# Network Video Recorder (IVR_6.0)

# User Manual

Version : 1.0 Date : 2024.2

# FOREWORD

**Note:**

Welcome to use the company's network digital video recorder (IVR) products, in order to ensure your safe and stable usage, please be sure to read this manual carefully, the following is about the correct usage of the product and the prevention of danger, to prevent property damage and other content, please be sure to comply with the guide.

**1. Installation Environment :**

- Please put and use this product in a temperature environment of 0℃-50℃
- When installing and using the device, put it horizontally and avoid tilting or turning it upside down
- Avoid placing or installing in hot, humid, dusty or sooty places
- The equipment should not be exposed to water droplets or splashes, liquid filled objects such as vases should not be placed on the equipment, and other equipment should not be placed on the product
- To ensure normal heat dissipation of the device, a cooling fan is designed for the device. Install the device in a well-ventilated environment as far as possible.
- When the NVR is installed, the rear part should be more than 6CM away from other equipment or walls to facilitate heat dissipation
- Install lightning-protection devices when using the device in a heavily mined area to prevent host faults or hardware burning caused by lightning strikes

**2. Note :** 

- Do not touch the power switch and network digital video recorder with wet hands or wet objects to avoid electric shock
- After installing the host, ensure that the host and chassis are grounded to avoid interference of

video and audio signals and damage by static electricity of the NVR

- Please ensure the stability of the power supply voltage of the network digital video recorder. Try to use the power input with stable voltage value and less ripple interference. Do not turn off the network digital video recorder by directly turning off the main switch;
- Do not splash liquid or metal on the video recorder to avoid internal short circuit or fire
- The device does not include a hard disk. Install the hard disk correctly before using the device; otherwise, you cannot record and play images
- The dust on the motherboard will cause a short circuit after being damp. In order to make the network digital video recorder work normally for a long time, the motherboard, connectors, chassis and chassis fans should be cleaned regularly with a brush
- When the NVR is turned off, do not turn off the power switch directly, use the shutdown button on the panel to make the NVR automatically turn off the power so as not to damage the hard disk
- The host system supports the formatting function of the hard disk, if the hard disk has been used, please note whether it is FAT32 format, this embedded network digital video recorder only supports FAT32 format, otherwise there will be hidden dangers of errors
- Do not open the machine with electricity on
- In order to ensure the integrity of video data, replace the faulty hard disk in time (there are records about disk errors in the log)

3. **Explanation：**

- The actual product shall prevail. The instructions are for reference only
- Products are updated in real time, subject to upgrade without notice
- Please contact our technical support department for the latest procedures and supplementary documentation

- If there is any doubt or dispute in the product description, the final interpretation of the company shall prevail

This manual is for multiple series of products to do operation reference, the specific operation of each product is not an example, if you encounter problems, please contact the technical support department of the company.

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# Charpter 1 Product Introduction

## 1.1 Product Overview

This product is a video coding and recording product specially designed for the field of video surveillance, combining H.264 video compression, large capacity hard disk storage, TCP/IP network, embedded linux operating system and other advanced electronic information technology, to achieve high image quality, low bit rate recording characteristics and good system stability.

This product equipment conforms to the GB 20815-2006 "Video security surveillance digital video equipment" standard issued by the state. This product has a variety of functions, can simultaneously record, playback, monitoring, audio and video synchronization, with advanced control technology and powerful network data transmission capabilities.

## 1.2 Product Function

The following functions and features vary according to the product series and software and hardware versions.

- Real Monitoring
- Compression processing function
- Recording Function
- Playback and Backup

- IP Camera Control
- Alarm Management and Control
- Communication Port
- Network Function

## Charpter 2　Installation Guide

### 2.1 Open Package Inspection

When you receive this product, please check according to the "Network Digital Video Recorder Packing List" in the packaging box

### 2.2 HDD Installation

Installation Preparation：

A Phillips screwdriver is required. This series of network digital video recorders can be installed in the case of multiple hard disks, hard disk capacity is unlimited.

HDD Installation Procedure：

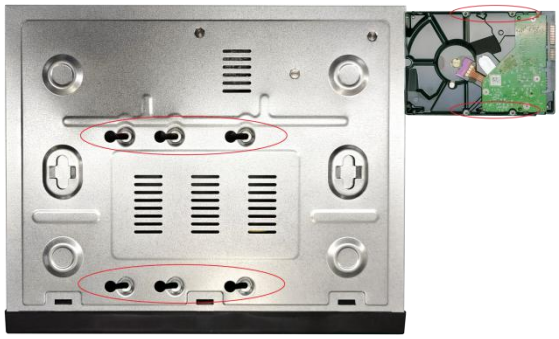
3.1 HDD Installation Step：1234

1、Open the chassis covered by unscrewing the screws on the side of the NVR case

2. Connect HDD SATA cable and Power cable

3、Secure the hard disk to the hard disk screw holes on the baseplate。

4. Cover the NVR cover and fasten the cover with screws



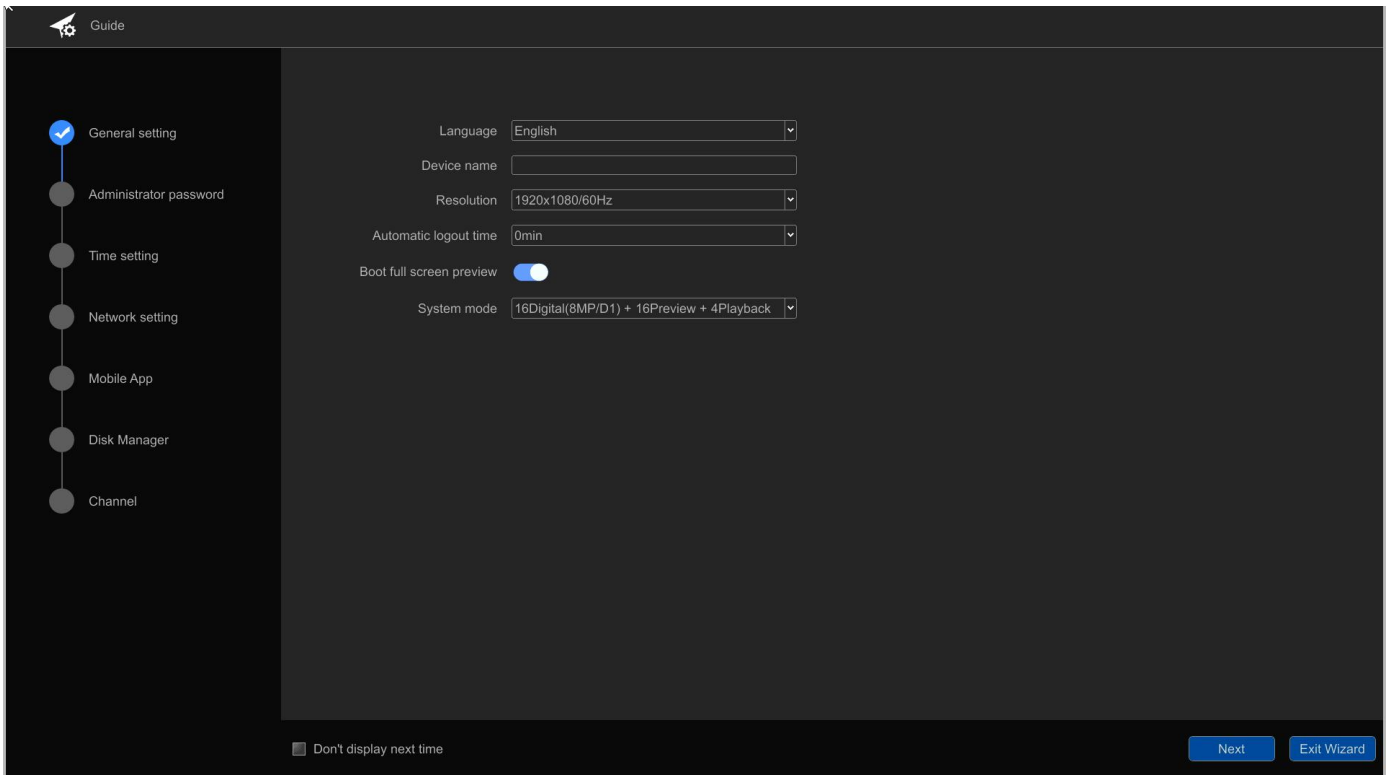
# Charpter 3 Local Operation Guide

## 3.1 IVR Boot and Shutdown

### 3.1.1 Boot

The device is connected to the power supply, press the power switch (some devices have the switch button, depending on the actual device), the power indicator light is on, and the video recorder is turned on. After the startup is complete, the startup wizard is displayed by default. Follow the steps of general Settings - Administrator password - Time setting - Network setting - Mobile phone monitoring - Disk management - Channel connection to complete the basic IVR configuration. After clicking finish, the preview screen is displayed.

Note: Please use the power supply provided with the network digital video recorder, do not use other types or brands of power to replace the original power supply.




### 3.1.2 Shutdown

Power off: Press the switch button on the front panel or unplug the power cable to turn off the device. (Switch keys are different, depending on the actual device)

Software shutdown: Click the shutdown button  at the lower left corner of the preview interface, enter the "Shutdown" and select "OK". (Tip: It is recommended to use this method when shutting down to avoid damage to the device in the event of an unexpected power failure).

Note: Before replacing a hard disk, turn off the device and then turn off the power.

### 3.1.3 Power Off Recovery

When the video recorder is in the video recording working state, if the system power is cut off or forcibly shut down, the video recorder will automatically save the video before the power failure, and automatically restore to the working state before the power failure to continue working.

## 3.2 Login System

After the device is powered on and the preview screen is displayed, the device is in full-screen mode by default. You can click the login button at the bottom of the screen (hover at the bottom), enter the user name and password (default user name: admin, password: 123456), and click OK to log in to the device.

## 3.3 Menu Operation

After login, follow the toolbar on the upper side of the interface to set the related parameters


### 3.3.1 How to Connect IPC to IVR

Before configuring an IVR, you need to know how to connect all IVR channels to the IPC screen.

This product supports multiple versions of ONVIF protocol and is compatible with mainstream IPC brands in the market

Before IPC connects to an IVR, ensure that the IP address and the IVR IP address are on the

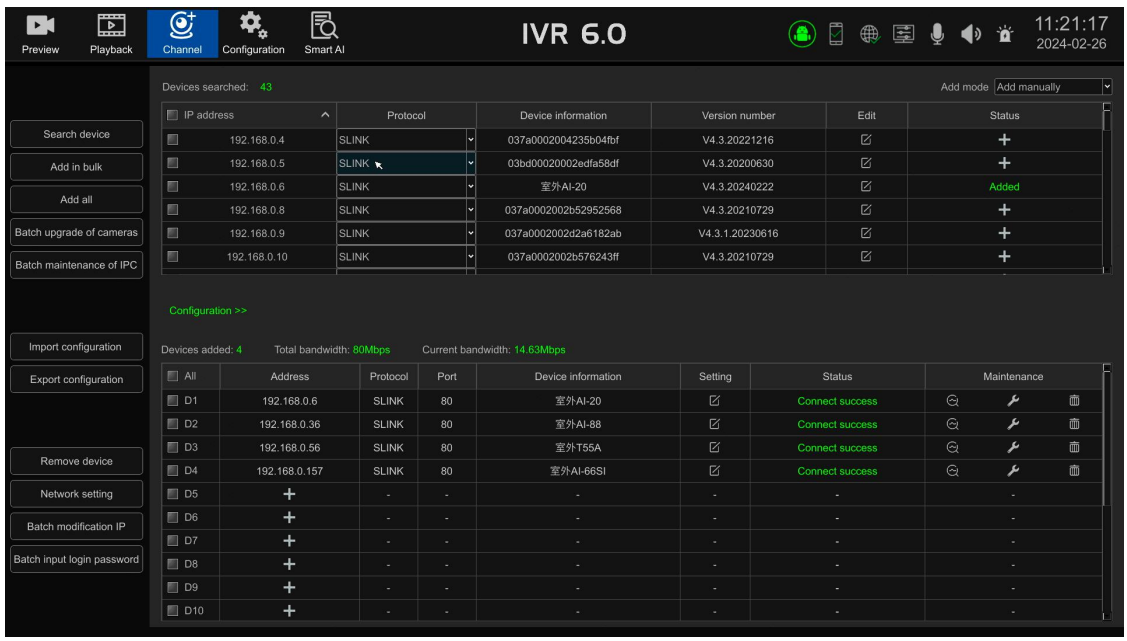
same LAN, and the primary and substreams must be adjusted to the recommended values. Otherwise, IPC may not be found, image access is unavailable, images are not smooth, and picture quality is poor. (Currently, MAC address binding is implemented for added cameras. No matter how the IP address and network segment are changed behind these cameras, as long as they can be searched by IVR, IVR can adapt to cross-network segment graph, only slink,i9 protocol is supported).

Connect the IVR to the LAN switch. After the IVR is powered on, click the icon 

to go to the Network Management page. Set the IVR IP address, subnet mask, and gateway on the basic parameter page. After the configuration is saved, go to the network diagnosis page, run the ping test, select the device NIC, enter the destination PC, ping through, indicating that the device and the PC are on the LAN.

Then, left-click the icon 

again to enter the channel connection interface, as shown below:




The IVR is automatically added by default. It automatically searches for all IVRs on the LAN and adds them to the channel list. If you want to manually add mode, you can manually search IPC and click Add All to add it to the channel list. For details, see the channel connection module description.

The following describes IVR functions in terms of real-time preview, video playback, channel connection, advanced configuration, and intelligent AI.

### 3.3.2 Preview

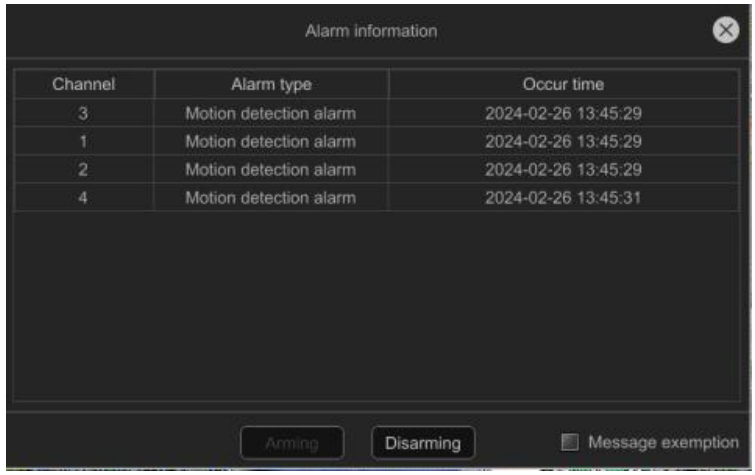
After the device starts normally, the real-time preview screen will be entered, as shown in the following figure:


#### 3.3.2.1 Interface Function Introduction

The main interface consists of real-time preview, video playback, channel connection, advanced configuration, intelligent AI and other main menus, which can be switched arbitrarily.

Upper-right menu description:

- MIC Input : Click the slider to adjust the audio input volume
- Speaker Output :Click the slider to adjust the audio output volume
- Monitor Alarm : When there is an alarm, the indicator will keep blinking. After clicking the button, the detailed alarm information can be displayed, as shown in the following picture:




In practical application, in order to avoid the impact of the alarm, you can click the button 

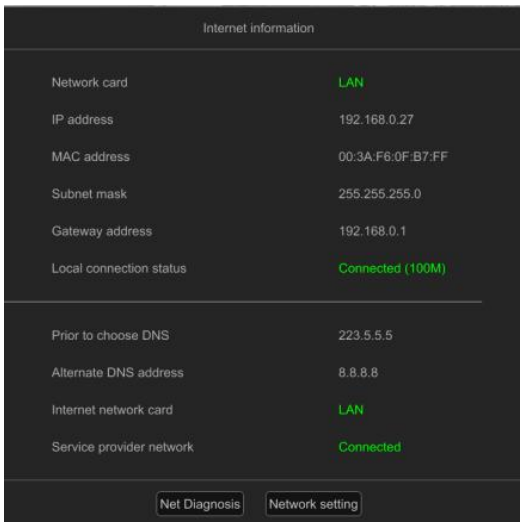
on the page to temporarily shield the alarm information (the alarm actually exists, you can query it in the log), if you need to view the real-time alarm information, then click the defense button.

- APP  ：After clicking, the APP download QR code and device ID QR code will be displayed.

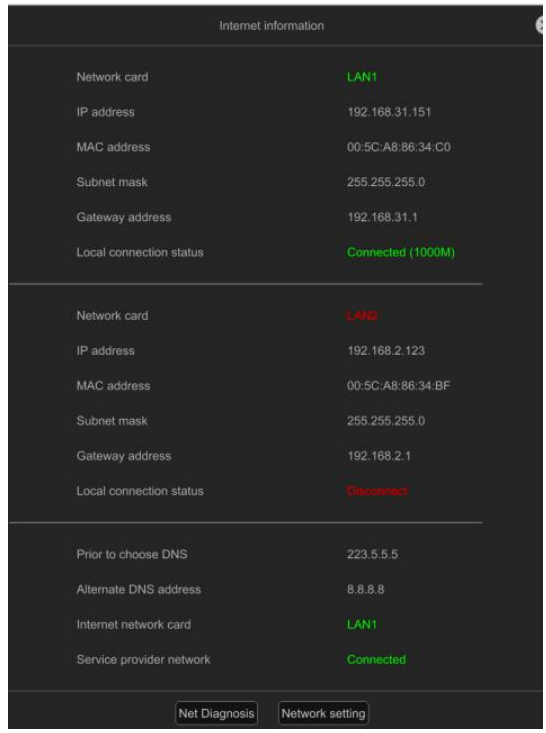
Click "Details" to jump to the P2P service interface, you can view its version information.

If the App has been bound, you can click the unbind button on the interface and enter the device login password to remove the device from the mobile APP.

- Network Information  ：After clicking, it will automatically detect the network connection status, and display the detailed information about the device network, you can diagnose and set the network, as shown in the figure below:




Single NIC




Dual NIC

Network Settings: Click this button to jump directly to the network Settings interface

Network diagnosis: The interface is as shown below, and the functions are described in detail as follows:

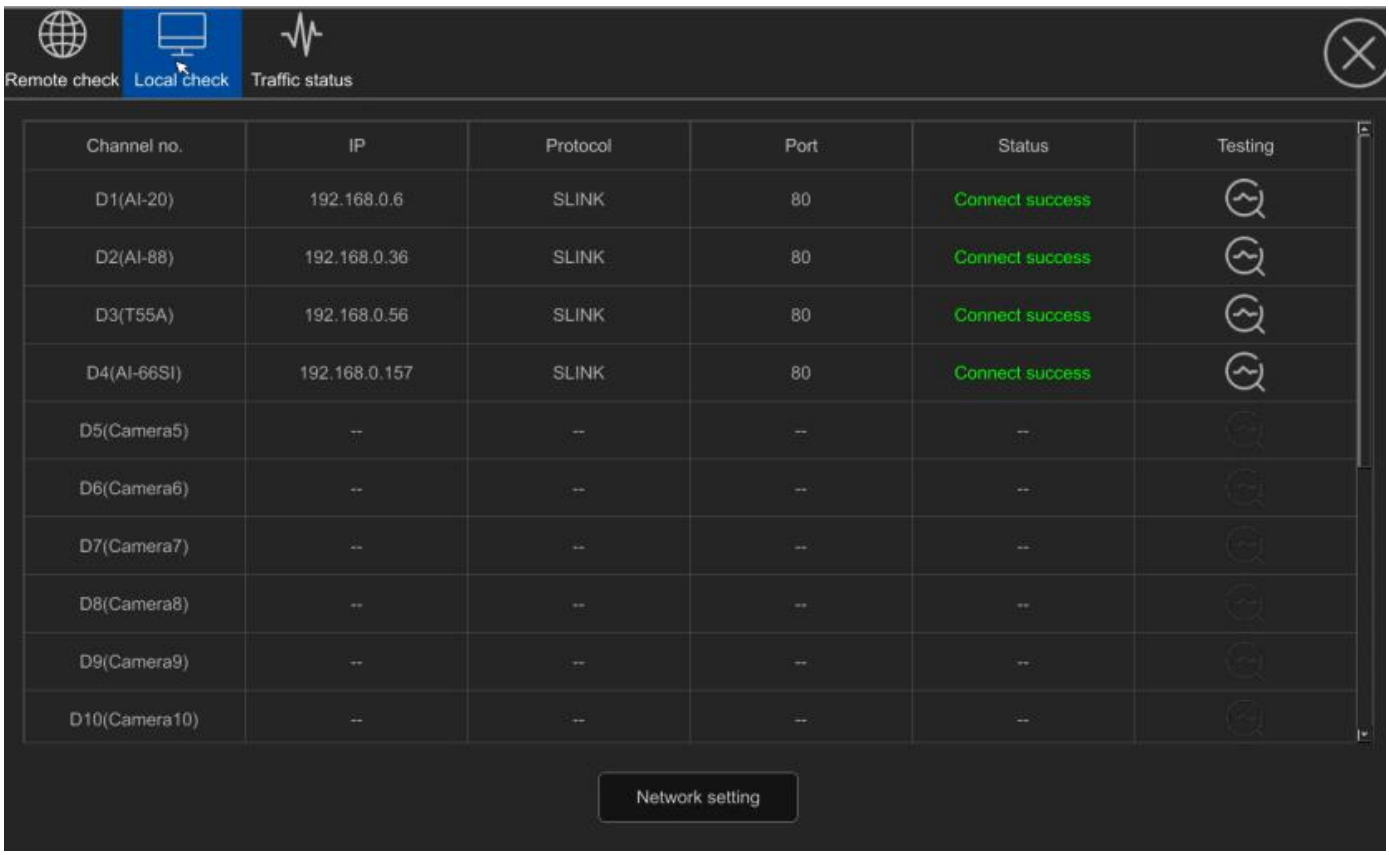

Remote diagnosis: Displays the network connection status between the IVR, router, and carrier.

a、Packet capture test: You can select the corresponding network adapter to capture packets and back up the captured files to an external USB flash drive.

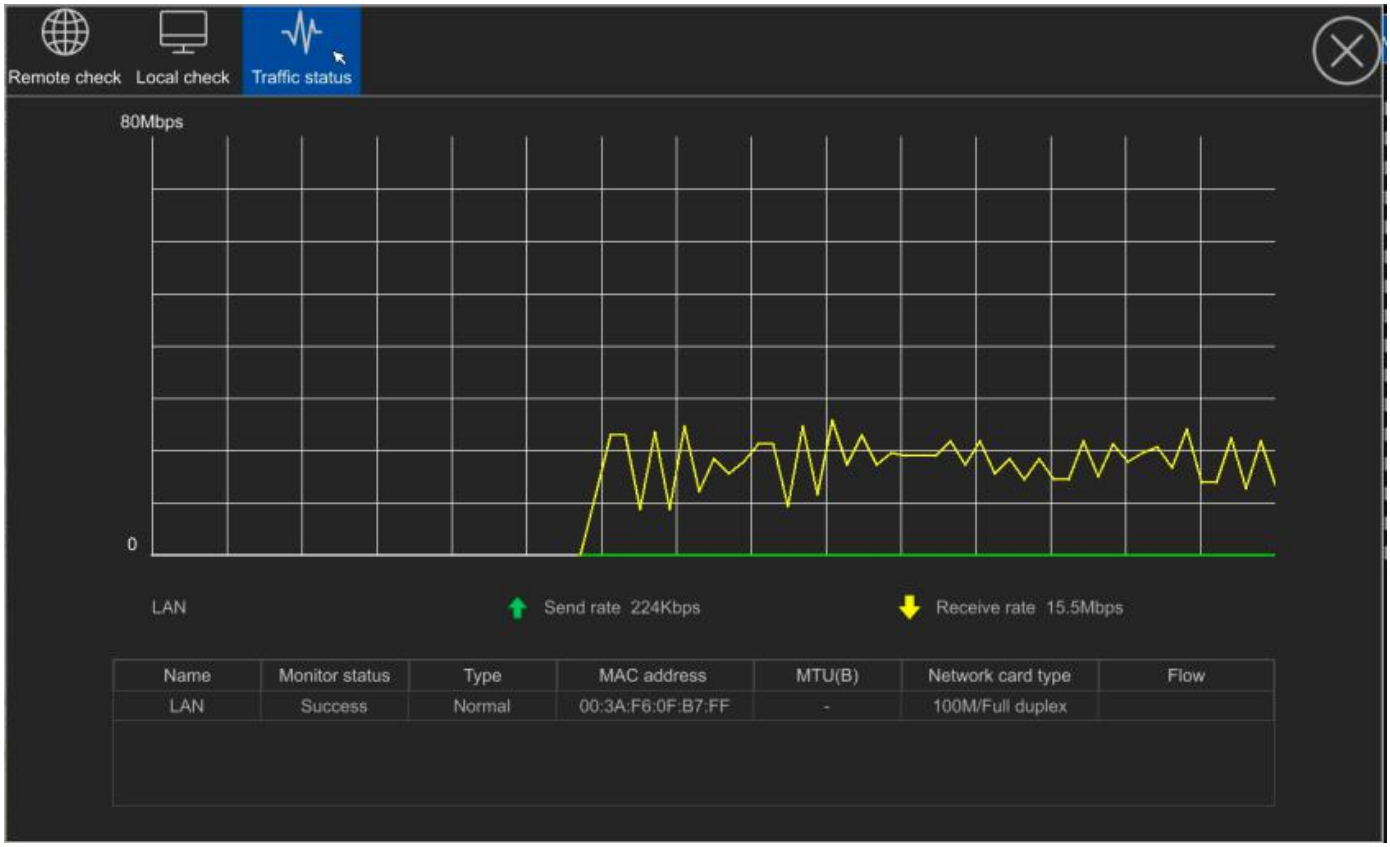
b、ping Testing ：Click to ping the IP address or domain name of the peer to be checked. By default, ping the Baidu domain name. You can enter the IP address or domain name as required

c、Diagnosis：After user clicks Diagnose, the device automatically detects whether the external network is connected

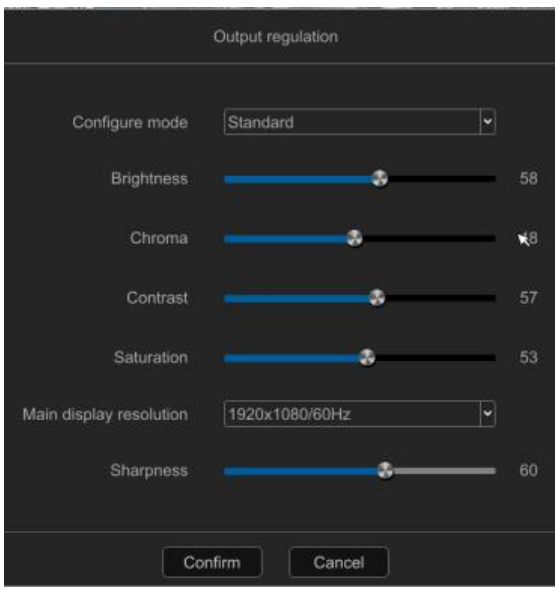
Local diagnosis: Displays information about the current access channel of the device. You can click Detect to check whether the network is connected




Traffic status: Displays the current sending and receiving rates of the device network card and is displayed in a schematic diagram.

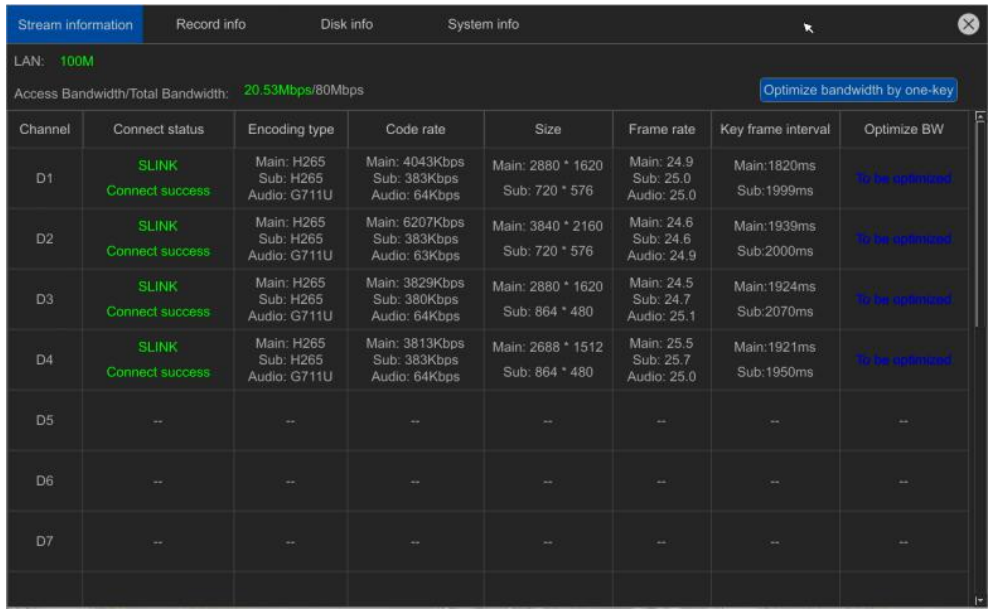



- Output Adjustment  : Click to display the current output mode and display resolution, the output mode can be standard, soft, bright, vivid mode, or customized brightness, chroma, contrast, saturation, sharpness and resolution, as shown in the following picture.
- Note：Only some devices support sharpness adjustment.

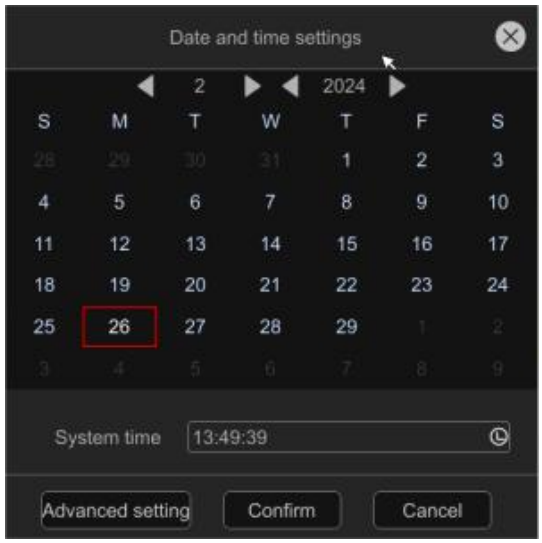



- System Keeper  : Click it to display stream information, video information, disk

information, preview information, etc., as shown in the following picture.




- Device time display: Displays the current device time. You can modify the device time here or go to the advanced configuration page for more Settings.

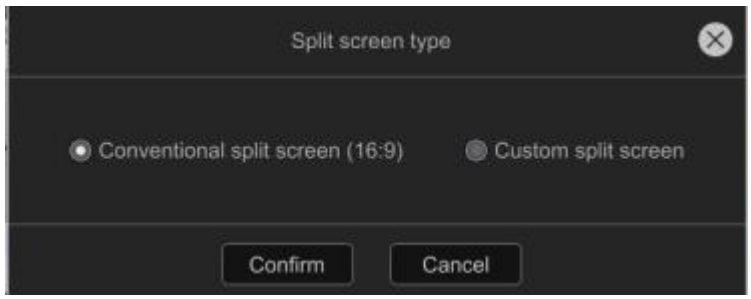



◆ Describes the toolbar on the right

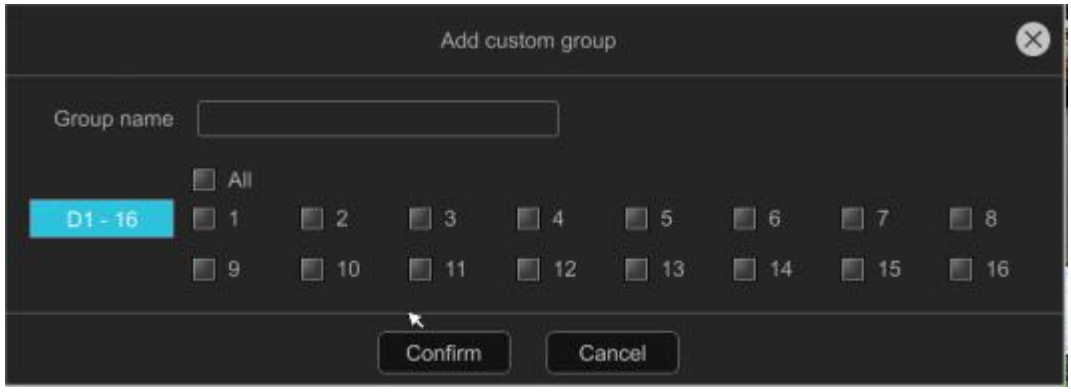
Device list: can display the access channel channel number, channel name, video status, channel connection status, channel IP address (mouse hover channel number can be displayed)


Custom Grouping:

Click Add Custom group, it will appear as shown in the picture to choose regular split screen or custom split screen.




Conventional split screen: You can select the channel number to add the corresponding channel to the group.

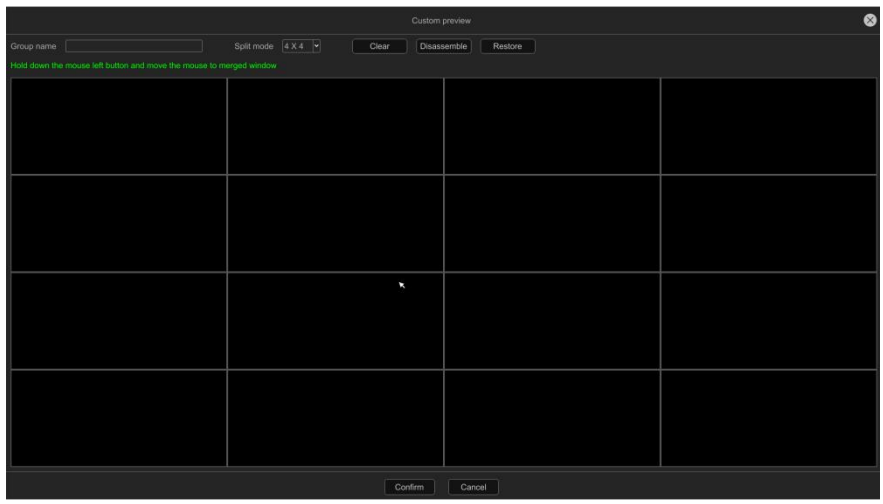



Custom split screen: User can customize the size of the preview area according to actual requirements, and select channels to put into the corresponding area after dividing.

Select an area, click Clear the button, clear the channel in the area, but do not split the window;

Select an area, click Disassemble the button, user can split the area into the original window

Click Restore the button, you can restore to the original window, clear all channels.

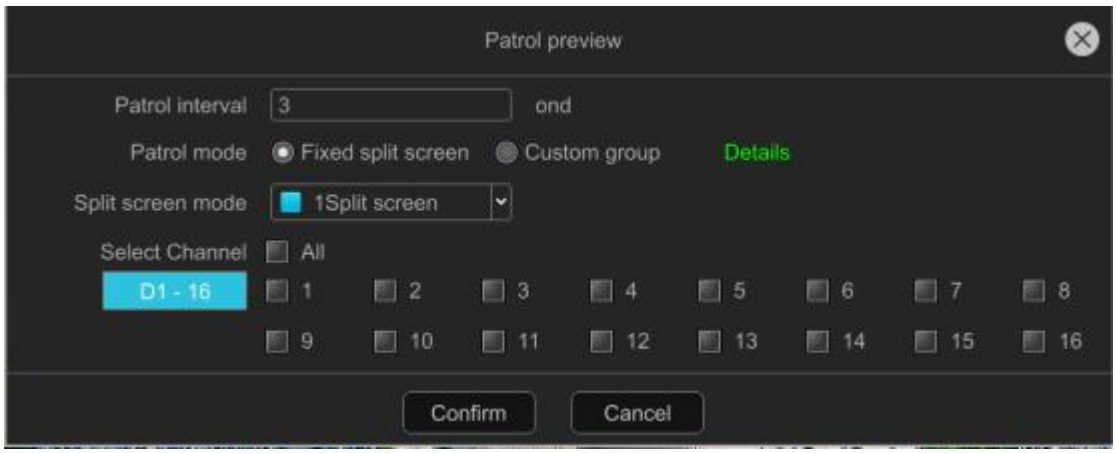



◆ The bottom toolbar is introduced：

Shutdwon : Click this button to shutdown, reboot, login/cancel operation.

- Split : Click this button to choose preview split mode.
- Previous/Next : The current preview window can be page-turned.
- Patrol：Patrol can be opened and closed, rotation interval can be set, fixed split screen or

custom split screen mode can be set




- Alarm event linkage preview Pop-Up: User can open or close the pop-up window. If the alarm is triggered, the preview screen of the alarm channel will automatically pop up, and the window will be automatically restored after the alarm disappears. (Note: This function needs to be configured and opened in the alarm linkage first).
- Alarm Flicker Frame: User can open or close the alarm flashing side window. If the alarm is triggered, the border of the channel preview screen will flash automatically.
- Full Screen : Click the button to preview the full-screen
- Display/Hidden OSD: Click to open or hide the OSD channel screen
- P/T Control : Click to open the PTZ control interface, described in detail below.
- Backup : Click to pop-up the backup interface
- Snapshot : One-click capture for the window of the access channel screen
- Audio Broadcasting : After enabling, it can realize the intercom of one-click video recorder to all channels IPC; (Private protocol support only)

◆ P/T Control Interface

Select the channel to be configured, click the arrow key to turn the head, and set the zoom and zoom of the focal length, focus and aperture; Set the speed of the head. The following page explains the detailed setting methods of preset, cruise, and trajectory functions:


- Preset setting and Pick-up
  - Select the channel, turn the camera to the required position through the direction button controlled by the PTZ, then select a preset number from the drop-down list of "preset ", set the preset number, and click "Set".
  - User can also pick up and clear Preset in this interface
- Cruise setting, pickup and delete
  - Select a cruise number from the "Cruise" drop-down list, click "Set" button to enter the "Cruise Setting" interface, then select preset, cruise time, cruise speed, click "Add" button, the preset of the cruise path will be added successfully (multiple preset points can be added).
  - Select a cruise number from the "Cruise" drop-down list and click the "pick-up" button to call.
  - Select a cruise number from the "Cruise" drop-down list and click the "Delete" button to delete it
- Cruise setting and pick up (need front-end speed dome to support)
  - Select a track number from the "track" drop-down list, and click the "Set" button to start recording, and then perform a series of direction operations. Click the "Set" button again to stop recording the track, and the track is successfully remembered.
  - Select a track number from the Track drop-down list and click the pick up button to pick up the cruise.
- Switch Channel

➢ Select one channel and drag it to another. By default, all configurations are interchanged

◆ Describes the toolbar of the window

When the mouse clicks the channel screen, the window toolbar can be displayed, as shown in the figure


➢ P/T Control : Click to open the PTZ control interface

➢ Display smart detect switch : Click to display the smart rule line or detection frame

➢ Snapshot : Capture the current channel picture

➢ Audio Intercom : After enabling, it can realize the intercom between nvr and IPC; (Private protocol support only)

➢ Play IPC audio : Enable the channel’ s audio

➢ IPC adjustment :To adjust current channel’ s video parameter,audio input and output, light mode...etc

- IPC maintenance upgrade : User can restart the camera in this channel or select other channels, restore the factory, enable/disable the full netcom, upgrade and other operations

◆ Right-click Menu Introduction

The right-click menu basically includes some common functions on the preview interface described above, the specific use method is no longer described, and the actual operation can be carried out according to personal habits, as shown in the figure:


Turn off the sound and light alarm: Click to enter the menu, user can select the channel one key to turn off the sound and light alarm of IPC, as shown in the following figure.


Enable/Disable the Intelligent capture display: user can enable or disable the intelligent capture display. This function is supported only by private protocol alert machines (depending on the IPC model to be accessed). After this function is enabled, the intelligent capture picture is displayed on the right

side of the interface in real time, as shown in the following figure


Click the corresponding play icon  to jump to the video playback screen to play the first 5 minutes of the picture. Click the turn off icon  to close the current picture display.


### 3.3.2.2 Video Playback

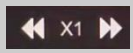
Enter the video playback interface. By default, IVR selects the maximum number of playback channels

supported by the device and the date of the day to automatically query the recording, as shown below:

Note: Some large-capacity IVR need to manually click the query button. For details, please check the actual IVR device interface.

- Video query channel selection: default selection of the maximum playback paths supported by the device. Users can add or remove query channels based on actual needs.
- Video query date selection: default selection of the current date. Users can select the needed video recording date based on actual requirement. If a date has a blue background in the calendar table, it indicates that there is a recording for that day. If not, it indicates that there is no recording for that day.
- Video type selection: default selection of all types. Users can select regular recordings or alarm event recordings based on actual circumstances. The progress bar color and interface labeling correspond to different alarm events.
- Video playback: default playback of the IVR retrieved video starts from zero hour of the day. Users can click the left mouse button or scroll the mouse wheel to zoom in and select the needed time point for playback by clicking on the timeline.

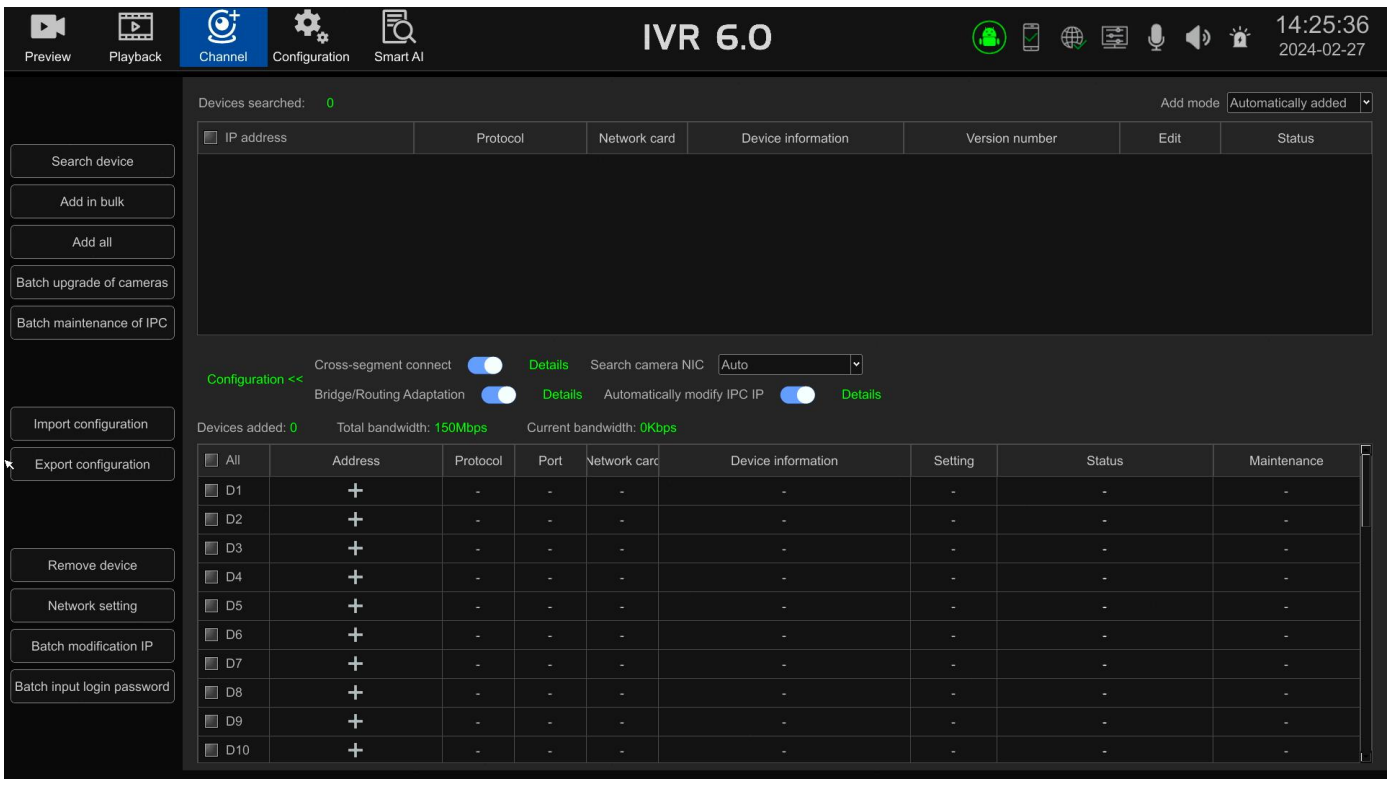
Toolbar introduction：

| **Name** | **Icon** | **Function description** |
|---|---|---|
| Display AI intelligent rules and results |  | Show/hide AI intelligent rules and results |
| Pause/Play key |  | Play/Stop the current recording |
| Stop key |  | Stop playing the video and turn off all images |
| Forward/Reverse keys |  | Playing videos forward/backward by time |
| Single frame playback key |  | Frame playback of recording |
| Jump forward/backward for 30 seconds |  | Jump the video forward/backward for 30 seconds to play |
| Slow/Fast play keys |  | Slow or fast playback of 1X/2X/4X/8X/16X recordings at multiple speed |

| | | |
|---|---|---|
| Split screen mode |  | Switch playback window split screen number |
| Previous/Next Page |  | Page flipping function key, matched with split screen function for use |
| Full screen function |  | Full screen video display |
| Backup key |  | The file backup interface will pop up |
| Capture key |  | One click capture of the current channel window |
| Channel flipping key |  | Click to flip the playback channel |

### 3.3.3 Channel Connection

The channel connection interface is used to add cameras searched in the network to the video recorder, as shown below:




- Add mode: there are two modes: manual adding and automatic adding.

Automatically add: the recorder automatically adds the searched camera to the list, supporting ONVIF, SLINK, and I9 protocols;

Manually add: you need to manually click to search for devices, and then select the corresponding camera to add to the list.

The cameras added in the above two methods are bound to the MAC address. No matter how the IP or network segment of these cameras is changed later, as long as they can still be searched by the recorder, the recorder can adaptively export pictures across network segments.

- Search device: used to search for cameras connected to the network. The default search time is 20 seconds.
- Batch add: check the cameras to be added and click Batch Add to add the selected cameras to the device list.
- Add all: add all the searched cameras to the device list.
- Camera batch upgrade: upgrade the cameras found in the network, both locally and remotely, as shown in the figure below.


Local upgrade: connect the recorder to a USB flash drive that has the upgrade file of the corresponding camera model in it, check the corresponding camera, and select the upgrade file to upgrade.

Remote upgrade: select the corresponding camera and click Remote Detection to detect whether there is a new version. If so, you can upgrade.

Note: for remote upgrade method, the recorder needs to be connected to the external network and connected to the hard disk.

Import configuration: import the channel configuration file from the USB flash drive connected to the video recorder into the video recorder. You can also import the channel configuration files of other video recorders of the same model and version.

Export configuration: the camera configuration file connected to the recorder can be exported to a USB flash drive.

Delete device: select single or multiple cameras to delete.

Network settings: after clicking, the interface jumps to the network configuration interface for network configuration of the video recorder.

Network detection: jump to the network detection interface. For specific usage, please refer to the description of the "real-time preview" module network detection interface;

Enter login passwords in batches: when the user names and passwords of the added cameras are consistent, you can check the corresponding channel, click the button, and enter the user names and passwords of multiple cameras at one time.

Camera batch maintenance: you can restart the selected cameras, restore the camera's factory configuration, and enable or disable all Netcom functions;

Advanced Configuration:

Cross-network segment connection switch: enabled by default; when enabled, it supports adding cameras in different network segments from the video recorder to output pictures; when turned off, it only supports adding cameras in the same network segment as the video recorder to output pictures.

Search for camera network card: automatic by default; dual network card devices can choose to search for camera network cards. If you select LAN1, you can only search for cameras connected through the LAN1 network card. The same applies to LAN2;

Network bridge/router adaptation: the video recorder searches for or accesses camera scenarios through a network bridge or multi-layer router, and is enabled by default;

IP conflict automatic modify camera IP address switch: enabled by default; when enabled, when the camera IP conflicts with the connected camera, the camera IP address will be automatically modified (only supports SLINK protocol).

Search list: the search list can display detailed information of the searched cameras, including IP, protocol, search network card, camera serial number or MAC, version number, add status, etc.;

Add camera:
a. Double-click the IP address to add the camera to the channel list;
b. Click the corresponding button on the status bar to add it to the channel list;
c. You can check the cameras to be added and click the batch add button to add cameras to the channel list;

Sorting: support camera IP address and added status sorting. Click the IP address title to sort IP address from

large to small or small to large, click the status bar title to sort added and unadded cameras.

Edit: all SLINK protocols, some I9, Onvif protocol camera IP addresses can be modified;

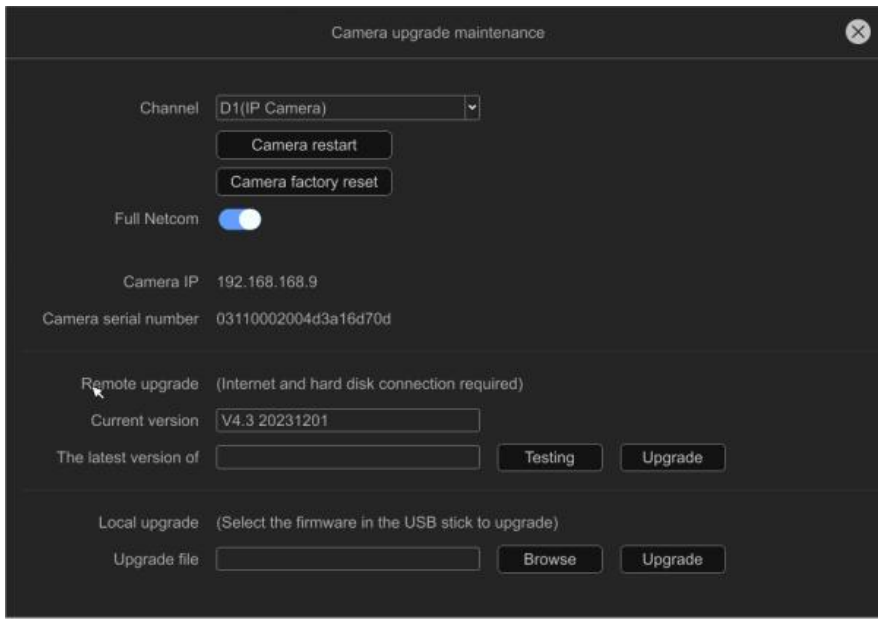
Added channel list: display the number of cameras connected to the recorder, channel number, IP, protocol, port, network card, serial number or MAC, connection status, and the total bandwidth and current access bandwidth supported by the device;

Add: click the "+" button corresponding to the channel number to manually add a camera; (Note: Manually added cameras do not support cross-network segment video output, and the IVR and IPC need to be modified to be in the same network segment)

Setting button:
a. The IP, port, network card, network type, username and password of the connected camera can be modified;
b. The copy to function can copy the port, network card, network type, user name, password and other information of the current interface to other channels;

Diagnosis: network diagnosis can be performed on cameras that fail to connect;

Maintenance: the camera connected to the channel can be restarted, restored to factory settings, turned on or off all Netcom, upgraded, etc.;




Delete: the camera connected to this channel can be deleted;

Add a multi-channel splicing camera: after searching for the camera in the channel, add it to the channel list, select the "+" sign in the channel list, enter the same IP, port, protocol, select the channel, network card, network type, user name, and password, just Onvif protocol support.


### 3.3.4 Advanced Configuration

Note: It is divided into expert mode and simple mode. Expert mode includes all the functions in simple mode and includes more functions. Which functions appear in expert mode will be marked below)

#### 3.3.4.1 Video Parameters

##### 3.3.4.1.1 OSD Settings

◆ OSD settings

Display channel OSD: you can turn on or off the display of the front-end IPC name in the video;

Channel name position: you can set the channel name position in the upper left corner, upper right corner, lower left corner, lower right corner or customize drag;

Display time OSD: you can turn on or off the time of displaying the front-end IPC in the video;

Time position: the channel time position can be set to the upper left corner, upper right corner, lower left corner, lower right corner or customized dragging;

Time format: 12-hour and 24-hour format can be set;

Date format: You can set the year-month-day, month-day-year, day-month-year format;

Copy to: the configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

Note: the above configuration for the IPC front-end requires support from the IPC front-end before it can be saved and take effect!

##### 3.3.4.1.2 Encoding Parameters (Expert Mode)

Channel: you can select the corresponding channel to configure the video type, resolution, bit rate type, bit rate, video frame rate, image quality, encoding type, and I frame interval;

Stream type: switch the main stream or sub stream of the channel and configure them separately;

Video type: there are two types: composite stream and video stream. When the channel supports audio output, you need to select composite stream;

Resolution: obtain the resolution supported by the IPC according to the connected IPC; (Note: Different models of IPC have different resolutions);

Bit rate type: you can set the fixed bit rate or variable bit rate of IPC;

Bit rate upper limit: get the IPC bit rate limit based on the connected IPC. You can pull down to choose to set different bit rates or customize settings;

Video frame rate: obtain the frame rate supported by the IPC according to the connected IPC, and you can pull down to select and set different frame rates;

Image quality: obtain the image quality supported by the IPC according to the connected IPC. When the bit rate type is variable bit rate, you can select different image quality as needed;

Encoding type: obtain the encoding type supported by the IPC according to the accessed IPC, and you can drop down to select and set;

I frame interval: you can set the I frame interval of the front end IPC.

Copy to: the configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

**3.3.4.1.3 Lens Parameters (Expert Mode)**

Image setting: adjust the brightness, contrast, saturation and chroma, picture effect between 0-255 of the front end IPC, or restore the default with one click;

Light mode: the default front end IPC light mode, the user can set the warmlight, infrared light, dual light source and other modes according to actual needs;

Light control: the front end IPC light control is obtained by default, and users can set off, automatic, manual and other modes according to actual needs;

Light brightness: obtain the front end IPC light brightness by default, and users can adjust it between 0 and 100 according to actual needs;

Switching mode: the front end IPC mode is obtained by default, and users can set it according to actual requirements. External trigger, automatic, color, black and white and other modes;

- IR CUT trigger: obtain the IR CUT settings of the front end IPC by default. You can set the IR CUT settings forward or reverse;

- Advanced settings: set advanced lens parameters such as mirroring, WDR, 3D noise reduction, aperture, GAMMA and other front end IPC lens parameters. The specific configuration is subject to the actual interface;

Copy to: the configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

#### 3.3.4.1.4 Privacy Masking (Expert Mode)

After enabling, the specified video area is masked so that the masked area is invisible for preview and playback;
Copy to: The configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

### 3.3.4.2 Recording Storage

#### 3.3.4.2.1 Recording Plan

Recording plan: the default is "scheduled recording + alarm recording" mode. Users can set scheduled recording and alarm recording, scheduled recording, alarm recording, and stop recording according to actual needs.

- Scheduled recording + alarm recording: within the set scheduled recording time period, or an alarm triggers recording, the current channel system will perform recording operations;

- Timing recording: only within the set scheduled recording time period, the current channel system will perform recording operations;

- Alarm recording: if the channel is configured to trigger the alarm recording function, the current channel system will perform recording operation;

- Stop recording: stop recording on the current channel;

- Set event recording time:

Click the "Go to Settings" button for motion detection, alarm input, smart configuration, etc. to quickly enter the corresponding event configuration interface. After checking the video linkage method in the "Linkage Method" of the event, the corresponding alarm is actually triggered linkage recording.

- Note: linkage recording is enabled by default for alarm events, and users can configure it according to actual needs.

- Pre-recording time: the recording time before the alarm event starts can be configured;

- Recording delay: the recording time after the alarm event ends can be configured;

Note: the pre-recording time and recording delay time are only for alarm recording;

- Set scheduled recording time period: After clicking "Edit", you can configure any recording time period.
- Network disconnection supplementary recording: after enabling this function, the video data recorded on the IPC's SD card during the abnormal period can be downloaded to the local hard disk. It requires IPC to be inserted into the SD card to support it, and it is only supported by private protocols;

### 3.3.4.2.2 Storage Mode ( Expert Mode)

The information on the page details the current IVR storage mode, as shown below.


Post-recording processing: for the situation after the hard disk is full, you can set two methods: "Automatic overwrite" or "Stop recording". The default is "Automatic overwrite"; Automatic overwrite means that the old recording data will be overwritten after the hard disk is full. Recording full stop means recording will stop when the hard disk is full;

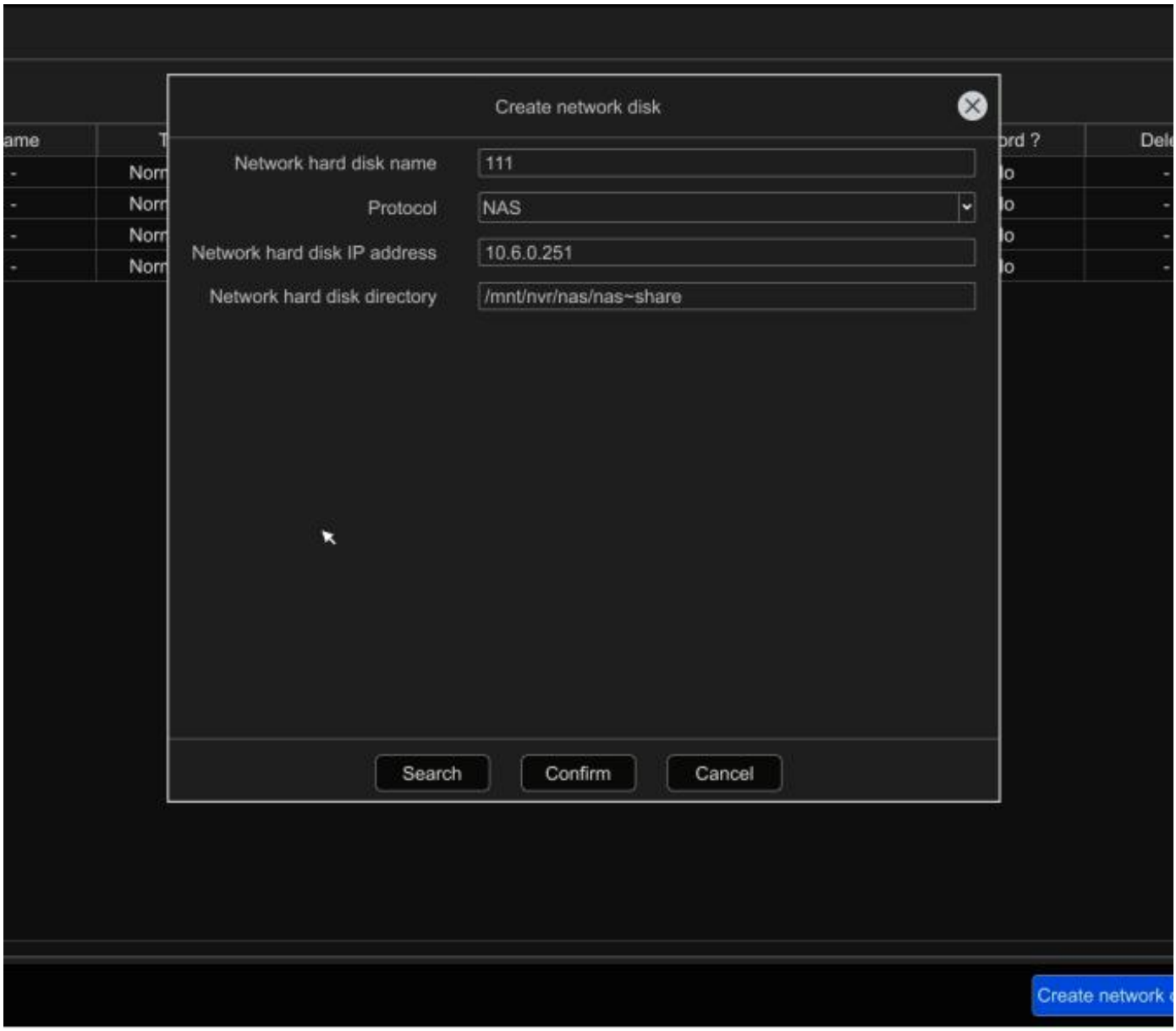
- SMART processing: for the situation after a smart information error occurs on the hard disk, you can set two methods: "Ignore the error and continue recording" or "Stop recording when an error occurs"; the default is "Ignore the error and continue recording". Ignore the error and continue recording means continuing recording after a smart information error occurs on the hard disk. Stop recording on error means stopping recording after a smart information error occurs on the hard disk;
- Recording stream mode: configure the "Main stream + Sub stream" mode to record the main stream and sub stream; configure the "Main stream" mode to record only the main stream;
- Video storage time: you can set the retention time of the latest video. If the set retention time is exceeded, the old video will be automatically eliminated.
- Grouping: IVR defaults to "Automatic grouping" for recording, that is, the recording data of all channels is written to one hard disk by default, and jumps to the next hard disk after the recording is full; in order not to affect the performance of the device, the number is greater than or equal to 64 channels It is recommended that channel device be connected to multiple hard drives.
- Manual grouping: enable manual grouping, you can arbitrarily select channels and hard disks for group recording, and support up to 16 groups;

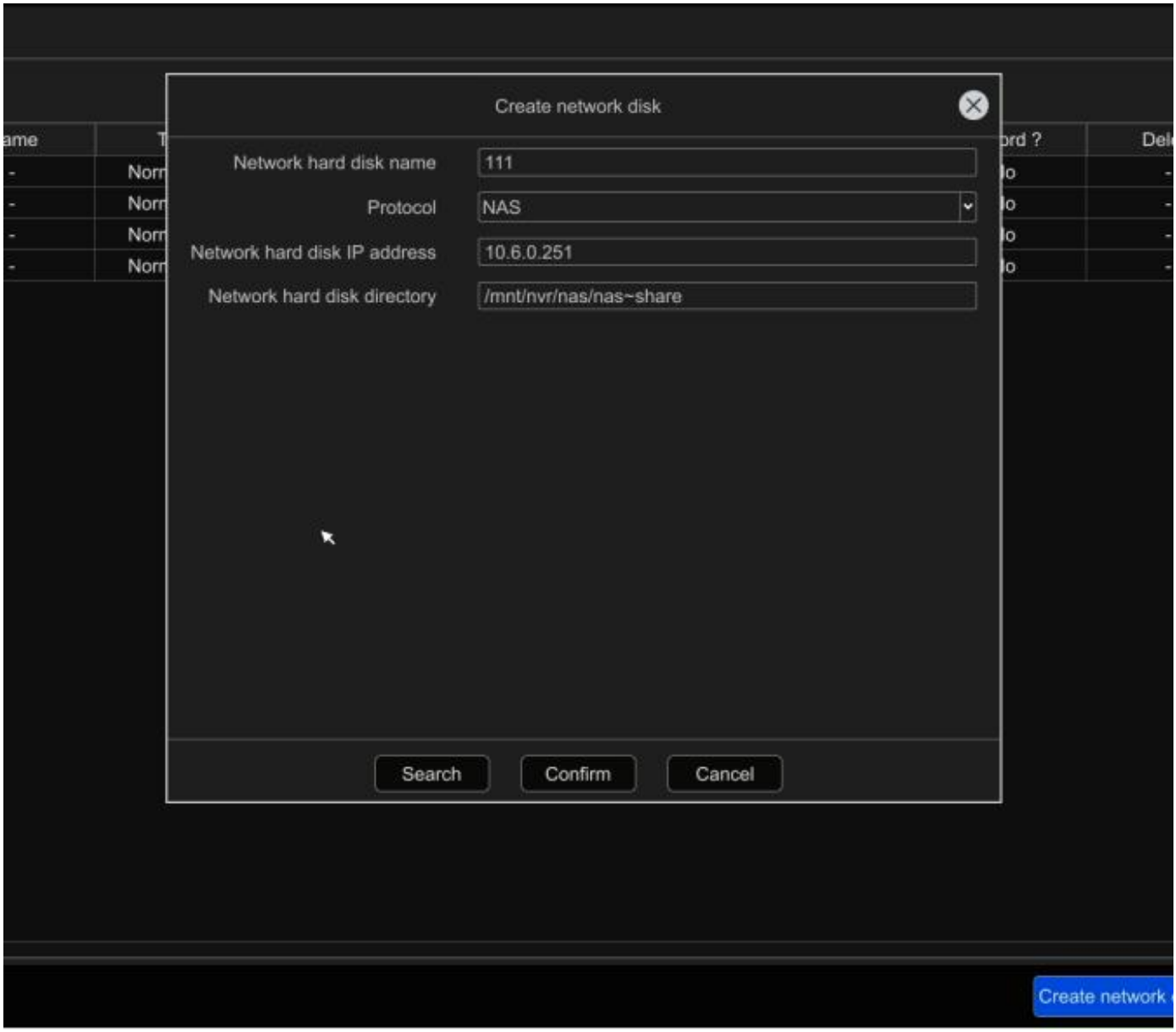

Important note: when performing manual grouping operations, the historical recording data in the hard disk may be cleared. Please be cautious when operating to avoid irreparable losses!

### 3.3.4.2.3 Disk Format

- As shown below


- Format: click the hard disk that needs to be formatted, and then click the Format button (Note: when the status is "Requires Formatting", the corresponding hard disk must be formatted before the hard disk can continue recording. In addition, please do not have other operations during the formatting process);
- Create a network disk: you can choose network disks with two protocols: NAS and IPAN.
- Network hard disk name: users can name it according to actual needs;
- Network IP address: fill in the network hard disk server address; Note: the network hard disk server needs to be built by the user;
- Network hard disk directory: after clicking Search, the network hard disk directory can be automatically displayed. After the creation is completed, click OK.


Create network disk
Network hard disk name
111
Protocol
NAS
Network hard disk IP address
10.6.0.251
Network hard disk directory
/mnt/nvr/nas/nas~share
Search
Confirm
Cancel

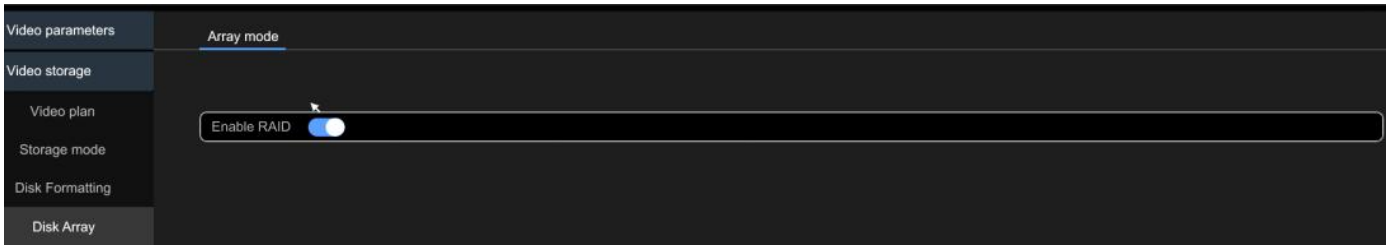



◆ Disk Array：

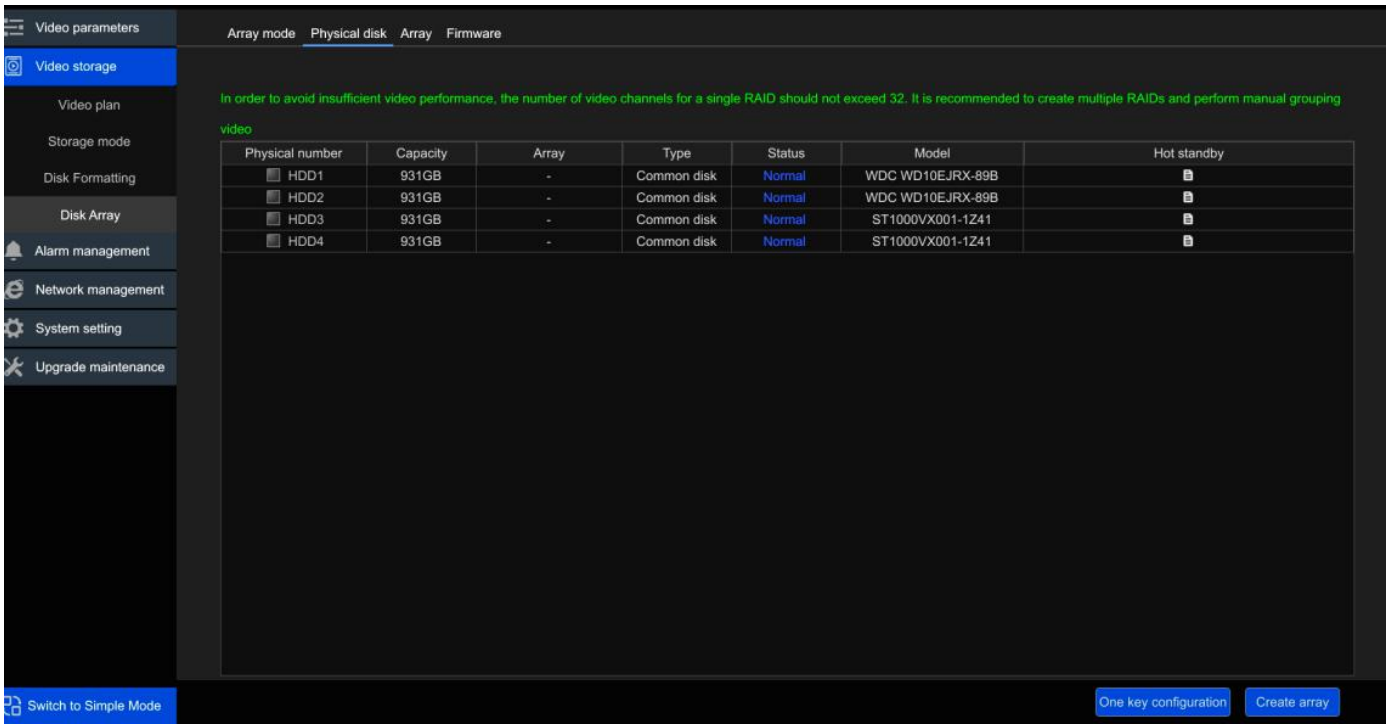
Precautions:
1>Disk arrays are only supported by some devices, please refer to the IVR device interface for details;
2> For IVR device with more than or equal to 64 channels, in order to avoid insufficient recording performance, it is recommended to create multiple arrays for manual grouping use, and each array should not exceed 32 channels of recording;
3>In order to ensure the stability of recording data, it is recommended to use professional surveillance level hard disk, and the hard disk model and capacity should be consistent;
4>The hard disk connected to the IVR device does not support hot swapping. When replacing the hard disk or installing a new hard disk, the device needs to be powered off before operation;

The following details how to use the array:

- Enter the disk array menu, check Enable RAID, click Save and then the device reboots into array mode;

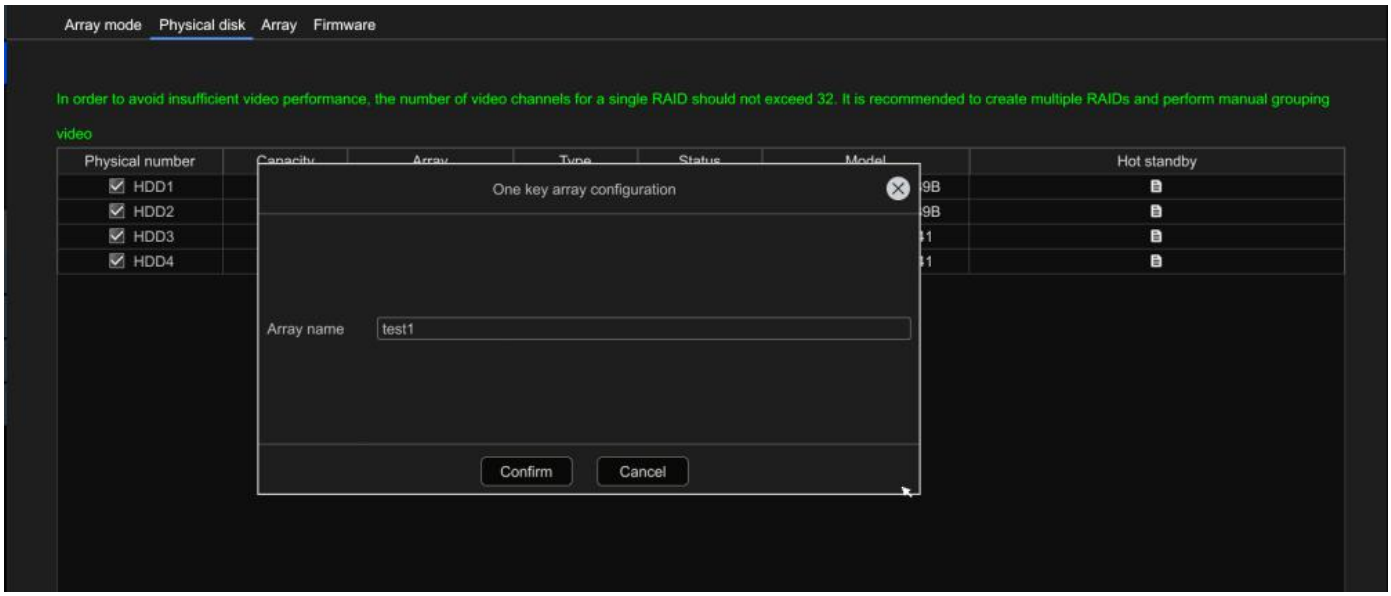



- Click to enter the physical disk interface in array mode. This interface displays all hard disks connected to the IVR device. You can click "Create Array" to create RAID0, RAID1, RAID5, RAID6, RAID10 and other types of arrays, or select one-click configuration to directly create RAID5 array.

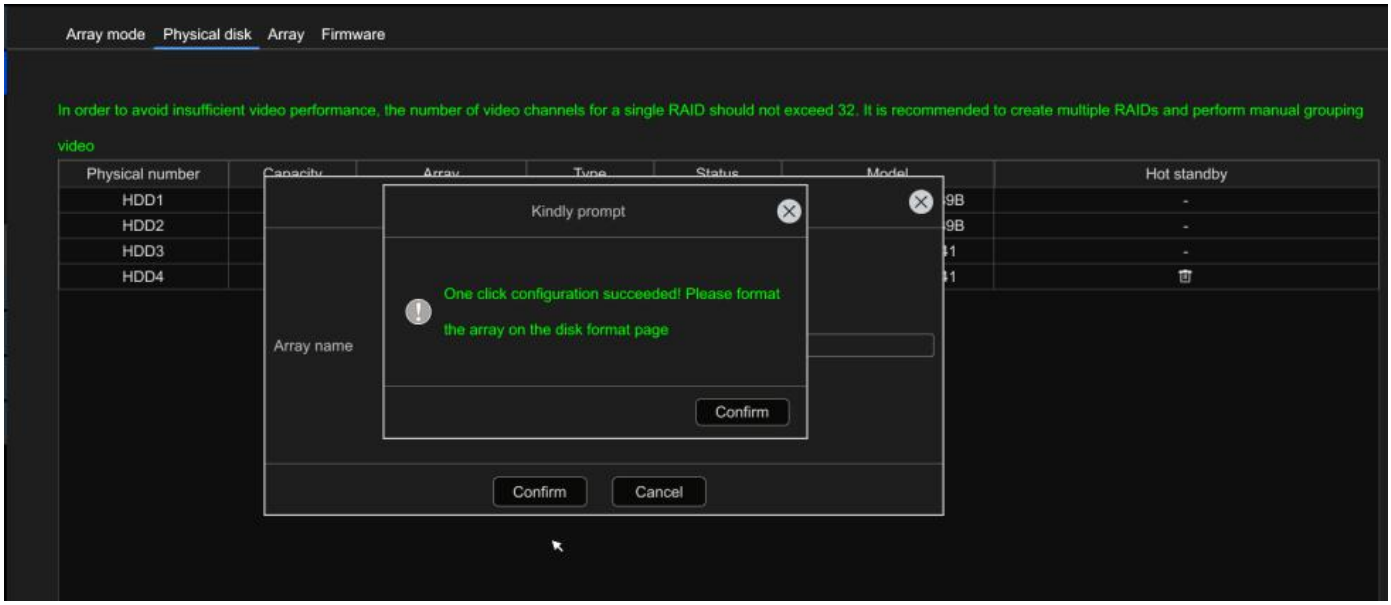



1>One-click configuration

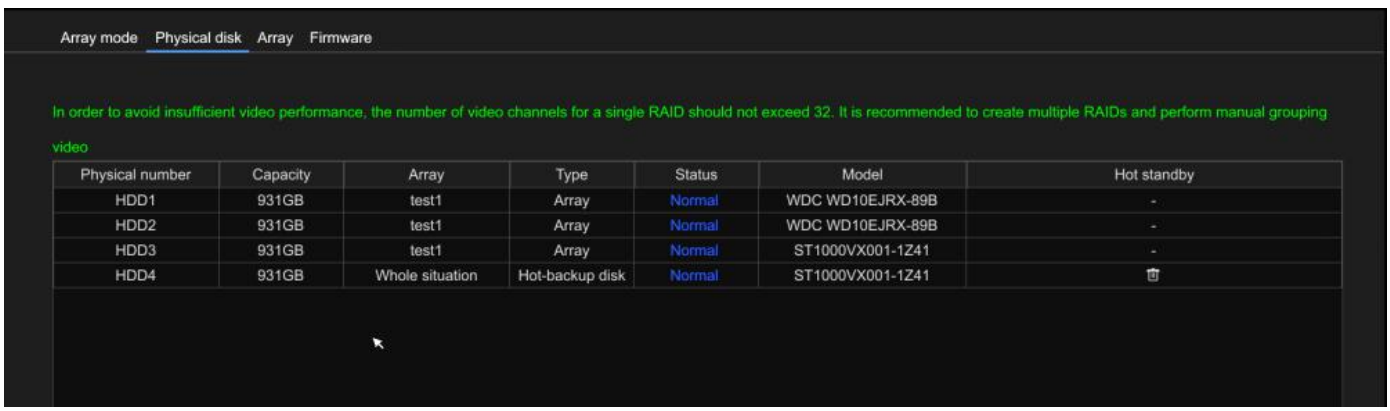
By default, a RAID5 type array is created, and the array is named. After clicking OK, all hard disks connected to the device are created as RAID5 arrays by default, and hot spare disks are automatically allocated based on the number of connected hard disks. Up to two disks can be allocated as hot spare backup disk;

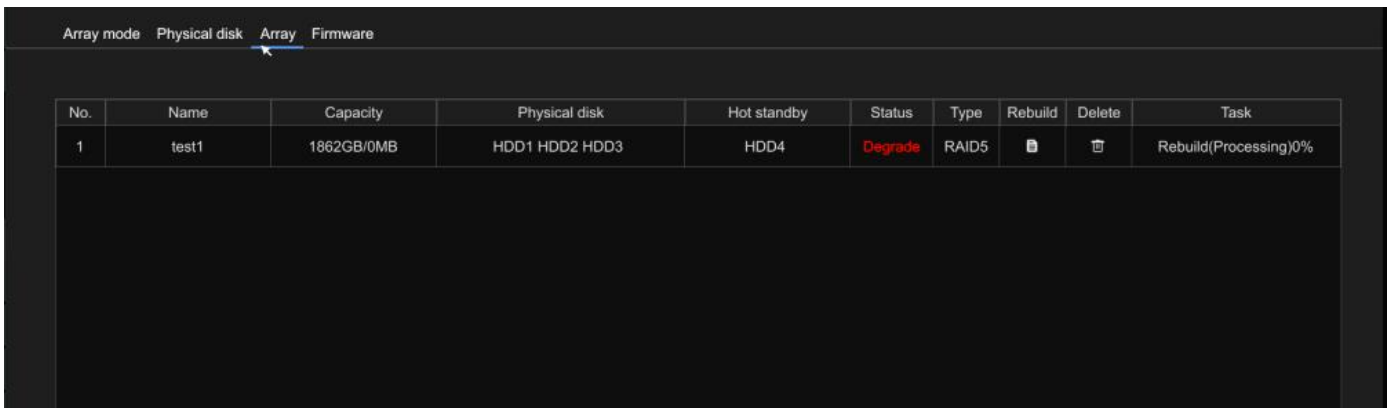



After the configuration is completed, follow the interface prompts to enter the "Disk Format" interface, check the hard disk that needs to be formatted and format it;




After the format is completed, the interface displays the successfully created RAID5 array and whole hot spare disk;

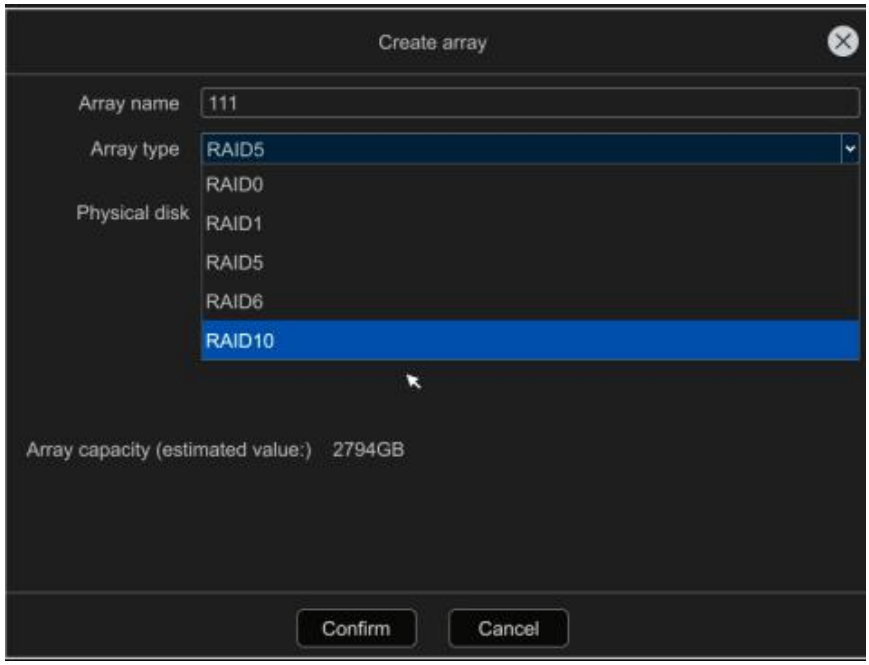



Note: after RAID5 is successfully created, need to downgrade it first for data security. Do not remove or insert the hard disk during the downgrade process. The rebuilding process will be relatively long. At this time, the array can record normally without affecting use.

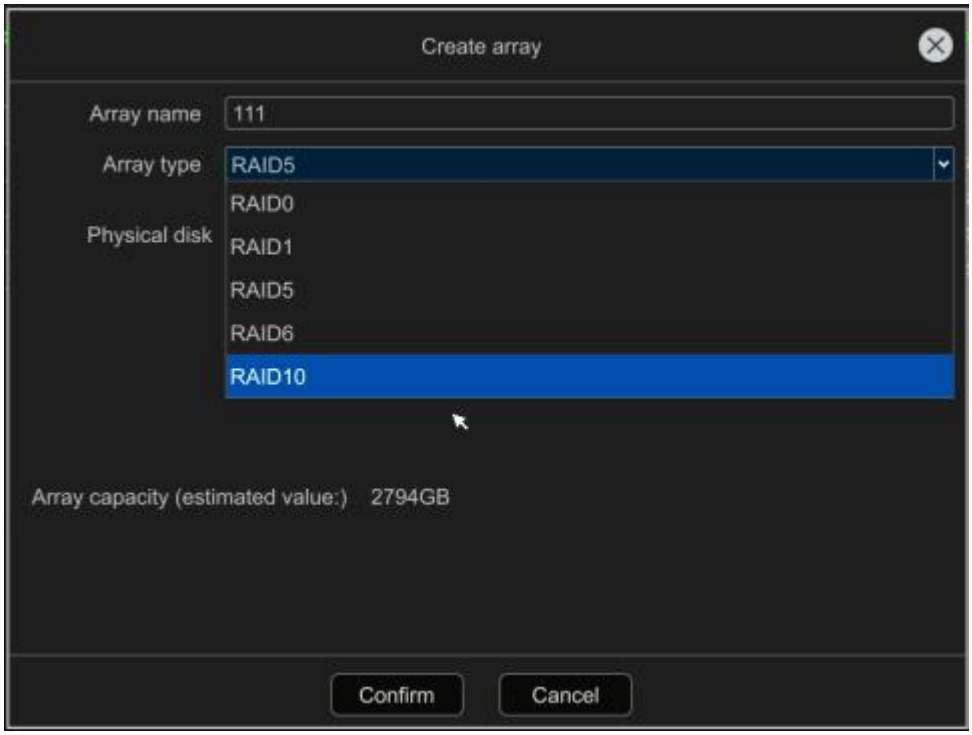
2>Create array

Can choose to create five array types: RAID0, RAID1, RAID5, RAID6, and RAID10




- RAID0：at least two hard disk are required to create, and the array capacity is the sum of the capacities of the two hard disk;

Click Create Array, name the array, select the RAID0 type, select at least two hard disk, and click OK;




After the creation is completed, need to format the hard disk; format the hard disk in the "Disk Format" interface. After the format is completed, user can see that an array has been created in the array interface;

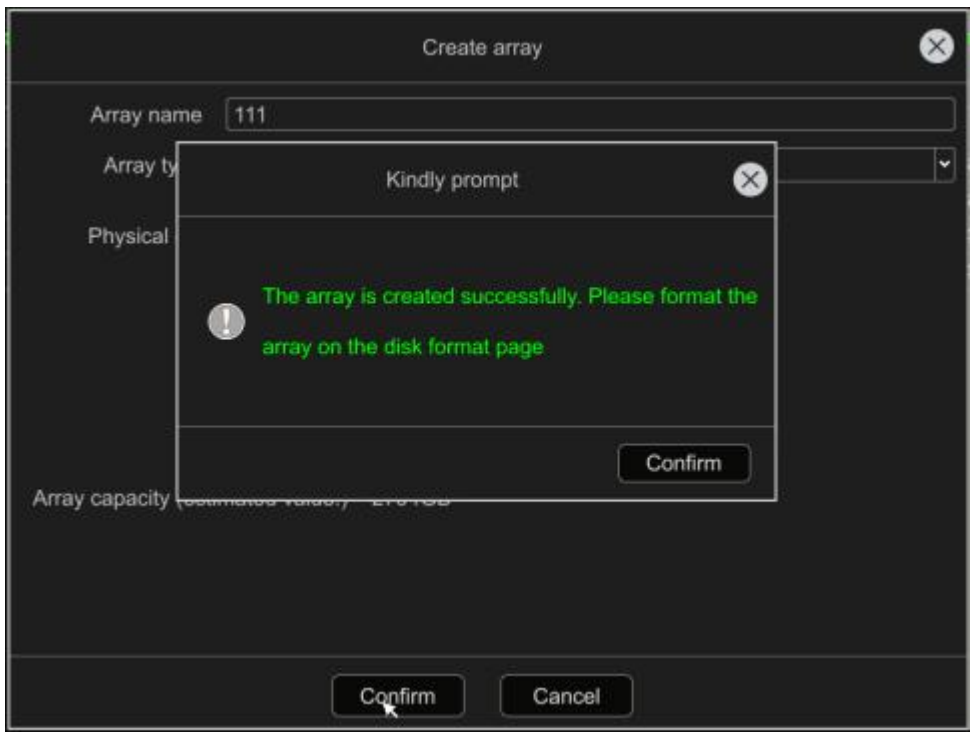
| No. | Name | Capacity | Physical disk | Hot standby | Status | Type | Rebuild | Delete | Task |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 111 | 2794GB/0MB | HDD1 HDD2 HDD3 HDD4 | | Degrade | RAID5 | | | Rebuild(Processing)0% |

The created disk array is displayed on the physical page, and hot spare settings are available. Select a disk to be used as a hot spare disk and click the hot spare button to change the disk type to a hot spare disk. If a disk in the storage array is faulty, a hot spare disk can back up data to avoid data loss. Click Delete to cancel the hot spare function of the hard disk.

| Physical number | Capacity | Array | Type | Status | Model | Hot standby |
|---|---|---|---|---|---|---|
| HDD1 | 931GB | - | Common disk | Normal | WDC WD10EJRX-89B | |
| HDD2 | 931GB | - | Common disk | Normal | WDC WD10EJRX-89B | |
| HDD3 | 931GB | - | Common disk | Normal | ST1000VX001-1Z41 | |
| HDD4 | 931GB | - | Common disk | Normal | ST1000VX001-1Z41 | |

◆ RAID1: at least two hard disks are required for creation, and the capacity of the array is equal to that of only one hard disk.

Click Create array, name the array, select RAID1 type, select at least two hard disks, and click OK.

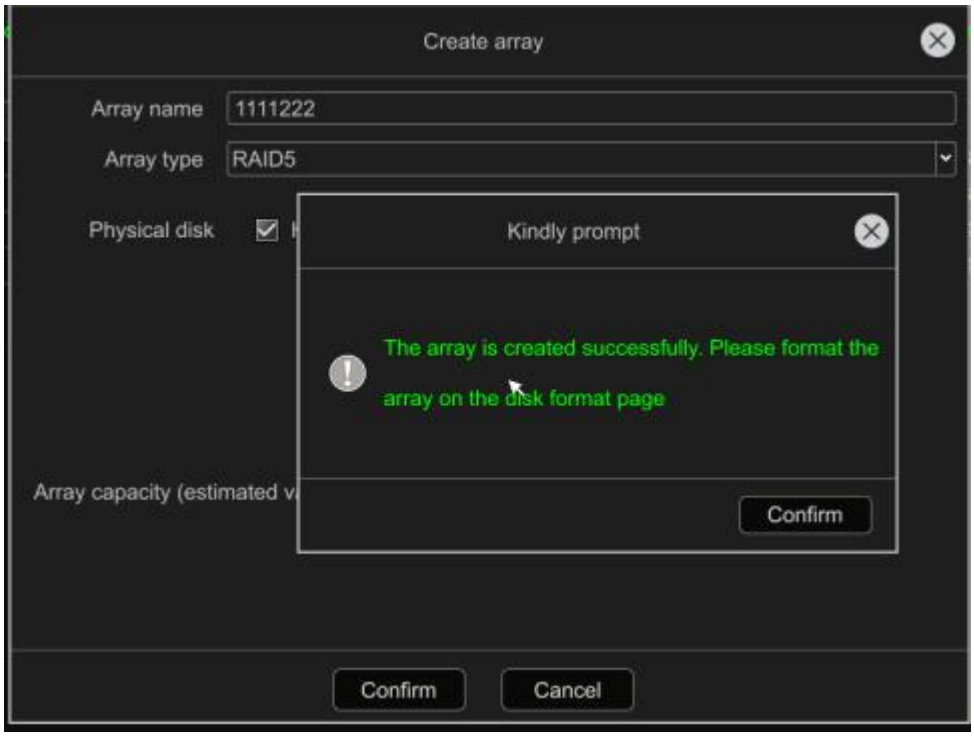



Also need to format the hard disk. After formatting, you can view the created disk array on the disk array interface, as shown in the following figure.

| No. | Name | Capacity | Physical disk | Hot standby | Status | Type | Rebuild | Delete | Task |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 111 | 2794GB/0MB | HDD1 HDD2 HDD3 HDD4 | | Degrade | RAID5 | | | Rebuild(Processing)0% |

◆ RAID5：at least three hard disks are required for creation(or more). The disk array capacity is n-1

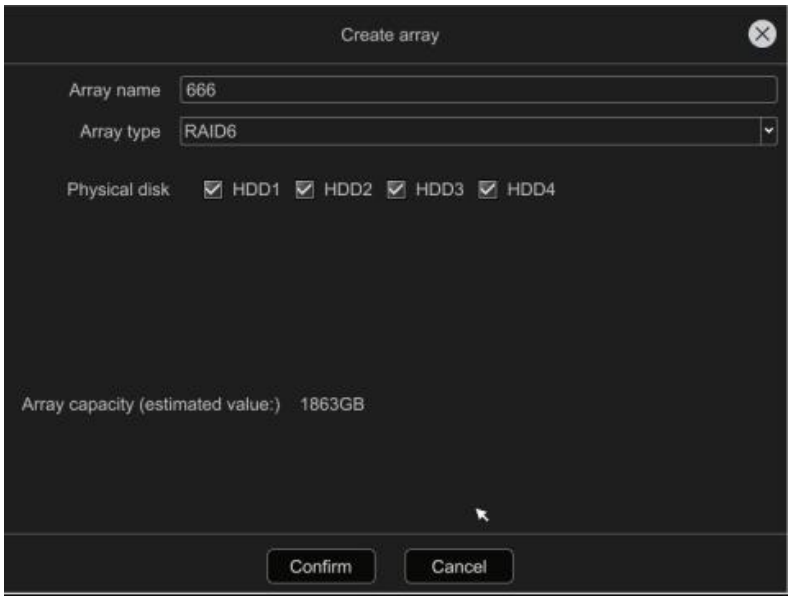
Click Create array, name the array, select RAID5 type, select at least three hard disks, and click OK.

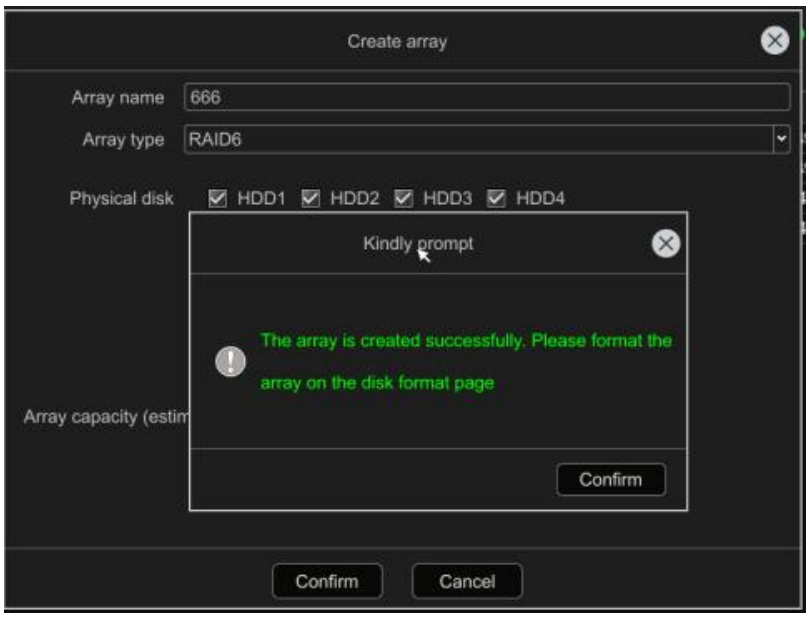



User also needs to format the hard disk. After the formatting is completed,user can see the created array in the array interface, as shown below;

- RAID6: At least four hard disks are required to create, and the array capacity is (n-1) minimum capacity*2

Click Create Array, name the array, select the RAID6 type, select at least four hard disks, and click OK;



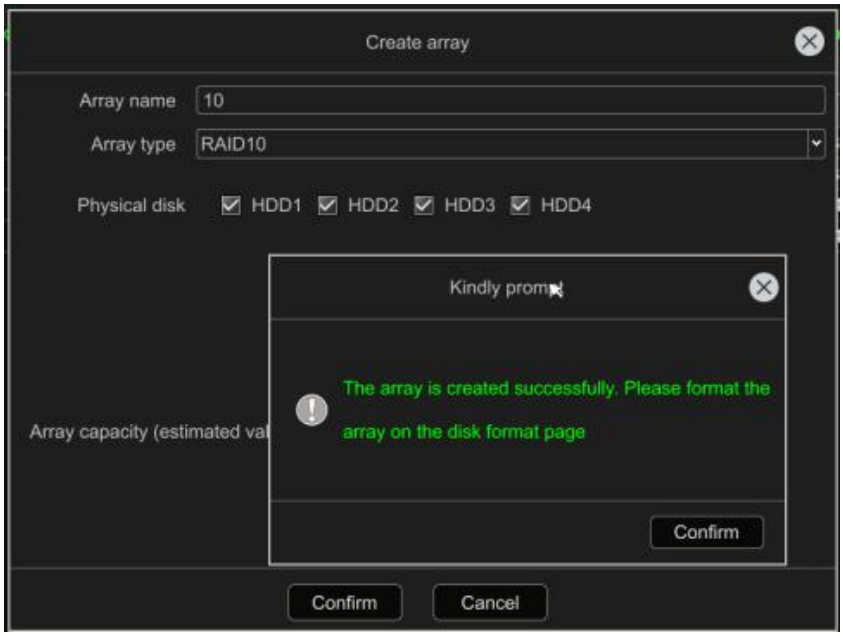




User also needs to format the hard disk. After the formatting is completed, user can see the created array in the array interface, as shown below;

| No. | Name | Capacity | Physical disk | Hot standby | Status | Type | Rebuild | Delete | Task |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 666 | 1862GB/0MB | HDD1 HDD2 HDD3 HDD4 | | Normal | RAID6 | | | Initialization(Processing)0% |

◆ RAID10：RAID10: At least 4+2*n disks are required to create this array (n>=0), and the array capacity can only use half of the disk capacity or less;

Click Create Array, name the array, select the RAID10 type, select at least four hard disks, and click OK;



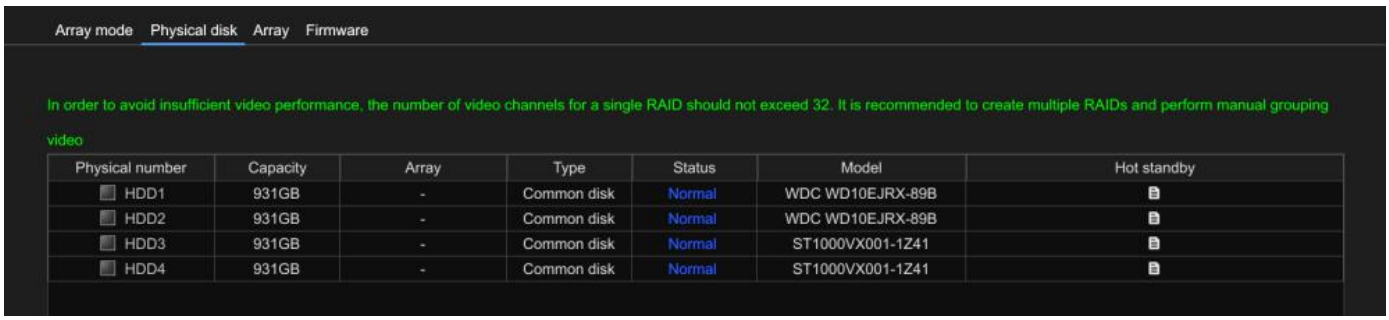

User also needs to format the hard disk. After the formatting is completed, user can see the created array in the array interface, as shown below ;


◆ Array interface:


Capacity: Displays the total capacity and remaining capacity of the array;

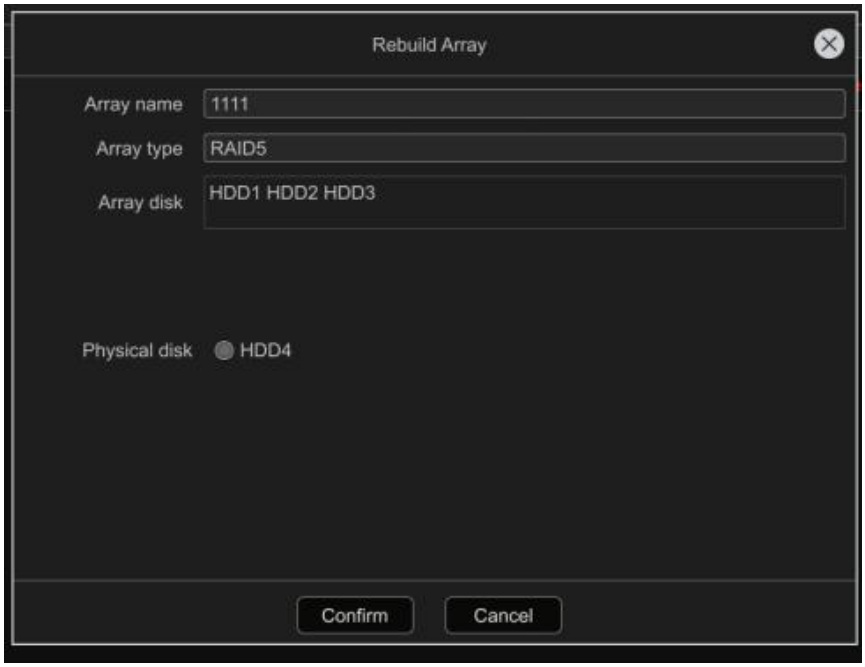
Delete: If you need to cancel the array, you can click Delete. After deletion, the data cannot be recovered, so please operate with caution.

Rebuild: If there is a global hot spare disk in the array, if the array is degraded, the hot spare disk will be automatically added for reconstruction; if there is no hot spare disk, you need to add the hard disk and click Rebuild manually;

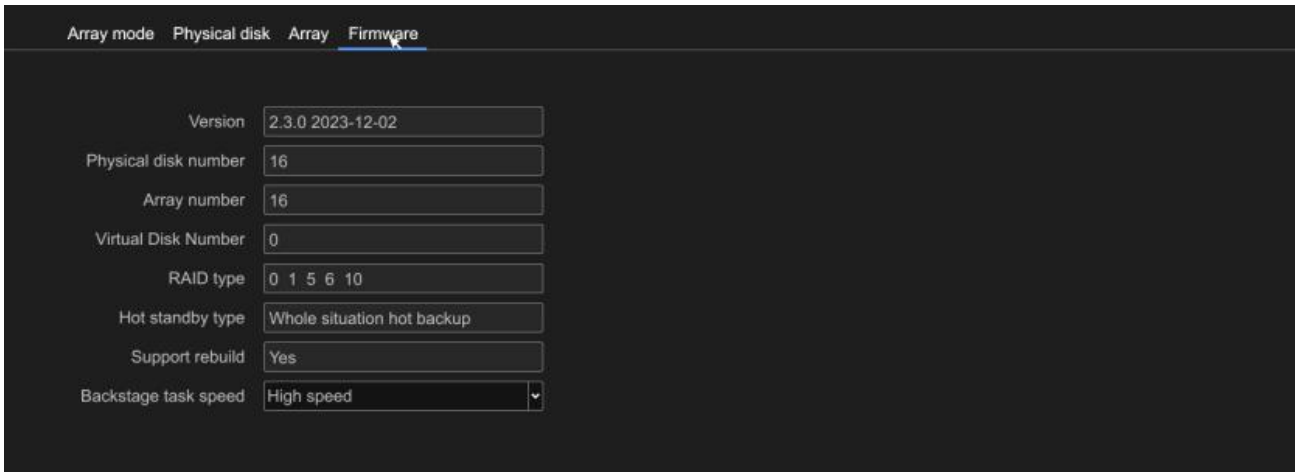



Rebuild: After clicking Rebuild, the interface will display the name, type and disks in the current array. Select one of the ordinary disks of the IVR device as a supplementary hard disk. Do not remove the hard disk during the rebuilding process to avoid data loss;

If a hard disk in the array is damaged and then the hard disk is replaced, the data can be backed up again through reconstruction;




- Firmware: Display array related information and background task speed settings;




Version: Displays the current software version information of the device;

Number of physical disks: The maximum number of hard disks that the device can access;

Number of arrays: the maximum number of RAID arrays created;

RAID type: RAID type currently supported by the device, RAID0, RAID1, RAID5, RAID6, RAID10, etc.;

Hot spare type: global hot spare, that is, the hot spare disk is for all arrays of the device. If there is a hard disk failure in the array, it will be used as a replacement disk to back up data;

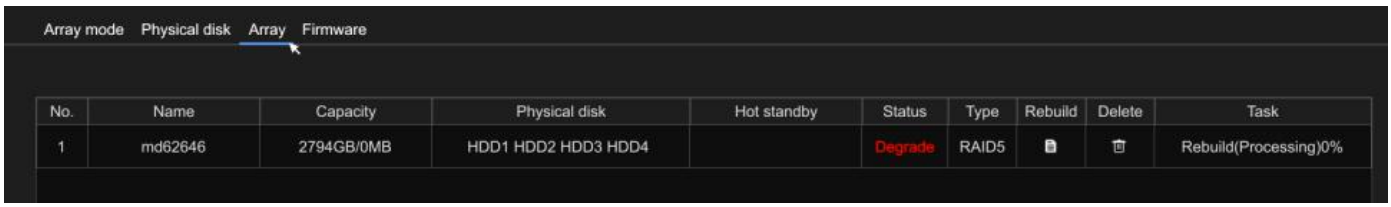
Support reconstruction: After the hard disk in the array is damaged, it can be rebuilt and restored

by adding a new hard disk to the array;

Background task speed: refers to the recovery speed of data reconstruction or hot backup when the array fails. Different speeds can be set, divided into high speed, medium speed and low speed;

- **Downgrade:**

When a hard disk in the array fails, the array will automatically degrade. If there is a hot spare disk in the array, reconstruction and recovery will automatically begin. The reconstruction time will depend on the amount of data;




If the hot spare disk is not set, you need to click the Rebuild button to rebuild manually. After clicking OK, the rebuild will start. The rebuild time will depend on the amount of data;

### 3.3.4.3 Alarm Management

#### 3.3.4.3.1Normal Event+

◆ Motion Detection

- Enable: This function requires IPC support. After checking, the motion detection function can be turned on;
- Sensitivity: Users can set the sensitivity of motion detection trigger according to actual needs;
- Area settings: Press and hold the left mouse button on the screen and drag to the area that needs to be detected. The red grid area that appears is the selected area for motion detection;
- Clear all: clear the detection area with one click;
- Full screen frame: You can set the full screen as the detection area with one click;
- Camera light alarm: The IPC light linkage can be configured. When the alarm is triggered, the IPC light flashes and alarms;
- Camera sound alarm: The IPC voice alarm can be configured. When the alarm is triggered, the IPC voice alarm will occur;
- Arming time: You can configure the arming time that needs to trigger the alarm. The default is to arm all day long;
- Linkage method: You can configure the alarm method that needs to be linked when the alarm is triggered. The following details:
- Send email: After checking, when the alarm is triggered, the alarm message can be received in the inbox configured on the email configuration interface;

Note: This method requires that the mailbox can be used normally and the device can connect to the external network.

- Video recorder voice alarm: After checking, when the alarm is triggered, the IVR will have a voice broadcast;

Note: This function is supported by some devices, and the details are subject to the actual

device;

- Monitor alarm: After checking, when the alarm is triggered, the alarm information can be displayed in the monitor alarm in the upper right corner of the device;
- Upload to network platform: After checking, when the alarm is triggered, the alarm information will be received on the IVR web client or the mobile phone bound to the App;
- Buzzer alarm: If checked, the IVR will have a buzzer sound when the alarm is triggered;
- Alarm output: After checking, when the IVR alarm output port has an external alarm, after the alarm is triggered, the alarm can be triggered;
- Video recording: can be set to link this channel or other channels to record;
- Capture: This channel or other channels can be set to capture pictures, and the picture records can be queried in the camera capture on the "Smart AI" interface;
- Camera alarm: After checking, when the alarm is triggered, the alarm input of the IPC and the external alarm can be triggered to alarm;
- Preview pop-up window: After checking, when the alarm is triggered, the preview window of the channel screen will pop up. After the alarm ends, the window will be restored;

Note: This function requires turning on the "Alarm event linkage preview pop-up window" in the preview interface.

- PTZ control: The PTZ can be configured to rotate to a preset point or cruise after the alarm is triggered;

Note: The deployment time and linkage method of all IVR alarm events are the same, and will not be described in details later;

◆ Video loss (expert mode)

When the channel screen goes offline, an alarm will be triggered, and the video loss log can be queried in the alarm event. The default is to arm all day;

- Video Occlusion (expert mode)

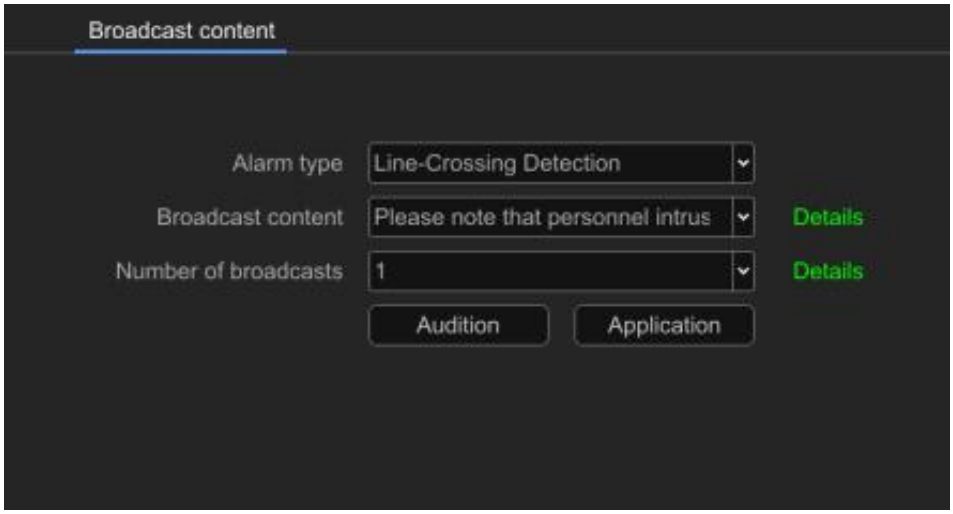
  The detection area can be drawn as needed. When the drawn area picture is blocked, an alarm will be triggered. Users can configure the arming time and linkage method according to actual needs. Only supported by private protocols.

- Alarm input (expert mode)
  - Alarm input: divided into local alarm input and remote alarm input. Local alarm input requires IVR hardware support, and remote alarm input requires IPC support;
  - IP device address: can display the IP address of the IPC that supports remote alarm input;
  - Alarm input name: The interface displays the default name, which can be configured by the user according to actual needs;
  - Alarm status: The alarm can be set to normally open or normally closed according to actual needs.
  - Alarm processing: Configure the arming time and linkage method. For detailed usage, please refer to the description in the motion detection section of this document.
  - Copy to: Copy the current configuration to other channels. Remote alarm input requires an IPC of the same model and version to support copying;
- Alarm output (expert mode)
  - Alarm output: You can select the number of alarm outputs supported by the IVR device hardware;
  - Alarm output name: The alarm output name can be customized;
  - Alarm output delay: The extension time of alarm output can be configured according to the actual needs of the user;
  - Arming time: The arming time period can be set for the external alarm equipment connected to the alarm output according to actual needs;
- Manual Alarm (expert mode)

User can manually trigger one or all local alarm outputs individually to check whether the alarm output can be triggered normally;

### 3.3.4.3.2 NVR Audio Alarm

- This function is used to configure the voice content of the video recorder voice alarm and the number of voice broadcasts after the alarm event ends, as shown in the following figure:




- Alarm type: User can select the alarm event type supported by the device.
- Alarm content: You can select voice broadcast content or customized settings.
- Number of broadcasts: You can set the number of voice alarms after the alarm event ends.
- Apply: The currently set voice broadcast content and broadcast times will take effect after clicking Apply;
- Audition: Click Audition to check whether the set voice broadcast content is correct.

### 3.3.4.3.3 System abnormality

- Abnormality type: Configurable alarm triggering method when the device encounters abnormalities such as hard disk full, missing hard disk, hard disk error, network disconnection, IP address conflict, recording failure, network hard disk disconnection, array degradation or array offline; network hard disk Offline, array degradation, array offline, etc. are only supported by some devices.
- Trigger mode: The trigger mode is used in the same way as the description of the motion detection module linkage mode, so no further details will be given.

### 3.3.4.4 Network Management

#### 3.3.4.4.1 Local Network

◆ Basic Parameters：

- Network card: According to different versions, single network card devices display one network card, and dual network card devices can choose different network cards for IP configuration respectively;
- Physical address: displays the physical address of the current device, the physical address is unique;
- Network status: Displays the network status of the current video recorder. When the network cable is not connected, the network status displays 10/M half-duplex. After the network cable is connected, it displays 100M/1000M full-duplex according to the actual bandwidth of the connected network.
- Automatically obtain an IP address: When enabled, the device automatically obtains an IP address, subnet mask, and gateway address; when turned off, a fixed static IP, subnet mask, and gateway need to be set;
- MTU (bytes): The default is 1400, which can be modified to be consistent with the router in the network where the device is connected;
- Automatically obtain DNS address: When enabled, the network DNS can be automatically obtained. After it is disabled, a fixed static DNS needs to be configured for use. It is recommended that the preferred DNS address is 223.5.5.5 and the alternative DNS address is 114.114.114.114.
- Internet network card: The network card used for connecting the device to the external network. The Internet network card can be selected according to the network conditions the device is connected to;

- USB network sharing: Connect your mobile phone (only supports Android phones) to the device through a USB data cable. After turning on the USB network sharing function of the mobile phone, the device detects the network and displays that the connection is successful. After the device detects the mobile network, the device can Connect to the external network via mobile phone network.
- Network diagnosis: Can diagnose the network condition of the device.

◆ Advanced parameters: (expert mode)

- UPnP: When enabled, internal ports can be mapped to external ports through the router;
- RTSP port: The default is 554, which is used by other platforms or devices to access the video recorder through the RTSP protocol;
- HTTP port: Default is 80, the port used to access the device through the browser through the http protocol;
- HTTPS port: Default is 443, which is the port used by the browser to access the web side of the device through the https protocol;
- Onvif port: default 8082, used for other platforms or devices to connect to the device through the Onvif protocol;
- FLINK port: default 12321, the streaming protocol port of the Web client and device, used internally;
- RTSP verification: After the device turns on RTSP verification, other devices or platforms need to verify the user name and password of the device to access the device through the RTSP protocol.
- TOE mode: The device turns on the TOE mode, which may solve the problem of network failure and is supported by some devices.

#### 3.3.4.4.2 Dynamic Domain Name (Expert mode)

It is used to access the Web side of the device through dynamic domain names in the WAN. The device currently supports four DDNS servers: 3322, DynDns, No-IP, and PeanutHull.

After users apply for a dynamic domain name on any of the above four DDNS domain name websites, they can access the device Web side through the corresponding DDNS domain name by filling in the correct information into the device configuration interface;

#### 3.3.4.4.3 Email Settings (Expert mode)

- Sender ' s email address and password: Fill in the outgoing mailbox address and the authorization password of the mailbox. Note that the authorization password is not necessarily the login password of the mailbox. The rules of different types of mailboxes are different. The specific rules of the mailbox used shall prevail;

  SSL: Some mailboxes need to enable SSL service to accept emails, such as Google, etc.;

  Attachment form: After enabling, screenshots can be received in the mailbox, and the screenshots can be sent in a package or not;

  Packaging: The alarm capture attachment is sent in the form of a compressed package. If not packaged, the picture will be sent in uncompressed form;

  SMTP server: To use different types of mailboxes, you need to select the corresponding server address. You can choose according to the commonly used servers listed or enter it yourself.

  SMTP port: needs to correspond to the mailbox, pay attention to distinguish the SSL port and non-SSL port of the mailbox;

- Recipient’ s email address: multiple email addresses can be supported to receive emails;
- Test email: After filling in the correct recipient and sender information, you can click the test email button to check whether the mailboxes are connected. If they are connected, you can receive the test email in your inbox;

Note: To use the Email linkage function, you need to ensure that the network environment is good and the device can smoothly access the external network.

### 3.3.4.4.4 Network Protocol

◆ GB28181 Service (Expert Mode)

The GB28181 configuration interface is shown in the figure below


Enable: When enabled, the IVR's national standard registration function can be enabled and the registration status will be displayed;

Connection method: You can choose UDP or TCP connection method to register;

Stream type: You can choose main stream or sub-stream registration;

SIP server encoding: provided by the server or platform;

SIP server IP: the national standard server or platform address to which the IVR is to be registered;

SIP server domain: generally the first ten digits of the server code, provided by the server or platform;

SIP server port: The port corresponding to the national standard server to be registered, provided by the server.

Registration password: provided by the platform or server;

Device number: provided by the platform or server;

Local port: Set the device port and ensure that there is no port conflict;

Heartbeat period: The default is 60S, the user can set it according to actual needs;

Channel number: provided by the platform or server;

Registration validity period: Default is 3600S, users can set it according to actual needs;

Maximum number of heartbeat timeouts: 3S by default, users can set it according to actual needs;

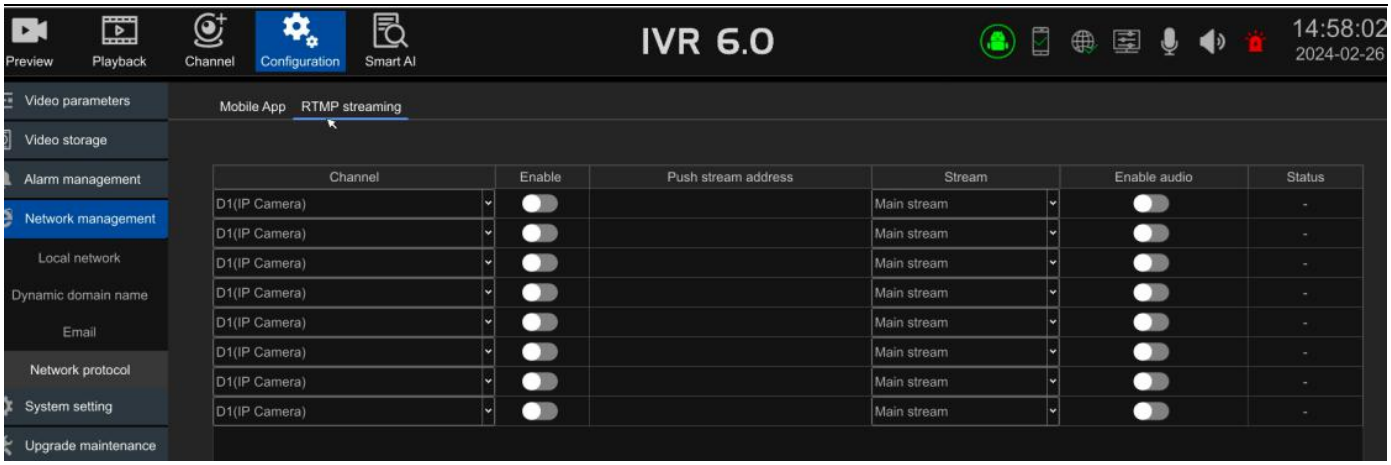
◆ Mobile phone monitoring

This page is the configuration interface for mobile phone monitoring, which can enable or disable the P2P service, as shown below.


- Protocol name: P2P protocol name
- Enable: Turn on this service to connect to the device with your mobile phone
- Alarm push: Only when this function is turned on can the mobile app receive alarm information;
- Activation status: displays the status of the device registered to the server;
- Connection status: Displays the status of whether the current device is added to the app. Online means it is connected, and offline means it is not connected.
- aliIoT4NVR version: The device has built-in aliIoT4NVR version;
- Auto upgrade version: The device has built-in autoup2pupgrade version;
- APP download QR code: APP download QR code and device ID QR code;

◆ RTMP streaming (expert mode)

This module supports RTMP service push audio and video streams, the interface is as shown below.




- Select the channel, main stream or sub-stream, and whether to enable audio, and the audio and video streams of the channel can be pushed to the server.
- The push address is: correctly fill in the server address of the platform to be pushed;

### 3.3.4.5 System Configuration

#### 3.3.4.5.1 Time Setting

◆ Device Time

- System time: The time of the video recorder can be set;
- Date format: The date format can be set, and there are three date formats to choose from: day-month-year, year-month-day, month-day-year;
- Time zone: Different time zones can be switched according to the region where the device is located;
- Daylight Saving Time: After enabling Daylight Saving Time, you can set the Daylight Saving Time period and offset time by week or by date;
- NTP time adjustment: After the function is enabled, fill in the time adjustment interval and time adjustment service address for network time adjustment (the device needs to be connected to the external network).

◆ IPC Manual Timing

- Manual timing: Manually click the timing button to adjust the time of the connected cameras and NVR;
- IPC auto timing: After enabled, the NVR will adjust the camera timing according to the set adjustment interval;

**3.3.4.5.2 User Management**

User permissions: Set permissions for new users;

Modify user: Modify the user name, password, and user type of the selected user;

Add user: You can add a new user and use this user to manage the device;

User type: Administrator users have all permissions; the initial default permissions of three types of users, such as ordinary users, operator users, and none, are different, and users can increase or decrease permissions as needed;

Delete user: The selected user can be deleted (admin user cannot be deleted);

Password retrieval: Used to set the method for the user to retrieve the password after forgetting it. user can choose to scan the QR code on the mobile APP or retrieve the password by email. (Both methods require the user to bind the video recorder to the App before retrieving the password, and only admin users support password retrieval)

Pattern unlocking: The pattern unlocking method can be set for the admin user or other newly added users. After pattern unlocking is enabled, you can choose two password methods to log in on the device login interface, and the pattern password method is used by default.

Pattern unlocking on or off: Admin users can enable or disable pattern unlocking when modifying users, and other users can enable or disable pattern unlocking when creating or modifying users;

**3.3.4.5.3 Device Parameter**

- Device name: The name of the video recorder can be set
- Select language: You can select the system language of the video recorder, which will take effect immediately;
- Main display resolution: The local display resolution of the video recorder can be modified (requires monitor support), and the modification will take effect immediately;
- Automatic logout time: You can set the automatic logout time. After setting, the video recorder will automatically log out after the set time when no one is operating. The default is 0 minutes and it will not automatically log out;
- Power-on preview mode: When enabled, the device starts in full-screen mode by default. After it is turned off, the device starts in non-full-screen mode by default;

◆ Advanced Settings: (Expert mode)

- Boot wizard: used to guide users to complete basic configuration after booting. After enabling, power on the device and enter the guidance interface. After closing, the device will directly enter the preview interface when it is powered on. It is enabled by default;
- System mode: The device supports the maximum number of preview display channels and playback channels on the same screen (different models of video recorders have different capabilities) and needs to be restarted to take effect;
- Mouse speed: adjust the moving speed of the mouse, effective immediately.

◆ 485 Device (Expert Mode)

Working mode: There are 2 modes in total, namely None, and the default selection of PTZ

control is None.

#### 3.3.4.6 Upgrade and Maintenance

- Device information: Displays the current version information of the video recorder, product serial number, number of connected hard disks, number of SATA ports supported by the device, number of alarm inputs and alarm outputs, device panel type, etc.
- Online user: information of the user currently accessing the video recorder, showing user name, login time, login IP and login method

##### 3.3.4.6.1 Log Information ( Export Mode )

Used to query all log information such as device operation, exceptions, alarms, etc., and can perform filtering query based on type, time period, channel and other conditions, and supports exporting of query results or all logs.

##### 3.3.4.6.2 NVR Upgrade

This page can upgrade the device, which is divided into online upgrade and USB upgrade:

- Online upgrade: Click the detection button. After detecting the new version, click Upgrade and wait for the device upgrade to complete. After the upgrade is completed, the device will automatically restart;

Note: The device needs to be connected to the external network to detect the new version;

- USB upgrade: This method needs to put the upgrade file with the update suffix into the USB flash drive in advance, and connect it to the device through the USB interface of the device. Click the Browse button and select the upgrade file, then click Upgrade. According to the upgrade progress of the device interface, wait for the device to be upgraded. Completed, the device will automatically restart after the upgrade is completed.

Note: During the upgrade process, please do not perform any operations on the local and remote ends to avoid irreparable errors!

#### 3.3.4.6.3 NVR Maintenance

- Export configuration: After the device is connected to the USB flash drive, the device configuration can be exported to the USB flash drive;
- Import configuration: After the device is connected to the U disk with the configuration file, click Import Configuration to import the configuration files of other devices or this device into the device. The imported configuration needs to be restarted to take effect;

Note: Importing configurations only supports importing configurations of the same layout and version;

- Factory Restore: Supports restoring the device to factory configuration. You can select a single configuration, multiple configurations or all configurations to restore as needed. You need to restart the device to take effect;
- Telnet: This function is used for developer debugging; (expert mode)
- Maintenance mode: You can set the device to restart regularly for maintenance. You can choose "once", "daily" or "weekly" for scheduled restart settings. After setting the maintenance time, a prompt box will pop up 10 seconds before the system time reaches the maintenance time. The system will automatically restart after 10 seconds when the maintenance time is reached, disabled by default (expert mode);

  Once：refers to the device restarting only once at the set time

  Every day: refers to the device restarting at the set time every day;

  Weekly: refers to the device restarting at the set time every week;

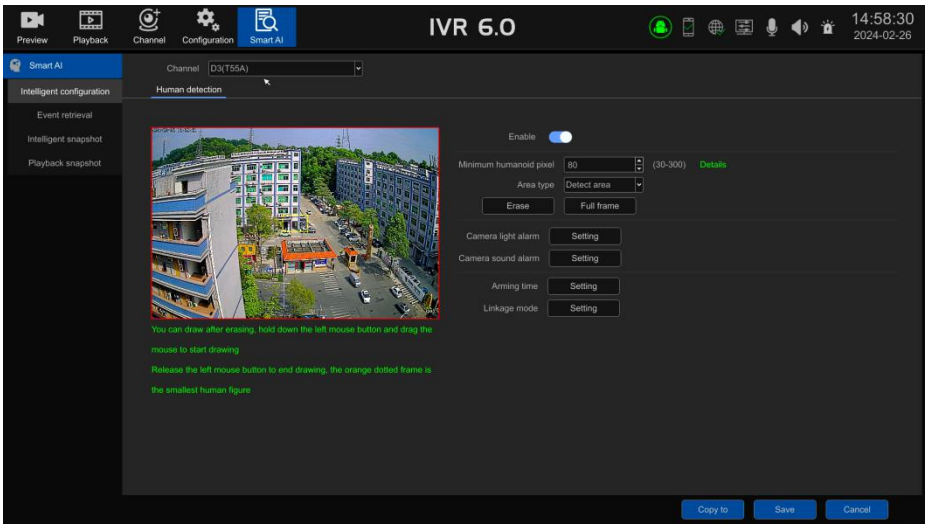
### 3.3.5 Intelligent AI

#### 3.3.5.1 AI Configuration

In this mode, the intelligence supported by the IPC is automatically obtained according to the

connected channel IPC, as shown in the figure below. The current IPC channel only supports humanoid detection. The following is a detailed introduction to the usage instructions of the intelligent A1.

## ◆ Human Detection

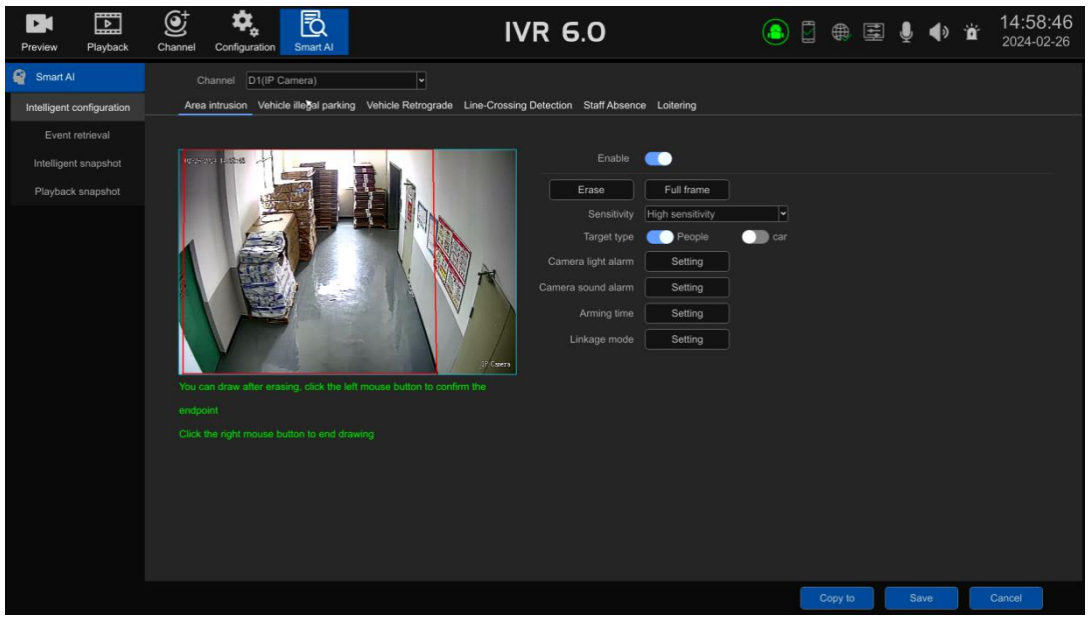



- This intelligence requires front-end IPC support and supports the detection of static and dynamic humanoids with humanoid pixels in the screen.
- Enable: You can enable or disable the humanoid detection function.
- Set the detection area: click the mouse on the channel screen, hold down the left mouse button and drag the mouse to start drawing the specified area, release the left mouse button to end the drawing; when there is a detection area in the screen that needs to be redrawn, it needs to be erased first and then drawn;
- Minimum human pixels: The range is 30-300. Only when the proportion of the target in the video is greater than this proportion, it will participate in the detection. It is recommended to set the detected humanoid size range as accurately as possible according to the actual scene when using it, so as to speed up the detection and reduce false detections.
- Erase: Erase the detection area frame with one click.
- Full screen frame: Click to automatically set the detection area to full screen.
- For camera light alarm, camera sound alarm, arming time, and linkage mode usage, please refer to the description of the motion detection module;

- Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.Area intrusion

## ◆ Area Intrusion

- Area intrusion detection setting interface is shown in the following figure:

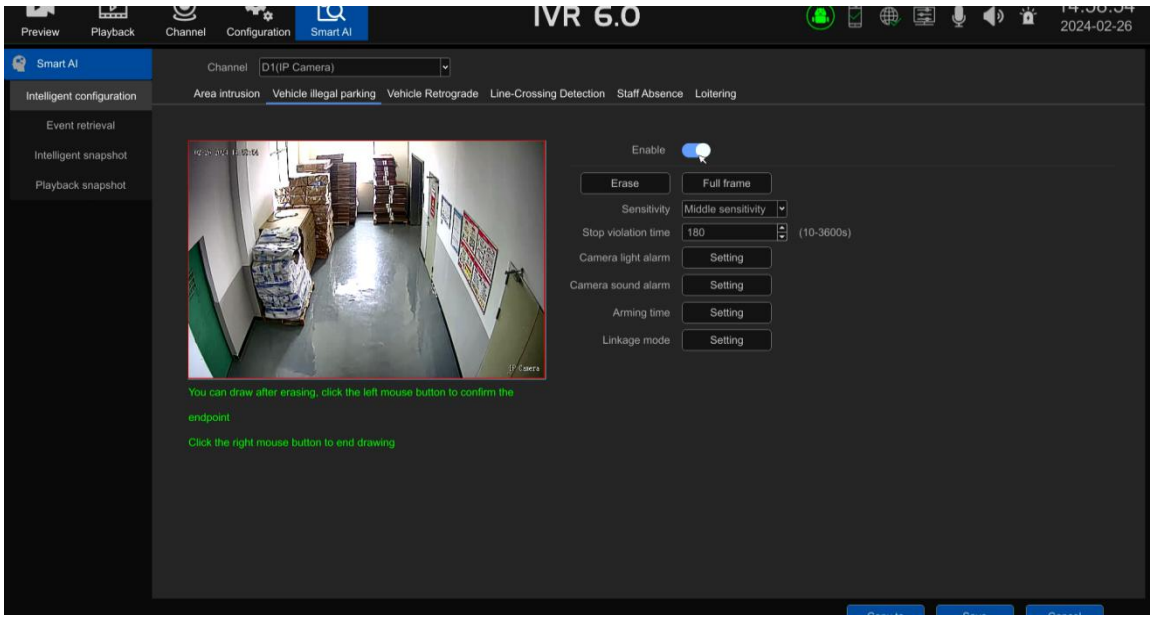



- This intelligence requires front-end IPC support
- Enable: User can enable or disable the area intrusion detection function.
- Set the area: click the left button of the mouse to determine the endpoint, click the right button of the mouse to end the drawing; when the detection area on the screen needs to be redrawn, it needs to be erased first and then drawn;
- Erase: Erase the detection area frame with one click.
- Full screen frame: Click to automatically set the detection area to full screen.
- Sensitivity: Proper setting can increase the accuracy of triggering regional intrusion alarms.
- Target type: There are three types: people, cars, and all (people and cars). After selecting the type, intrusion detection is performed on the type.
- Camera light alarm, camera sound alarm, arming time, and linkage method usage are detailed in the description of the motion detection module;

➢ Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.

◆ **Vehicle Illegal Parking**

➢ Vehicle illegal parking setting interface is shown in the following figure :




➢ This intelligence requires front-end IPC support

➢ Enable: You can enable or disable the vehicle illegal parking detection function.

➢ Set the area: click the left button of the mouse to determine the endpoint, click the right button of the mouse to end the drawing; when the detection area on the screen needs to be redrawn, it needs to be erased first and then drawn;

➢ Erase: Erase the detection area frame with one click.

➢ Full screen frame: Click to automatically set the detection area to full screen.

➢ Sensitivity: Proper setting can increase the accuracy of triggering regional intrusion alarms.

➢ Illegal parking time: Determine the length of time the vehicle is illegally parked (10-3600s).

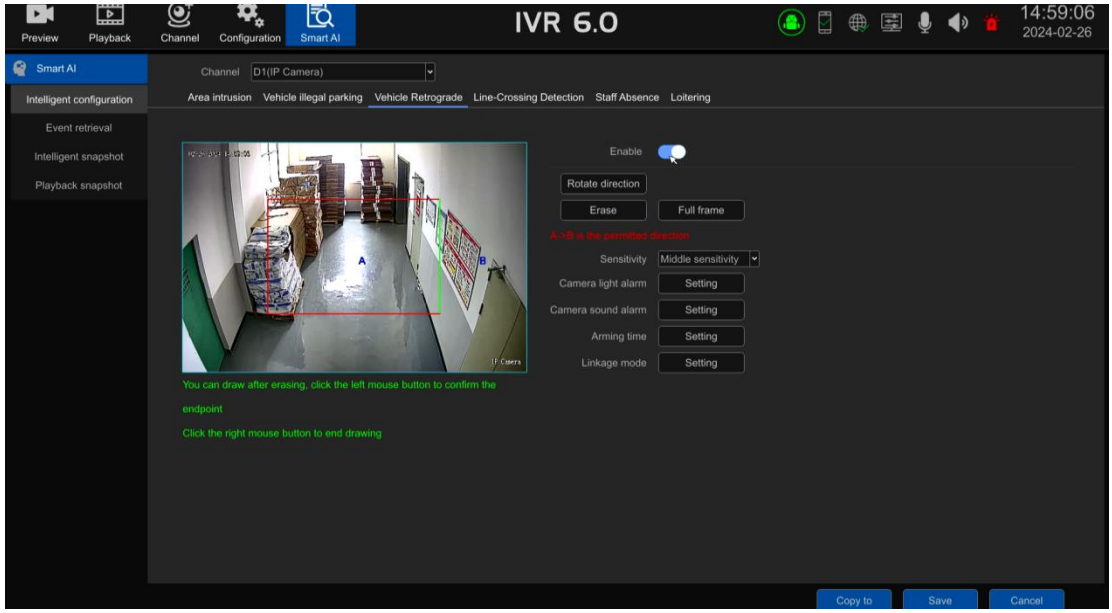
➢ Camera light alarm, camera sound alarm, arming time, and linkage method usage are

detailed in the description of the motion detection module;

- Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.

## ◆ Vehicle Retrograde

➢ Vehicle Retrograde setting interface is shown in the following figure :




➢ This intelligence requires front-end IPC support

➢ Enable: User can enable or disable the Vehicle Retrograde detection function

➢ Set the area: click the left button of the mouse to determine the endpoint, click the right button of the mouse to end the drawing; when the detection area on the screen needs to be redrawn, it needs to be erased first and then drawn;

➢ After the area is drawn, there is a green detection line between internal point A and external point B. When the vehicle is recognized to be moving from point B to point A, a retrograde detection alarm will be triggered. A→B is allowed to pass and the alarm will not be triggered.

➢ Switch detection line: Change the detection line to other sides of the drawn detection area, and points A and B will also switch accordingly.

➢ Erase: Erase the detection area frame with one click.

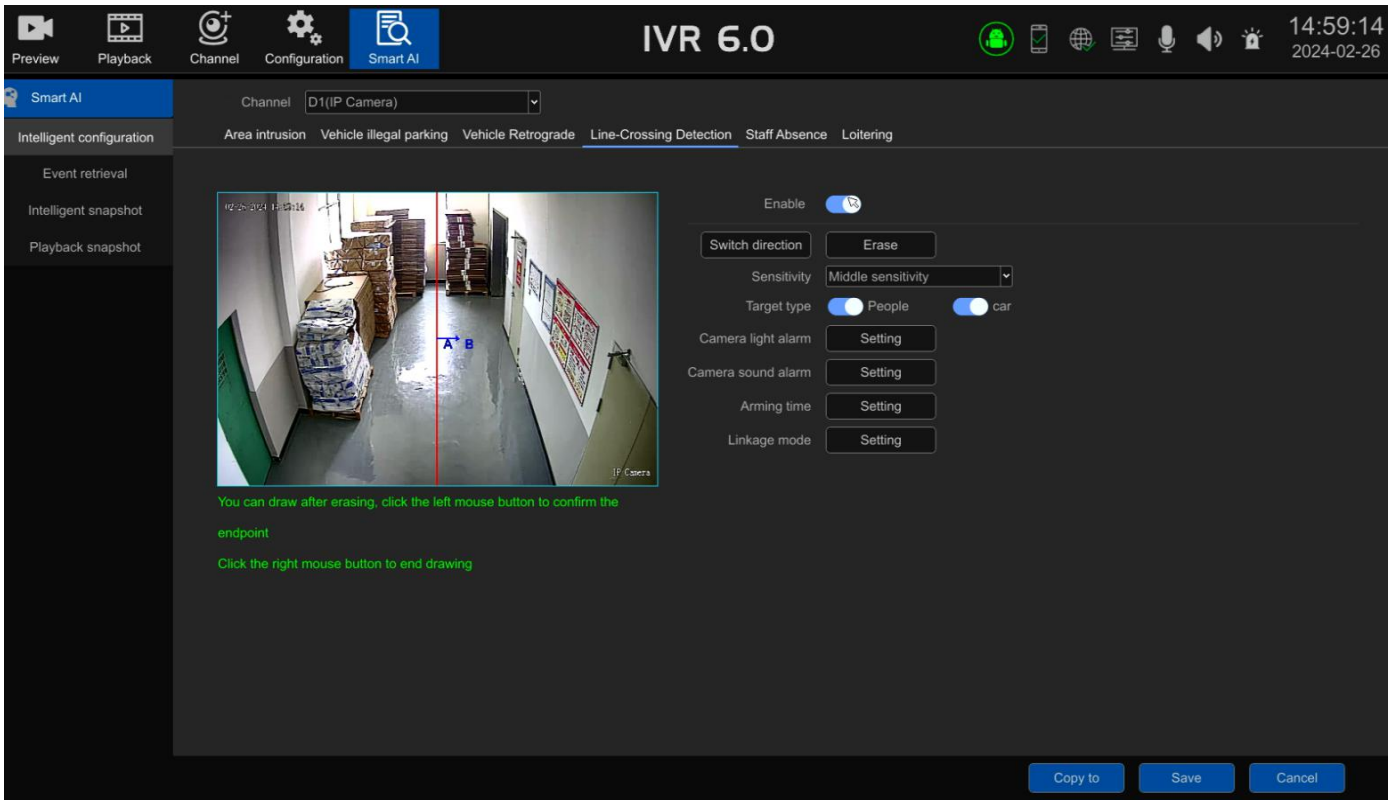
➢ Full screen frame: Click to automatically set the detection area to full screen.

➢ Camera light alarm, camera sound alarm, arming time, and linkage method usage are detailed in the description of the motion detection module;

- **Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.**

◆ **Line-Crossing Detection**

Line-Crossing Detection setting interface is shown in the following figure:

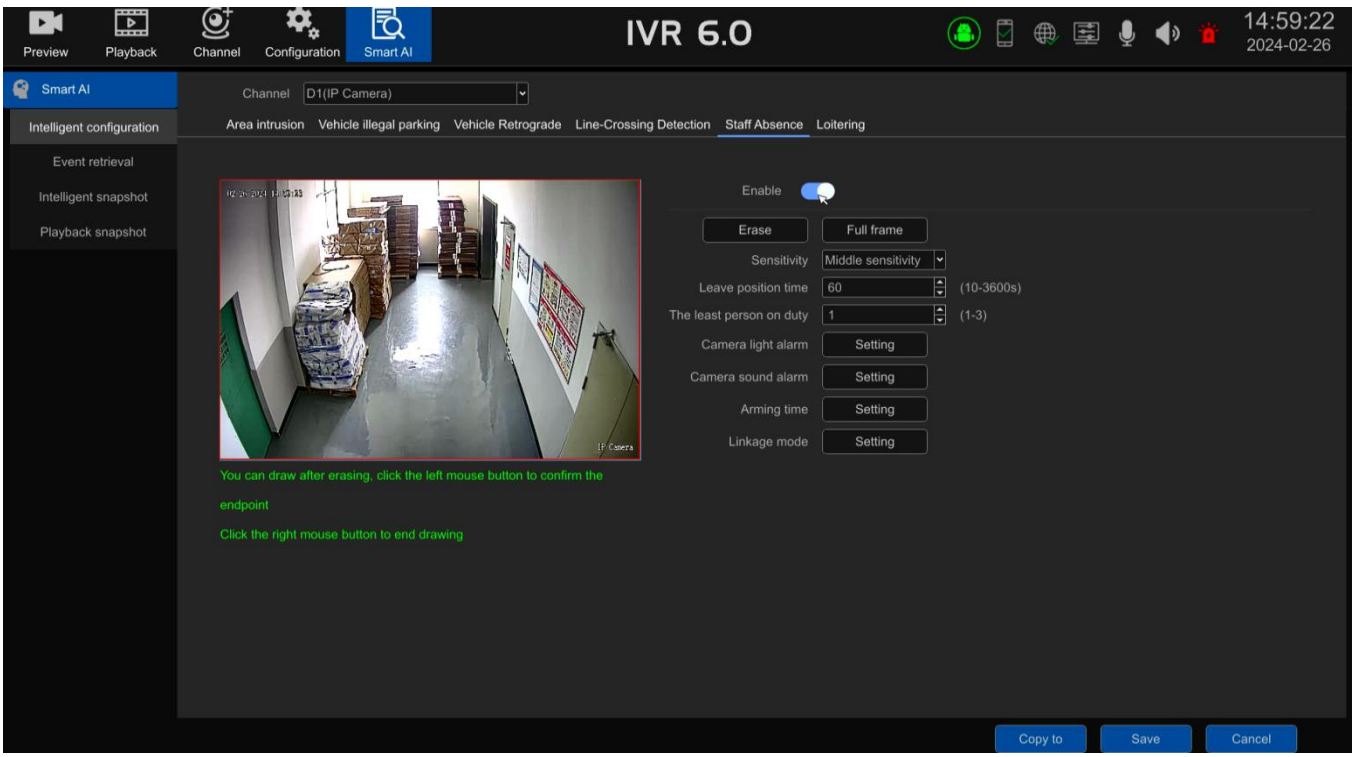



- This intelligence requires front-end IPC support
- Enable: You can enable or disable the Line-Crossing Detection detection function.
- Set the detection area: click the left mouse button to determine the endpoint, and click the right mouse button to end drawing. When there is a detection line on the screen that needs to be redrawn, it needs to be erased first and then redrawn; points A and B are displayed on both sides of the detection line, and the blue arrow in the middle indicates that the moving target crosses the detection line from area A to area B, and an alarm will be triggered.
- Erase: Erase the detection area frame with one click.
- Full screen frame: Click to automatically set the detection area to full screen.

- Sensitivity: Proper setting can increase the accuracy of triggering the out-of-bounds detection alarm.
- Target type: There are three types: people, cars, and all (people and cars). After selecting the type, intrusion detection is performed on the type.
- Camera light alarm, camera sound alarm, arming time, and linkage method usage are detailed in the description of the motion detection module;
- **Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.**

◆ **Staff Absence**

- Staff Absence Detection setting interface is shown in the following figure：

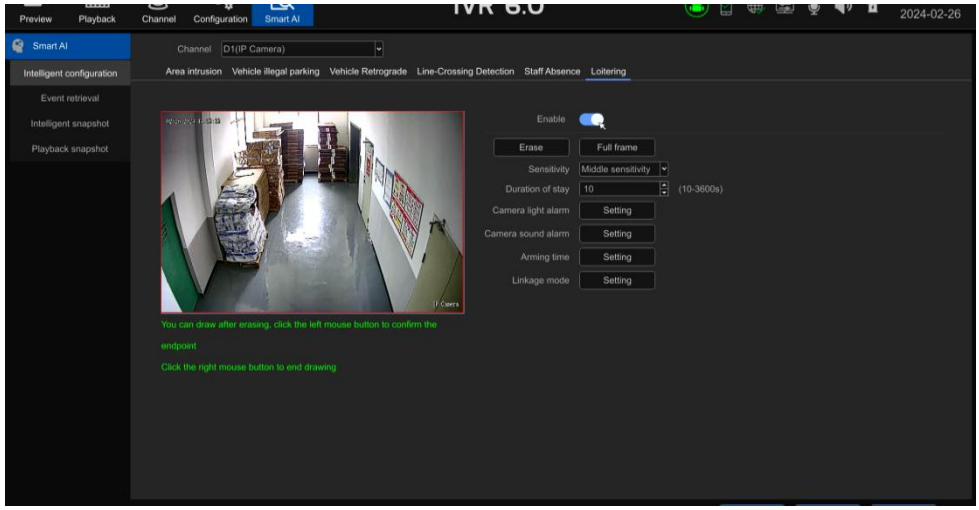


- This intelligence requires front-end IPC support
- Enable: user can enable or disable the Staff Absence detection function
- Set the area: click the left button of the mouse to determine the endpoint, click the right button of the mouse to end the drawing; when the detection area on the screen needs to be redrawn, it needs to be erased first and then drawn;
- Erase: Erase the detection area frame with one click.
- Full screen frame: Click to automatically set the detection area to full screen.
- Sensitivity: Proper setting can increase the accuracy of triggering Staff Absence alarms.
- Staff Absence time: The time the person leaves the detection area(10-3600s).
- Minimum number of people on duty: 1-3 people can be set. If the number of people detected in the area is less than the set value, an alarm will be triggered.
- Camera light alarm, camera sound alarm, arming time, and linkage method usage are detailed in the description of the motion detection module;

- **Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.**

◆ **Loitering**

- Loitering Detection setting interface is shown in the following figure :




- This intelligence requires front-end IPC support
- Enable: User can enable or disable the Loitering detection function.
- Set the area: click the left button of the mouse to determine the endpoint, click the right button of the mouse to end the drawing; when the detection area on the screen needs to be redrawn, it needs to be erased first and then drawn;
- Erase: Erase the detection area frame with one click.
- Full screen frame: Click to automatically set the detection area to full screen.
- Sensitivity: Proper setting can increase the accuracy of triggering Loitering alarms.
- Loitering time: Determine the length of time the person Loitering (10-3600s). If it exceeds the set value, an alarm will be triggered.
- Camera light alarm, camera sound alarm, arming time, and linkage method usage are detailed in the description of the motion detection module;
- **Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.**

### 3.3.5.2 Intelligent Search

All intelligent alarm events can be retrieved based on channel, event type, and time period. The interface is as shown in the figure below.


Both ordinary events and smart events can click the recording button to play the video, and the recording duration before and after the playback event can be set by yourself;

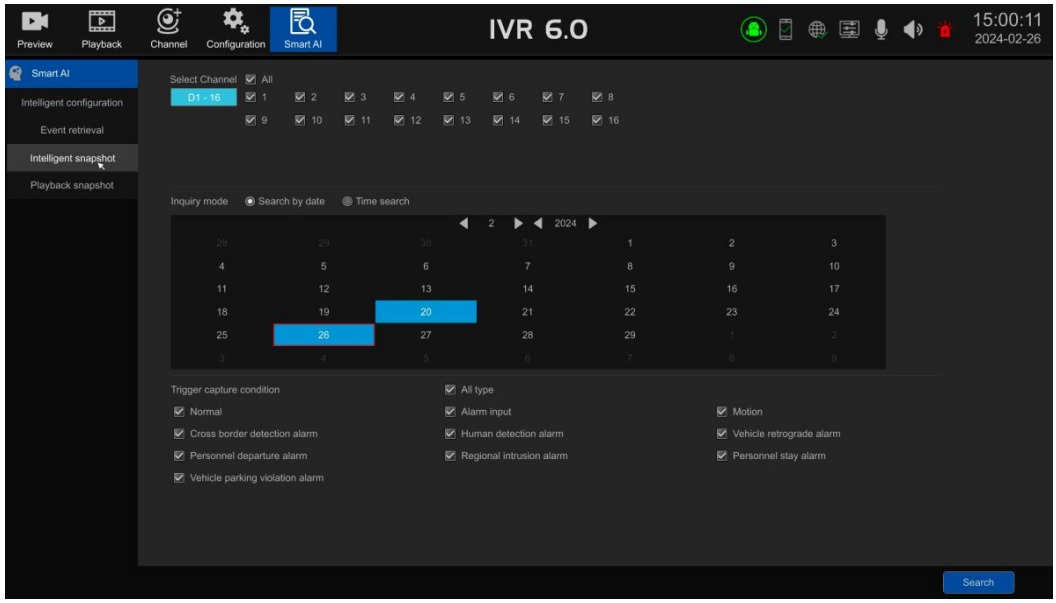
For intelligent IPC intelligent events such as Area intrusion，Vehicle illegal parking，

Vehicle Retrograde，Line-Crossing Detection，Staff Absence，Loitering, captured thumbnails and details can be displayed.

Detailed summary: Count the number of times for all queried event information.

### 3.3.5.3 IPC Capture

For linked snapshot pictures, conditional retrieval can be performed based on channel, day or time period, as shown in the figure below.




### 3.3.5.4 Playback Snapshot

Pictures captured during playback can be retrieved based on channels, days or time periods, as shown in the figure below.


## 4.1 NVR Web Page Operation Guide

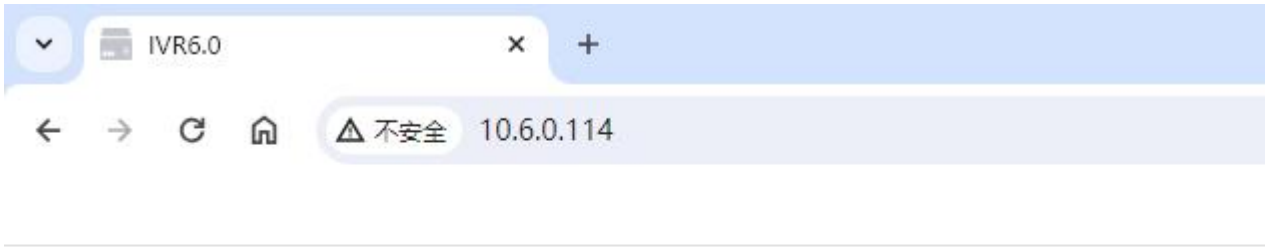
### 4.1.1 Network Connection

- Confirm that the NVR is correctly connected to the network;
- Set the IP address, subnet mask and gateway for the computer host and IVR respectively. If there is no routing device in the network, please assign an IP address on the same network segment. If there is a routing device in the network, the corresponding gateway and subnet mask need to be set. For the network settings of the network digital video recorder, see [Advanced Configuration] > [Network Management];
- Please make sure the IP address is set correctly. After the IP address is set, you can use the

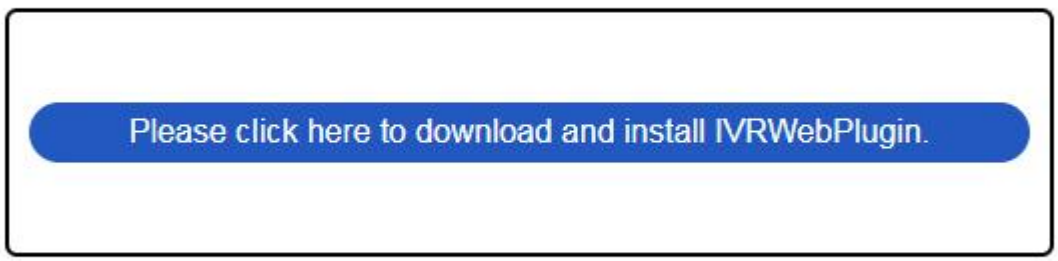
system's built-in ping tool to check whether the NVR has been correctly connected to the network

### 4.1.2 ActiveX Installation and User Login

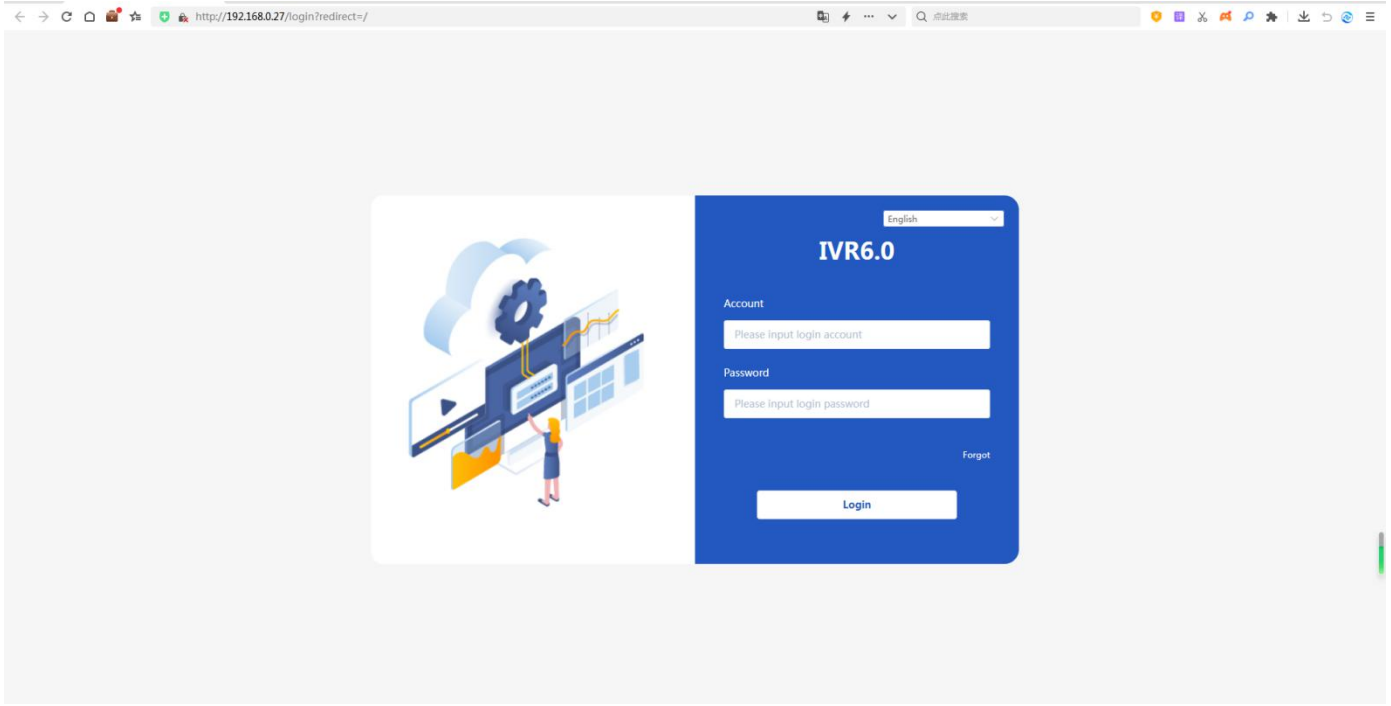
- After the NVR is correctly connected to the network, you can log in and access the NVR through 360 Secure Browser (extreme speed mode), Google Chrome, Firefox, Microsoft Edge and other Google-based browsers by entering the IP address of the IVR in the address bar

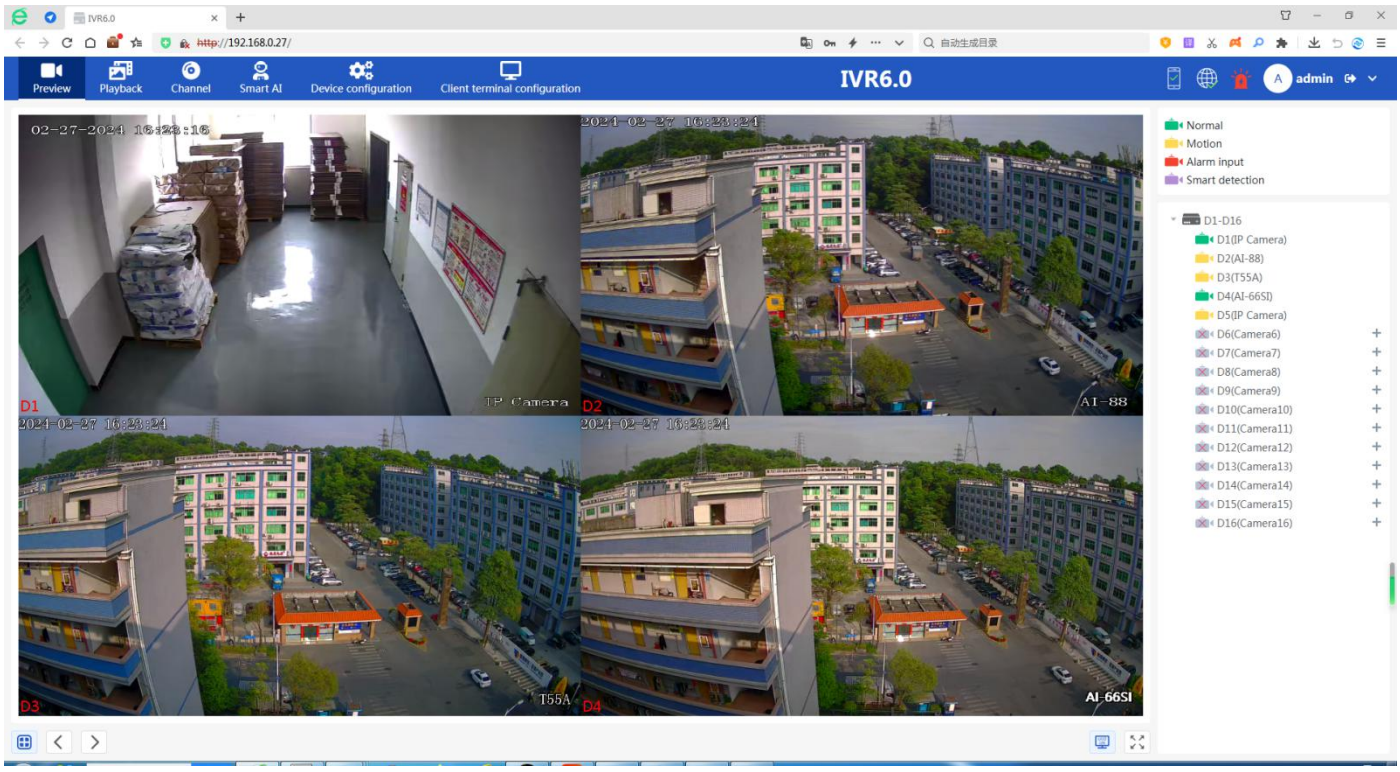



- Click the link to download and install the Web plug-in IVR Web Plugin Setup according to the interface prompts, and run the installation; (Note: Some computers may have anti-virus software misidentify the plug-in as a virus interception. During the download and installation process, ensure that the plug-in is not intercepted.)




- After the plug-in is installed, enter the user name, password, and click OK to log in to the web interface, as shown below.

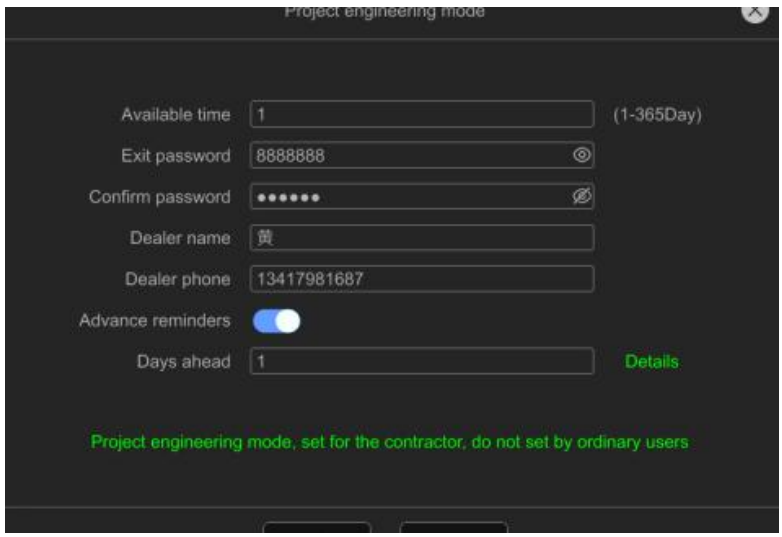



The functions of the web side are similar to those of the GUI local side, and the specific usage methods will not be described again.

## Chapter 4 Project Engineering Mode Guide

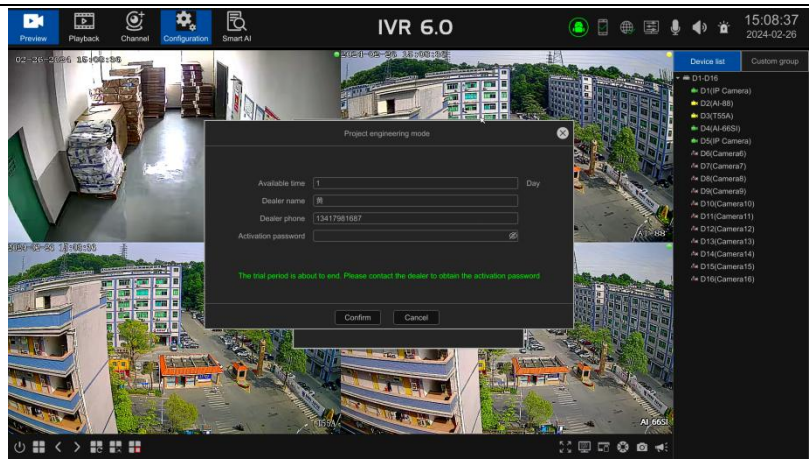
This operation guide is an instruction on how to use the project engineering mode. When you need to set the device usage permission for a certain period, you can log in with the admin account and password: 654321, and set the device availability time (days), exit password, and dealer name. Phone, you can choose to turn on the advance reminder function, as shown in the figure below:



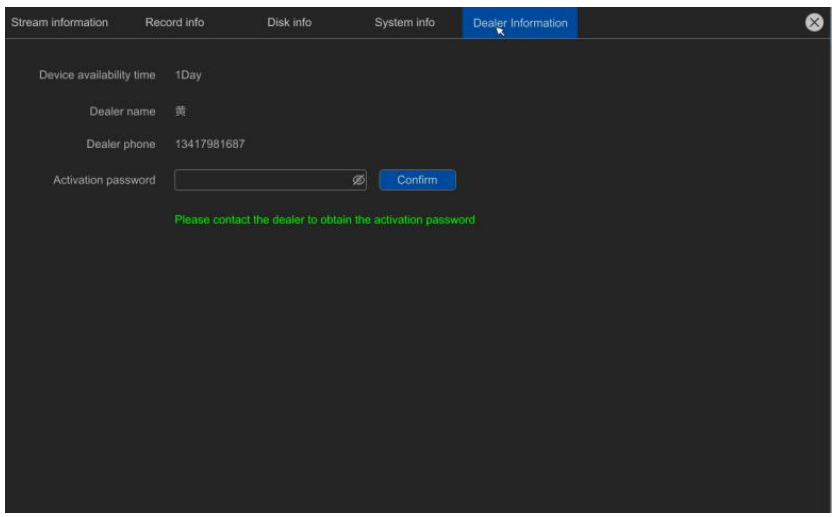

Note: The available time is calculated based on the power-on running time of the device.

After the settings are completed, you can log in normally and use the device functions within the available period.

When an advance reminder is set and the remaining usable time reaches the preset period, every time the use time is reduced by one day, a pop-up window will pop up to remind the user to activate:




There will also be a pop-up reminder every time you restart the NVR. If this function is not turned on, there will be no pop-up reminder. In addition to this pop-up window, you can also enter the system manager-dealer information at any time during use and enter the activation password to activate.




When the available time expires, the authorization expires and the device functions cannot be used, and a prompt box as shown in the figure below pops up. Enter the preset exit password to activate, and you can continue to use it normally.



The exit password must be kept safe. If it is accidentally lost, please contact technical support personnel for assistance in retrieving it.

## Chapter 5 APP Operation Guide

This operation guide is an instruction guide on how to install and use the mobile client on Android and iOS mobile phones. Customers can customize and use it according to their needs. The method of using the mobile client is similar. The following uses SECVIEW APP as an example to explain.

The mobile client software supports Android 5.0 and above system versions (mobile phones include commonly used brands currently on the market, such as Huawei, Xiaomi, OPPO, etc.), and iOS 11.0 and above system versions.

☆ Installation and operating instructions

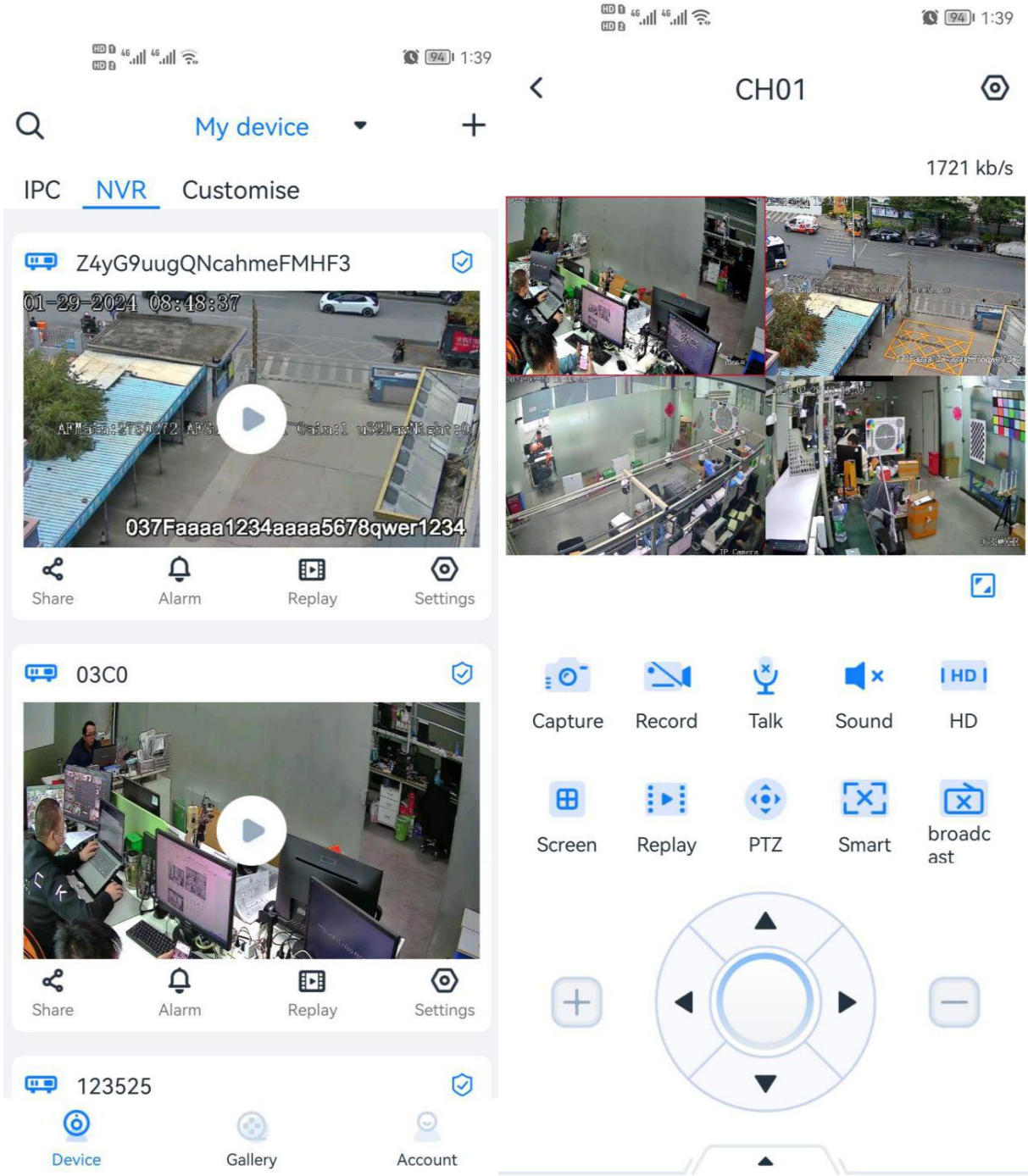
1.Download the latest version of SECVIEW APP from Google App Store or iOS APP STORE;

2.Perform online installation ;

3.After the installation is complete, click the corresponding program icon。

4.Open the APP, register an account first, log in after completion, and then scan the ID QR code on the device to add the device. After completion, as shown below.

Note: In actual use, mobile phone performance and network conditions will affect the preview effect. If the network condition is poor, the frame rate can be appropriately reduced to ensure a smooth preview screen.


1:39
My device
IPC
NVR
Customise
Z4yG9uugQNcahmeFMHF3
01-29-2024 08:48:37
037Faaaa1234aaaa5678qwer1234
Share
Alarm
Replay
Settings
03C0
Share
Alarm
Replay
Settings
123525
Device
Gallery
Account
1:39
CH01
1721 kb/s
Capture
Record
Talk
Sound
HD
Screen
Replay
PTZ
Smart
broadcast

## Chapter 6 Common Trouble Shooting

1. The device cannot be started or keeps restarting;

a. Replace the power supply and check whether the power supply matches or whether the standard power supply is used;

b. If it is caused by hard disk failure, you can unplug the hard disk first and observe;

c. The main board of the NVR is faulty, please contact the supplier for repair;

2. The RS-485 PTZ Speed Dome pan/tilt cannot be controlled;

a. The RS-485 interface cable is incorrectly connected, and ports A and B are connected reversely;

b. The PTZ decoder type, protocol, baud rate, and address bit settings are incorrect;

c. The RS-485 interface of the motherboard is broken.

3.IVR cannot query the video;

a. Check whether the hard disk connection is normal. You can unplug and insert the hard disk and try again;

b. Check the hard disk data because there are errors in bad sectors and bad clusters. Please check the hard disk. If the hard disk is damaged, please replace the hard disk;

c. Check whether the time currently displayed by the device and the time of querying the recording are normal;

d. Check whether the device has normal recording during the time period to be queried. You can use the log to check whether there is any hard disk loss or channel picture loss on that day;

4. Downloaded or backed up videos cannot be played normally.

a. The downloaded or backed up video is in MP4 format and needs to be played with a player that supports MP4 format;

5. After the device is turned on, there is no display on the monitor interface;

a. Check whether the monitor HDMI cable or VGA cable is in normal contact;

b. Check whether the current resolution of the monitor supports the current resolution of the device. You can try to press and hold the mouse wheel for about 5-10 seconds. The IVR will automatically switch to the lowest resolution of 1024*768;

c. Replace the monitor and check whether the monitor is damaged;

6. After the device is turned on, the display interface is misaligned or the display is incomplete;

a. Check whether the display resolution is consistent with the current resolution of the device. You can set adaptive settings on the display to match;

7. The hard disk connected to the device cannot be recognized;

a. Check whether the hard disk is damaged, and you can exchange the identifiable hard disk with the hard disk to check;

b. Check whether the hard disk is in poor contact, power off the device, re-insert the hard disk and then power on to see whether the hard disk can be recognized;

c. Check whether the SATA cable or power cord connected to the hard disk is damaged. You can exchange the SATA cable and power cord connected to the identifiable hard disk with the hard disk to check;

8. The device cannot search for IPC;

a. Check whether the IVR Internet card light is on or whether the network cable is in poor contact;

b. If the private protocol IPC cannot search, check whether the IVR and IPC are connected to the same LAN;

c. If the Onvif protocol IPC cannot be searched, check whether the IPC supports the Onvif protocol or whether the Onvif protocol is turned on;

d. Some Onvif protocol IPCs do not support cross-network segment search. You can try to set the

IVR and IPC to search on the same network segment;

e. Check whether there is an IP conflict in the network;

9. The IVR device failed to connect to IPC;

a. Check whether the IPC can be searched, and check whether the IPC that can be searched has been connected multiple times, causing the picture to be unsuccessful;

b. If the private protocol connection does not produce a picture, check whether the IPC is connected multiple times. Some IPCs do not support multiple connections due to performance reasons. You can disconnect other connections and observe again;

c. If the Onvif protocol connection fails to produce a picture, check whether the IPC has enabled the Onvif protocol connection function;

d. Check whether the IPC username and password are filled in correctly;

10. What to do if you forget your IVR password;

a. If the IVR has been bound to the mobile App, you can retrieve it through the mobile App according to the device interface prompts;

b. If the mobile app is not bound, you can use the upgrade tool installed on the computer to restore the device to default, and then log in again using the default password 123456;

c. If there is no computer environment installation tool, you need to contact the manufacturer for processing;