playback

1. Playback control	2. Time display	3. Synchronous
4. Video type	5. Time schedule options	6. search by time/switch mode
7. Channel Selection	8. Date selection	9. Storage device selection

【Playback control】 See detail in below chart

Button	Function	Button	Function
	Play/Pause		Backward play
	Slow play		Fast Rewind
	Previous frame		Next frame
	Previous file		Next file
	Loop		Full screen
	Edit		Start / End Clip
	Clip video backup		

Table 3.2 Playback control key

Note: play under frame by frame, the playback status should be paused firstly.

【Operation tips】 show function of the key that cursor placed.

Special functions:

Local zoom: When the system is in single-window full-screen playback mode, you can drag your mouse in the screen to select a section and then left click mouse to realize local zoom. You can right click mouse to exit.

Note: When current resolution of the channel is over Max resolution, to playback this channel, will show a Red “X”.

3.4.4 Record controls

Please check current channel status: “○” means it is not in recording status, “●” means it is in recording status.

You can use desktop shortcut menu or click [main menu]> [recording function]> [recording set] to enter the recording control interface.

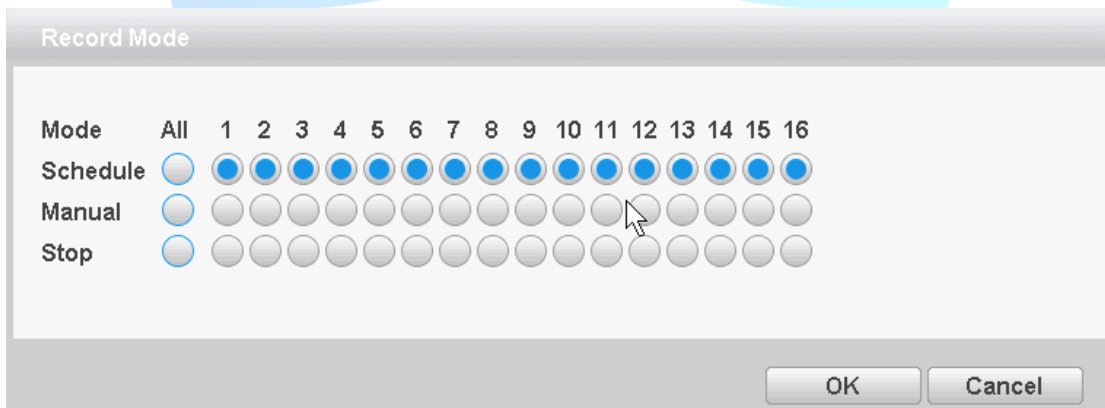


Figure 3.11 record control

【Schedule】 Record according to the configuration.

【Manual】 Click the all button and the according channel is recording no matter the channel in any state.

【Stop】 Click the stop button and the according channel stops recording no matter the channel in any state.

3.4.5 Alarm output

Control each channel alarm output state, ■ means that the channel has alarm output. You can use desktop shortcut menu or click [main menu]> [alarm function]> [alarm output] to enter the alarm output interface.

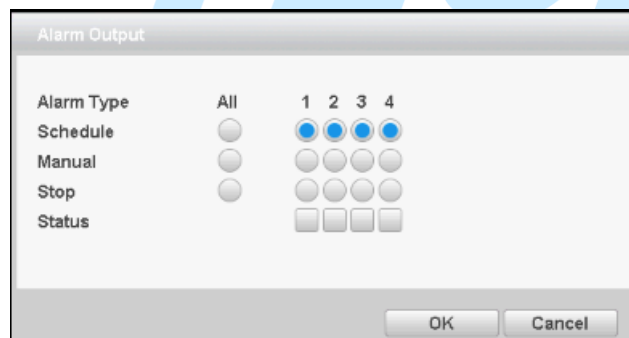


Figure 3.12 alarm output

[Configuration] according to the configuration information, and outputs an alarm

signal;

[Manual] no matter what state, select "Manual" button, the corresponding channel output alarm signal;

[Close] regardless of what state, select "Close" button, the channel will not output an alarm signal

3.4.6 PTZ control

*PTZ control is a little different between hybrid mode & full digital mode:

Digital channel – the digital channel need link PTZ, the remote device should connect with PTZ and with protocol correctly set also.

The functions include: PTZ direction control, step, zoom, focus, iris, and setup operation, patrol between spots, trail patrol, boundary scan, assistant switch, light switch, level rotation and so on.

Note:

1. Decoder A (B) line connects with NVR A (B) line. The connection is right.
2. [main menu]>> [system] > [PTZ Config] to set the PTZ parameters.
3. The PTZ functions are decided by the PTZ protocols.

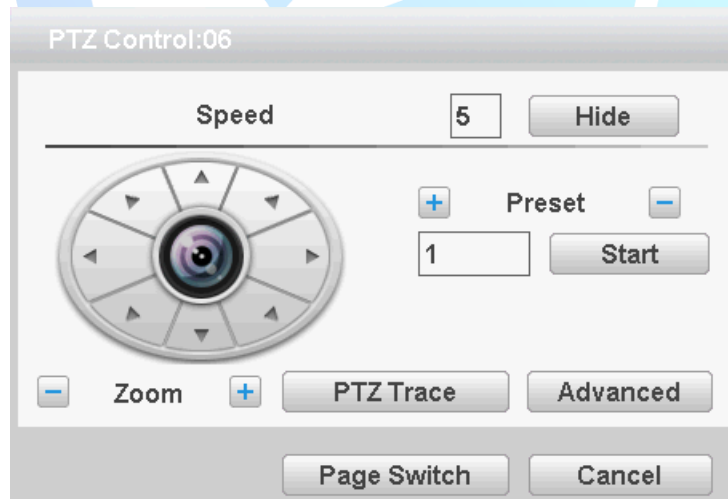




Figure 3.13 PTZ settings

【Speed】 Set the PTZ rotation range. Default range: 1 ~ 8.

【Zoom】 Click  /  button to adjust the zoom multiple of the camera.

【Preset】 Click  /  button calls the preset points, PTZ automatically turns to the setting position.

【Hide】 Current interface will be temporarily hidden after click it.

【Direction control】 Control the PTZ rotation. 8 directions control is supportive. (4 directions in Front panel is supportive)

【Advanced】 Full-screen show channel image. Left press mouse and control PTZ to rotate orientation. Left press mouse and then rotate the mouse to adjust the zoom multiple of the camera.

【Page switch】 Switch between different pages.

【Preset】

1. Increase the preset point

By the arrow keys to adjust the good Yuntai location, Enter a number in , then click on the button, you can add a preset point.

2. Deleting preset

Enter a number in, Then click on the delete preset.

3. Preset

Enter a number in , Then click on the , head will rotate to the preset position.

click on the Enter a new operation page as shown below

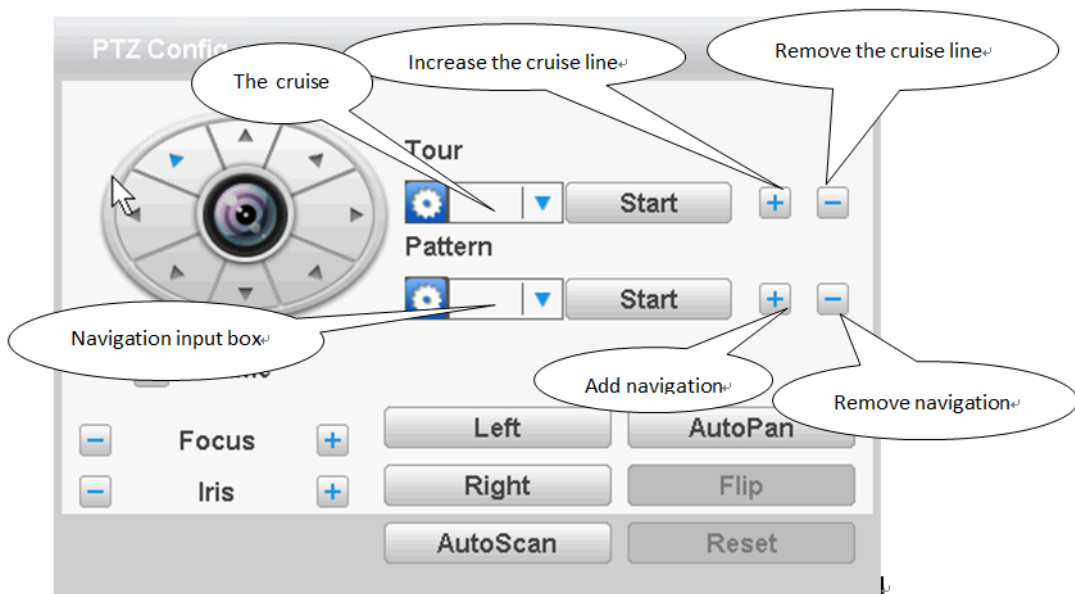


Figure 3.14 Advanced function

【Point between the cruise】

1. Increase the cruise line

Enter a number in, Click the key point between the cruise enter the settings page increase cruise line .

Can preset point in the input box, enter preset point in this page, click the



,Select preset tilt will jump to the preset position


[interval] set point between the cruise when entered the number of seconds after moving to the preset point.

【Set the cruise route steps】

Input the preset point number ,then click the [add preset point], the increase of the preset point will be displayed in the preset point has been added, a position that is in the cruise line.

If you want to delete preset point in the input box] [preset input preset, and then click the [clear preset point]

2.Remove the cruise line


In Figure3.14 input point between the cruise number , then click the point  between the cruise, complete the deletion

3.The point of the call between the cruise line

In Figure3.14 points in the input box cruise input point between the cruise, and then click the [start] between cruise key.

【Navigation】

1.Increase the navigation route

Enter a number in , Click the button  to enter the increase cruising settings page

In the page using the direction keys,[zoom], [Focus], [Iris] the various operations of the aperture and click [complete] to return to the previous page, complete navigation settings

2.Remove navigation route

No delete navigation function

4.The point of the call between the cruise line

Input navigation number in the input box in Figure 3.14, and then click between the [start] key cruise.

【Page Switch】

In Picture 3.12 click Page Shift button into Picture3.16, setting auxiliary function.

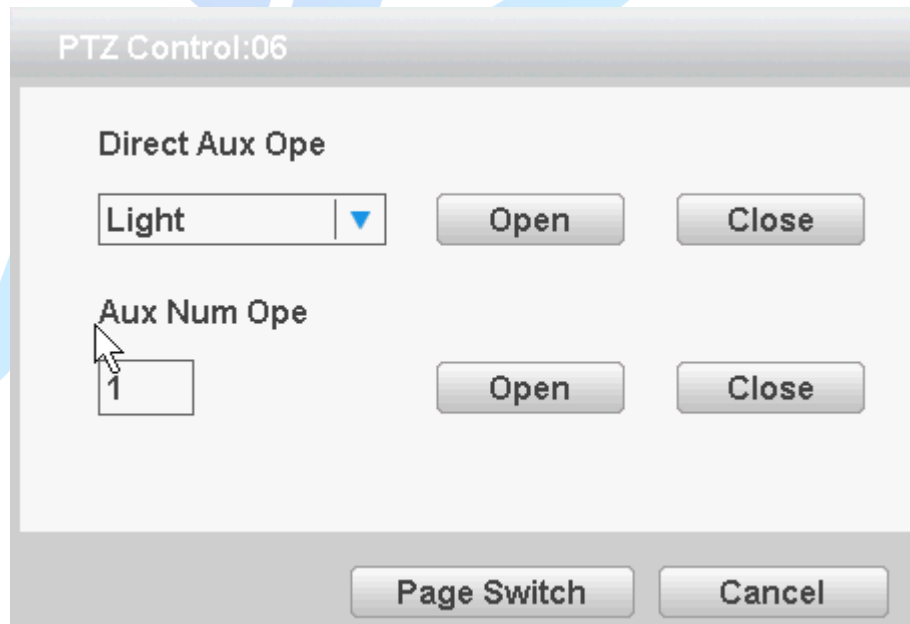


Figure 3.15 Auxiliary Function Control

【Intuitive Auxiliary Operation】 choose auxiliary equipment, select Open or Close button, switch control;

【Auxiliary Number】The operation of corresponding auxiliary switch according to PTZ

agreement;

【Page Switch】 In Picture 3.16, click Page Shift button enter the Picture 3.12- PTZ Main Menu , the menu itself can be control by the menu control buttons

【Page Switch】

In Picture 3.13 click Page Shift button into Picture3.19, setting auxiliary function.

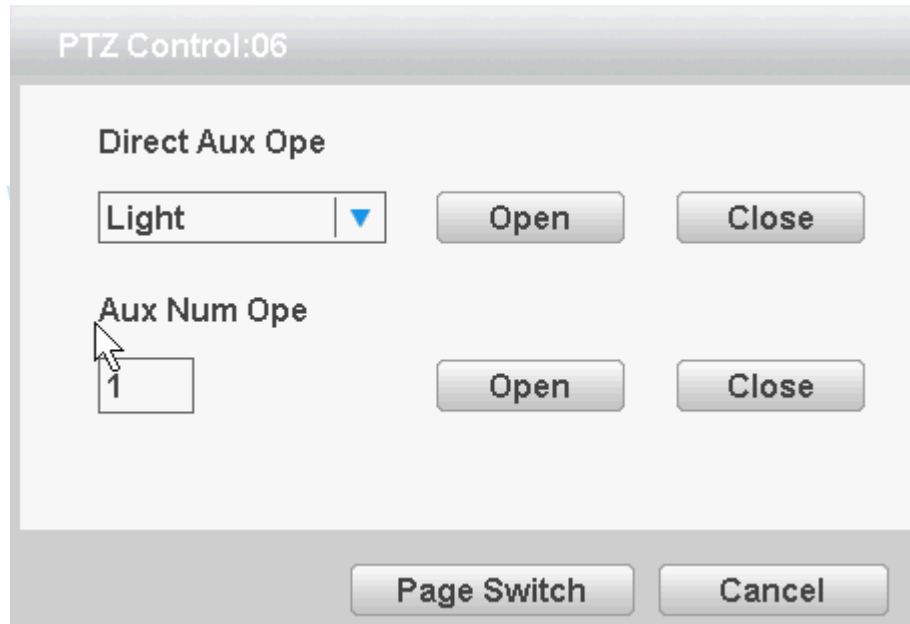


Figure 3.16 Auxiliary Function Control

【Intuitive Auxiliary Operation】 choose auxiliary equipment, select Open or Close button, switch control;

【Auxiliary Number】The operation of corresponding auxiliary switch according to PTZ agreement;

【Page Switch】 In Picture 3.19, click Page Shift button enter the Picture 3.13- PTZ Main Menu , the menu itself can be control by the menu control buttons

3.4.7 coaxial control

The coaxial control function enables the video recorder to transmit the control signal to the front end camera through the coaxial cable. The NVR can control the front camera's PTZ ,menu and other function through the control signals. Coaxial control function requires the front camera also supports coaxial control function

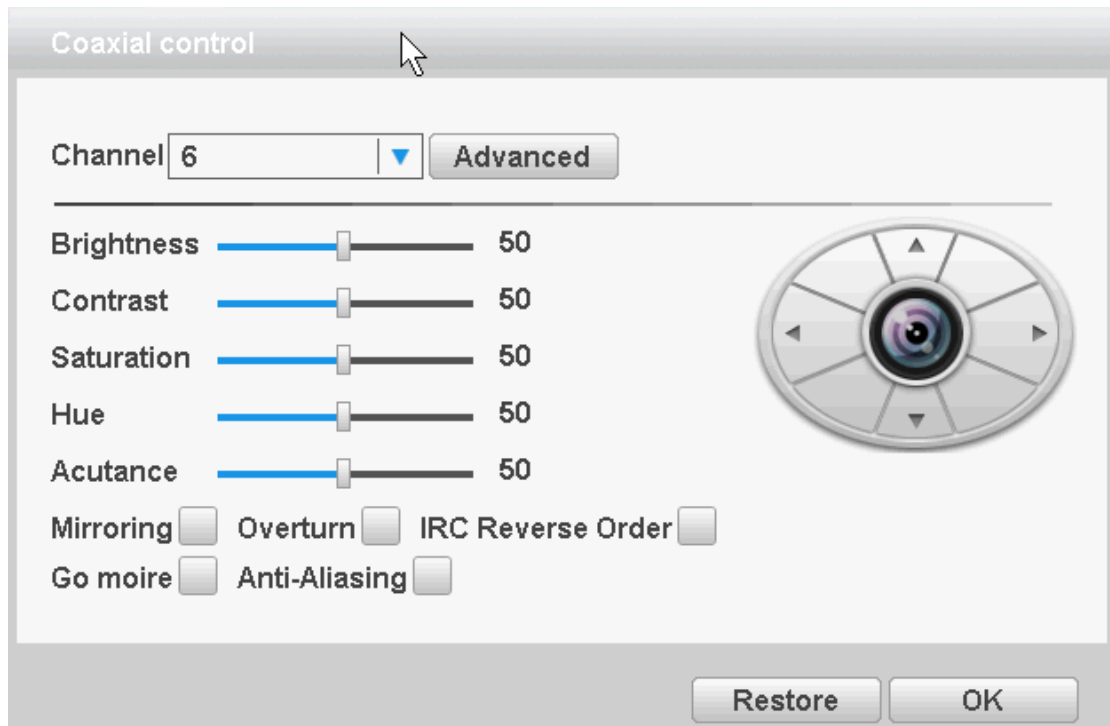


Figure 3.17 coaxial control

3.4.8 Image Color

***Image color on ONVIF device connection is invalid.**

Set selected channel image parameters (when single-screen preview of the current channel, multi-screen cursor to where the channel), you can use the desktop shortcut menu, enter the interface. Image parameters include: brightness, contrast, saturation, hue, gain, horizontal sharpness, vertical sharpness. And according to the needs of different image parameters set in two different time periods.

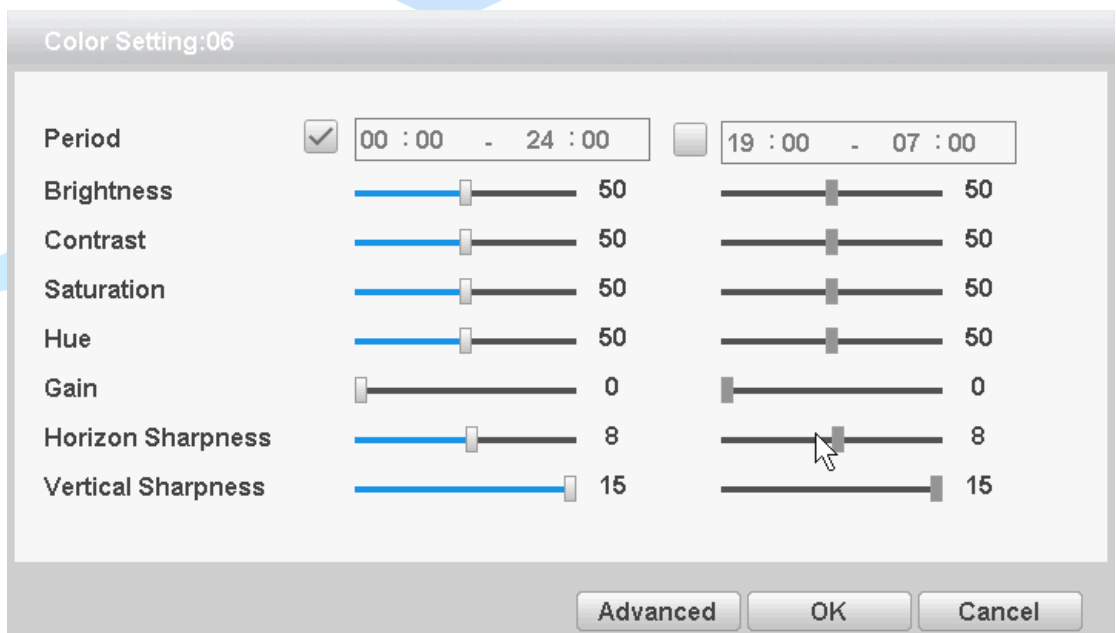


Figure 3.18 Image color

3.4.9 Output Adjust

Adjust TV output area parameters. You can use the desktop shortcut menu to choose “Output Adjust”.

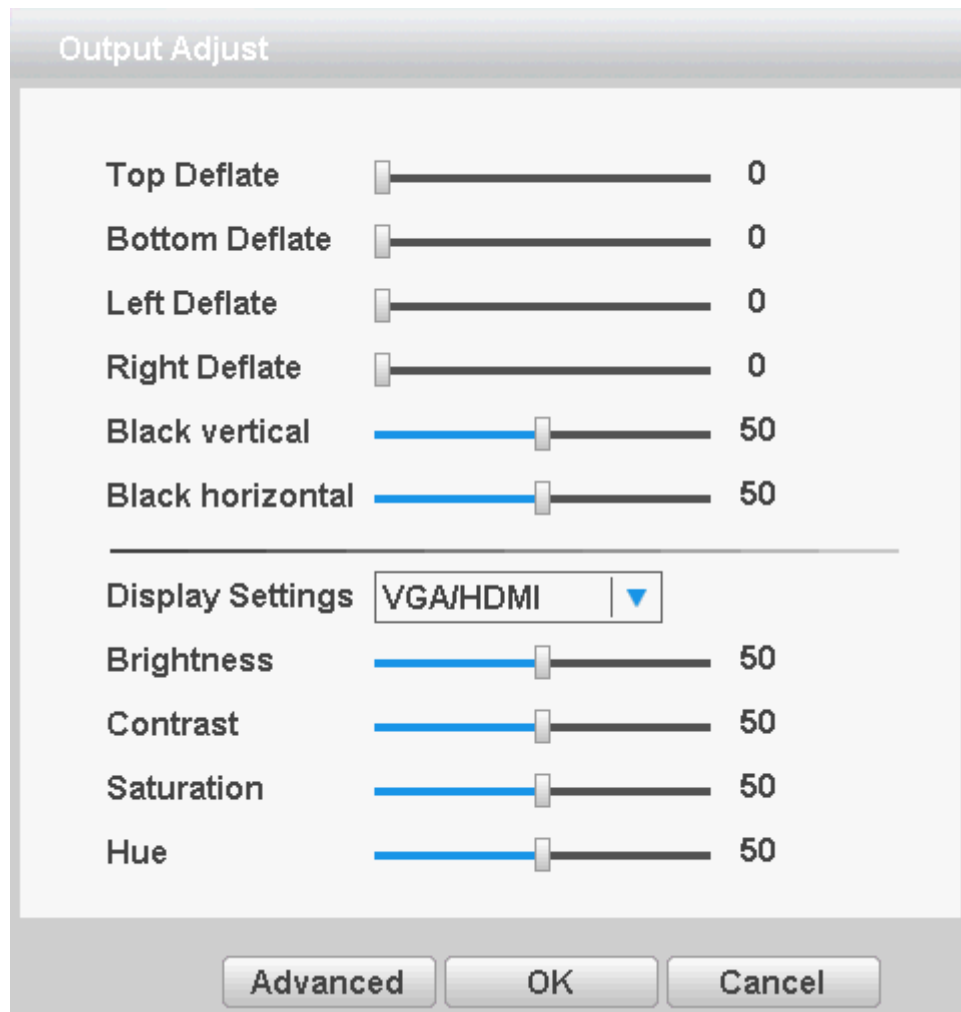


Figure 3.19 Output Adjust

3.4.10 Logout

Logout shut down the system or reboot up. You can use the desktop shortcut menu

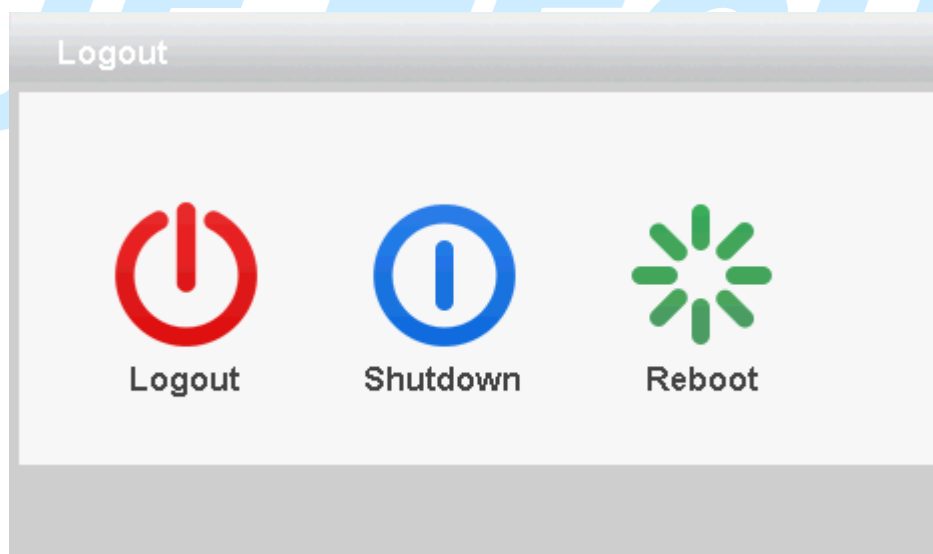


Figure 3.20 Logout/Shutdown/Reboot the system

【logout】 Quit the menu. Offer password next entrance.

【shut down】 Quit the system. Turn off the power supply.

When press the shut down button, there is schedule hint. After three seconds, the system is shut down. Cancel midway is of no effect.

【reboot】 Quit the system. Reboot up the system.

3.4.11 Window switch

Preview in single window/four windows/eight windows/nine windows/sixteen windows according to your choice.

3.4.12 SPOT

This feature is only supported by some models, a BNC connector for Spot interface, the user can switch SPOT output split screen mode via the context menu. After receiving the BNC interface, regardless of what to do at the end VGA, TV-side output device only a preview screen will not display the GUI interface of the device.

It can be selected according to the needs of different screens, can be single picture, four pictures, sixteen screen preview.

Note: The total number of different video input device, which can switch the preview screen is different.

The logo for JF TECH, featuring the letters 'JF' in a large, stylized, light blue font, followed by 'TECH' in a smaller, bold, light blue font. The letters are set against a white background with a subtle blue shadow effect.

4.Main menu

4.1 Main menu navigation

Main menu	Sub menu	Function
Record function	Record Config	Recording configuration, recording type, recording time, etc.
	Backup	Detect backup devices, formatting backup device, backup selected files
	Playback	Video search, video player, video file
Event function	Motion Detection	Set channel, device type, and set the linkage parameters: Arming time, alarm output, screen prompts, video, PTZ, round robin, beep, EMAIL, FTP upload
	Video blind	
	Video loss	
	Alarm input	
	Abnormality	No hard drive, hard disk error, lack of disk space, off network events occurred after the IP conflict time, setting the linkage parameters: screen prompts or buzzer
	Intelligent	Determination algorithm rules: perimeter guard, care items, video diagnostics. Set rules: show trail, sensitivity, minimum travel distance, alert mode, and set the linkage parameters: Arming time, alarm output, the screen prompts, recording, PTZ, round robin, beep, EMAIL, FTP upload, phone reporting
System settings	General	Set the system time, date format, time format, language, hard disk full operation, the machine ID, video format, output mode, standby time, daylight saving time
	Encode	Set each channel coding and combinations coding main parameters: encoding mode, resolution, frame rate, stream control, quality type, code stream value, I frame interval parameters, video / audio enabled; Note: Mixed mode and full simulation mode only encoding settings.
	Network	Set basic network parameters, and set DHCP, DNS parameters, network speed download
	Network Services	PPPOE, NTP, Email, IP permissions, DDNS parameters
	Display	Set the preview hint icon state, transparency, resolution, VGA (HDMI) priority

	RS485	Set protocol, address, baud rate, data bits, stop bits, parity
	RS232	Set the serial port function, baud rate, data bits, stop bits, parity
	Tour	Set touring mode and interval
Advanced	Storage	Set the specified hard disk drive to read and write, to read-only disc, set to redundant disk, clear the data, data recovery and other operations
	Account	Modify users, modify group, change passwords, add users, increasing the group, delete users, delete groups
	Online user	May have been forcibly logged off the network users, after disconnecting the account will freeze to recover when the next boot
	Import/Export	Import or export the NVR's configuration
	Upgrade	Upgrading using external devices (such as USB)
	Auto Maintenance	Set automatic reboot the system automatically delete the file time
	Restore	Restore settings Status: Normal settings, video settings, alarm settings, network settings, network services, output mode, the serial port settings, user management
	Device information	Configure some device hardware information
	Import/ export	Exporting logs or configure the device to an external device (such as U disk); connect an external device (such as U disk) configuration import equipment
	Digital	Set channel mode, view the channel status, and set the parameters of digital channels, etc.
Info	HDD Info	Display hard disk capacity, recording time
	BPS	Display stream information
	Log	Query log, and clear all log information
	Version	Display version information

4.2 Record function

Video-related operations, including: **record settings, video playback, video backup.**

4.2.1 record settings

Set video parameters monitored channel. When you first start, the system is set to 24

hours of continuous recording. [Main menu]> [record]> [record config].

Note: The normal recording equipment, installation of a hard disk with at least one set to read-write disk (detailed operation, please refer to section 4.5.1)

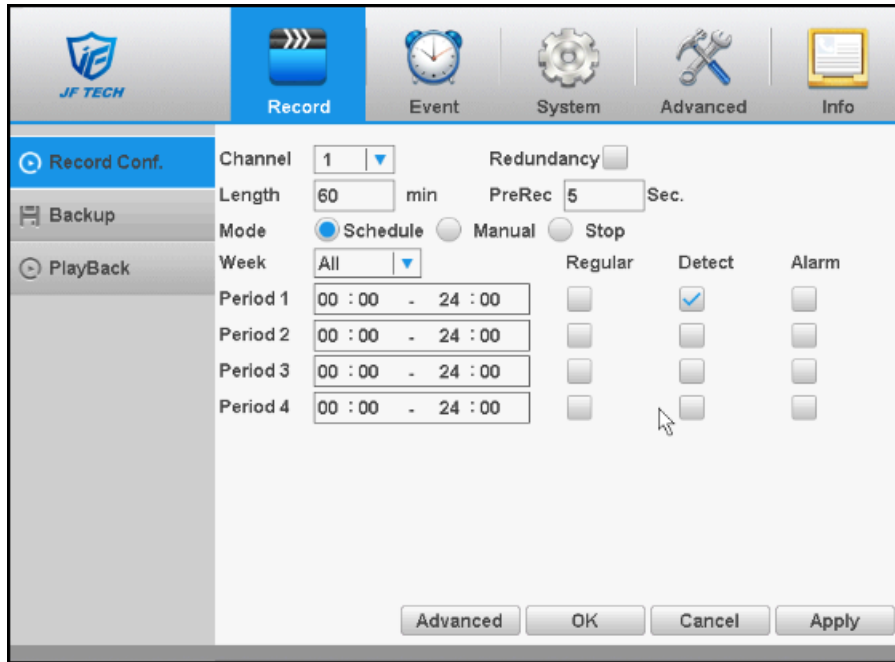


Figure 4.1 video settings

[Channel] to select the appropriate channel number for the channel set, selectable settings for all channels unified whole;

[Redundancy] choose redundancy capabilities that enable video file double backup function, a forthcoming video channels simultaneously recorded onto two hard drives. There are two devices need to install the hard drive, where a hard disk read-write disk, a redundant disk (detailed operation, please refer to section 4.5.1);

[Length] to set the length of time for each video file, the default is 60 minutes;

[Mode] setting the video, there are three states: configuration, manual on and off;

Configuration: video recording in accordance with (general, detection and alarm) recording type and recording time period set;

Manual: No matter what state the current channel, select "Manual" button, the corresponding channel all for normal video;

Off: No matter what state the current channel, select the "off" button, the corresponding channel to stop recording.

[week] setting common recording time period within the time set will start recording;

[Type] set record type, there are three types: normal, detection and alarm.

Regular: In the time period set for normal video, video file type is "R";

Detection: In the time period set trigger "motion detection", "video block", "video loss", "Exception Handling" alarm signal, and the corresponding alarm function is set to open the Video function, start detection recording, video files type "M".

Alarm: In the time period set trigger external alarm signal, and the "Alarm Input" function is set to open the video function, start detection recording, video file type is "A".

4.2.2 playback

View chapter "3.5.3 video playback."

4.2.3 video backup

By setting the backup device video file to an external storage device.

Note: Before backup files, you need to install the files stored to accommodate storage devices. Backup is terminated; it has been copied to a storage device files can be played back independently.

Backup middle is terminated, has been copied to a storage device files can be played back independently.

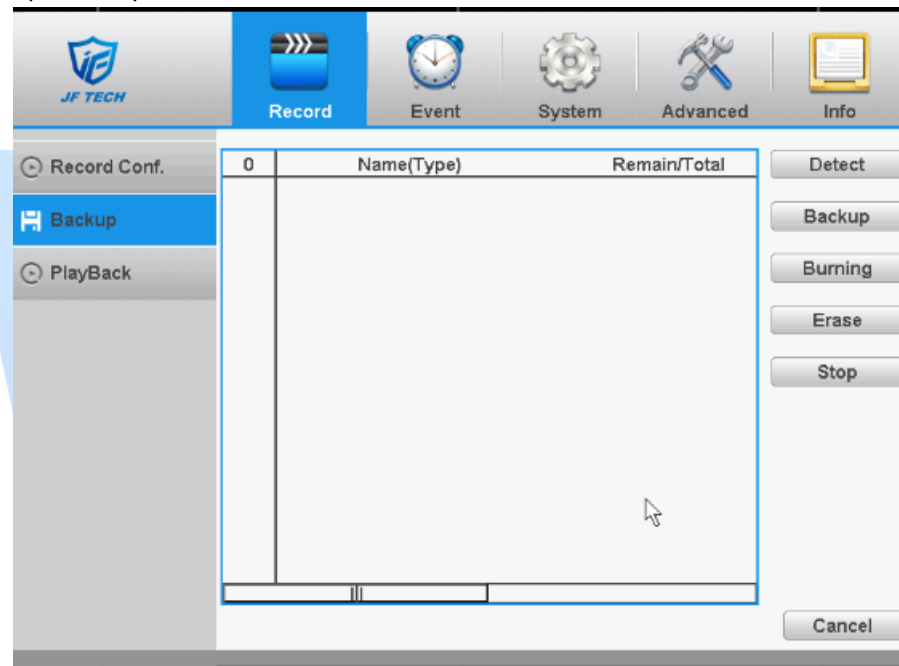


Figure 4.2 record backup

Detect: Detecting storage devices connected to the device, which can be U disk, hard disk and other equipment;

Backup: Click Backup, Backup dialog box pops up, you can select the backup video files based on type, channel, time and other attributes.

When you click "backup", then you'll enter next page:

Clear: Clear the displayed file information;

Added: Display file information to meet the set file attributes;

Backup Format: The format of the configuration backup file, according to the needs, the optional H264 or AVI.

Start / Stop: After select the file and backup format, click to start the backup, and then click Stop to stop the backup.

Note: When you back up, you can exit the page perform other functions.

Burning: Click Burn, burn video will sync selected channel;

Erase: Select the file to delete and click erasure to delete the device files;

Stop: Stop the backup;

4.3 Event function

Alarm functions include: motion detection, video blind alarm, and video loss alarm,

alarm input alarm, intelligent analysis and abnormality.

4.3.1 motion detection

By analyzing the video image, when the system detects a mobile signal, motion detection alarm is initiated, and the linkage functions.

Note: The front-end equipment and this equipment need to enable this feature.

Advanced button same to the right mouse button.

Motion detection function of mixed mode / full analog and digital channels are different: motion detection alarm digital channels only to turn its function at the local end, the corresponding remote device connected to the end of the channel will have motion detection feature is turned on, when the remote device side corresponding channel has motion detection scene occurs, the local side will be able to achieve its alarm function, otherwise the motion detection function cannot be achieved, while the analog channels open as long as the local end manufacturing mobile phenomenon on the line .

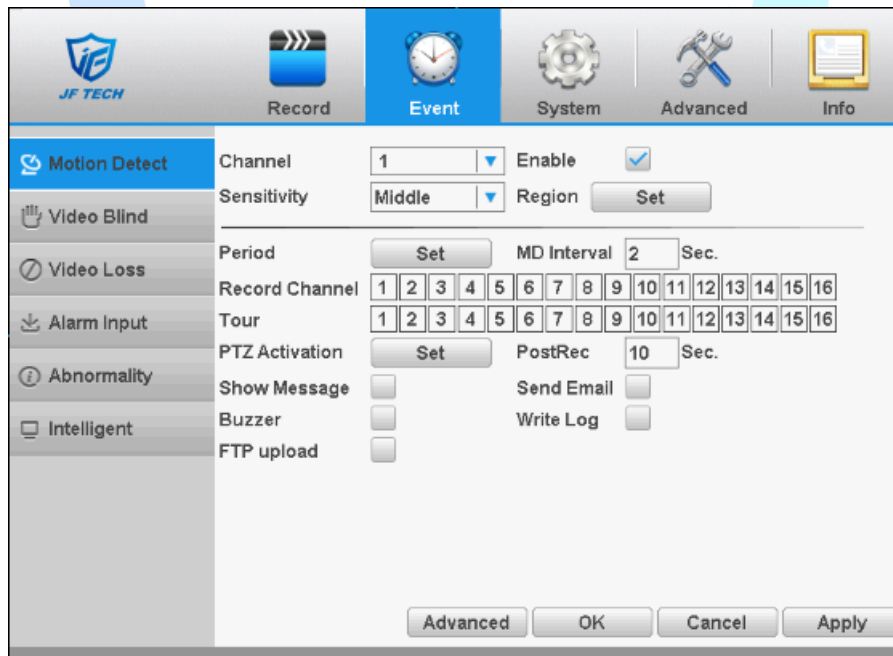


Figure 4.3 motion detection

[Channel]: Select the number of channels to be set, the default one channel to the network camera.

[Enable]: motion detection alarm enable.

[Sensitivity] according to the sensitivity level of the lowest, low, medium, high, very high, the highest six-speed optional;

Note: where only in motion detection settings and only analog channels can set its sensitivity of mixed mode / full analog mode.

[Region] Click Settings, enter the settings area is divided into PAL22X18, red area for motion detection fortified area; the white area is undefended, as shown in Figure 4.5 Settings area. Hold down the left mouse button, draw settings area. (By default the entire area selected for monitoring area) Note: Mixed mode / full motion detection in analog mode only regional settings, and only analog channels to set their area.

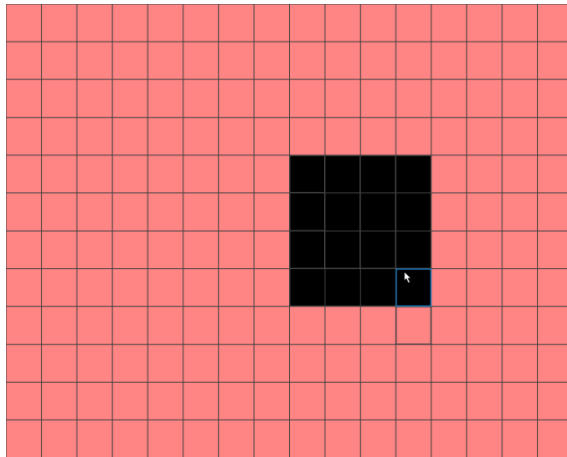


Figure 4.4 area settings

[Period]: You can also set the alarm time from Monday to Sunday every day 4 time periods, other time will not trigger motion detection alarm information. As shown in FIG.

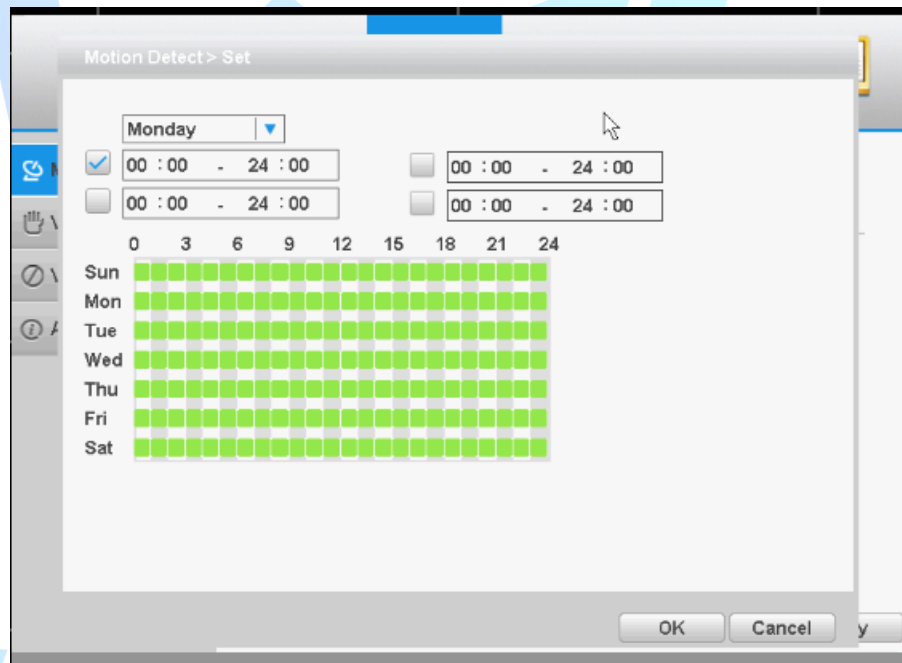


Figure 4.5 time period

[MD Interval]: between two alarms generate alarm information shortest time interval can be set between 0 and 600S.

[Record channel]: When an alarm is triggered, the NVR starts recording, you need to open detection recording.

[Tour]: The NVR does not support this feature.

[PTZ Activation]: When alarming, it will turn off the PTZ preset point linkage or linkage between points or cruising.

* Under Mixed mode, PTZ is linkage to analog channel corresponding PTZ settings, under full digital channels; PTZ is linkage to PTZ information corresponding to the remote device settings.

Note: PTZ Activation, you need [shortcut menu]> [PTZ], set the preset point, cruise between points, intervals and other parameters

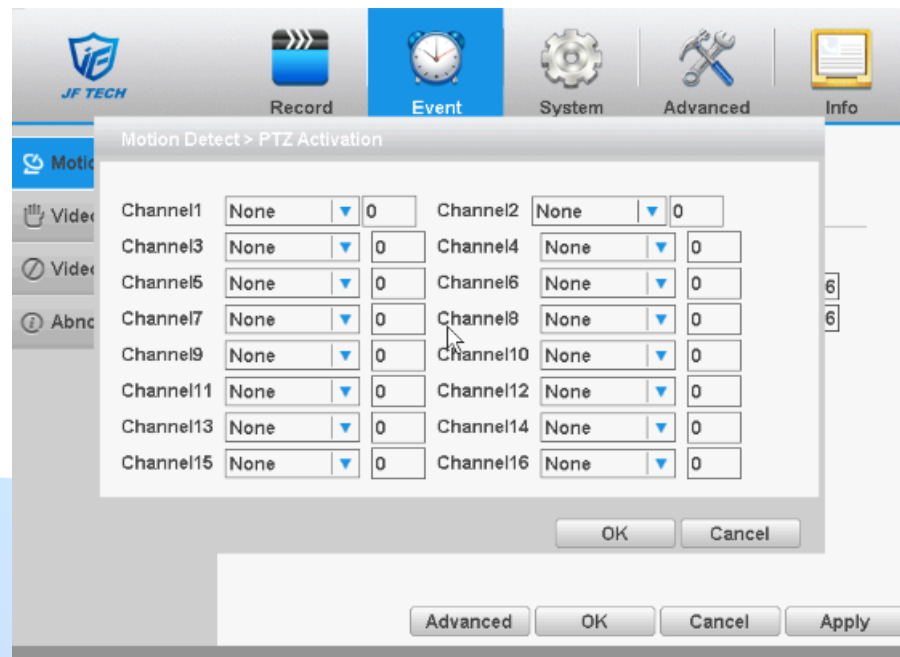


Figure 4.6 PTZ Linkage

[MD interval]: After the alarm ends, the length of time to continue the local recording can be set between 10 and 300S.

[Show message] on the local host screen, pop-up dialog box prompts warning information;

[Send Email]: When an alarm is triggered, sends an alarm message to the specified mailbox, mailbox settings.

[FTP Upload] means enable, Expressed alarm occurs if the selected channel or video capture channel, the video file or image upload up to a specified location.

Note: Upload FTP, need to be set accordingly in the [Network Services].

[Buzzer]: when an alarm occurs, the device sends a "tick" sound long ring.

[Write Log]; when an alarm occurs, the device write a log which you can check on the [Info]>[Log].

4.3.2 Video blind

When the device captured video images by outside influence, low light, to set the sensitivity parameter, start the video occlusion alarm, and the linkage function.

Note: Advanced button is same to the right click button.

* Same with motion detection, the Mixed-mode / full analog and digital channels of video blind function differently.

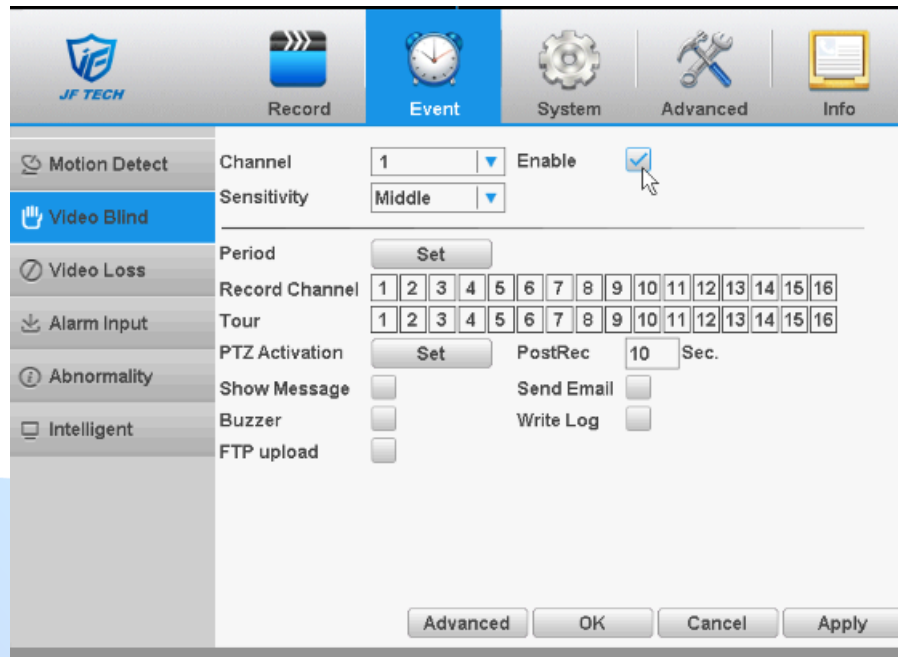


Figure 4.7 video blind

Digital channels cannot be used to set the sensitivity. Which is a mixed-mode or full simulation mode can set the sensitivity. Sensitivity level is divided into six kinds, namely: minimum, low, medium, high, very high, the highest.

Setting method: refer to chapter "4.3.1."

4.3.3 video loss

When the device cannot get channel video signal, the video loss alarm, and the linkage function.

Note: Advanced button is same to the right click.

* Same with motion detection, the Mixed-mode / full analog and digital channels of video loss function differently.

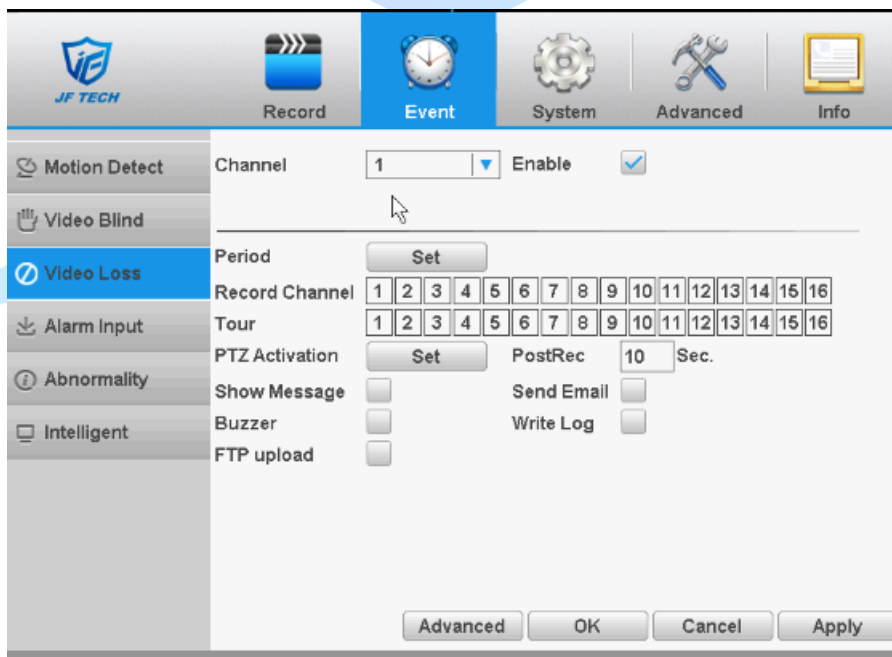


Figure 4.8 video blind

Video loss alarm configuration, please refer to 4.3.1 motion detection section.

4.3.4 Alarm input

When the device gets an external alarm device alarm signal, it will start alarm function.

* Alarm input, mixed-mode / full analog channel mode and use the same digital channel mode, the function is turned on, if set to normally open, you only need to plug the alarm terminal on the local end of the alarm inputs, alarm information will be generated, but also the corresponding linkage setting function.

Note: Advanced button is same to the right click.

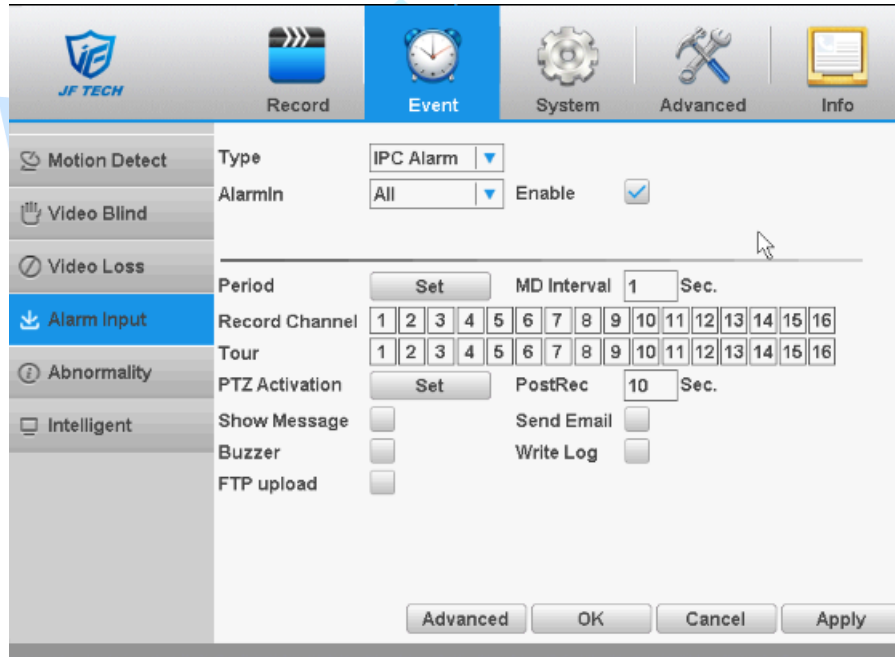


Figure 4.9 Alarm input

Setting method: refer to chapter "4.3.1."

4.3.5 Abnormality

Some current hardware and software analysis and detection equipment, and when there is an abnormal event is detected, the device responds accordingly, for example, the screen tips, buzzer, etc.

JF TECH

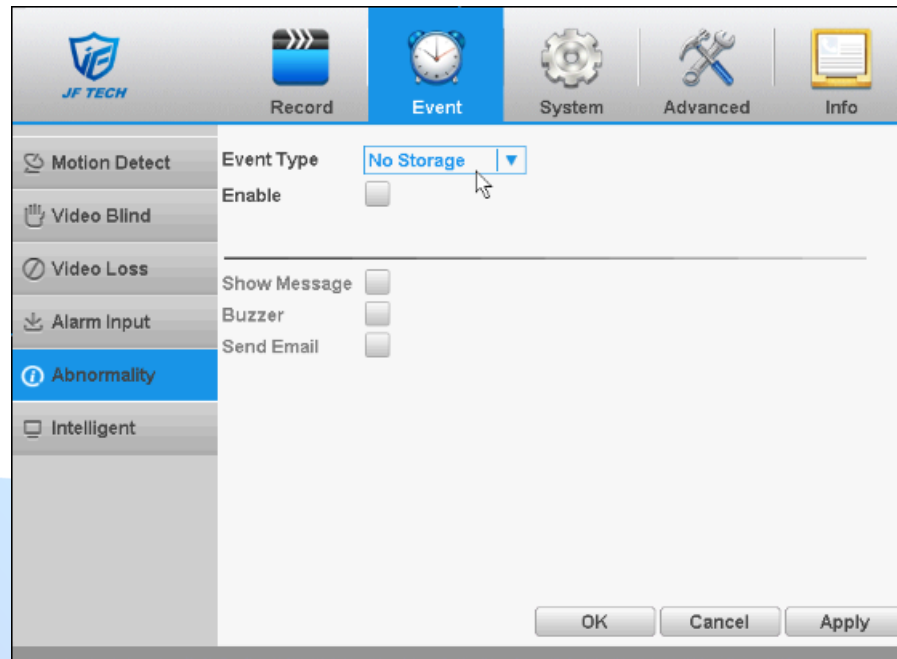


Figure 4.10exception handling

[Event Type] in the drop-down box to select the detection of abnormal

[Enable] ■ Means open the exception handling feature.

[Show Message] screen on the local host screen, pop-up warning message prompt dialog box;

[Buzzer] when an alarm occurs, the device sends a "tick" sound long ring.

[Send Email]: When an alarm is triggered, sends an alarm message to the specified mailbox, mailbox settings.

4.3.6 Intelligent

* Note: only part of the series of products with the features.

By analyzing video images, when the system detects an object reaches a preset algorithm rules, and when consistent with sensitivity and minimum image distance parameter settings that trigger an alarm video analysis, and enable linkage function.

* Only under fully analog channel mode / mixed-mode channel 1 supports this feature, and enable the alarm, the channel's video blind invalid.

JF TECH

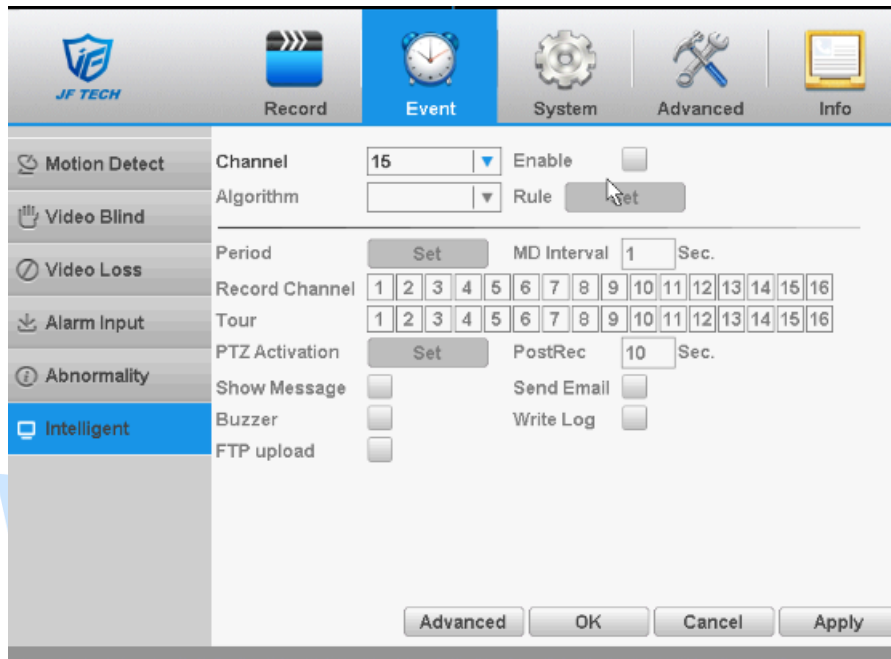


Figure 4.11 Intelligent analysis

[Channel] show only "1", only a maximum resolution of D1 full analog channel mode / mixed-mode channel 1 support;

[Enable] means, open intelligent analysis, select Enable, only the appropriate settings;

[Algorithms] in the drop-down box algorithm perimeter guard, care items, video diagnostics are three rules of selection to be tested;

[Rule] Choose a different algorithm rules, set interface its rules are also different;

Perimeter alert:

Show traces of anti means to enable the display tracks, that is, when this function is triggered, a red box will display a moving object boundary;

Sensitivity according to different needs, and its drop-down box, there are three optional parameters: high, medium, low;

The minimum movement distance can select from 0 to 30%, the minimum moving distance is smaller the more sensitive the alarm;

There are two kinds of ways alert mode: cordon and warning area. Cordon: it can be set up bi-ban, from top to bottom (left to right), from bottom to top (right to left) three kinds of prohibition direction (when cordon set inclination larger display is left to right / right to left, top to bottom, and vice versa for / from bottom to top), when the moving objects in line with the rules set by the cordon, an alarm will be generated; the warning area: it can be set up bi-ban, to enter, leaving three kinds of prohibited direction when moving objects set in line with the rules of the warning area, the alarm will be generated;

Rules Click Settings, enter the rule setting interface, right-click, click Add, use the mouse to determine two or more points in a straight line or after constitute an irregular area will pop prohibit direction option box, choose one direction later, right-click the mouse, click OK to return to the layer interface, click OK, alarm rules can be set;

Object care:

[Show traces] anti means to enable the display tracks, that is, when this function is triggered, a red box will display a moving object boundary;

Sensitivity according to different needs, and its drop-down box, there are three optional parameters: high, medium, low;

The minimum target size can vary from 0 to 30% by choice, the smaller the size of the target the more sensitive the alarm;

The maximum target size can choose from 1% to 100%, the greater the alarm target size more slow;

There are three kinds of ways alert mode: Item retention, move items stolen, illegal parking. Items retention: in the warning area, there appeared an object from scratch, and that meet the minimum size of the object image distance and other rules, there will be alarm occurs; articles Pirates shift: in the warning area, from there to the object, that is, the object disappears, and the minimum size of the object image distance and other rules, there will be alarm occurs; illegal parking: the alarm trigger similar items retention;

Rules Click Settings, enter the rule setting interface, right click the mouse, click Add, use the mouse to define a plurality of points constitute an irregular area, right-click the mouse, click OK to return to the layer interface, click OK, rules can be set alarm ;

Video Diagnosis:

[Sensitivity] according to different needs, there are three optional parameters: high, medium, and low;

[Detection Type] There are nine kinds of detection Type: anomaly detection brightness, sharpness detection, noise detection, and color cast detection, screen freeze detection, signal loss detection, scene change detection, human interference detection and PTZ runaway detection. According to the needs, select one or more types of video detection when the selected type of alarm will occur.

Arm and disarm period and linkage parameter settings: refer to chapter "4.3.1."

Example: Enable video analysis algorithms for perimeter alert rules, rules for cordon alert mode, choose the direction of the bidirectional ban, when an object passes through the cordon, the alarm is triggered, specifically shown in Figure 4.16.

4.4 System settings

Including General, encoding, network, network services, Display, PTZ Config, Tour.

4.4.1 general settings

Click "" will pop up [general settings] dialog box, as shown in figure 5.12.

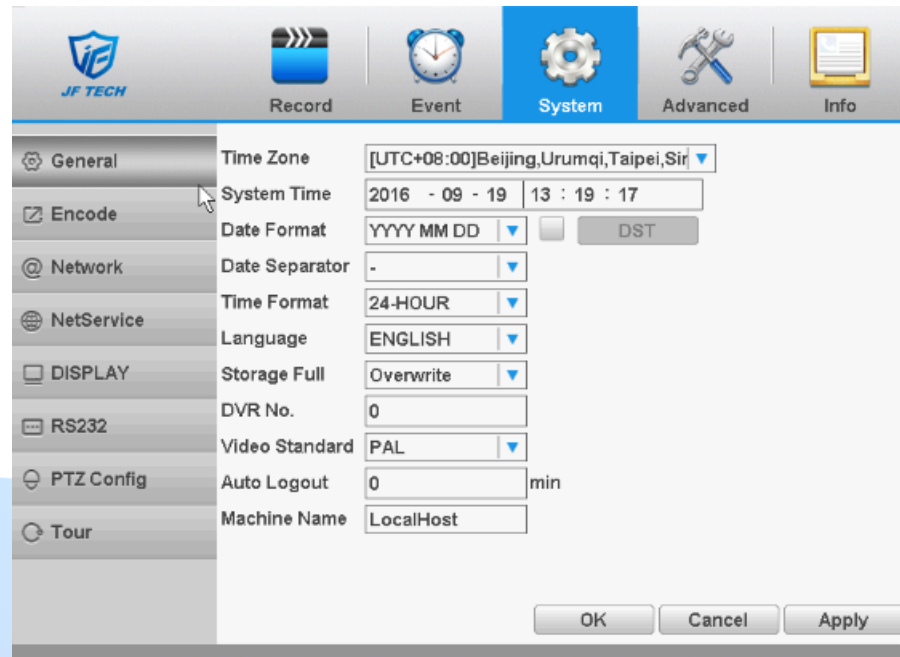


Figure 4.12 general settings

[Time Zone]: The default is CMT +8

[System time]: set the system time manually.

[Date Format]: provide Year Month Day/ Month Day Year/ Day Month Year three formats.

[Date separator]: Set the preview screen displays the date when the delimited format, provide a "-" "." "/" three formats.

[Time Formate]: Select the time format of 12 or 24-hour two kinds, default is 24.

[Language]: Set the system language, Simplified Chinese, Traditional Chinese, English and other 20 languages.

[Storage Full]: the hard disk is full, the measures taken by the camera.

Overwrite: TF card file overwrites the oldest video or capture full time to continue recording and capture.

Stop: TF card when you stop recording and capture video or capture full.

[Video Standard]: Select the video format supports both PAL and NTSC formats.

[NVR No.] for this machine with a remote control remote control multiple NVR occasions, only address key is pressed on the remote control and enter the remote locations and the local number corresponding NVR remote control to operate the same address.

[Auto Logout] can be set menu is not set standby time 0-60, 0 standby time;

[Machine Name] can be set to the name of the device.

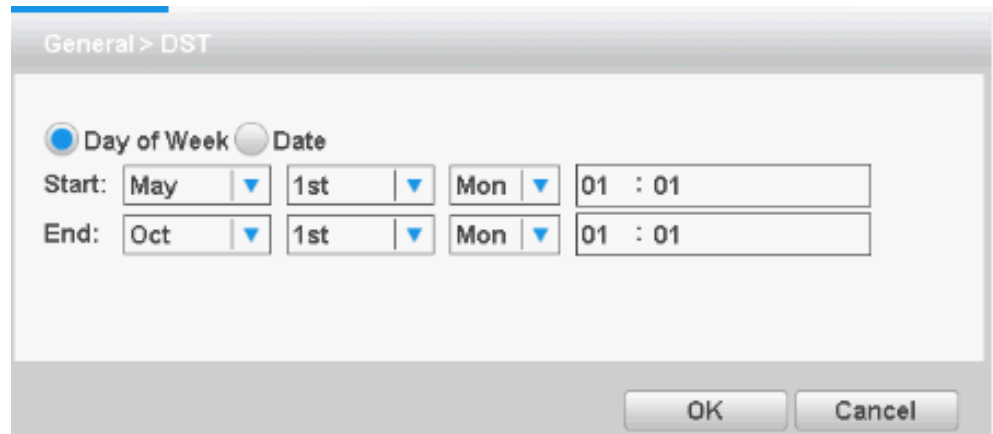


Figure 4.13 Daylight Saving Time (weeks) setting

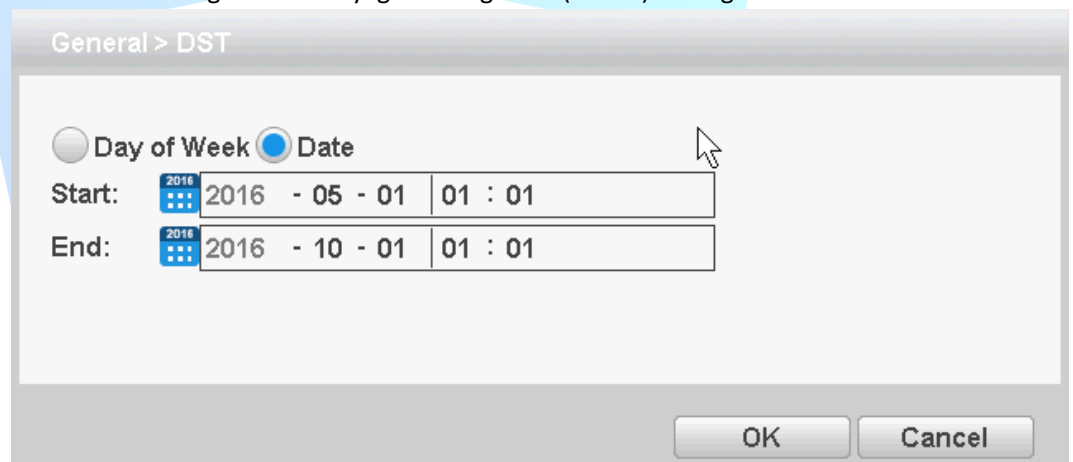


Figure 4.14 Daylight Saving Time (days) setting.

4.4.2 Encoding settings

* When the product is set to mixed mode / full analog channel mode, the system will be set up in the encoding setting function, encoding settings can only function in an analog channel encoding settings.

Set the video / audio encoding parameters including video files, remote monitoring and other image parameters. The left part of each individual channel set encoding parameters, the parameters set on the right part of the secondary stream, dual-stream uses 1080P / 720P / 960H / D1 / HD1 / CIF / QCIF encoding rate of the stream all the way to high definition for local storage, support all the way to low bit rate stream (QCIF coding) for network transmission, taking into account local storage and remote network transmission. Dual-stream network bottlenecks in the existing balance between image quality and transmission quality, can break through the bottleneck of the network, the flexibility to select the format according to the network bandwidth stream, to local HD storage, while the rear end of the transmission of low stream networks.

Note: The main application of the secondary stream is for multi-channel real-time monitoring, mobile monitoring under poor network.

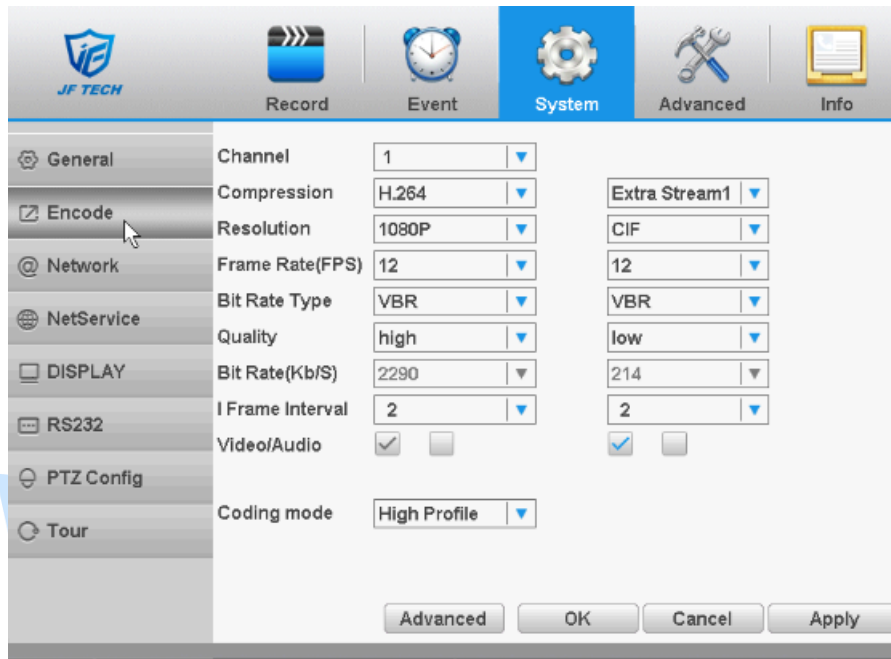


Figure 4.15 encoding settings

[Channel] to select the channel number; display the corresponding channel information;

[Compression] coding standard H.264MP

[Resolution] as obtained from the front-end device connected to the encoded information;

[Frame Rate] can be adjusted, according to the acquisition front-end coding prevail, NVR, and front-end equipment will take effect after adjustment;

[Bit Rate Type] including Limited stream and variable stream;

[Quality] set the stream value to change the quality. In facilities allow, the bigger stream, the better the quality;

[Bit Rate] According to the code stream flow control and quality varied selection

[I frame Interval] selectable frame interval range 2-12s

[Video / Audio] icon when all of the highlighted video file to audio and video composite stream; auxiliary stream setting auxiliary stream mainly used for client monitoring, cell phone monitoring.

The resolution, frame rate, stream control, stream parameters is same with the independent channel parameter settings.

4.4.3 Network

Configure IP address, gateway, DDNS of NVR.

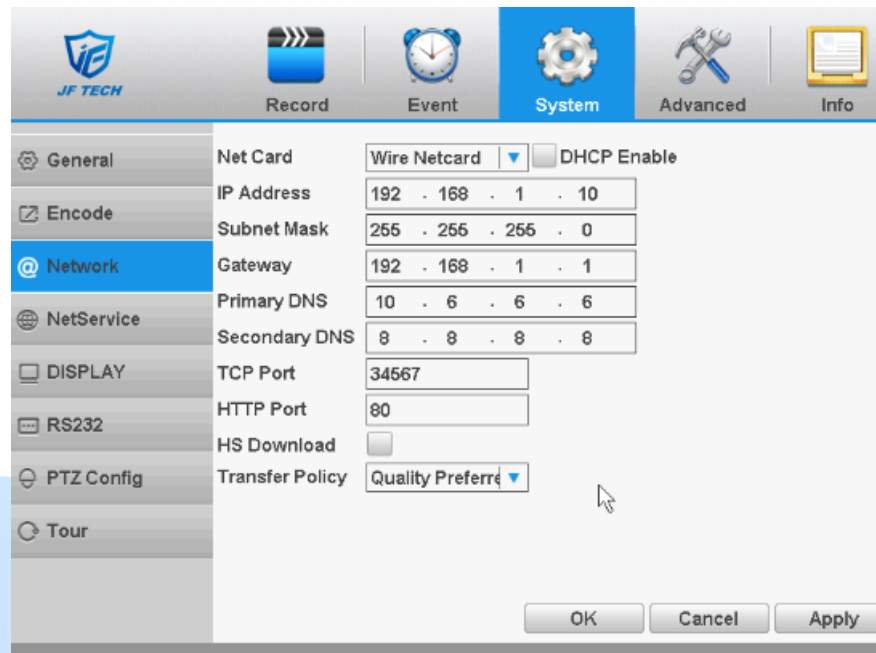


Figure 4.16 network settings

[DHCP Enable]: The NVR is connected to the router which DHCP is open; then NVR will automatically obtain an IP address.

[IP Address]: The IP address of the NVR is used to login network, the default is: 192.168.1.10.

[Subnet Mask]: Set the NVR's subnet mask, to be consistent with the login computer, default is 255.255.255.0.

[Gateway]: Set the default gateway of the NVR to be consistent with the login computer, the default is 192.168.1.10.

[Primary DNS]: Set the NVR's DNS , to be consistent with the login computer, DNS incorrectly can cause XM Cloud function does not work properly.

[TCP port]: Set the NVR's TCP port, the default port is: 34567.

[HTTP port]: Set the NVR's HTTP port, the default port is: 80.

[HS download] Network speed downloads.

[Transfer Policy]: Set the network transmission strategies, adaptive / quality priority / smooth priority / network transmission priority four kinds of policy options.

Adaptive: when network bandwidth is small, the preview screen automatically jump to sub-stream, to ensure smooth preview.

Quality Priority: Whether the network bandwidth is large enough, the preview screen is always displayed in the main stream, when the bandwidth is not enough screen will delay.

Smooth priority: Under no circumstances reduce the frame rate, encoder settings change, reducing the size of the stream, to ensure smooth screen.

4.4.4 Network Services

Configure PPPoE and other functions of the NVR.

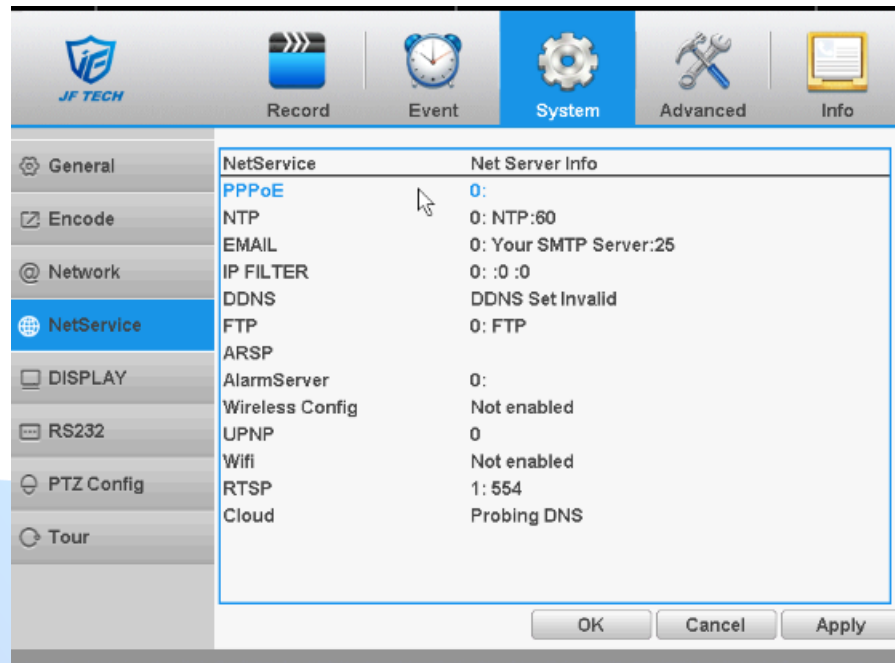


Figure 4.17 network services

[PPPoE settings]:

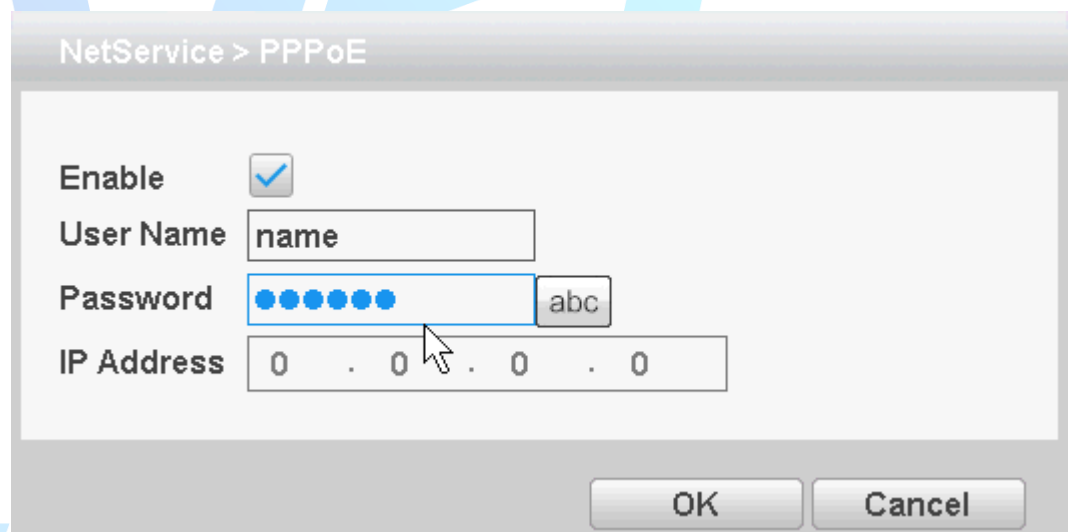


Figure 4.18 PPPoE

- ✧ Enable: Anti ■ means enabled.
- ✧ Enter the ISP (Internet Service Provider) to provide the PPPoE username and password, restart the system after saving. After starting the NVR will automatically establish a network connection to the PPPoE mode, after the success, IP [IP address] will be automatically modify the dynamic WAN IP address obtained.
- ✧ Operation: After PPPoE dialing successfully, view IP [IP address] on, get the current IP address, and then uses this IP address to access the device via the client.

[NTP]:

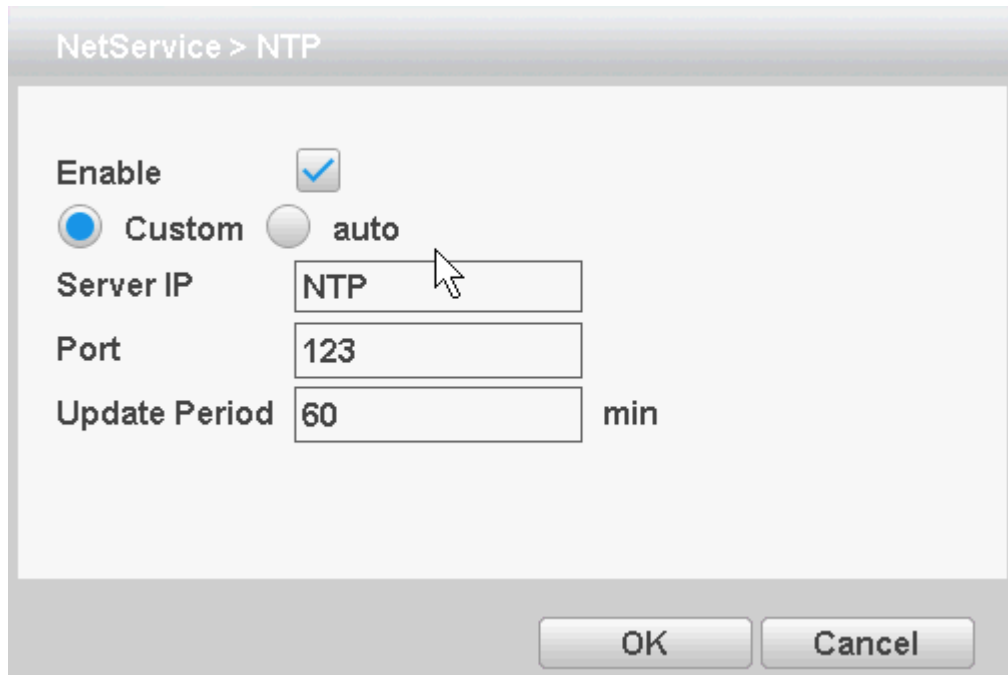


Figure 4.19NTP settings

It required install the NTP service on the PC.

Enable: Anti ■ means, select Enable, set to take effect.

Server IP: Enter installed NTP server PC IP;

Port: The default NTP port 123, the port settings can be based on actual NTP server;

Update Period: the same NTP server check interval, the default is 10 minutes.

[Email]:

Set the e-mail addresses for NVR sent and received alarm information.

JF TECH

Figure 4.20 Email settings

- ✧ [SMTP server]: Log mailbox to query entry method SMTP server in mailbox settings.
- ✧ [Port]: The mail server port number;
- ✧ [Need SSL]: consistent with the mailbox configuration, you can log in to view the mailbox into the mailbox settings.
- ✧ [User Name]: Only fill in email address before the @.
- ✧ [Password]: Password for the user name of the application.
- ✧ [Sender]: Set the message sender EMAIL address.
- ✧ [Receiver]: You can set up to three e-mail address, separated by a semicolon, can outbox the same e-mail address.
- ✧ [Title]: subject of the message, you can set your own.

[IPFilter]

When choosing the white list, the list represents only the IP to connect this NVR. A list of supported 64 IP settings;

When selecting the blacklist, represents a list of the IP network cannot be landed this NVR. A list of supported 64 IP settings;

You can tick check, delete the set IP.

Note: When the black and white list, have the same IP address blacklist authority higher priority.

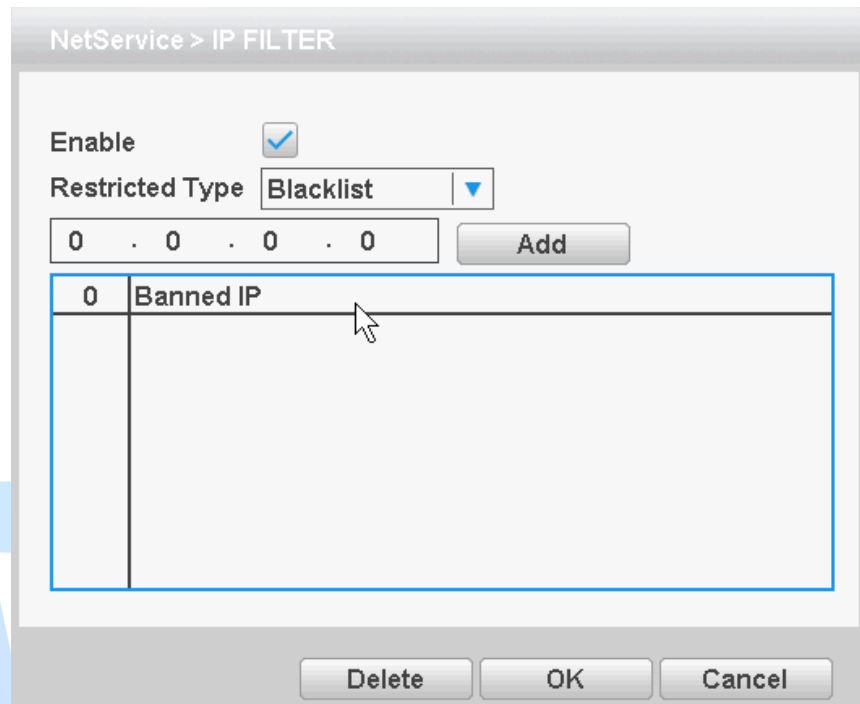


Figure 4.21 IP rights settings

[DDNS]

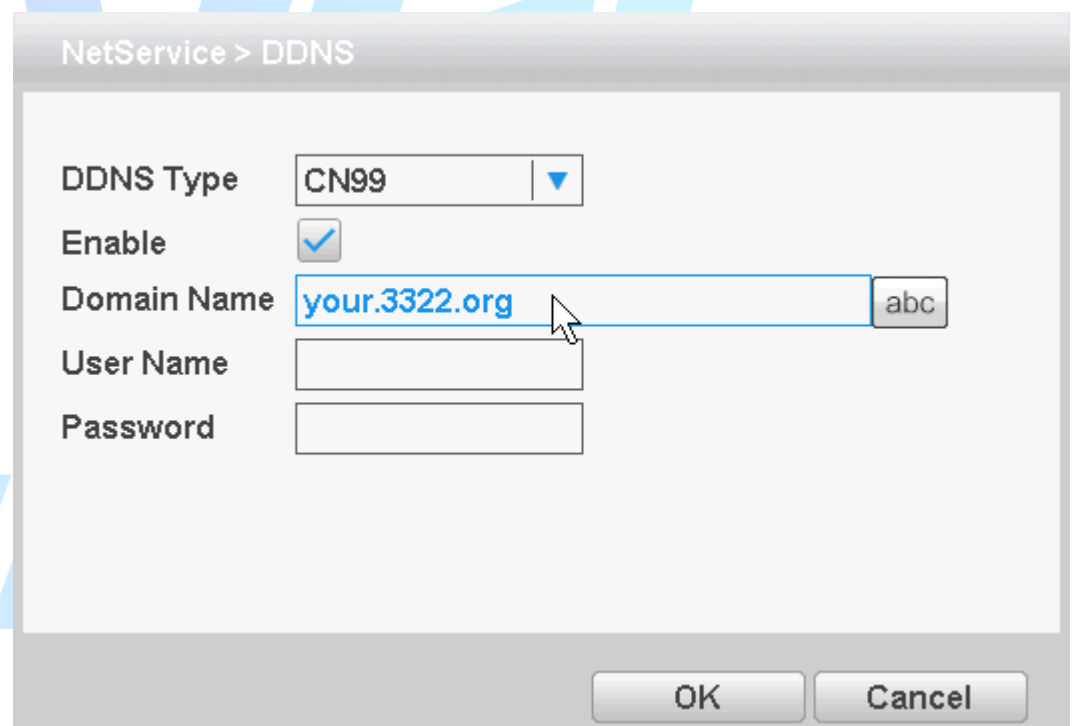


Figure 4.22 DDNS settings

It is the abbreviation of dynamic domain name server.

- ✧ [Domain name]: Provide the domain name registered by DDNS.
- ✧ [User name]: Provide the account registered by DDNS.
- ✧ [Password]: Provide the password registered by DDNS.

When the DDNS is successfully configured and start, you can connect the domain name in the IE address column to visit.

Note: The DNS setup must be configured correctly in the network setup.

[FTP settings]

FTP is used when there is an alarm generated, or the alarm linkage video, capture pictures, you can upload to a specified FTP server specific video and capture pictures.

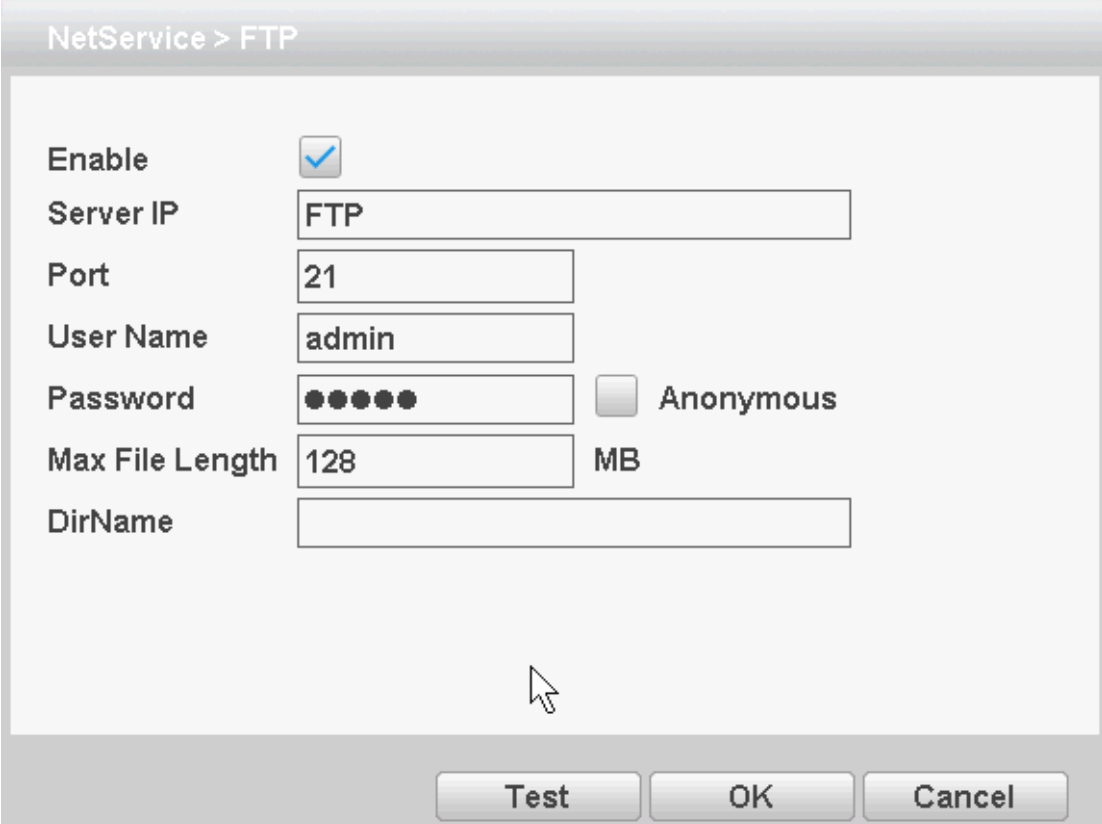


Figure 4.23 FTP settings

[Enable]: Anti means, select Enable, set to take effect;

[Server IP]: IP address of the FTP server;

[Port]: FTP port number field when built, the default port 21;

[User name]: have permission to log onto the FTP user name;

[Password]: The user's password;

[Anonymous]: Anti means, chose to be anonymous, you do not need to set the user name and password;

[Max File Length]: Each package upload files maximum length, default is 128M;

[DirName]: file directory to upload files.

Note: The username is entitled to upload files to the server.

[ARSP]

By setting, you can start DDNS Sever add the device to the DDNS server for device management

NetService > ARSP

Type: DNS

Enable:

Server IP: [Text Field] abc

Port: 15000

User Name: None

Password: [Text Field]

Update Period: 5 min

OK Cancel

Figure 4.24ARSP

[Type]: Select the DNS

[Enable]: Anti means, select Enable, set to take effect;

[Server Ip]: IP address of the DDNS server;

[Port]: Device port number corresponding DDNS server "service listening port";

[User Name]: The user name of the device login DDNS server;

[Password]: The password corresponding to the user name;

[Update Period]: Equipment and DDNS synchronization interval

Note: before using the need to build DDNS Server

[Alarm Server]

After an alarm, it report alarm information to alarm server.

JF TECH

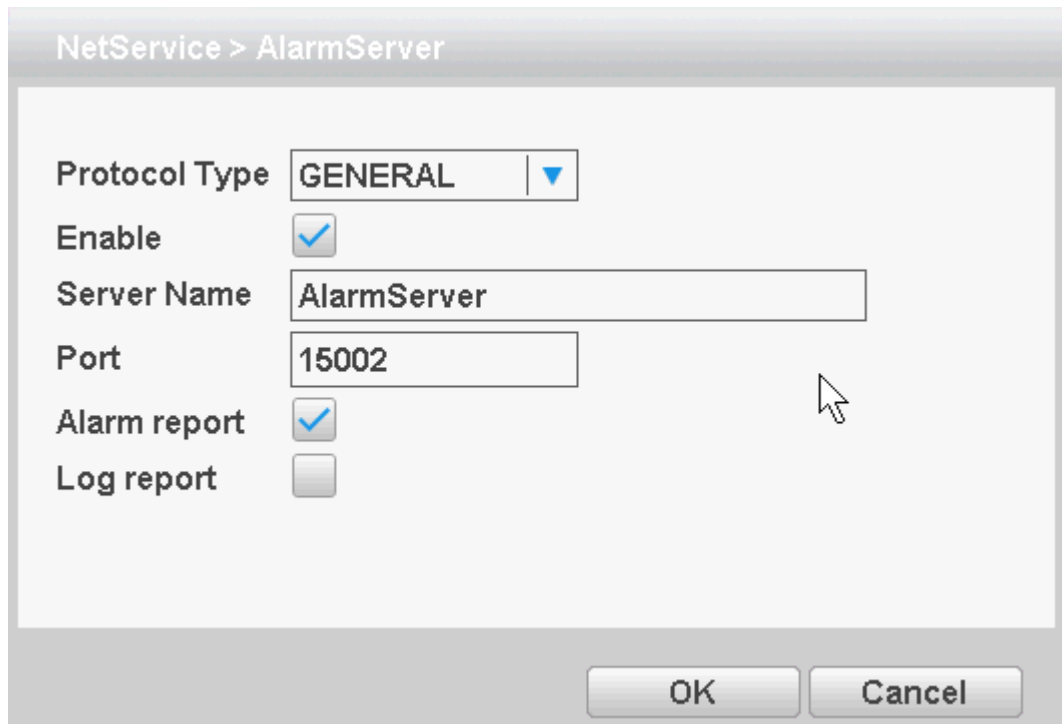


Figure 4.25 alarm center

[Protocol type] GENERAL;

[Enable] means selected, select Enable, set to take effect;

[Server Name] IP address of alarm server;

[Port] port number of the device;

[Alarm report] reported anti means, reported to the police information to the server;

[Log report] Anti means, reported to the server log information.

[3G settings]

Dial-up Internet access through 3G card, implement client access device, configure the device

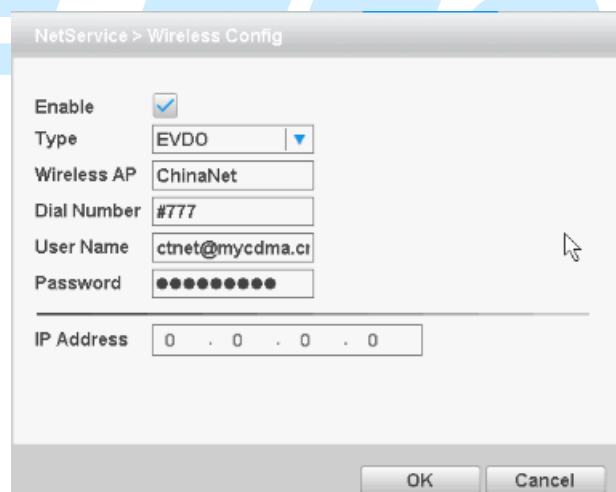


Figure 4.26 3G settings

[Enable]: Anti ■ means, select Enable, set to take effect;
[Type]: Dial type, default automatic
[Wireless AP]: 3G access point, the default can
[Dial number]: 3G dial number, the default can
[User name]: Dial 3G username
[Password]: dial the user's password
[IP address]: The IP address of the dial-up number to get

[UPNP]

UPNP protocol can forward automatically on the router.

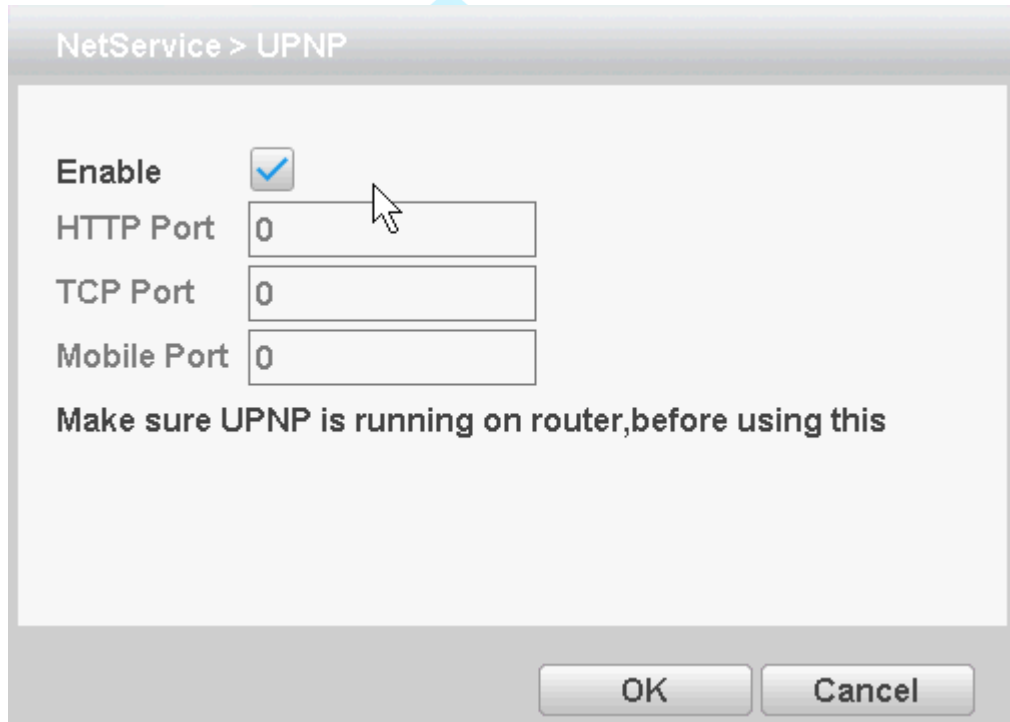


Figure 4.27 UPNP settings

[Enable] ■ means, open the UPNP feature, select the Enable, set to take effect;
[HTTP Port]: router for the device is automatically assigned port numbers, IE browser, the need to add the port number to access;
[TCP Port]: When the router is automatically assigned port for the device, client software monitoring required by the port number;
[Mobile port]: router for the device is automatically assigned port numbers, mobile phone monitoring needs through the port number;

[WIFI]

Connect to the wireless router via the wireless module. To access the device via IP, provided the use of this feature is that the NVR has access to WIFI module.

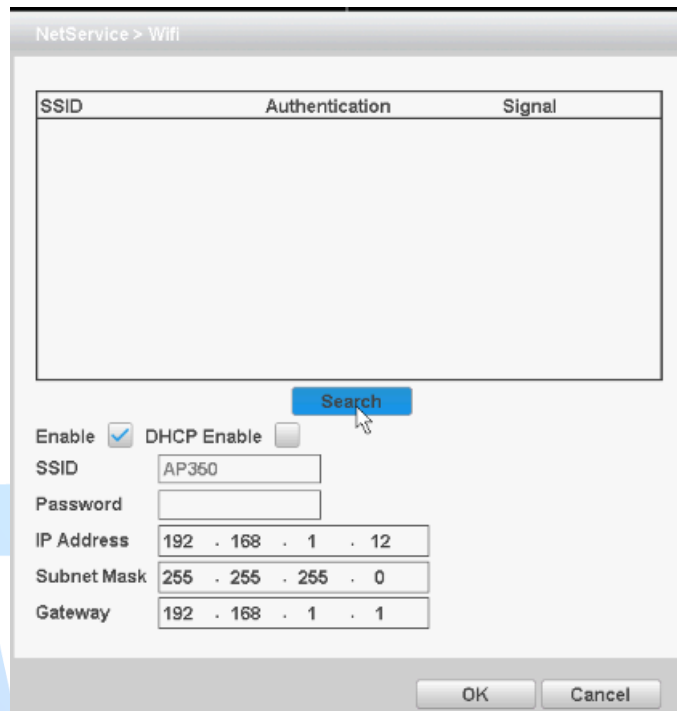


Figure 4.28 WIFI settings

[Search]: Click [Search] button to search out available within the current range of the wireless device;

[Enable]: Anti means to select the Enable before setting;

[DHCP Enable]: Anti means, select Enable, the device will automatically get WIFI in the IP;

[SSID]: Wireless LAN name; automatically match your connected wireless devices;

[Password]: Wi-Fi router's password;

[IP address]: Set the device's IP address, default: 192.168.1.9

[Subnet Mask]: Set the device subnet mask, default: 255.255.255.0

[Default Gateway]: Set the device's default gateway, default: 192.168.1.1

[RTSP]

Monitoring via cross-browser (Safari, Firefox, Google chrome), and VLC software. These functions only for monitor but cannot control the device.

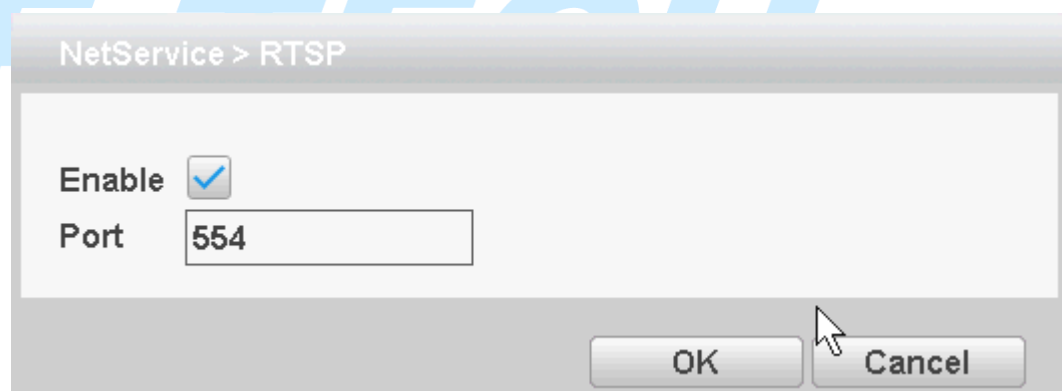


Figure 4.29 RTSP

✧ **【Enable】**: means enable, tick it firstly before setting.

✧ **【Port】**: the default port is 554

[CLOUD]

Check the cloud services, male cloud service is enabled, the user can visit <http://calNVRview.net/>

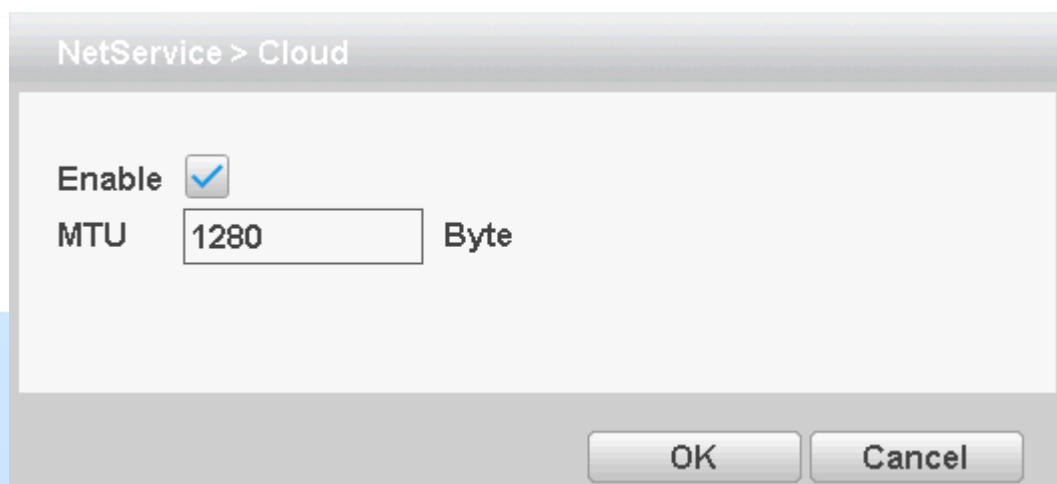


Figure 4.30 Cloud

- ✧ **【Enable】** Select it to make sure abnormal function workable

4.4.5 GUI Display

Configure the video output parameters including time display, record status, transparency, resolution etc.

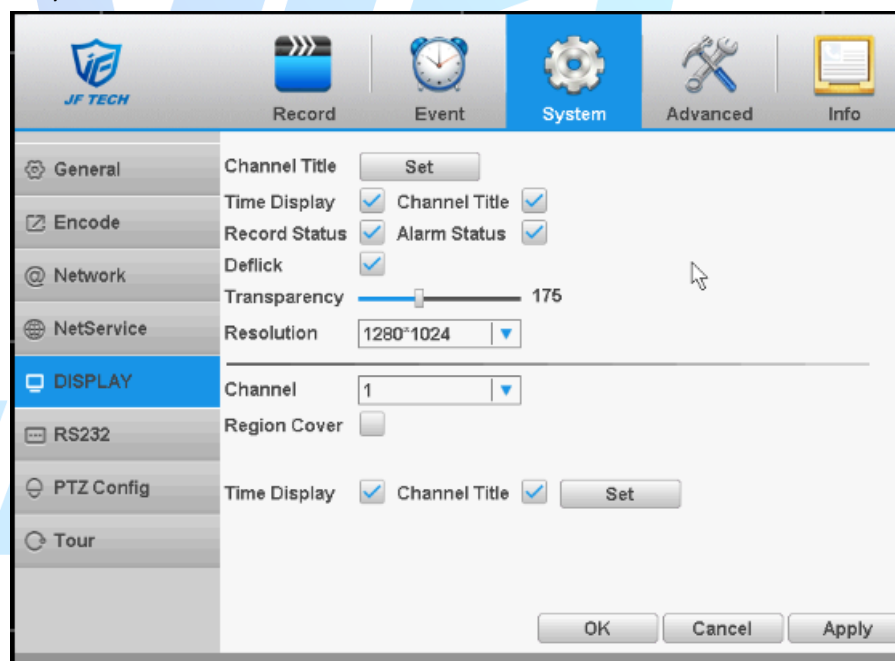


Figure 4.31 GUI display

- ✧ **【Channel Title】** Click the channel name modify button and enter the channel name menu. Modify the channel name. The 16 Chinese characters and 25 letters are supportive.
- ✧ **【Time Display】** means the selective state. Display the system data and time in the surveillance window.
- ✧ **【Channel display】** means the selective state. Display the system channel number

in the surveillance window.

- ✧ 【Alarm Status】 means the selective state. Display the system alarm status in the surveillance window.
- ✧ 【Transparency】 Choose the background image transparency. The range is 128~255.
- ✧ 【Resolution】 set display resolution.

4.4.6 RS485

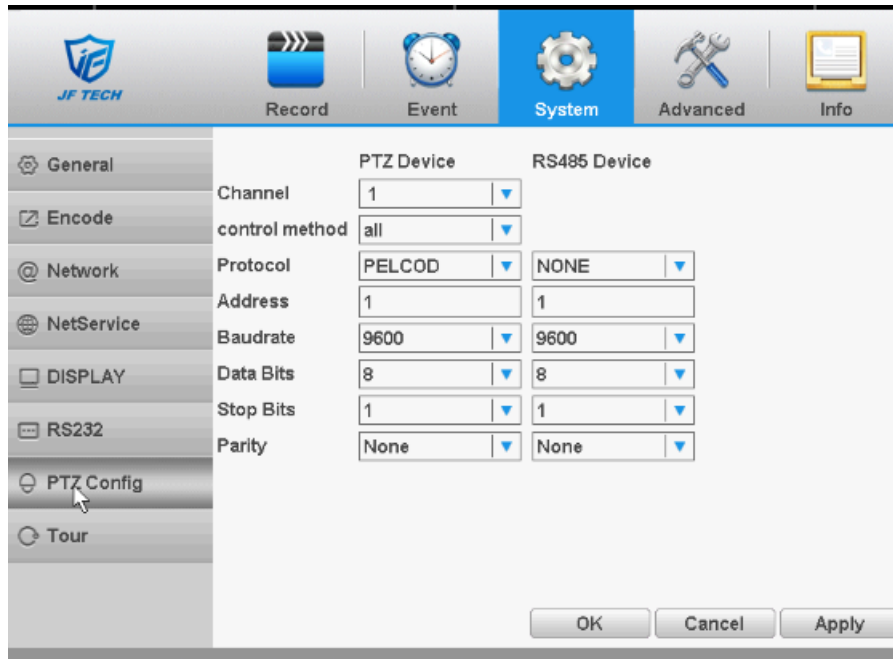


Figure 4.32 RS485

- ✧ [Protocols]to select the protocols (e.g.: Dahua);
- ✧ [Address] set to the appropriate address, the default is 1;
- ✧ [Baudrate] equipment used to select the appropriate baud rate, the default is 115200;
- ✧ [Data bits], including 5-8 option, the default is 8;
- ✧ [Stop bits] there are two options 1 and 2, the default is 1;
- ✧ [Parity] points odd parity, even parity, mark parity, space parity, the default is none.

4.4.7 port settings

* Some products do not support this feature

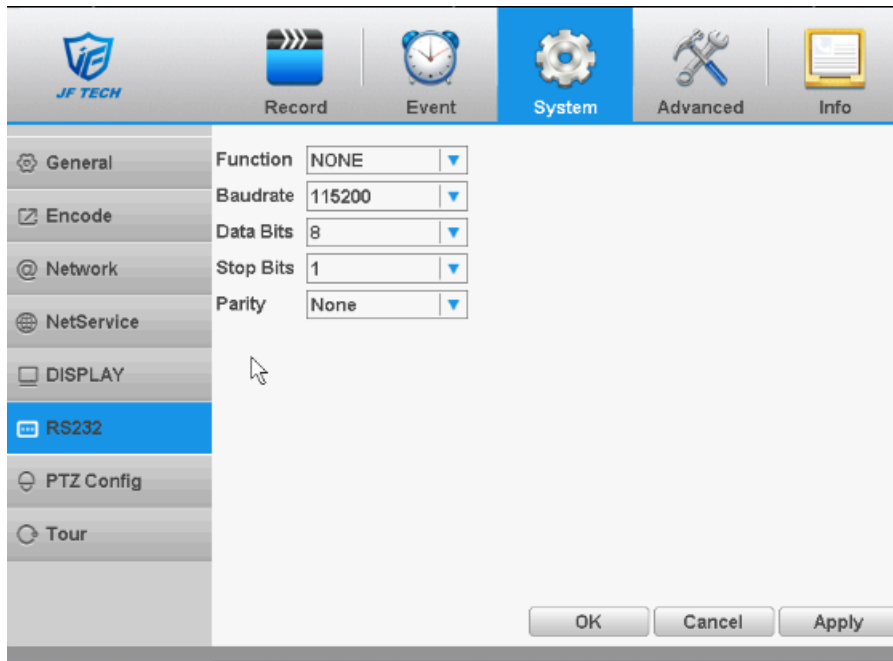


Figure 4.33 port settings

- ✧ 【Function】 Common serial port is used to debug and update program or set up specific serial port.
- ✧ 【Baudrate】 Choose the corresponding baud rate length.
- ✧ 【Data bits】 Include 5-8 options.
- ✧ 【Stop bits】 Include 2 options.
- ✧ 【Parity】 Include odd, even, mark, space, default is none.

4.4.8 Tour

Set the patrol display. Mean that the tour mode is enabled. You can choose the single-view, four-view, six-view of single mode tour or hybrid mode tour.

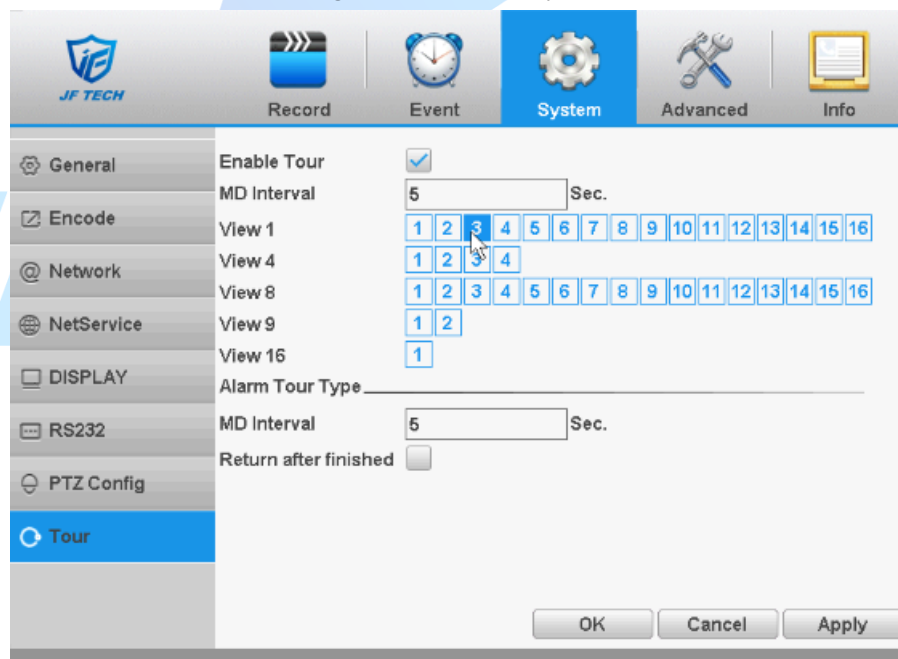






Figure 4.34 touring settings

- ✧ 【MD Interval】 Set the patrol switch interval. The set range is 5-120 seconds.

- ✧ 【Alarm Tour Type】 set the interval to shift alarm tour, range is 5-120 seconds, choose return when alarm ends, when alarm link to tour, system will auto shift to six-view after alarm finished.

Remark: at preview mode, click upper right icon  /  can turn on / off tour ( mean turn on,  mean turn off) .

4.5 Advanced

Including Storage, Account, Online User, Import/Export, Upgrade, AutoMaintain, Restore, Digital

4.5.1 Storage

Configure and manage the hard disk. The menu displays current hard disk information: hard disk number, input port, type, status and overall capability. The operation include: setup the write-read disk, read-only disk, redundant disk, hard disk format, resume default. Choose the hard disk and click the right function button to execute.

Note: Read/Write Disk: The equipment can write or read data.

Read-only Disk: The equipment can read data but cannot write data.

Redundant Disk: Double backup the video files in the write-read disk.

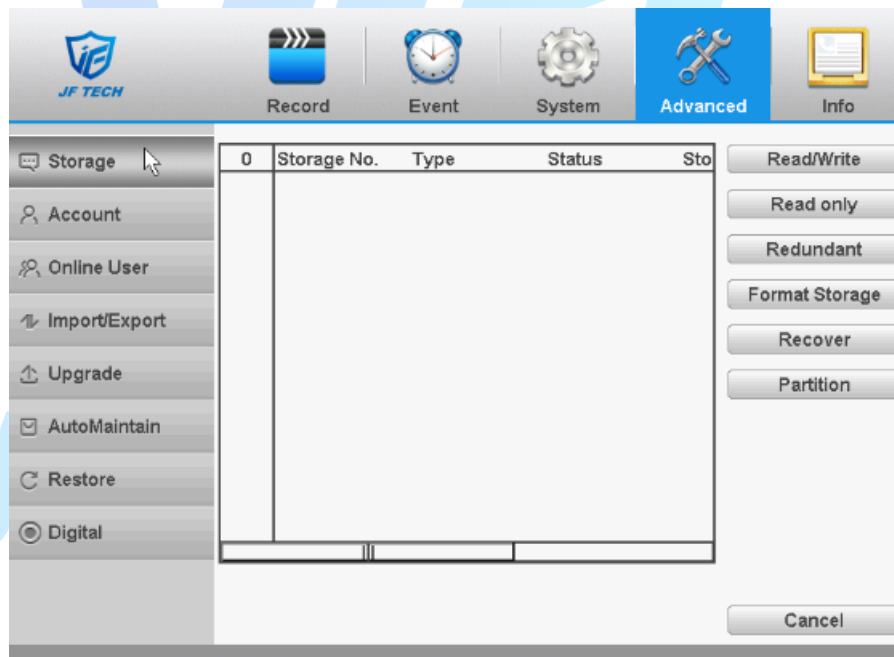


Figure 4.35 Storage Management

4.5.2 Account

Manage the user purview.

Note:

1. The character length is 8 bytes at most for the following user and user team name. The blank ahead or behind the character string is invalid. The middle blank in the character string is valid. Legal characters include: letter, number, underline, subtraction sign, and dot.

2. There is no limit in the user and user group. You can add or delete the user group according to user definition. The factory setup include: user\admin. You can set the team as you wish. The user can appoint the purview in the group.
3. The user management include: group/ user. The group and user name cannot be the same. Each user only belongs to one group.

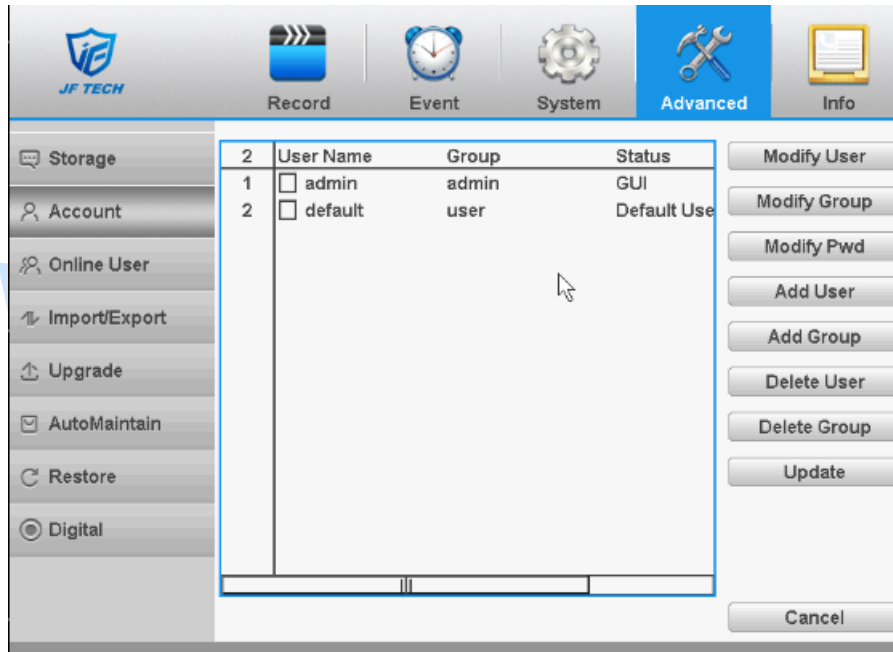


Figure 4.36 Account

[Modify User]: Modify the user name has been added, whether reuse, notes, group, class, and permissions.

[Modify Group]: group name has been added to modify the user group, notes and permissions.

[Modify Password]: modify user login password.

Note: The user who possess the user control purview can modify his/her own or other users password

JF TECH

Account > Modify Pwd

User Name ▼

Old

New

Confirm

OK Cancel

Figure 4.37 Modify password

[Add user]: Set new user name, password, notes, owning group, permissions and other information, can add up to 64 user names.

Account > Add User

User Name useable

Password

Confirm

Memo

GROUP ▼

	<input type="checkbox"/>	Authority
57	<input type="checkbox"/>	
1	<input type="checkbox"/>	Shutdown the device
2	<input type="checkbox"/>	Channel Title
3	<input type="checkbox"/>	Schedule
4	<input type="checkbox"/>	Backup
5	<input type="checkbox"/>	HDD Management
6	<input type="checkbox"/>	Account
7	<input type="checkbox"/>	Query System Info
8	<input type="checkbox"/>	Query Log Info
9	<input type="checkbox"/>	Clear Log

OK Cancel

Figure 4.38 Add user

[Add Group]: Set the group name new user group, notes, permissions and other information.

Account > Add Group

Name

Memo

57	<input type="checkbox"/>	Authority
1	<input type="checkbox"/>	Shutdown the device
2	<input type="checkbox"/>	Channel Title
3	<input type="checkbox"/>	Schedule
4	<input type="checkbox"/>	Backup
5	<input type="checkbox"/>	HDD Management
6	<input type="checkbox"/>	Account
7	<input type="checkbox"/>	Query System Info
8	<input type="checkbox"/>	Query Log Info
9	<input type="checkbox"/>	Clear Log
10	<input type="checkbox"/>	System Update
11	<input type="checkbox"/>	Auto Maintain
12	<input type="checkbox"/>	General Config
13	<input type="checkbox"/>	Tour、Spot Config

OK Cancel

Figure 4.39 Add group

[Delete User]: delete the selected user, the user cannot delete the registry.

[Delete Group]: delete the selected user group, when the group contains a user group cannot be deleted.

Account > Delete Group

GROUP

Name

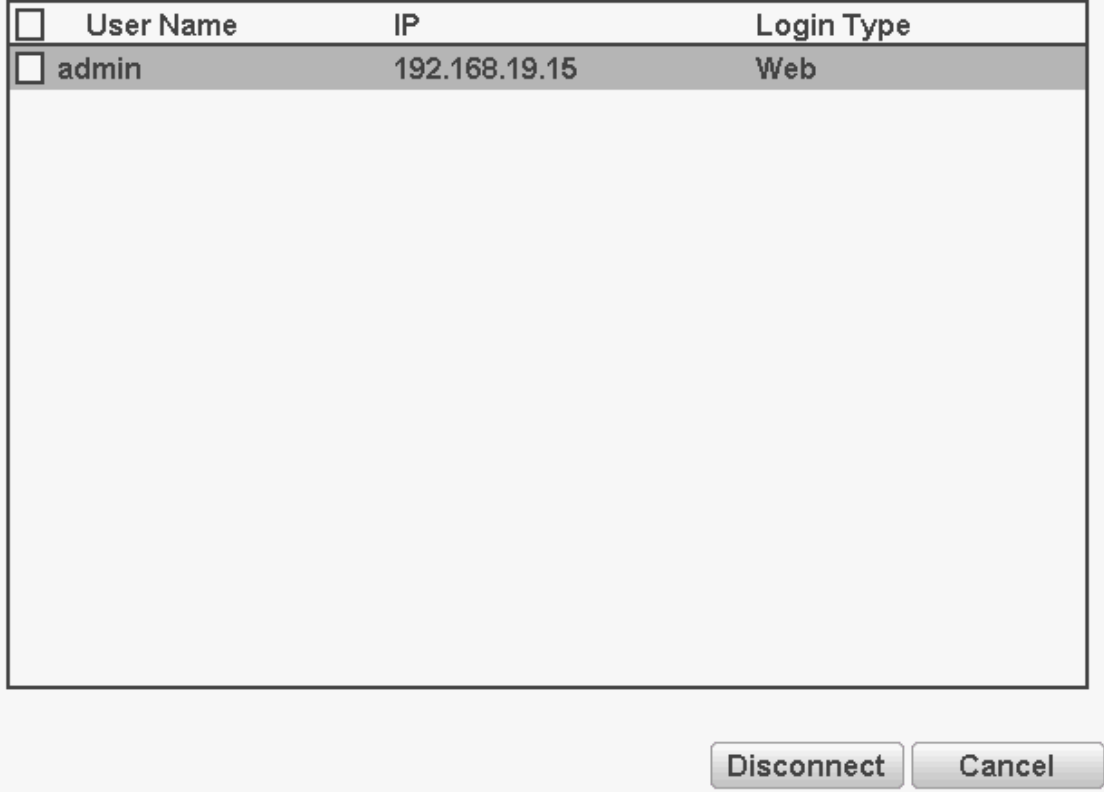
Memo

Delete Cancel

Figure 4.40 delete group

4.5.3 Online user

To check the information of network user that connected with local device, also can tick the selected user to break up connection, (make V at the box) , then the user will be frozen after connection stopped, and will not log in until device reboot.



<input type="checkbox"/>	User Name	IP	Login Type
<input type="checkbox"/>	admin	192.168.19.15	Web

Disconnect Cancel

Figure 4.41 Online user

4.5.4 Import / Export

Users can export the log info and the configure file from device to connected flash stick, and also can import related configure file from flash stick to settings, which greatly bring convenience to the customers.

JF TECH



Figure 4.42 import/ export

4.5.5 Upgrade

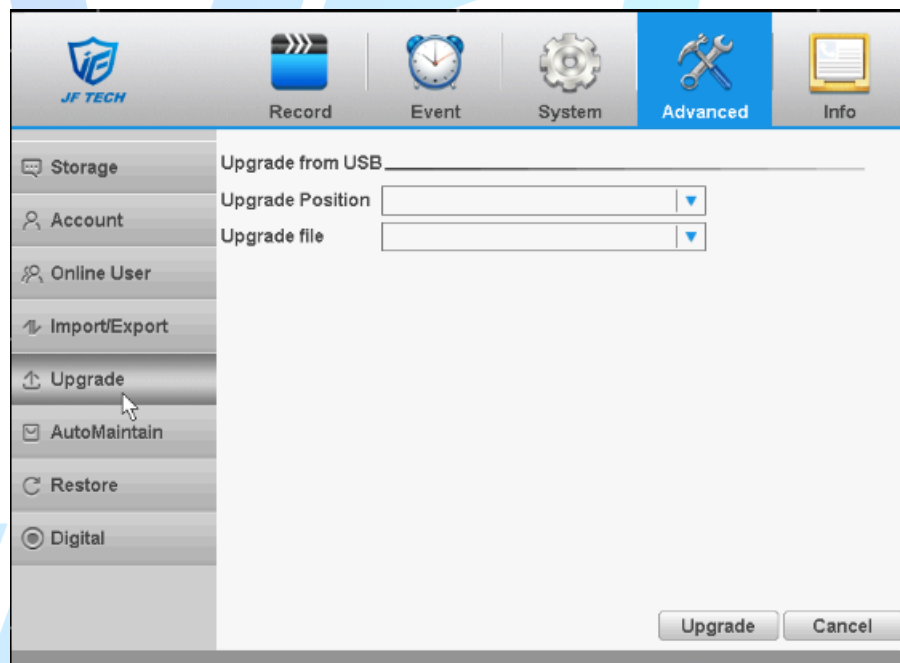


Figure 4.43 Upgrade

【Upgrade】 choose USB interface.

【Upgrade file】 choose the upgrade file.

4.5.6 AutoMaintain

The user can set the time to auto reboot and auto delete file.

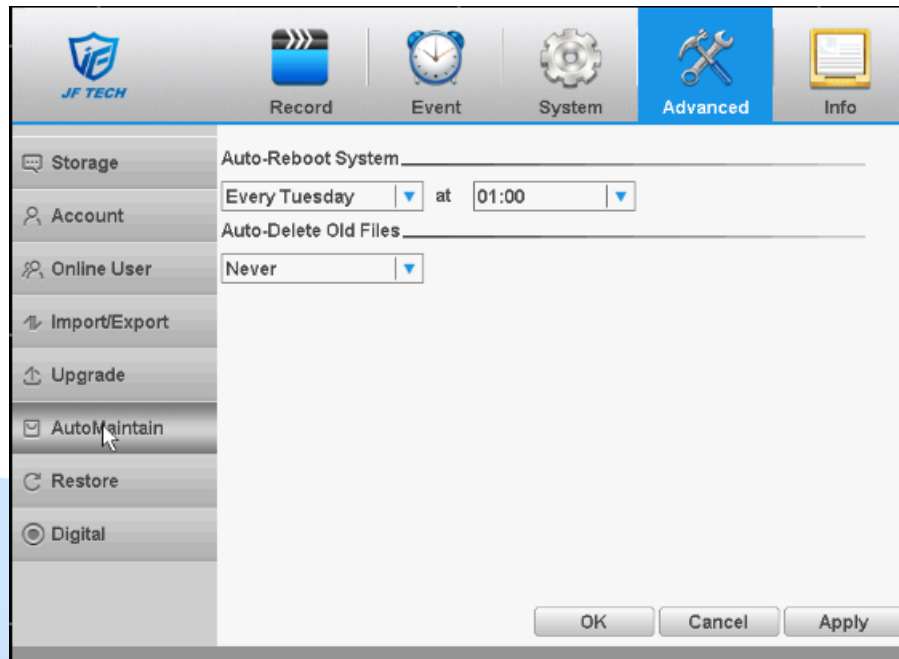


Figure 4.44 auto maintain

4.5.7 Restore

The system restore to the default. You can choose the items according to the menu.

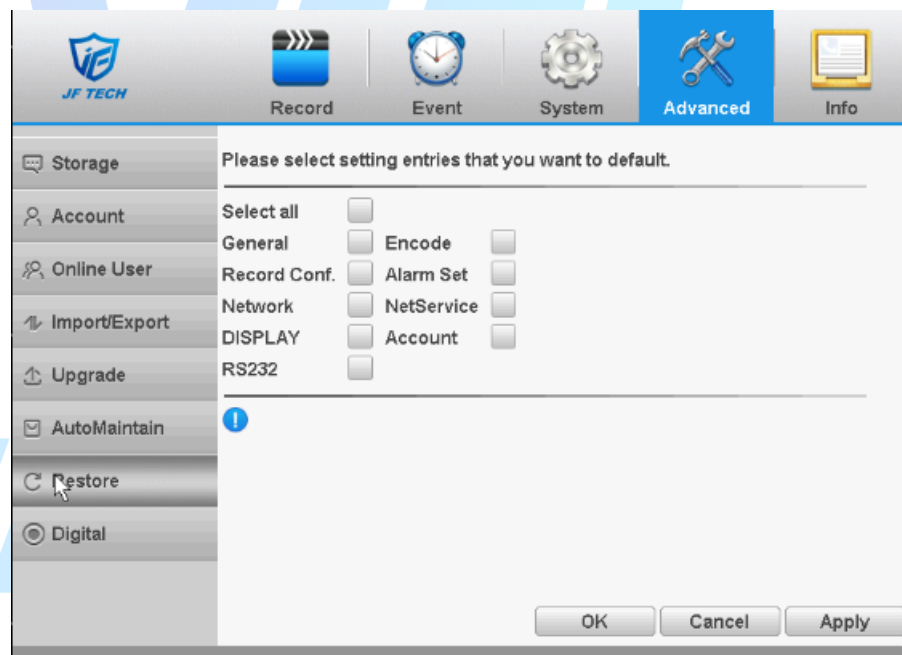
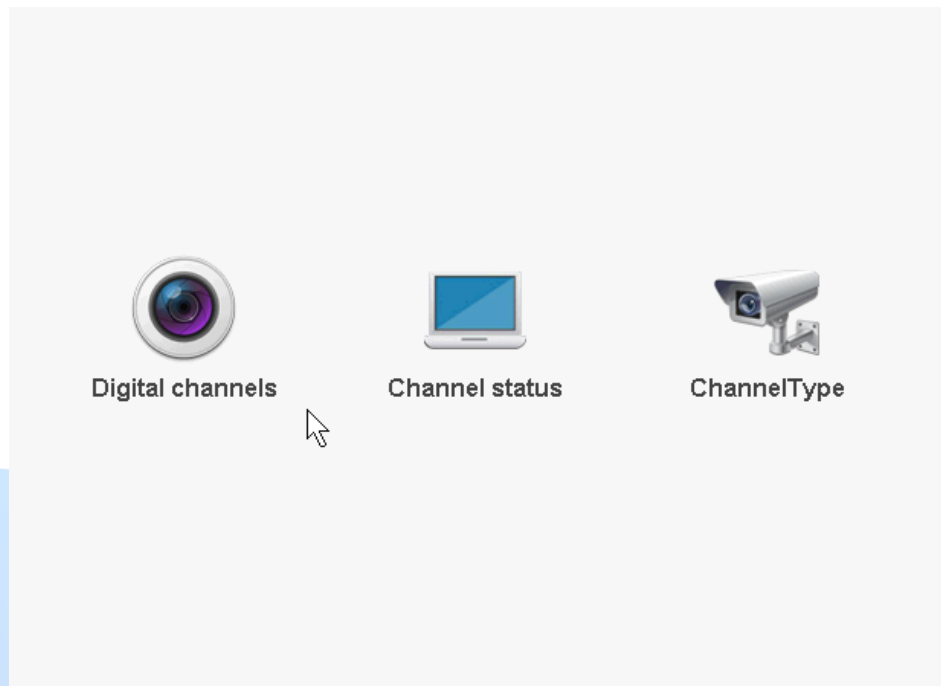


Figure 4.45 Restore

4.5.8 Channel manage

Channel management including digital channel, channel status, and channel mode.(note: under full-analog mode, there is only channel mode selection)



Mixed mode/ full-digital mode
Figure 4.46 channel manage

Digital channel

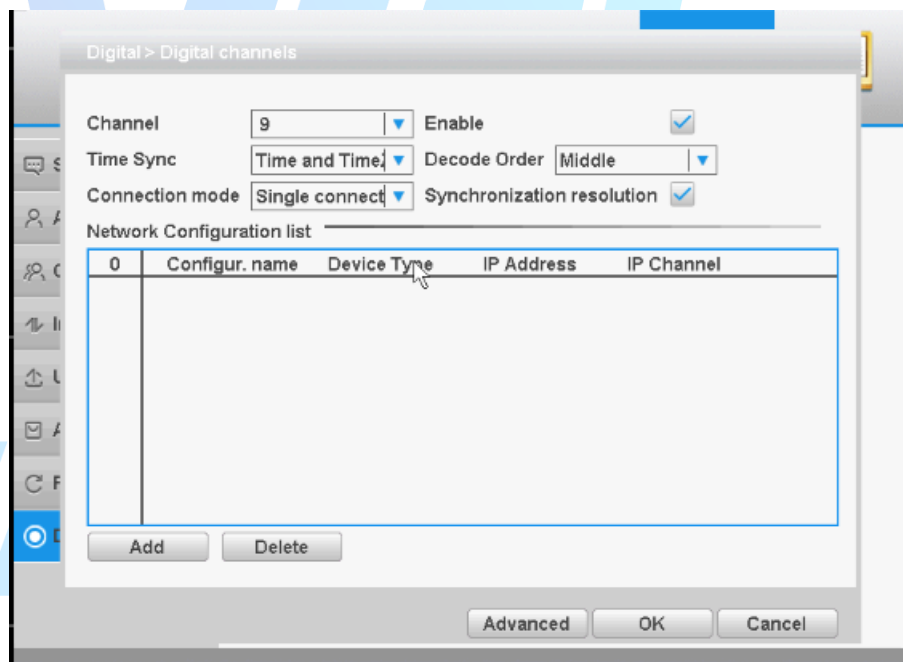


Figure 4.47digital channel

- ✧ **【Channel】** select channel title
- ✧ **【Enable】** Open digital channel, tick enable, then can do related settings
- ✧ **【Time Sync】** Tick it means the time of this channel and device is the same.
- ✧ **【Connection Mode】** can be single connect or multi-link, multi-link modes can connect to several devices, device will be tour displayed one by one, tour interval can be set, no less then 10s;
- ✧ **【Delete】** If the user want to change device, select the existing device, click delete

will be ok.

- ✧ **【Add】** click add will come out below page to add new device

0	Device Name	Device Info.	IP Address	Port
---	-------------	--------------	------------	------

Figure 4.48 Remote access configurations

- ✧ **【Configure Name】** device is with default configure title, user can revise it if necessary;
- ✧ **【Device Type】** 3 types: IPC、NVR、HVR, user can choose as what you like, default is IPC;
- ✧ **【Protocol】** There are two protocols: NTEIP and ONVIF, the default is NETIP;
- ✧ **【IP channel】** User can input remote channel title from the device that you want to connect remotely;
- ✧ **【Device Address】**to enter remote device IP, the system defaults to 192.168.1.20;
- ✧ **【Port】** Default is 34567
- ✧ **【User name】** Default is admin
- ✧ **【password】** default is blank

Note:

1. In Figure 4.47, the protocol search drop-down box on the left side, there are three, namely NETIP, ONVIF, the whole, the user can choose according to demand, click search it will search for the corresponding protocol online device.
2. Click the Search button, the following will show the device as shown in the search to 4.48, the user can double-click the device IP connections want according to their needs, and you can add the device. At this point in Figure 4.47 device address and port the appropriate changes, and the user name and password is still the default parameters, the user must be entered manually.
3. Double-click the discovered devices, network setup in Figure 4.47 by graying light, click the button; you can just add the device to the network settings shown in Figure 4.48.

IP channel config wizard > Network

IP Address: 192 . 168 . 19 . 15

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 192 . 168 . 19 . 1

User Name: admin

Password:

Auto assigned OK Cancel

Figure 4.49 network settings

Channel Status:

Channel status is to show the status of the entire digital channel when there is what existing, status including Max Resolution, This Resolution, and Connection Status. The channel status as 4+2 mode:

Digital > Channel status

Channel	Stream	Mainstream/Sub-Stream	Connection Status
D09	1080P	Unknown	NoConfig
D10	1080P	Unknown	NoConfig
D11	1080P	Unknown	NoConfig
D12	1080P	Unknown	NoConfig
D13	1080P	Unknown	NoConfig
D14	1080P	Unknown	NoConfig
D15	1080P	Unknown	NoConfig
D16	1080P	Unknown	NoConfig

Cancel

Figure 4.50 Channel Status

Remark: when the current resolution is over the max resolution that the channel supported, then a red "X" will be shown on the preview image, for example: Under full digital channel mode, Max resolution of channel 3 is D1, if it was connected to a device with resolution over D1 (such as 960H).

Channel mode:

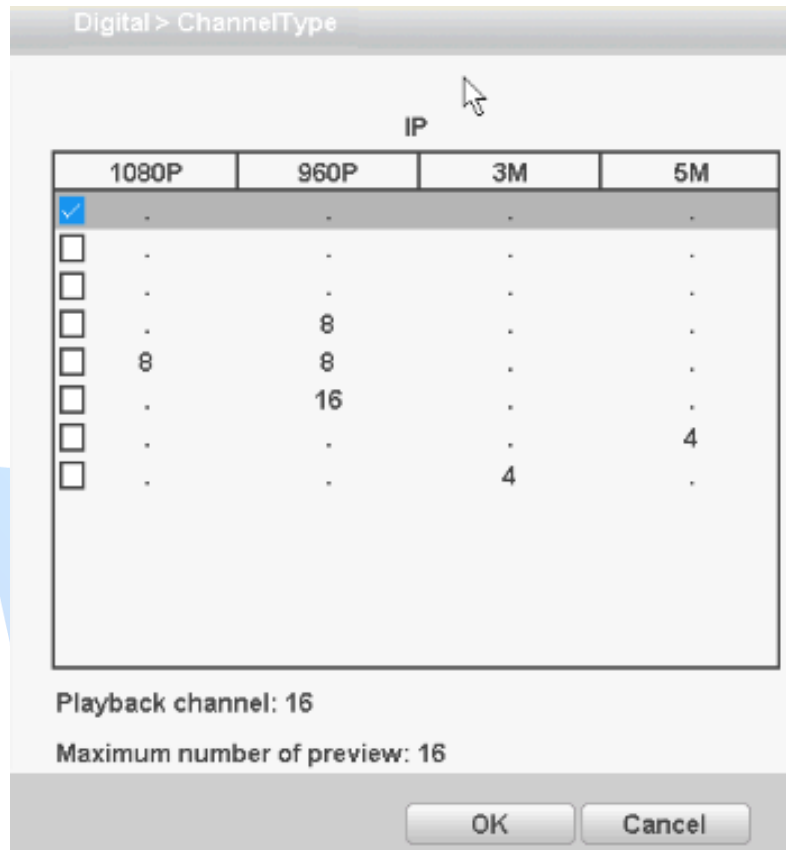


Figure 4.51 Channel Type

Remark: this series of product with full analog channel mode, hybrid mode and full digital mode, and different model with different channel mode, user can shift the mode freely if necessary.

4.6 System Info

Display the hard disk information, including HDD info, code stream statistic, log info, version info.

4.6.1 HDD info

Display the hard disk state: hard disk type, overall capability, residual capability, the recording time and so on.

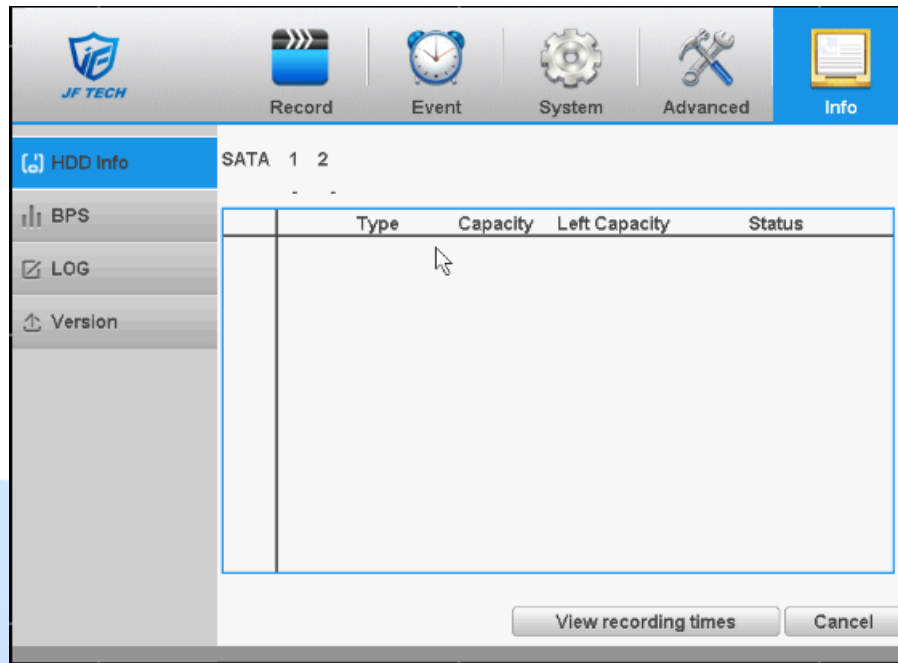


Figure 4.52 HDD info

Tips: ○ means that the hard disk is normal. X means that the hard disk is broken-down.- means that there is no hard disk. If the user needs to change the damaged hard disk, you must shut down the NVR and take up all the damaged hard disks, then install a new one.

* Behind serial number means the current working disk such as 1*. If the corresponding disk is damaged, the information will show “ ? ”

4.6.2 BPS

Display the code stream (Kb/S) and hard disk capability (MB/H) in real time. It displays as the wave sketch map.

Channel	Kb/S	MB/H	Channel	Kb/S	MB/H
1	31	6	9	31	6
2	50	10	10	49	10
3	50	10	11	48	10
4	50	10	12	49	10
5	50	10	13	31	6
6	49	10	14	31	6
7	48	10	15	31	6
8	49	10	16	31	6

Figure 4.53 BPS

4.6.3 LOG

To search log information base on the set search mode.

Log information include: system operation, configuration operation, data management, alarm affair, recording operation, user management, and file management and so on.

Set the time section to look up and click the look up button. The log information will display as a list. (One page is 128 items) Press Page up or Page down button to look up and press delete button to clear all the log information.

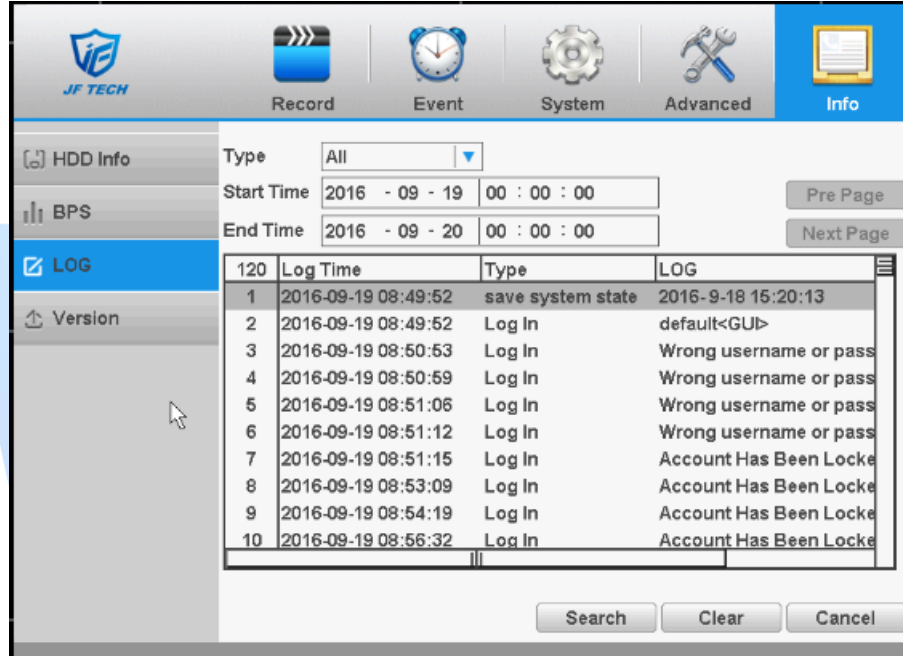


Figure 4.54 LOG

4.6.4 Version

Display the basic information such as hardware information, software version, issue date, serial number, and NAT status and so on.

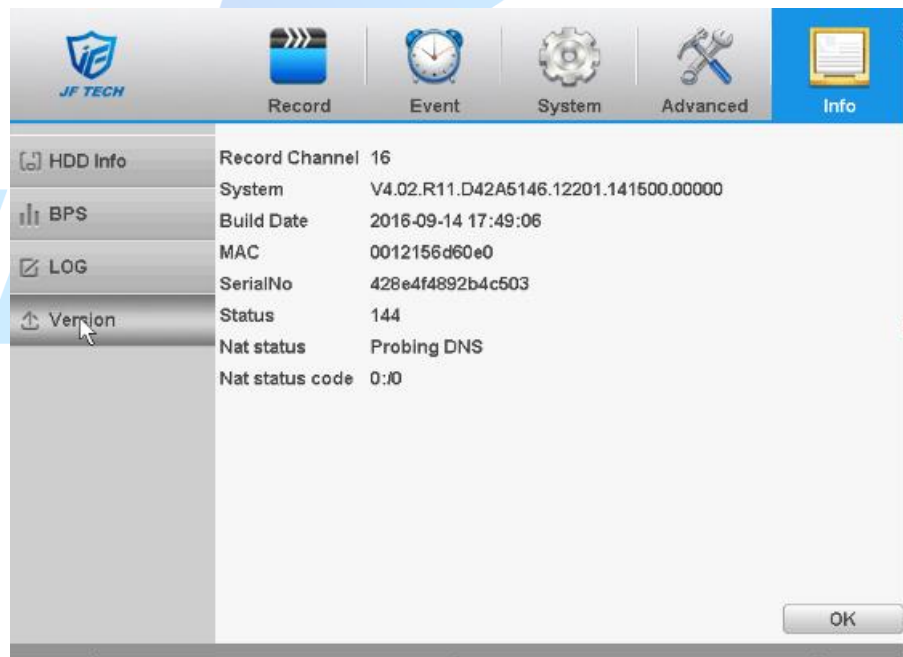


Figure 4.55 version

4.7 Shut down system

Refer to chapter 3.5.8.



JF TECH

5.Remote Cloud Operating Instructions

5.1 Cloud surveillance

Cloud technology allows the device to achieve one step to Internet, which greatly facilitates the customers to monitor the public network. The technology access the device through the serial number.

*** Note: Support for cloud technology equipment required to be in the public domain is available within the cloud monitoring.**

5.1.1 Check the cloud connection status

After the device is connected to external networks, you can check through [main menu]> [System]> [Version],If the Nat Status is “Connected”,then it means the device is connecting to the cloud server successfully.

5.1.2 Log in cloud server

Log <http://cloud.jufenginfo.com>, Pop up the login screen, which has login by user and log in by the device two ways, the customer can demand their own choices login.

*** Note: The first time according to login by user, you need to register.**

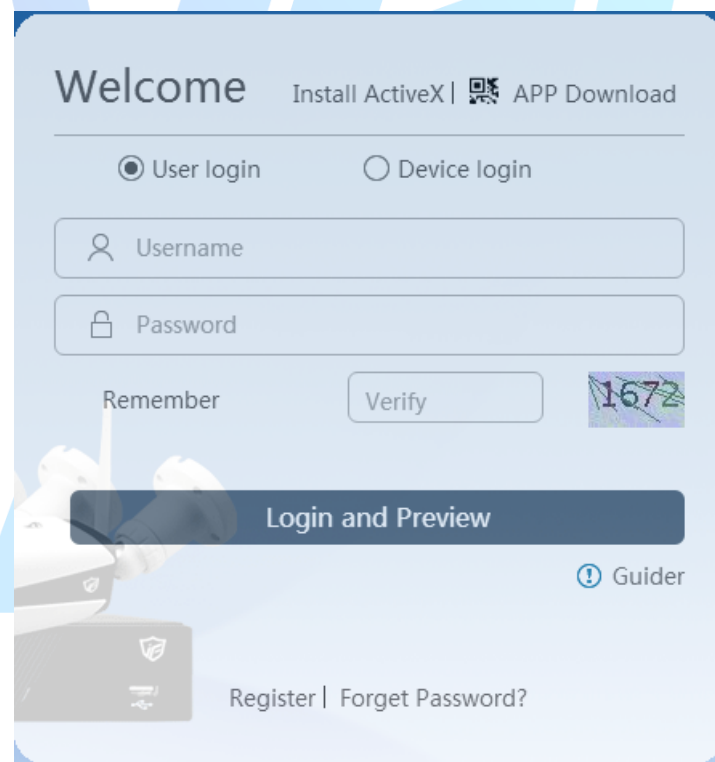


Figure 5.1 Log in

5.1.3 Log in by user

After the customer entering username and password, the following screen pops up:

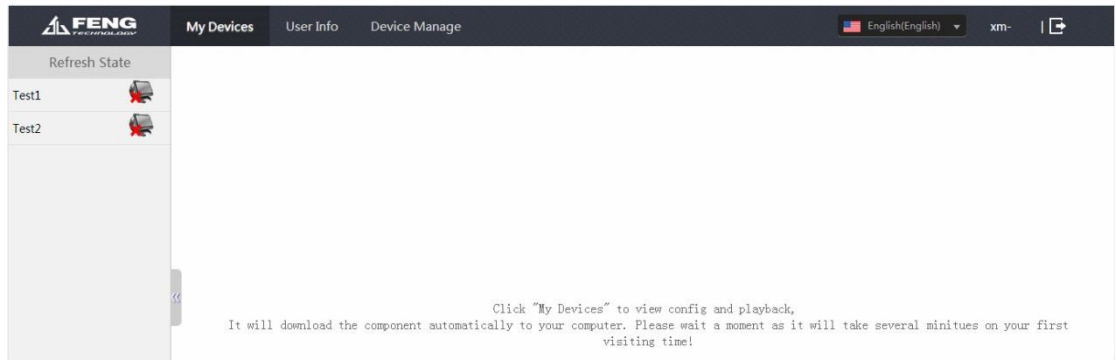


Figure 5.2 cloud technology interface

Device Management:

Mainly used to add devices to be monitored, click Add, to add serial number of the device.



Figure 5.3 device management

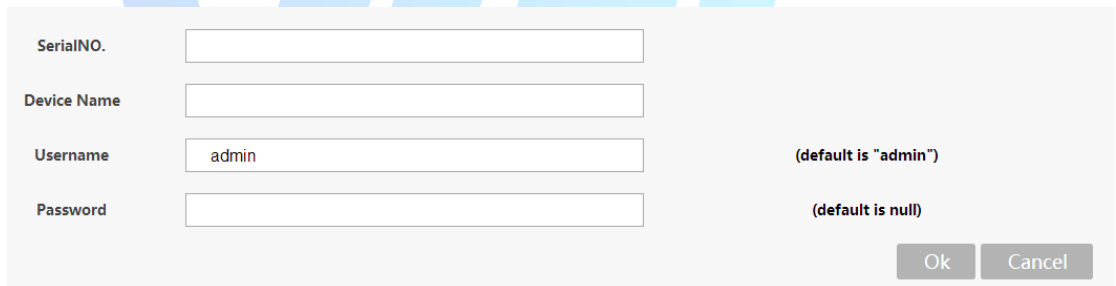


Figure 5.4 Add device

* Note: the user name in Figure 5.5 is the user name of monitoring equipment; device password refers to the appropriate device user's password.

My device:

The main display device name added to the Device Manager, click on the success of the devices connected to the server name, you can access to monitor the device.

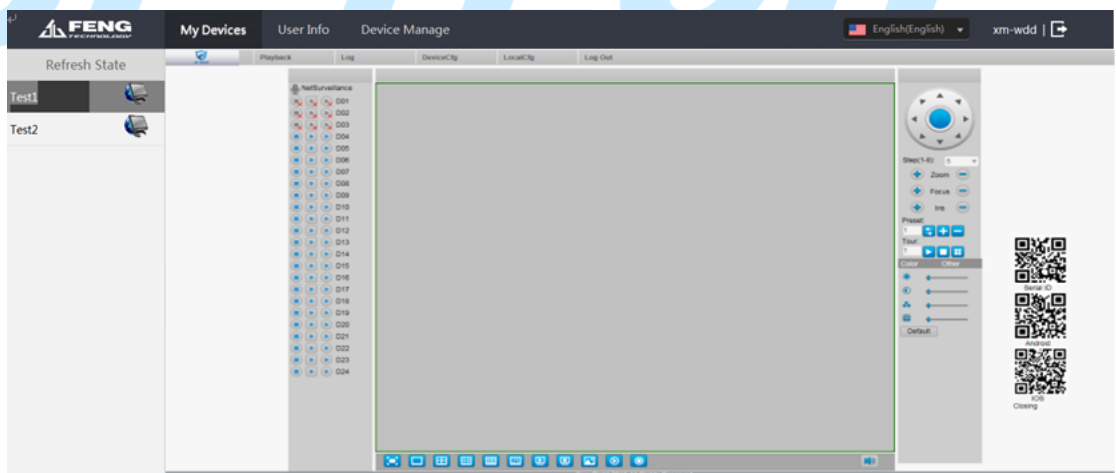


Figure 5.5 surveillance screen

5.1.4 Log in by device

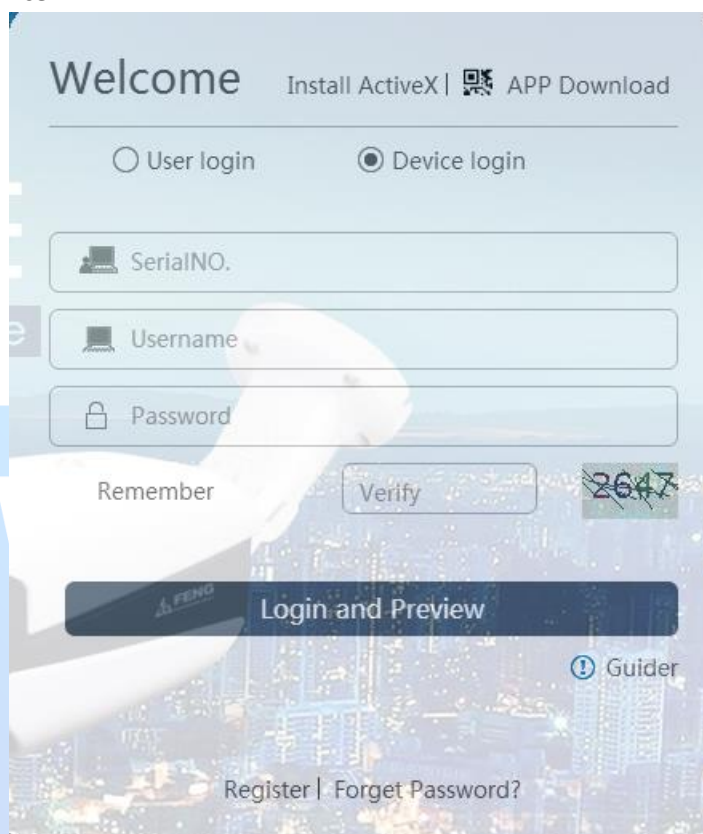


Figure 5.6 log in by device

Enter the serial number of the device to monitor and verify the code after the direct monitoring equipment.

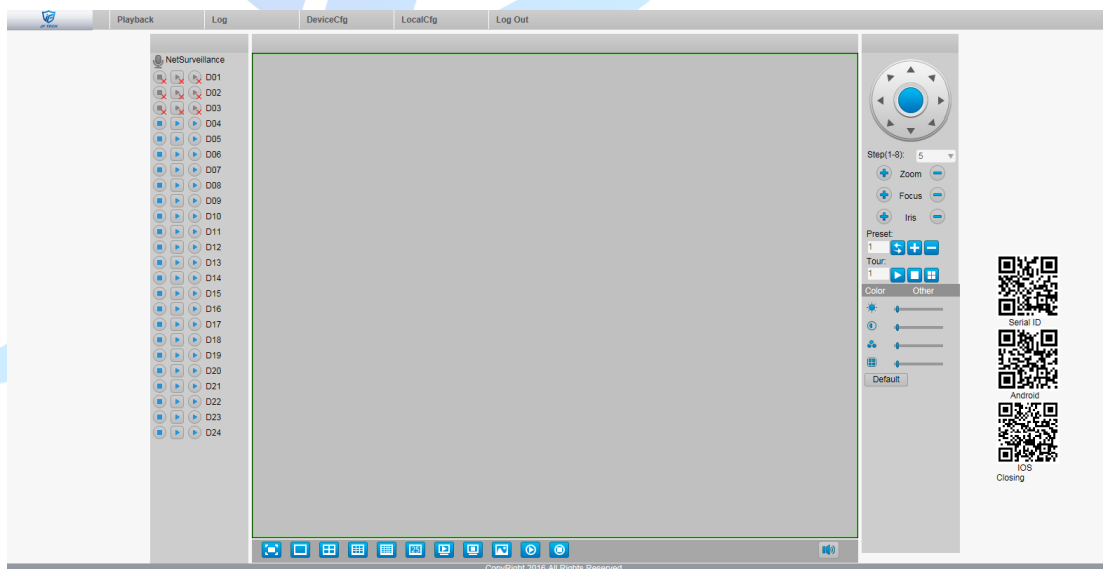


Figure 5.7 surveillance screen

6.FAQ and maintenance

6.1 FAQ

If your problem is not the content of the following, please contact your local customer service staff or call the customer service consulting headquarters, we will be happy to serve you.

Q: When turned on, the NVR does not start properly

A: Possible reasons:

- Input power is not correct
- Switching power line contact is not good
- Switching Power Supply bad
- Program Upgrade Error
- Hard disk is damaged or hard-line issue
- Front panel fault
- NVR bad motherboard

Q: A few minutes after starting the NVR will automatically reboot or frequent crashes

A: Possible reasons:

- Input voltage is unstable or too low
- Hard disk has bad sectors or bad hard line
- Switching power supply power is not enough
- Front-end video signal instability
- Adverse heat, too much dust, the machine is too harsh operating environment
- NVR hardware failure

Q: System cannot detect hard disk.

A: Possible reasons are as followed:

- The hard disk power supply line is not connected.
- The cables of the hard disk are damaged.
- The hard disk is damaged.
- The SATA port of main board is damaged.

Q: There are no video outputs in single channel, multiple channels and all channels.

A: Possible reasons are as followed:

- The program is not matched. Please update the program.
- The image brightness is all 0. Please restore the default setup.
- There is no video input signal or the signal is too weak.
- The channel protection or the screen protection is set.
- The hardware of the NVR is damaged.

Q: I cannot find the video files in local playback mode.

A: Possible reasons are as followed:

- The data line of the hard disk is damaged.
- The hard disk is damaged.

-
- Update the different program with the origin program files.
 - The video files to look up are covered.
 - The recording is not on.

Q: The local video is not clear.

A: Possible reasons are as followed:

- The image quality is too bad.
- The reading program is wrong. Reboot up the NVR.
- The data line of the hard disk is damaged.
- The hard disk is damaged.
- The hardware of the NVR is damaged.

Q: There is no audio signal in the surveillance window.

A: Possible reasons are as followed:

- It is not an active tone arm.
- It is not an active sound box.
- The audio lines are damaged.
- The hardware of the NVR is damaged.

Q: There is audio signal in the surveillance window but no audio signal in the playback state.

A: Possible reasons are as followed:

- Setting issues: the audio option is not chosen.
- The according channel is not connected with the video.

Q: The time is wrong.

A: Possible reasons are as followed:

- Setting is wrong..
- The battery is in bad connection or the voltage is too low.
- The oscillation is damaged.

Q: The NVR cannot control the PTZ.

A: Possible reasons are as followed:

- There is something wrong with the frontal PTZ.
- The setting, connection or the installation of the PTZ decoder is not correct.
- The connections are not correct.
- The PTZ setting of the NVR is not correct.
- The protocols of the PTZ decoder and the NVR are not matched.
- The address of the PTZ decoder and the NVR are not matched.
- When multiple decoders are connected, the far port of the PTZ decoder line A(B) must connect a 120Ω resistance to reduce the reflection otherwise the PTZ control is not stable.
- The distance is too far.

Q: the motion detect is not working,

A: Possible reasons are as followed:

- The time range set is not correct.
- The motion detect area set is not correct.
- The sensitivity is too low.
- Limited by some hardware edition.

Q: I cannot login via web or CMS.

A: Possible reasons are as followed:

The system is Windows98 or Winme. We recommend updating to windows 2000sp4 or higher Version or installing the software for low edition.

- ActiveX is hold back.
- The version is not exceeded dx8.1. Update the display card driver.
- Network connection failure.
- Network setting issues.
- Invalid password or user name.
- The CMS is not matched the NVR program version.

Q: The image is not clear or there is no image in network preview state or video file playback state.

A: Possible reasons are as followed:

- Network is not stable.
- The user machine is resource limited.
- Choose the play-in-team mode in the network setup of NVR.
- The region shelter or channel protection is set.
- The user has no surveillance purview.
- The real-time image of the hard disk recording machine itself is not clear.

Q: Network connection is not stable.

A: Possible reasons are as followed:

- Network is not stable.
- IP address is conflicted.
- MAC address is conflicted.
- The net card of the NVR is bad.

Q: There is something wrong with the USB backup or writing a CD.

A: Possible reasons are as followed:

- The rewritable machine and the hard disk are shared the same data lines.
- The data is too much. Please stop recording and backup.
- The data exceeds the backup storage.
- The backup equipment is not compatible.
- The backup equipment is damaged.

Q: The keyboard cannot control the NVR.

A: Possible reasons are as followed:

- The serial port of the NVR is not set correctly.
- The address is not correct.
- When multiple transformers are connected, the power supply is not large enough. Please give each transformer individual power supply.
- The distance is too far.

Q: Alarm cannot be recessional.

A: Possible reasons are as followed:

- The setting of the alarm is not correct.
- The alarm output is turned on manually.
- The input machine is damaged or the connections are not correct.

-
- There are some problems for specific program edition, Please update the program.

Q: Alarm is not working.

A: Possible reasons are as followed:

- The setting of the alarm is not correct.
- The connection of the alarm is not correct.
- The alarm input signal is not correct.
- A alarm is connected with two loops synchronously.

Q: the remote controller is not working,

A: Possible reasons are as followed:

- The remote control address is not correct.
- The remote control distance is too far or the angle is too large.
- The battery is used up.
- The remote controller or the front panel of the recording machine is damaged.

Q: The storage time is not enough.

A: Possible reasons are as followed:

- Front vision quality is bad. The lens is too dirty. The Videocon is in backlighting installation.
- The hard disk capability is not enough.
- The hard disk is damaged.

Q: The downloading files cannot play.

A: Possible reasons are as followed:

- There is no media player.
- There is no DX8.1 software or higher edition.
- There is no DivX503Bundle.exe file to play AVI video files.
- The DivX503Bundle.exe and ffdshow-2004 1012 .exe files must be installed in the windows xp system.

Q: I cannot remember the advanced password or network code in the local menu operation.

A: Please contact the local service or call the HQ service. We will offer the service according the machine type and the program edition.

Q: Cannot see the preview picture the digital channel

A: Possible reasons are as followed:

- Did not add device
- The device of related channel was not enable
- The device of related channel was not selected.
- The selected device did not connect to video sources
- The channel title of selected remote device is not exist.
- Stream for remote channel was set by extra stream.
- User name & password not matched
- Directly input with IP address or port No. incorrectly when adding device.
- The resolution of added device is too large to display by the monitor.

Q: Click "search" why not search out any of the device.

A: Possible reasons are as followed:

- There is no other device exist in the Local area network
- The subnet masks setting incorrectly on Network settings.

Q: The snapshot at alarm function was enable, why not catch picture

A: Possible reasons are as followed:

- HDD manage without partition for snapshot.
- Partition for snapshot is 0
- The snapshot function is not enabled on record-> storage of related channel.

Q: The time shows on digital channel is not the same as local side:

A: Enable the time synchronous function of digital channel.

Q: Cannot see preview picture of analog channel

A: Possible reasons are as followed:

- The camera did not connect to video interface
- The device did not connect to video source
- Video source is broken.

Q: Picture will be frozen when multi-connection and shift devices.

A: Picture come out from digital channel need few seconds, shift device means to show new picture, so it needs several seconds to buffer.

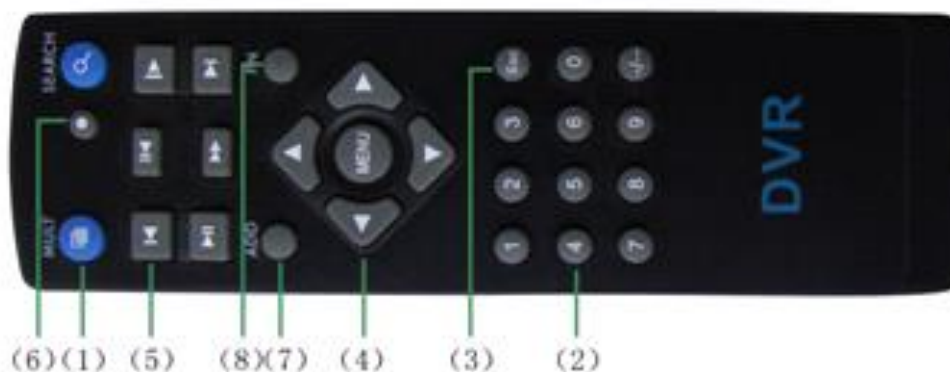
6.2 Maintenance

1. Please brush printed circuit boards, connectors, fans, machine box and so on regularly.
2. Please keep the grounding well done to prevent the video or audio signal interfered and the NVR from static or inductive electricity.
3. Do not pull out the video signal line or RS-232 port or RS-485 port with the power on.
4. Do not use the TV in the local video output port(VOUT) of NVR. It will damage the video output circuit easily.
5. Do not turn off the switch directly. Please use the turn-off function in the menu or press the turn-off button in the panel (3 seconds or longer) to protect the hard disk.
6. Please keep the NVR away from heat resource.
7. Please keep the NVR ventilated for better heat radiator.
8. Please check the system and maintain regularly.



JF TECH

Appendix I Remote controller operation



Serial number	Name	Function
1	Multi-window button	Same function as Multi-window button in the front panel
2	Numeric button	Code input/number input/channel switch
3	【Esc】	Same function as 【Esc】 button in the front panel
4	Direction button	Same function as direction button in the front panel
5	Record control	Control the record
6	Record mode	Same function as "Record mode"
7	ADD	Input the number of NVR to control it
8	FN	Assistant function

JF TECH

Appendix II Mouse operation

*Take right hand as an example

The mouse in USB connection is supported.

Operation	Function
Double left click	Double click one item in the file list to playback the video
	Double click the playback video to zoom in or out the screen
	Double click the channel to make it full screen display double click again to resume the multi-window display
Left click	Choose the according function in the menu
Right click	Pop desktop shortcut menu in preview state
	Current shortcut menu in the menu
Press middle button	Add or subtract number in the number setting
	Switch the items in the combo box
	Page up or down in the list
Move mouse	Choose the widget or move the item in the widget
Drag mouse	Set the motion detect area
	Set the cover area

Appendix III Hard disk capability calculation

Make sure the hard disk installed to the NVR for the first time. Pay attention to the IDE hard disk lines connection.

1、 Hard disk capability

There is no limit for recording machine. We recommend 120G~250G size to keep better stability.

2、 Overall capability option

The hard disk capability formula is:

Overall capability (M)=channel number*time (hour)*capability in an hour (M/hour)

The recording time formula is:

$$\text{Recording time (hour)} = \frac{\text{overall capability (M)}}{\text{Capability in an hour (M/hour) * channel number}}$$

The NVR introduces the H.264 compression technology. Its dynamic range is very large so the hard disk capability calculation is based on the estimation values of each channel creating files in an hour.

Example:

For one piece 500G HDD, real time CIF for recording, it will keep recording for about 25 days.HDD spaces per channel is 200M/H, If 4channels real time CIF at 24hours recording uninterrupted, it can last: $500G/(200M/H*24H*4ch)=26$ days

JF TECH