GeoVision inc

The Vision of Security

GV-TNVR1620-P

User's Manual

TNVR-UM-A

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About this Manual

Disclaimer

Due to such reasons as product version upgrade or regulatory requirement of relevant regions, this manual will be periodically updated.

This manual is only for informational purpose, and all statements, information, and recommendations in this manual are presented without warranty.

The illustrations in this manual are for reference only and may vary depending on the version or model. The screenshots in this manual may have been customized to meet specific requirements and user preferences. As a result, some of the examples and functions featured may differ from those displayed on your monitor.

1 Local Operations

This chapter introduces operation methods and matters needing attention on the local interface.

1.1 Before You Begin

- Please be aware that functions may vary with NVR model.
- The figures in this manual are for illustration purpose only and may vary with NVR model.
- The parameters that are grayed out on the local interface cannot be edited. The parameters and values displayed may vary with NVR model and version.

1.2 Local Operations

This section introduces mouse operations and front panel buttons.

You can refer to Initial Configuration and complete a quick configuration.

Note: Unless otherwise specified, all operations described in this manual are performed with a mouse by the right hand.

Mouse Operations

Name	Operation	Description
Left button	Click	• Select or confirm an item. • Select to edit digits, symbols, uppercase or lowercase letters in a field.
	Double-click	Switch single window or multi-window in live view.
	Drag	• Draw or move a rectangle on the screen. • Sort windows in a multi-window layout.
Right button	Click	• Show the shortcut menu. • Exit digital zoom. • Exit the current window when **Cancel** or **Exit** is displayed.
Scroll wheel	Scroll up	• Scroll up a list, window, or scroll bar. • Zoom in on the screen when digital zoom is enabled.
	Scroll down	• Scroll down a list, window, or scroll bar. • Zoom out on the screen when digital zoom is enabled.
	Long press	Restore to the lowest resolution.

2 Initial Configuration

This chapter describes the initial configuration of the NVR.

2.1 Preparation

- Make sure that at least one monitor is correctly connected to the VGA or HDMI interface on the rear panel of the NVR, otherwise, you cannot view the local interface.

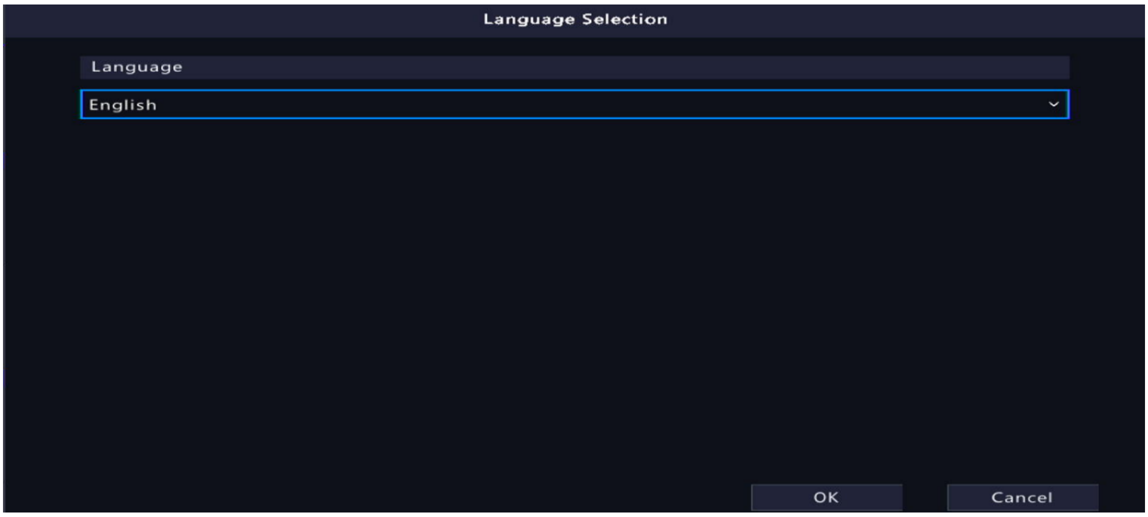
  Note: If no images are displayed after the NVR is powered on, it may be because the monitor does not support the current output resolution of the NVR. Please press and hold the scroll wheel of the mouse to restore to the lowest resolution.

- Make sure that the hard disk(s) are correctly installed. For detailed installation steps, please refer to the quick guide shipped with the NVR.

2.2 Login

Device Login

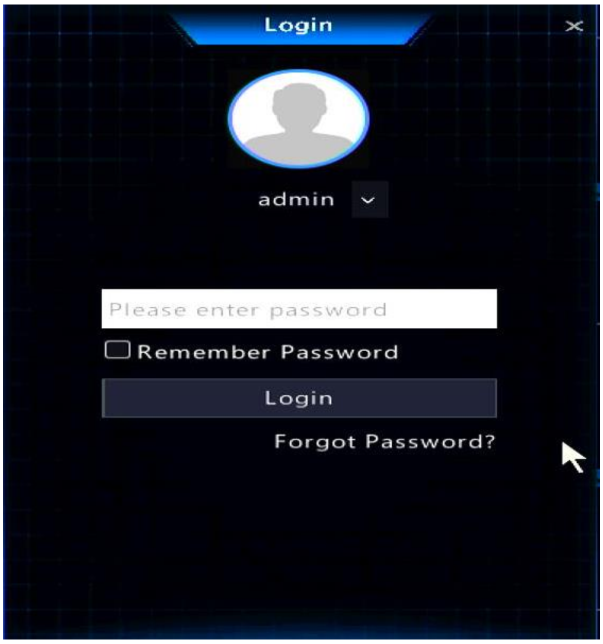
1. The **Language Selection** page appears after the NVR starts up. Set the area, and language.



Language Selection

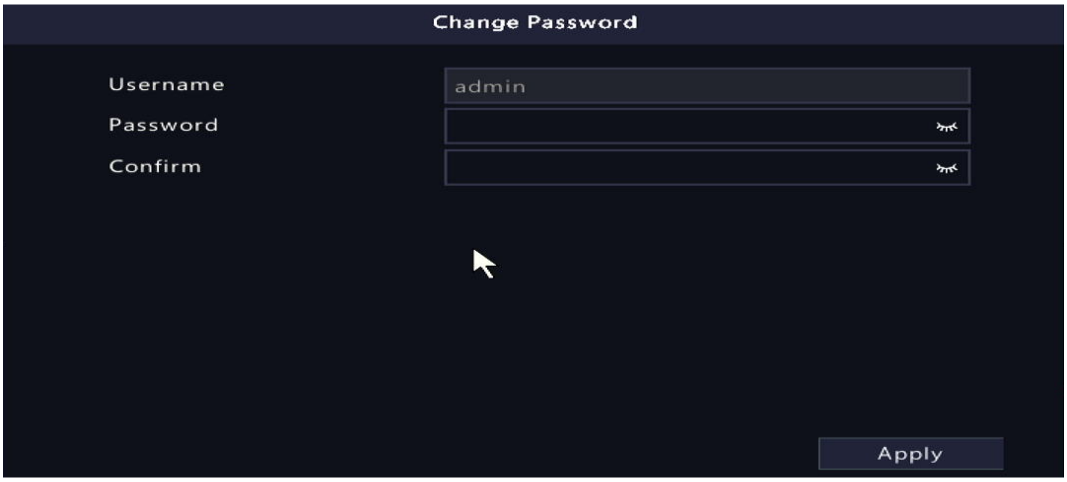
Language: English

2. On the **Login** page, select the default user (admin), enter the default password (admin), and then click **Login**.



Note: If you enable **Remember Password**, the username and password will be automatically filled in the next time.

3. On the **Change Password** page, enter the new password, and confirm it. Click **Apply**.



Change Password

Username admin

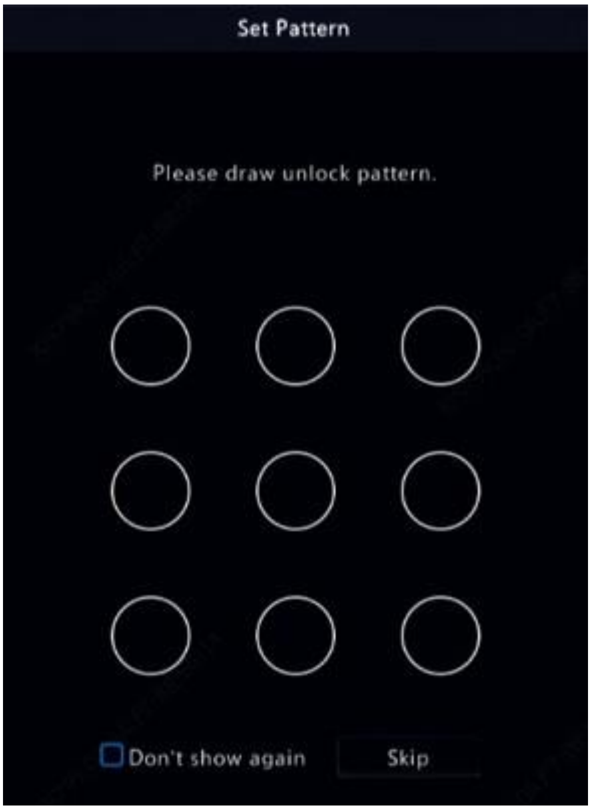
Password

Confirm

Note:

- Use the default username and password (admin/admin) to log in for the first time. After login, you must change the password, and use the new password to log in the next time.
- For security, you are strongly recommended to set a strong password with at least 9 characters including all three elements: letter, digit, and special character.

4. (Optional) Set an unlock pattern, or click **Skip** to proceed.



Set Pattern

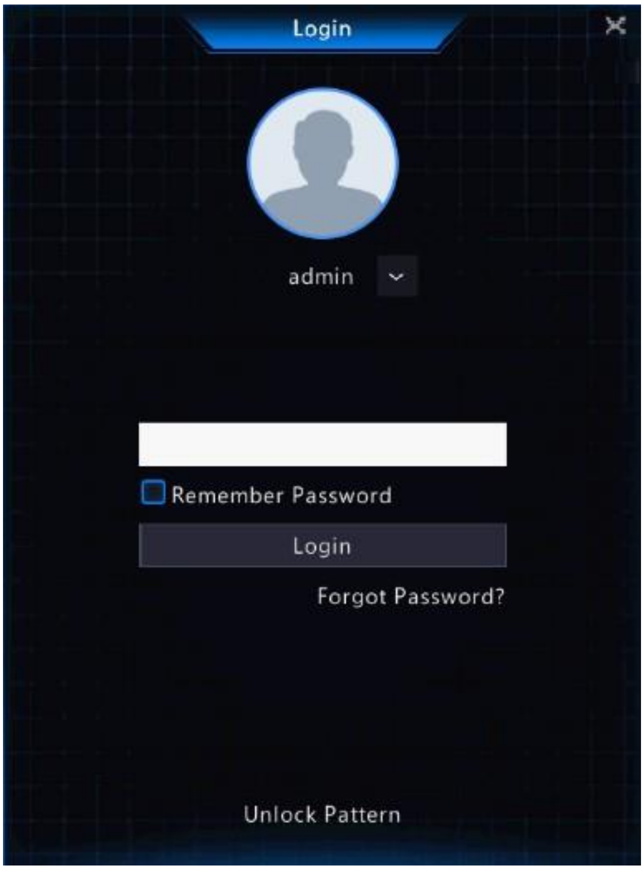
Please draw unlock pattern.

Note:

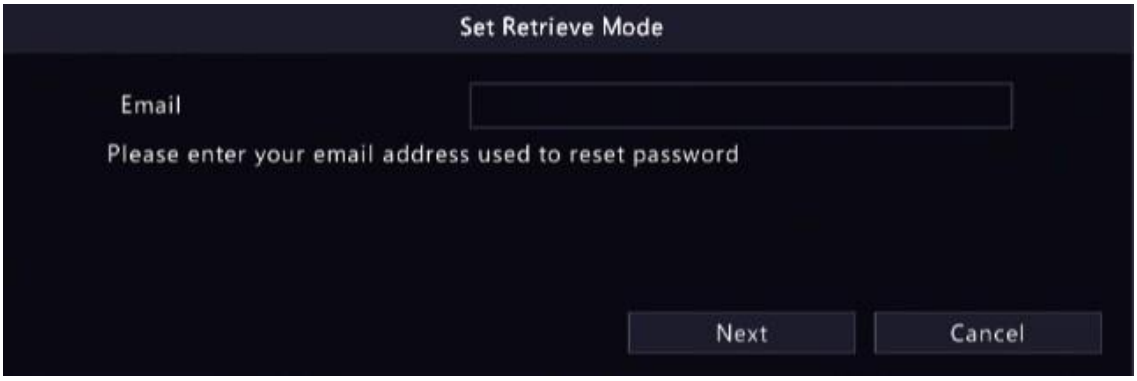
- You can set the unlock pattern later at anytime or disable it under **Menu** > **System** > **User**.
- If an unlock pattern is set, it will replace the password at login.

Reset Password

1. If you forgot the admin password or want to reset the password, click **Forgot Password** on the login page.



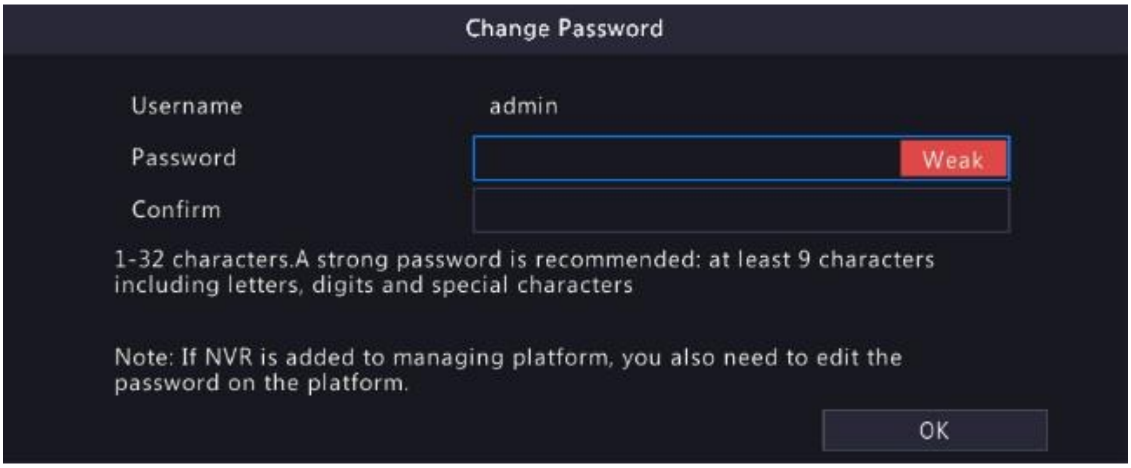
2. (Skip this step if you have already entered your email address) Enter your email address to receive the security code, that is, the temporary password.



Please enter your email address used to reset password

3. Follow the instructions on the screen to obtain the security code.

4. Enter the security code received from the email address, and click **OK**.
5. Enter the password, confirm the password, and then click **OK** to reset the password.



Change Password

Username admin

Password

Confirm

1-32 characters.A strong password is recommended: at least 9 characters including letters, digits and special characters

Note: If NVR is added to managing platform, you also need to edit the password on the platform.

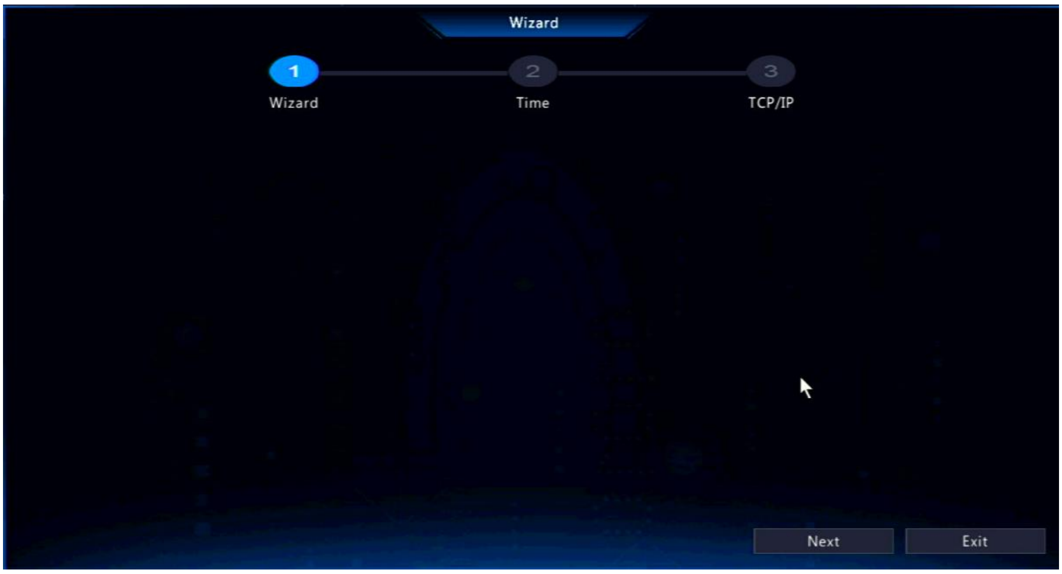
6. Use the new password to log in again.

2.3 Wizard

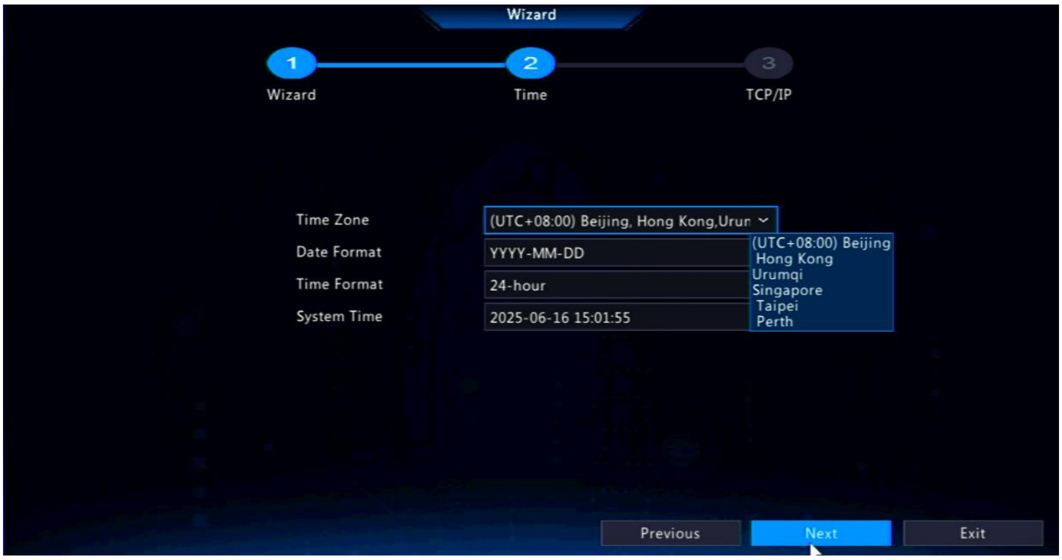
The wizard page appears after you login. Follow the wizard to complete the most basic setup, or click **Exit** to skip this step.

Note: You can also go to **Menu** > **System** > **General** > **Basic Setup** to set the basic parameters.

1. Select **Next**.

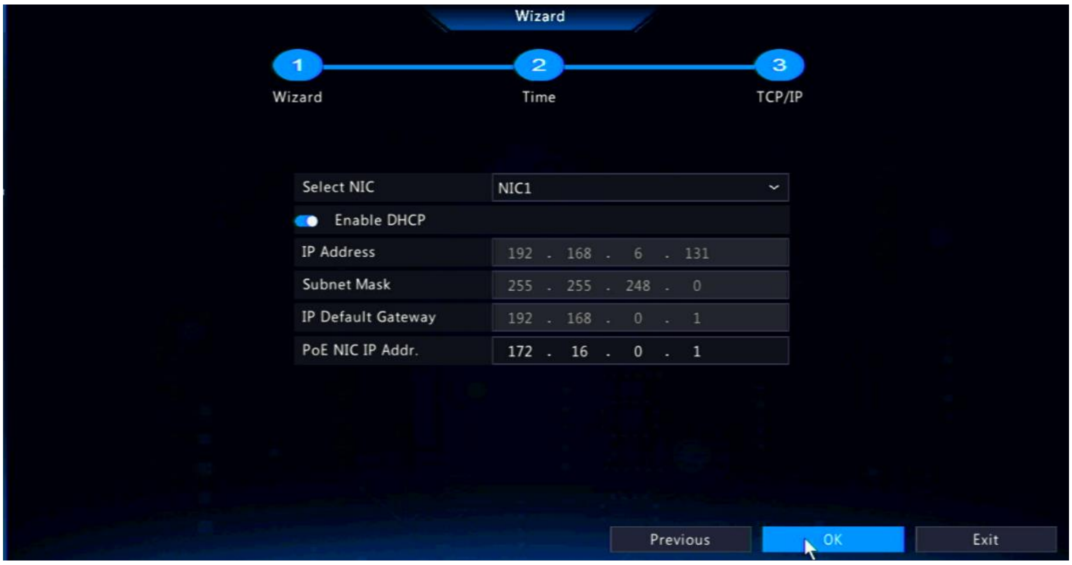


2. Set the time parameters, including time zone, date format, time format, and system time, and then click **Next**.



Time Zone: (UTC+08:00) Beijing, Hong Kong,Urun
Date Format: YYYY-MM-DD
Time Format: 24-hour
System Time: 2025-06-16 15:01:55

3. Configure TCP/IP. Check **Enable DHCP** to automatically obtain an IP address, subnet mask and IP default gateway. You can also enter the information manually. Then, click **OK**.



Select NIC	NIC1
Enable DHCP	●
IP Address	192 . 168 . 6 . 131
Subnet Mask	255 . 255 . 248 . 0
IP Default Gateway	192 . 168 . 0 . 1
PoE NIC IP Addr.	172 . 16 . 0 . 1

3 Live View

This chapter introduces the live view page, including window toolbar, screen toolbar, shortcut menu, digital zoom, sequence operation, etc.

Note: The operations may vary with NVR model.

3.1 Live View Status

The following icons are used to indicate alarms, recording status, and audio status in a live view window.

Table 3-1: Live View Window Icons

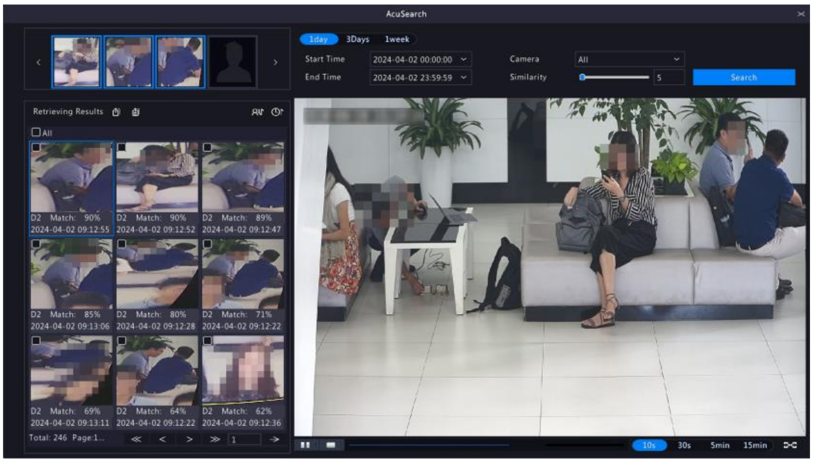
Icon	Description
⚠	Tampering
🎬	Recording
🎤	Two-way audio
🚨	Alarm

3.2 Window Toolbar

Click a window to display the window toolbar for quick configuration.

Table 3-2: Window Toolbar

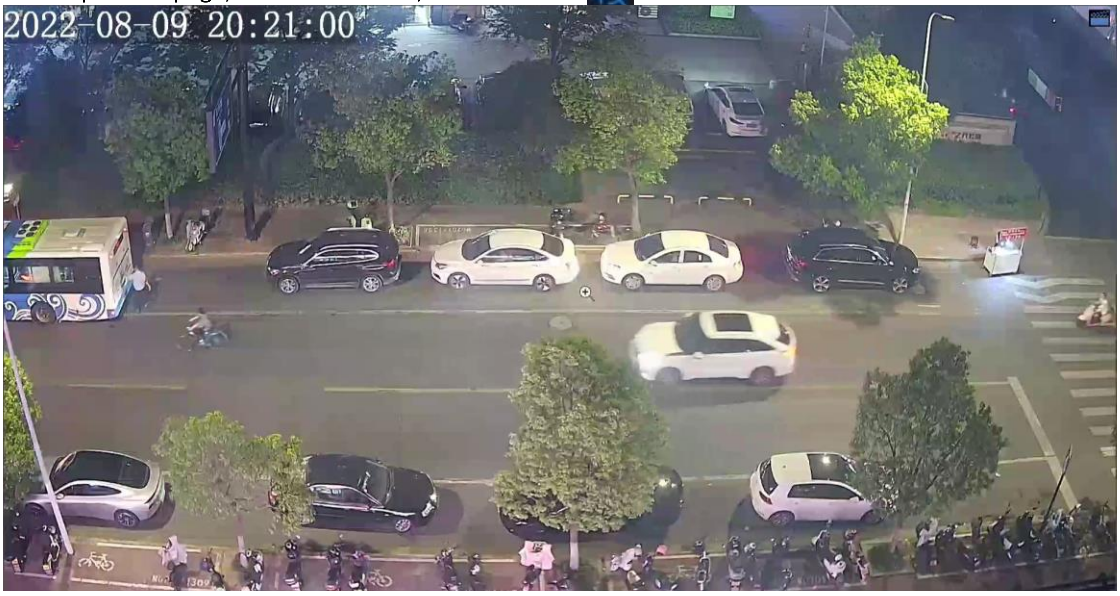
Button	Name	Description
	PTZ Control	- Available for PTZ cameras only. Click to display the PTZ control window. - You can also configure PTZ under **Menu** > **Camera** > **PTZ**. See PTZ Configuration for details.
	Fisheye Mode	Set the mount mode and display mode for fisheye cameras. This button appears only for fisheye cameras.
	Local Recording	Record live video in the window to the hard disk. Click to stop recording. **Note:** Similar to manual recording, local recording is a scheduled recording and has higher priority over other video recording schedules. You can play the local recording in normal mode.
	Instant Playback	Click to play the video recorded during the past 5 minutes.
	Digital Zoom	Zoom in on an area of interest in the window. See Digital Zoom for details.
	Image Settings	- Click to set the image mode and parameters so as to get optimal images in the window. - You can also edit image settings under **Menu** > **Camera** > **Image** > **Image Settings**. See Image Enhancement for details.
📷	Take Snapshot	Click to take a snapshot. The window borders will flash white. You may view and back up snapshots under **Menu** > **Backup** > **Image**.
OSD	OSD	- Click to set OSD. - You can also set OSD under **Menu** > **Camera** > **OSD**. See Display Configuration for details.

Button	Name	Description
	Two-way Audio	Start two-way audio with the camera. The sound volume is adjustable. Click to stop. **Note:** Correct audio input and output (AUDIO IN/OUT) connections between NVR and IPC are required.
	Turn Audio On	Click to turn on audio. The sound volume is adjustable. Click to turn off audio. **Note:** When you turn on audio in the current window, audio of the previous window is turned off.
	Quick IPC Disarming	The icon appears when an alarm occurs. If the alarm comes from a connected IPC, you can click to cancel the action(s) configured for the IPC.
	Camera Info	Hover over the button to view the bit rate of the current window; click the button to view the camera information, change the user name or password.
	AcuSearch	**Note:** Before use, go to **Menu** > **VCA** > **Analyzer Config**, and set the analyzer mode to **AcuSearch/AcuTrack**. On the live view or playback page, click , drag to select the target (motor vehicle/non-motor vehicle/human body), and click **AcuSearch** to view the accurate search results. By default, the NVR searches for images of all cameras of the current day and with the similarity of 60%. You can reset the search conditions as needed, and the set similarity will be the default value the next time you perform the accurate search.  AcuSearch 1day 3Days 1week Start Time 2024-04-02 00:00:00 End Time 2024-04-02 23:59:59 Camera All Similarity 5 Search Retrieving Results ☐ All D2 Match: 90% 2024-04-02 09:12:55 D2 Match: 90% 2024-04-02 09:12:52 D2 Match: 89% 2024-04-02 09:12:47 D2 Match: 85% 2024-04-02 09:13:06 D2 Match: 80% 2024-04-02 09:12:28 D2 Match: 71% 2024-04-02 09:12:22 D2 Match: 69% 2024-04-02 09:13:11 D2 Match: 64% 2024-04-02 09:12:22 D2 Match: 62% 2024-04-02 09:12:36 Total: 246 Page:1... **Note:** Up to 8 targets of the selected area can be analyzed and searched at the same time.

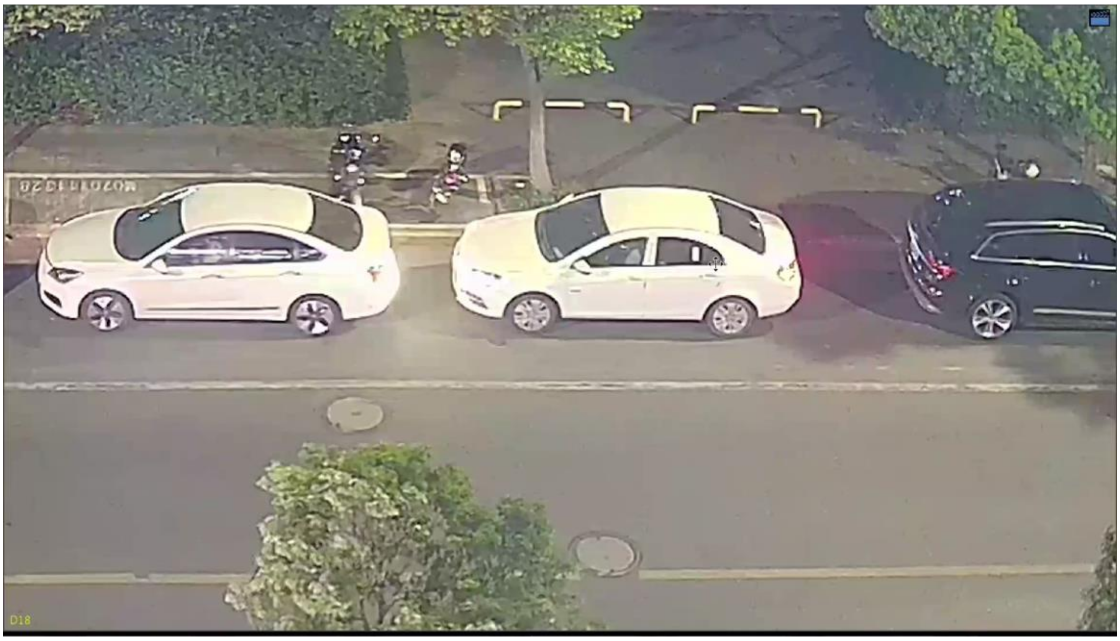
Digital Zoom

Zoom in on an area of images in a window for details.

1. On the preview page, click the window, and then click on the window toolbar.



2. Move your mouse to the area you want to zoom in on, then use your scroll wheel to zoom in. The enlarged image is as follows.



3. Right-click to exit zoom.

3.3 Screen Toolbar

Move your mouse to the bottom of the preview page to display the screen toolbar. Click to lock the toolbar.

Table 3-3: Screen Toolbar

Button	Description
⌂	Click to select menu, playback, logout, restart, shutdown.

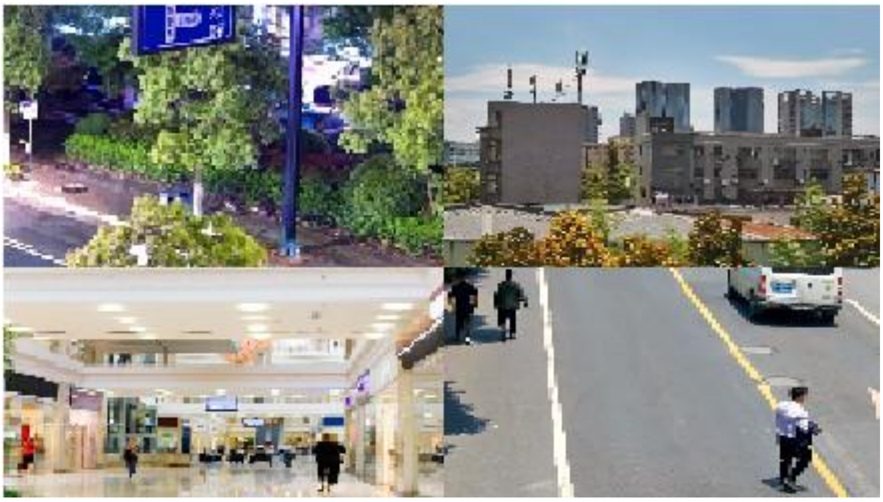
⊞	Select the screen layout, including single window and 4/6/8/9/16/25/36 windows.
/ ⊗	Start or stop sequence. See Sequence for details.
⟲	Click to go to the **Playback** page.
☺	Click to go to the Face Recognition page.
🔊	Tap to choose 🎙 or 🔊 for two-way audio.
☰	Click to view camera information, including camera status and alarm status.
⚠	Click to view NVR alarm and camera alarm.
20:31	Show device time. Hover over the button to view the date; click to edit time settings.
🔓/🔒	Lock/hide the screen toolbar.

Sequence

Use sequence when you want to view live videos from different cameras at the same time and ensure the image clarity. The function requires you to configure the screen layout, windows, linked cameras, and the sequence interval.

The following example describes how to configure sequence for five cameras based on a 4-window screen layout.

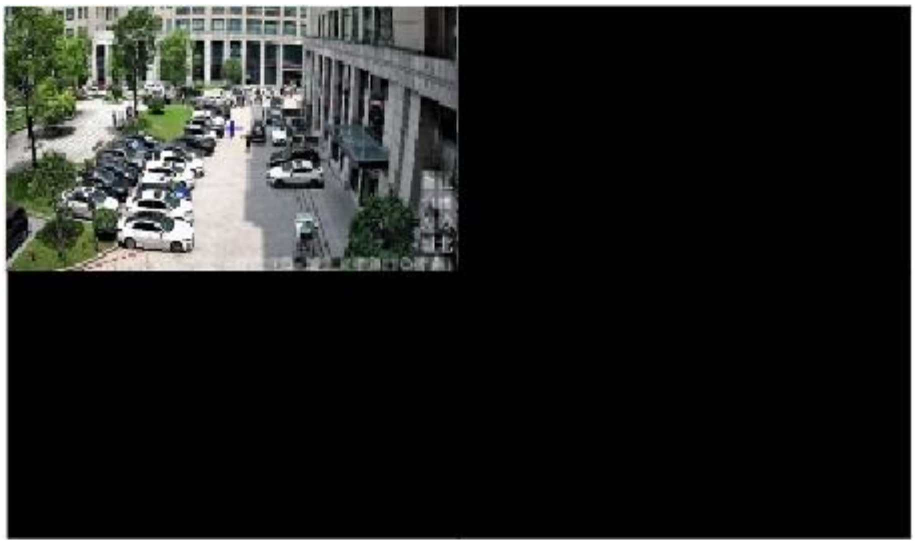
1. On the preview page, right-click and select **Multi-Window** > **4 Windows**.



Note: The number of windows that can be displayed may vary with NVR model.

2. Click on the screen toolbar to start sequence.

   The system starts to display images of four cameras in four windows on the first screen, and then display the fifth camera's image on the second screen after the set interval.



Note: The default sequence interval is 8 seconds. You can set it under **Menu** > **System** > **Preview**. See Preview Configuration for details.

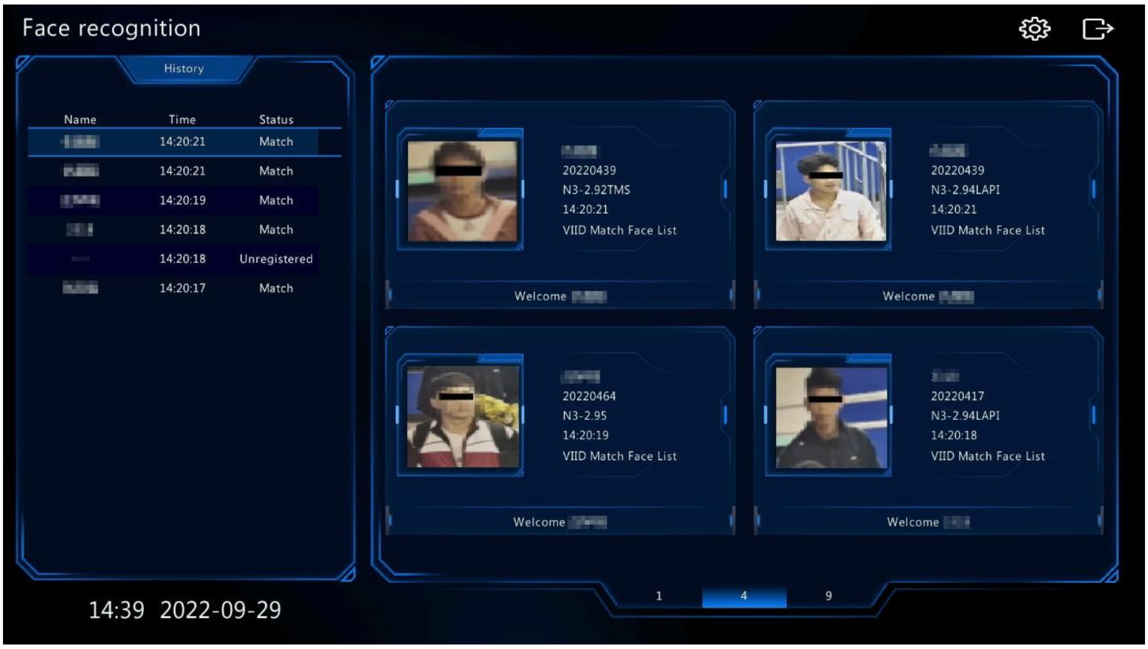
3. Click to stop sequence.

Face Recognition

To view face snapshot records, you need to configure Face List, Face Comparison, and Face Detection first.

1. Click on the screen toolbar.

   On this page, you can view the historical face comparison records on the left, and view face snapshots, snapshot details, and prompt message on the right. 1 view is displayed by default, and you can switch to 4 or 9 views to view more face snapshots.



Face recognition

History

Name	Time	Status
[redacted]	14:20:21	Match
[redacted]	14:20:21	Match
[redacted]	14:20:19	Match
[redacted]	14:20:18	Match
[redacted]	14:20:18	Unregistered
[redacted]	14:20:17	Match

[redacted]
20220439
N3-2.92TMS
14:20:21
VIID Match Face List
Welcome [redacted]

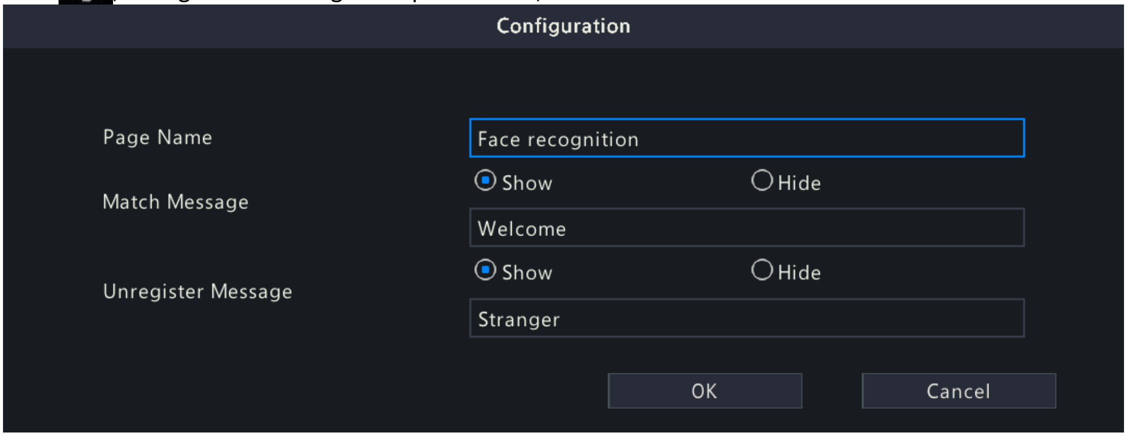
[redacted]
20220439
N3-2.94LAPI
14:20:21
VIID Match Face List
Welcome [redacted]

[redacted]
20220464
N3-2.95
14:20:19
VIID Match Face List
Welcome [redacted]

[redacted]
20220417
N3-2.94LAPI
14:20:18
VIID Match Face List
Welcome [redacted]

14:39 2022-09-29

2. Click ⚙, configure face recognition parameters, and then click **OK**.



Configuration

Page Name: Face recognition

Match Message: ● Show ○ Hide
Welcome

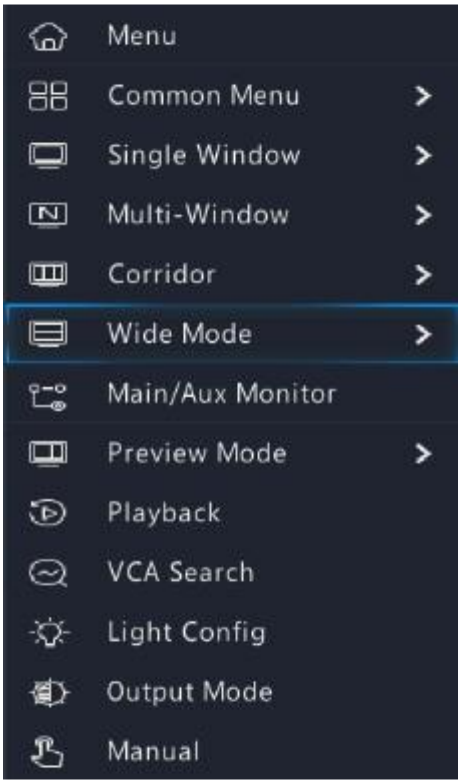
Unregister Message: ● Show ○ Hide
Stranger

Item	**Description**
Page Name	The default is face recognition. Set it as needed.
Match Message	If the face has a match in the face library, the default match message **Welcome** appears. You can customize the message as needed. Click **Hide**, the page will not show the match message.
Unregister Message	If the face does not have a match in the face library, the default message **Stranger** appears. You can customize the message as needed. Click **Hide**, the page will not show the message.

3. Click ⇨ to exit the face recognition page.

3.4 Shortcut Menu

A shortcut menu as shown below appears when you right-click in a window.



Shortcut Menu

Table 3-4: Shortcut Menu

Item	Description
Menu	Display the main menu.
Common Menu	Go to the **Camera**, **Network Config**, and **Backup** page.
Single Window	Switch to single window.
Multi-Window	Select the screen layout, including 4/6/8/9/16/25/36 windows.
Corridor	Display video images in corridor mode. You can set the number of windows from the **Preview Windows** drop-down list under **Menu** > **System** > **Preview**. See Preview Configuration for details. **Note:** • To display images in corridor mode, make sure the camera is installed correctly (rotated 90° clockwise or counterclockwise), and then set the **Image Rotation** parameter under **Menu** > **Camera** > **Image** to rotate images accordingly. • When a channel is in corridor mode, all the operations (such as digital zoom and drawing motion detection area) are performed in corridor mode.
Wide mode	Switch to the wide mode. Support the screen layout of 2/3/6/7/8/9/12 windows.
Main/Aux Monitor	Switch live video from different video outputs. Press and hold the right mouse button to switch between main monitor and auxiliary monitor.
Playback	Play the video of the current day for the camera linked to the current window. You can also choose to play videos from other days as needed.

Preview Mode	Switch between **Normal** and **Smart**. The default is **Normal** mode.

VCA Search	Search the VCA snapshots and recordings on the **Search** page.
Light Config	Set image parameters for the selected camera, including image enhancement, smart illumination, exposure, white balance, and advanced configuration. See Image Settings for details.
Output Mode	Choose a video output mode, including standard, soft, bright, vivid, and custom. Brightness, saturation, and other parameters are also configurable.
Manual	Manual settings include manual recording, manual snapshot, manual alarm, buzzer, and let through manually. See Manual Operations for details.

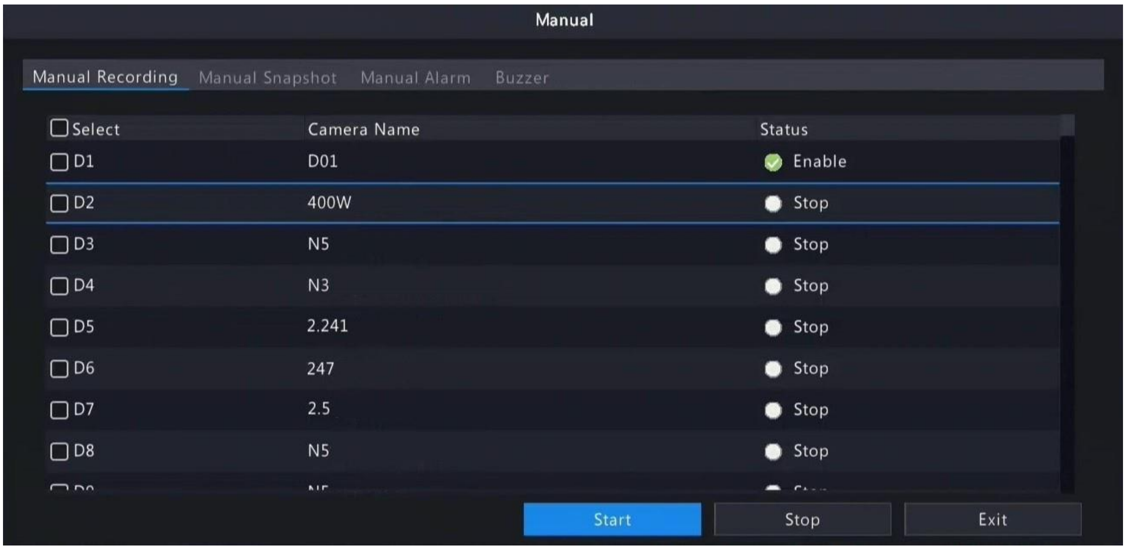
Manual Operations

Manual operations include manual recording, manual snapshot, manual alarm, buzzer, and let through manually.

Manual Recording

Note: Similar to local recording on the screen toolbar, manual recording is a scheduled recording and has higher priority over other recording schedules. You can play manual recordings in normal mode.

1. Right-click and select **Manual** > **Manual Recording**.

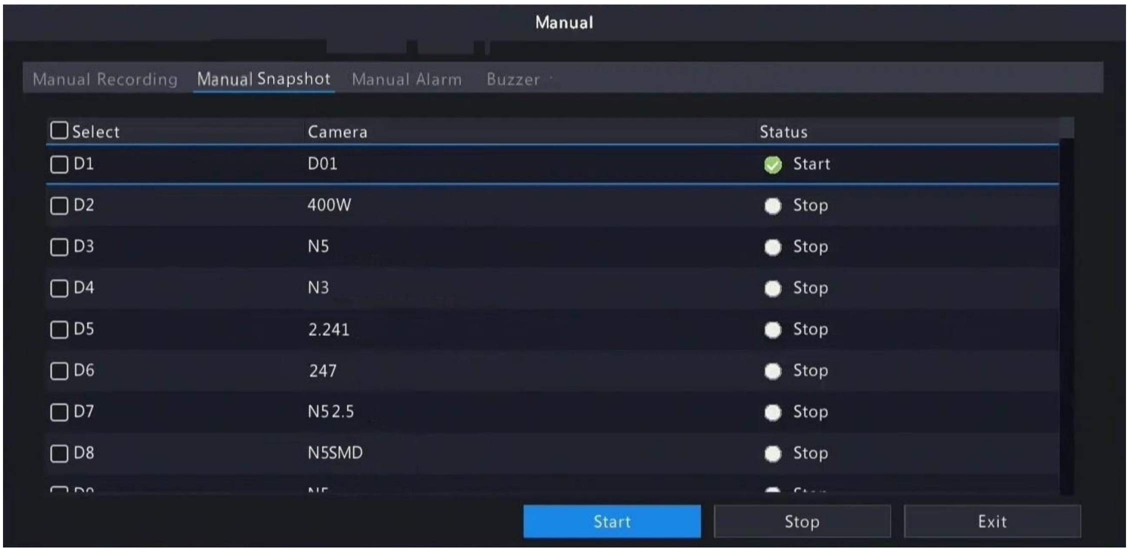


☐ Select	Camera Name	Status
☐ D1	D01	✓ Enable
☐ D2	400W	● Stop
☐ D3	N5	● Stop
☐ D4	N3	● Stop
☐ D5	2.241	● Stop
☐ D6	247	● Stop
☐ D7	2.5	● Stop
☐ D8	N5	● Stop

2. Start or stop manual recording.
    - Start recording: Select the desired camera(s) and then click **Start**.
    - Stop recording: Select the camera(s) being recorded and then click **Stop**.

Manual Snapshot

1. Right-click and select **Manual** > **Manual Snapshot**.



☐ Select	Camera	Status
☐ D1	D01	✓ Start
☐ D2	400W	● Stop
☐ D3	N5	● Stop
☐ D4	N3	● Stop
☐ D5	2.241	● Stop
☐ D6	247	● Stop
☐ D7	N52.5	● Stop
☐ D8	N5SMD	● Stop

2. Start or stop manual snapshot.
   - Start snapshot: Select the desired camera(s) and then click **Start**.
   - Stop snapshot: Select the camera(s) that has enabled snapshot, and click **Stop**.

Manual Alarm

Right-click and select **Manual** > **Manual Alarm**. You can trigger or clear an alarm output manually. See Manual Alarm for details.

Buzzer

Right-click and select **Manual** > **Buzzer**. You can stop the buzzer manually. See Buzzer for details.

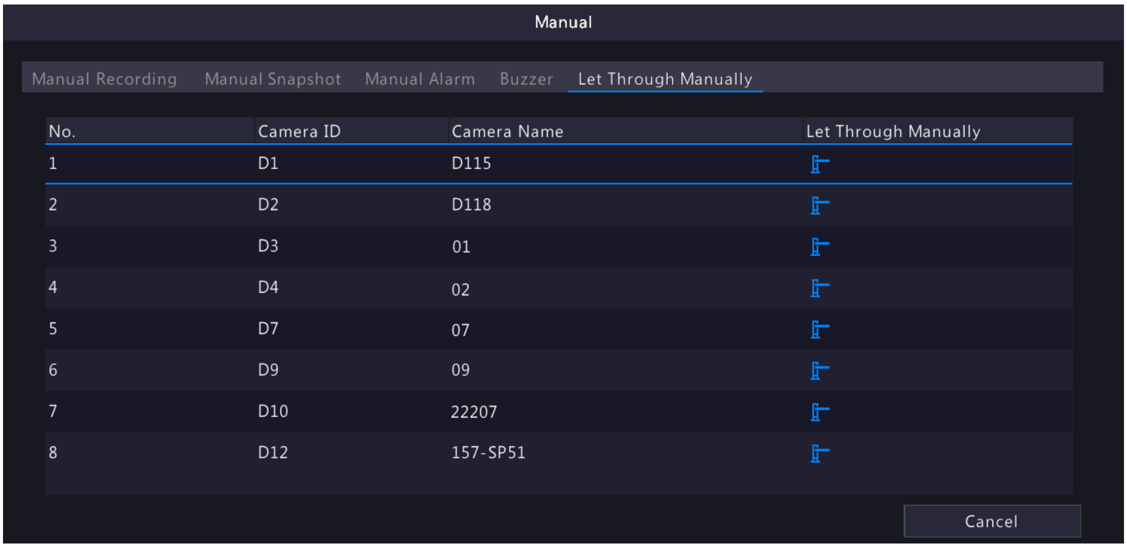
Let Through Manually

If a license plate not match alarm occurs and the IPC cannot lift the barrier automatically, you can trigger the IPC to lift the barrier manually on the NVR side as needed.

Note:

- This function requires you to configure plate not match alarm first. See Plate Comparison for details.
- This function is available to cameras that support controlling barrier gates.

1. Right-click and select **Manual** > **Let Through Manually**.



No.	Camera ID	Camera Name	Let Through Manually
1	D1	D115	⊏
2	D2	D118	⊏
3	D3	01	⊏
4	D4	02	⊏
5	D7	07	⊏
6	D9	09	⊏
7	D10	22207	⊏
8	D12	157-SP51	⊏

2. Click the corresponding ⊏ and trigger the camera to lift the barrier.

4 Channel Configuration

Configure IPC, encoding, audio, snapshot, OSD, image, privacy mask, and PTZ parameters.

Note: The IP devices mentioned in this manual mainly refer to IP cameras (or network cameras).

4.1 Channel Management

Manage IP cameras.

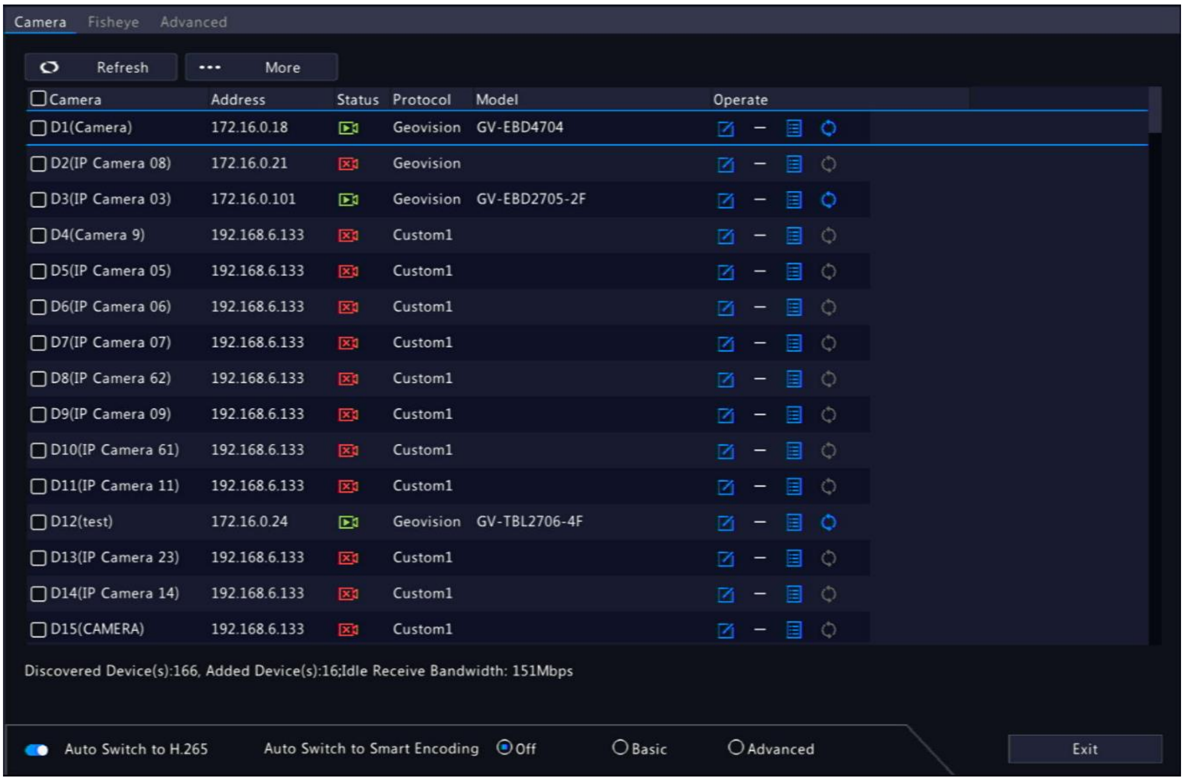
Note:

- Before you start, make sure the IP cameras are connected to your NVR via network.
- An IP camera should be connected to one NVR only. An IP camera managed by multiple NVRs may cause unwanted issues.

4.1.1 IPC Configuration

Add and manage IP cameras.

Go to **Menu** > **Camera** > **Camera** > **Camera**.



☐ Camera	Address	Status	Protocol	Model	Operate
☐ D1(Camera)	172.16.0.18	🟩	Geovision	GV-EBD4704	
☐ D2(IP Camera 08)	172.16.0.21	🟥	Geovision		
☐ D3(IP Camera 03)	172.16.0.101	🟩	Geovision	GV-EBD2705-2F	
☐ D4(Camera 9)	192.168.6.133	🟥	Custom1		
☐ D5(IP Camera 05)	192.168.6.133	🟥	Custom1		
☐ D6(IP Camera 06)	192.168.6.133	🟥	Custom1		
☐ D7(IP Camera 07)	192.168.6.133	🟥	Custom1		
☐ D8(IP Camera 62)	192.168.6.133	🟥	Custom1		
☐ D9(IP Camera 09)	192.168.6.133	🟥	Custom1		
☐ D10(IP Camera 61)	192.168.6.133	🟥	Custom1		
☐ D11(IP Camera 11)	192.168.6.133	🟥	Custom1		
☐ D12(test)	172.16.0.24	🟩	Geovision	GV-TBL2706-4F	
☐ D13(IP Camera 23)	192.168.6.133	🟥	Custom1		
☐ D14(IP Camera 14)	192.168.6.133	🟥	Custom1		
☐ D15(CAMERA)	192.168.6.133	🟥	Custom1		

Discovered Device(s):166, Added Device(s):16;Idle Receive Bandwidth: 151Mbps

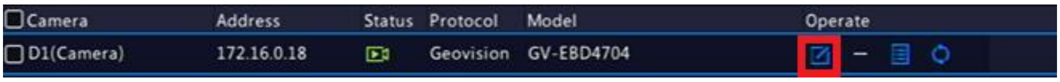
● Auto Switch to H.265

Auto Switch to Smart Encoding ● Off ○ Basic ○ Advanced

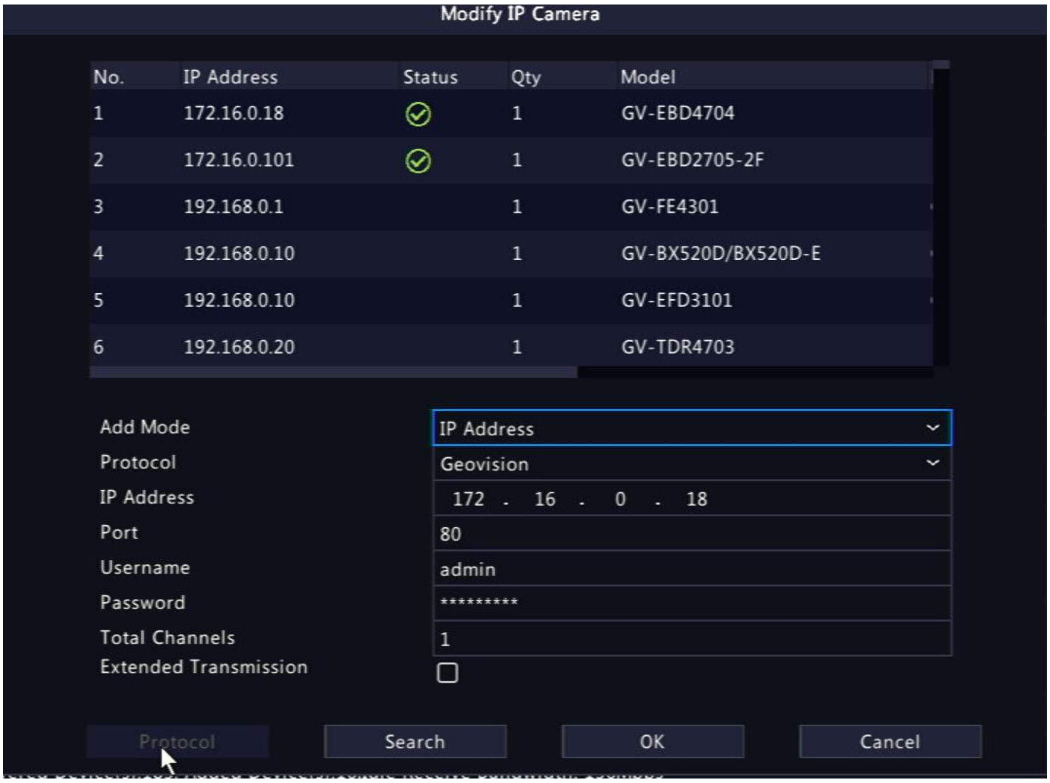
Add IPC

The system automatically searches for IP cameras and lists the discovered. Click **Refresh**, the system refreshes the list and IPC status. Choose a way to add IPCs.

- Option 1: Custom Add
    1. Click **Cam Config**.



☐ Camera	Address	Status	Protocol	Model	Operate
☐ D1(Camera)	172.16.0.18	🟩	Geovision	GV-EBD4704	



Modify IP Camera

No.	IP Address	Status	Qty	Model
1	172.16.0.18	✓	1	GV-EBD4704
2	172.16.0.101	✓	1	GV-EBD2705-2F
3	192.168.0.1		1	GV-FE4301
4	192.168.0.10		1	GV-BX520D/BX520D-E
5	192.168.0.10		1	GV-EFD3101
6	192.168.0.20		1	GV-TDR4703

Add Mode	IP Address
Protocol	Geovision
IP Address	172 . 16 . 0 . 18
Port	80
Username	admin
Password	*********
Total Channels	1
Extended Transmission	☐

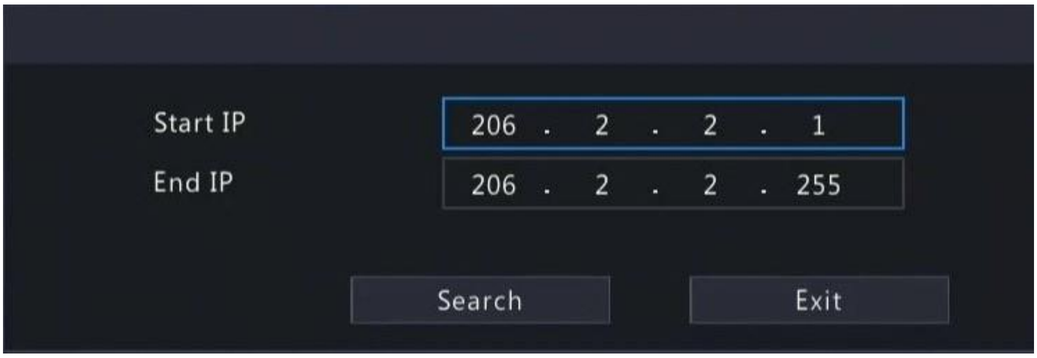
2. In the **Modify IP Camera** window, enter the IPC's IP address and complete other settings, and then click **OK**. You may check the camera's status.
   - 🟩: Camera online.
   - 🟥: Camera offline. Point to the icon to view the failure information.
3. Repeat the above steps to add other IPCs.

Note: In the Protocol dropdown list, select **Geovision** for the following cameras, otherwise, select **ONVIF**.

- GV-BLFC5800, EBD4813, EBFC5800, TBL4810, TDR4803, TFD4800, TVD4810
- GV-EBD8813, EBD8800, TBL8804, TBL8810, TDR8805, TVD8810
- GV-SD4825-IR, SD4834-IR
- GV-PTZ5810-IR
- GV-TBL4807, TVD4810
- GV-TMS8800, TMS20811

- Option 2: Search Segment

1. Click ··· More, and select **Search Segment**.
2. Enter the start and end IP addresses, and click **Search**. The discovered IP devices are listed.



Start IP 206 . 2 . 2 . 1

End IP 206 . 2 . 2 . 255

3. Select the desired camera, click ➕ to add it to the NVR.

- Option 3: Click ➕
  Click ➕ to add the camera directly.

Note: If the camera's login password has been changed and it not its default password, you can change the default password to be the same as the current login password, and then the camera can go online. See Default Password for details.

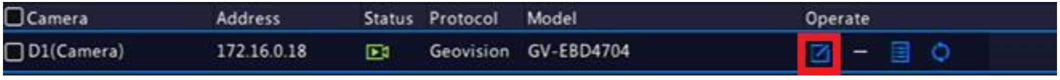
- Option 4: Connect via Cable

1. Connect an IP camera to a PoE port of the NVR with a network cable.
2. Go to **Menu** > **Camera** > **Camera** > **Camera**.

Note:

- This option is only applicable to NVRs with PoE ports, and the added camera cannot be deleted.
- If you want to add an IPC that is not connected to the NVR with a network cable, click ✎, change **Plug-and-Play** to **Manual**, and complete other parameters.
- For NVR with PoE ports only, 📷 appears under **Status** if the power output from a PoE port is below or above the rated power of the connected camera.

3. Click **Cam Config**.



☐ Camera	Address	Status	Protocol	Model	Operate
☐ D1(Camera)	172.16.0.18	📷	Geovision	GV-EBD4704	✎ − ▤ ○

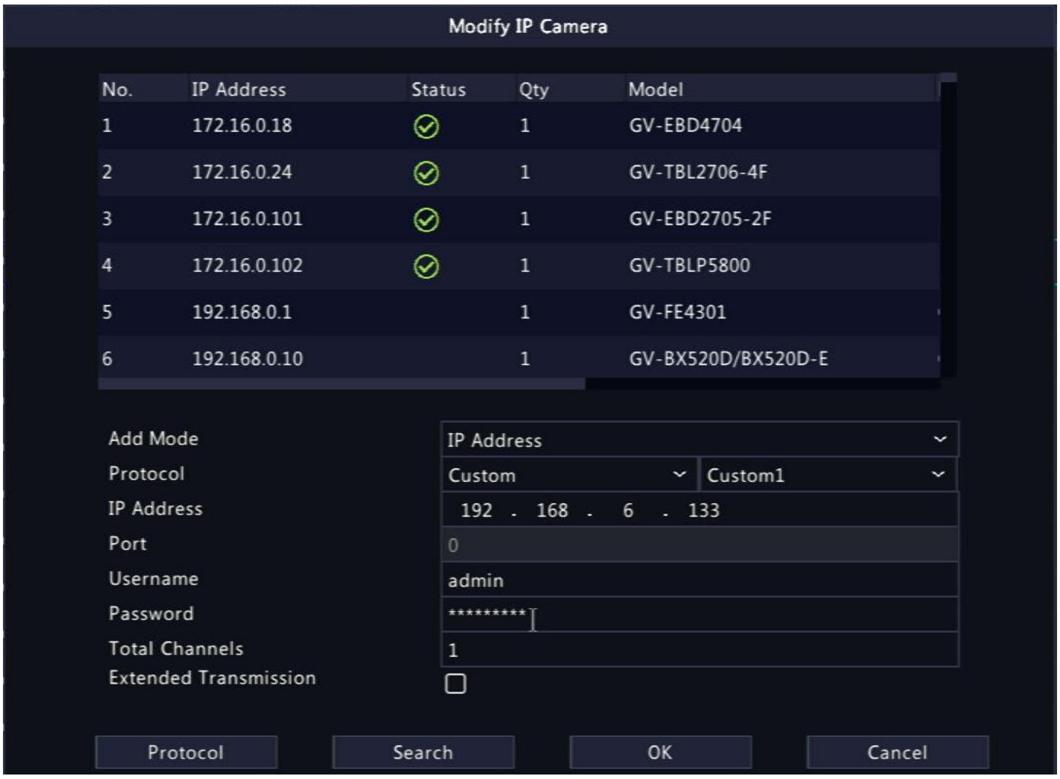
4. In the **Modify IP Camera** window, the default **Add Mode** is **Plug-and-Play**. Enter the camera’s username and password.
5. Click **OK** to return to the Camera window. Wait approximately 1 minute, and the camera status will appear online.

- Option 5: Use Custom Protocol

Note:

- Use this option when the IP camera supports the standard RTSP.
- Only live and recorded video streams are available from the camera added in this way. Configuration operations are not supported.

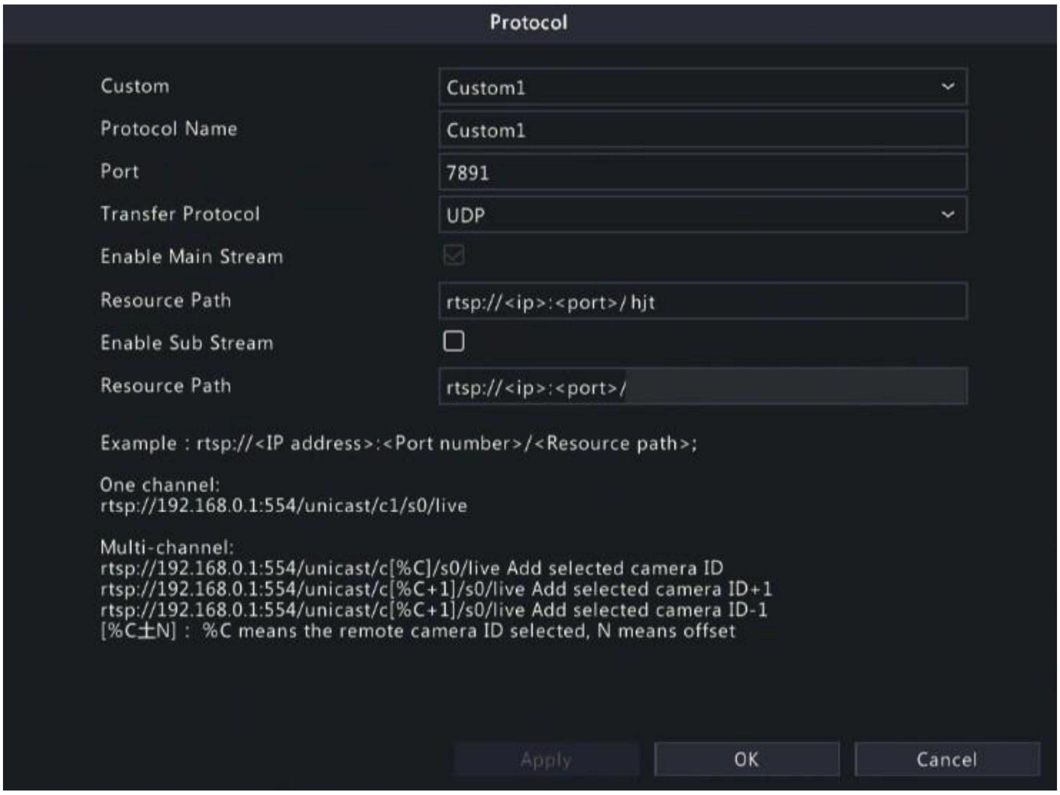
1. Go to **Menu** > **Camera** > **Camera** > **Camera**.
2. Click **Custom Add**. Select **Custom** from the **Protocol** drop-down list.



No.	IP Address	Status	Qty	Model
1	172.16.0.18	✓	1	GV-EBD4704
2	172.16.0.24	✓	1	GV-TBL2706-4F
3	172.16.0.101	✓	1	GV-EBD2705-2F
4	172.16.0.102	✓	1	GV-TBLP5800
5	192.168.0.1		1	GV-FE4301
6	192.168.0.10		1	GV-BX520D/BX520D-E

Add Mode	IP Address
Protocol	Custom / Custom1
IP Address	192 . 168 . 6 . 133
Port	0
Username	admin
Password	*********
Total Channels	1
Extended Transmission	☐

3. Click **Protocol**.



Custom	Custom1
Protocol Name	Custom1
Port	7891
Transfer Protocol	UDP
Enable Main Stream	☑
Resource Path	rtsp://<ip>:<port>/ hjt
Enable Sub Stream	☐
Resource Path	rtsp://<ip>:<port>/

Example : rtsp://<IP address>:<Port number>/<Resource path>;

One channel:
rtsp://192.168.0.1:554/unicast/c1/s0/live

Multi-channel:
rtsp://192.168.0.1:554/unicast/c[%C]/s0/live Add selected camera ID
rtsp://192.168.0.1:554/unicast/c[%C+1]/s0/live Add selected camera ID+1
rtsp://192.168.0.1:554/unicast/c[%C+1]/s0/live Add selected camera ID-1
[%C±N] : %C means the remote camera ID selected, N means offset

4. Set the protocol name, enter the RTSP port number, transmission protocol, resource paths, etc., and then click **OK**.

Note: Contact the camera manufacturer for resource paths of main stream and sub stream.

5. Enter the IP address, username, and password, and then click **OK**. Check status in the camera list.

- Option 7: Add by Importing File
  - For first-time NVR users: Please insert a USB drive (purchased separately) into the device first.
    1. Click ··· More and choose **Export**. Select an export path in the directory list and click **Backup**. A .CSV file will be then generated in the selected directory.

       Note:

       - For the PoE NVR: The default information of each channel is displayed in the file. You may edit the information as needed.
       - For the non-PoE NVR: There are only table headers in the file. You need to manually fill in the channel information.
    2. Remove the USB drive from the device and insert it into the PC. Open the exported .CSV file, enter or edit the information as needed, and then save it.

       Note: The contents for some fields are as follows:

       - Add Mode: Plug-and-Play/IP Address/Domain Name
       - Protocol: ONVIF/Geovision/Custom
       - Transport Protocol: UDP/TCP
       - PTZ: Auto/Support/Not Support
    3. Insert the USB drive back into the device. Click ··· More and choose **Import**. Select the .CSV file in the directory list.
  - When transferring data from an old NVR to a new one: Click ··· More and choose **Import**. Select the .CSV file exported from the old NVR in the directory list, and click **Import**.

Note: If the IPC fails to get online, please check whether the information in the .CSV file is correct.

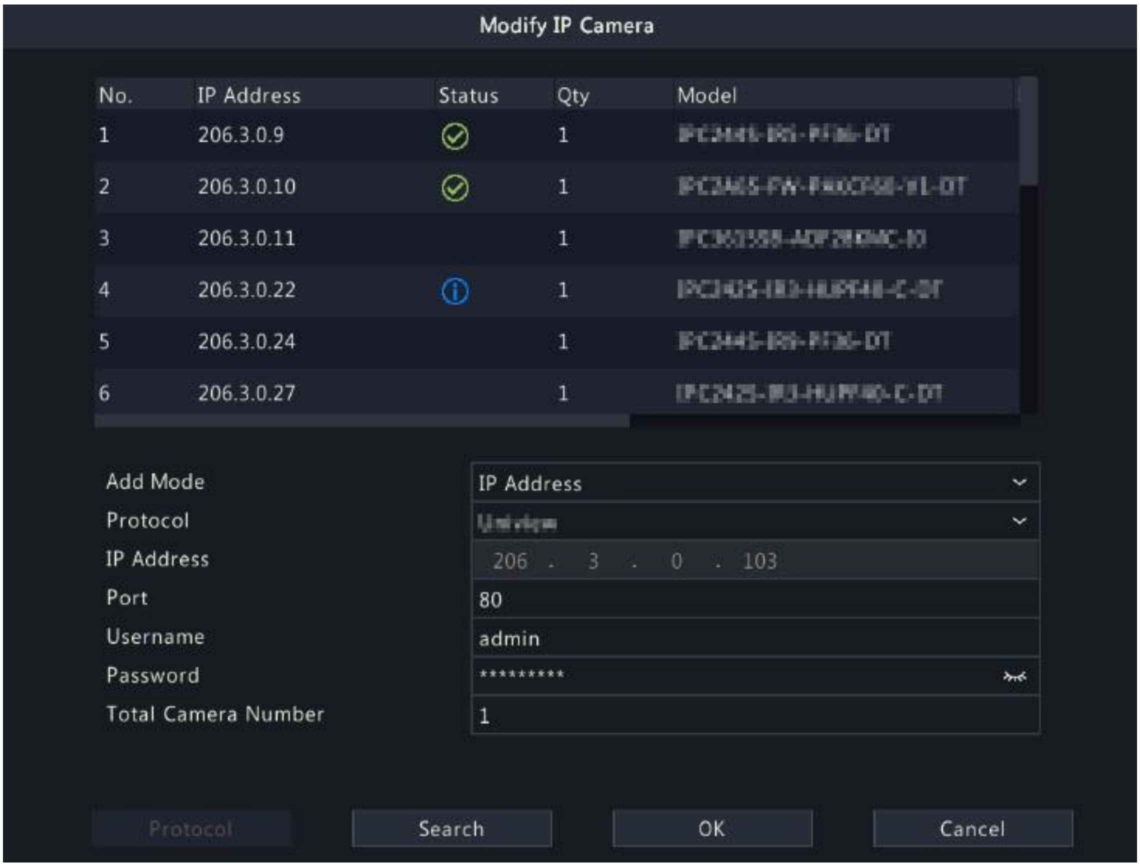
Export IP Camera List

Click ··· More and choose **Export**. Select the export path in the directory list and click **Backup**. A .CSV file will be then generated in the selected directory, indicating that the IP camera list has been successfully exported.

Edit IP Camera

Option 1

Select the target camera and click ✎. Edit the settings as needed, and then click **OK**.



No.	IP Address	Status	Qty	Model
1	206.3.0.9	✓	1	[redacted]
2	206.3.0.10	✓	1	[redacted]
3	206.3.0.11		1	[redacted]
4	206.3.0.22	ⓘ	1	[redacted]
5	206.3.0.24		1	[redacted]
6	206.3.0.27		1	[redacted]

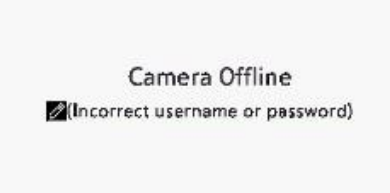
Add Mode: IP Address
Protocol: [redacted]
IP Address: 206 . 3 . 0 . 103
Port: 80
Username: admin
Password: *********
Total Camera Number: 1

Note:

- To change the IP camera connected to the channel, you can edit the IP channel related parameters (except IP address), or directly click another camera in the list above.
- The configuration items may vary with IPC model.

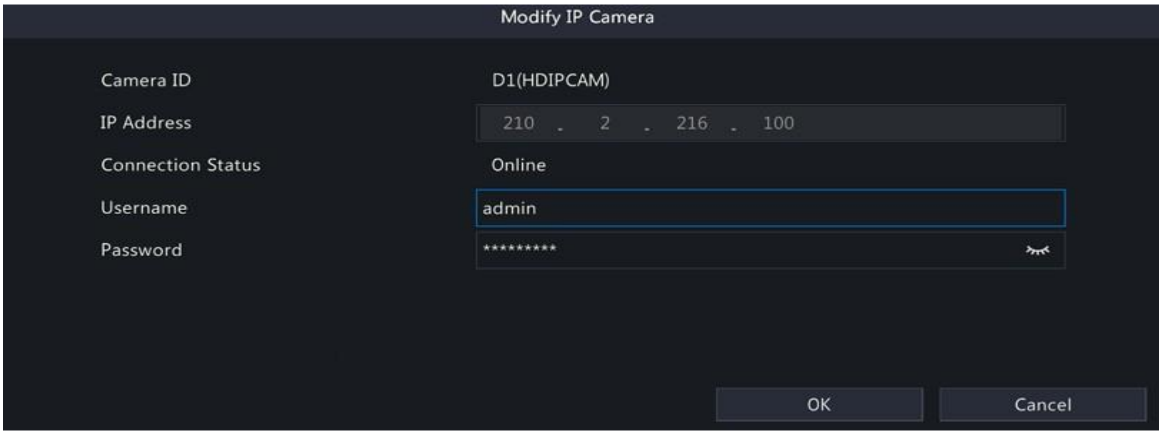
Option 2

1. If the username and password input for an IPC is incorrect, the live view window will show the cause, and you can change the username and password in the live view window.



Camera Offline
✎(Incorrect username or password)

2. Click ✎ and modify username or password.

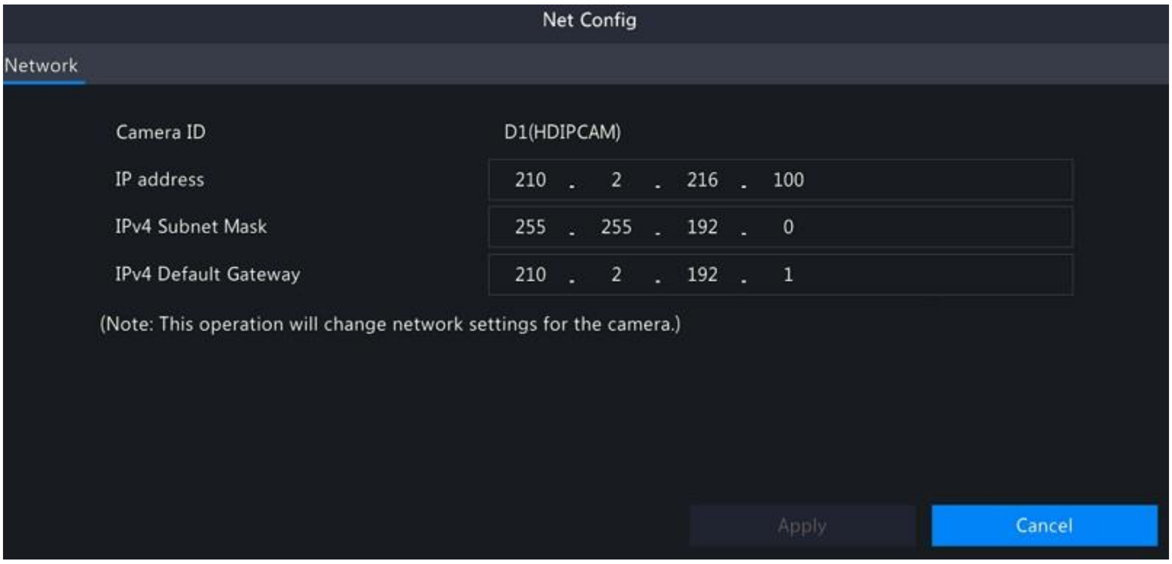


Camera ID: D1(HDIPCAM)
IP Address: 210 . 2 . 216 . 100
Connection Status: Online
Username: admin
Password: *********

3. Click **OK** and then check the status of camera. ▶ means the camera is online.

Network Configuration

Select the camera, and click ⚙. Edit the IP address, IPv4 subnet mask, IPv4 default gateway for the camera. Click **Apply**.



Net Config

Network

Camera ID D1(HDIPCAM)

IP address 210 . 2 . 216 . 100

IPv4 Subnet Mask 255 . 255 . 192 . 0

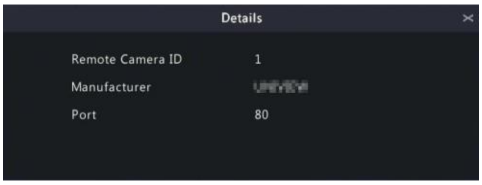
IPv4 Default Gateway 210 . 2 . 192 . 1

(Note: This operation will change network settings for the camera.)

Note: — indicates the camera does not support changing network settings.

More Info

Select the channel, and click ☰ to view the detailed information, including remote camera ID, manufacturer, and port number.



Details

Remote Camera ID 1

Manufacturer [redacted]

Port 80

Change Window Position

Use this function to change window position of channels on the preview page, without changing the channel ID, IP address, and display order in the channel list. Choose a way to change window position.

- On the multi-window preview page, drag a window to another window to swap their positions.
- On the **Preview Configuration** page under **Menu** > **System** > **Preview**, change window positions on the preview page. See Preview Configuration for details.

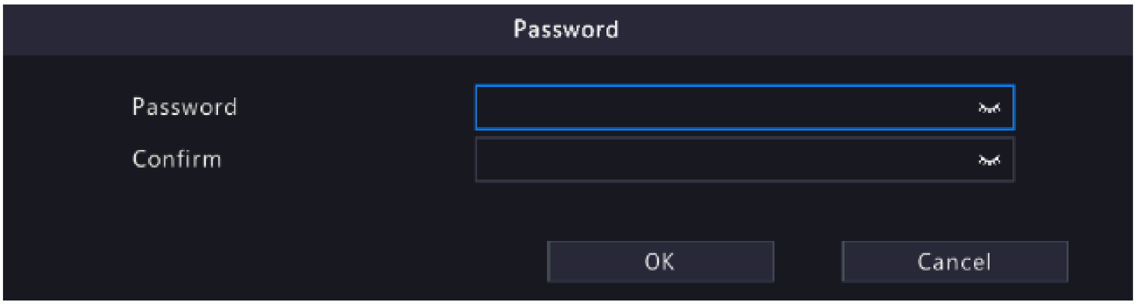
Batch Change Password

When multiple IPCs are not added successfully due to incorrect password, and if the login passwords of these cameras are the same, use this function to change the passwords in batches.

Note:

- This function only changes the password used to add cameras. It does not change the cameras' login password.
- This function is only applicable for IPCs with the same login password. If one of the cameras still fails to be added after you change the password, it means the camera's login password is different, and you need to change the password separately.

1. Select the cameras with the same password. Click ··· More, and select **Batch Edit Password**.



2. Enter the new password and confirm the password.
3. Click **OK**.

Default Password

The default password is used to add the camera. The original default password is the same as the camera's default login password.

If the camera's login password has been changed and is not its default password, the camera will not be able to go online after being added to the NVR. You can enable **Default Password**, and change the default password to be the same as the camera's current login password before adding the camera. You may also click ✎ to change the password to the camera's current login password after adding the camera.

Other Operations

Item	**Description**
Auto Switch to H.265	When enabled, the NVR automatically chooses H.265 for a newly added camera. **Note:** • Every time a camera is added to the NVR, it is considered a newly added camera. This function is not effective to cameras that are already added or added cameras that go back online after being offline. • This function is enabled by default on some NVR models.
Auto Switch to U-Code	Select **Basic** or **Advanced**, then the NVR automatically chooses basic U-code mode or advanced U-code mode for a newly added camera. **Note:** • Every time a camera is added to the NVR, it is considered a newly added camera. This function is not effective to cameras that are already added or added cameras that go back online after being offline. • This function is enabled by default on some NVR models.
Refresh	Click **Refresh** to check the camera status.
Live View	Click ▶ to play live video of the camera.

4.1.2 Fisheye Configuration

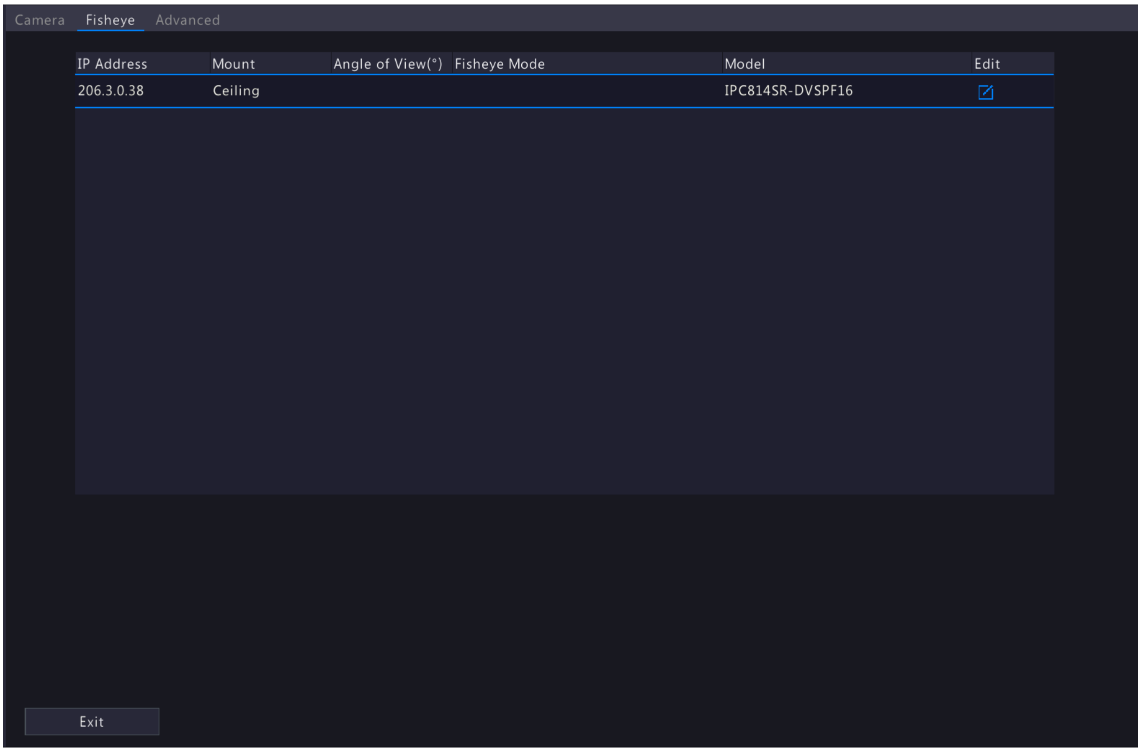
Set the mounting mode and display mode for fisheye cameras. Fisheye configuration is supported only by certain fisheye cameras.

Note: Before using this function, make sure that a fisheye camera has been mounted and that the camera has been added to your NVR.

Configuration

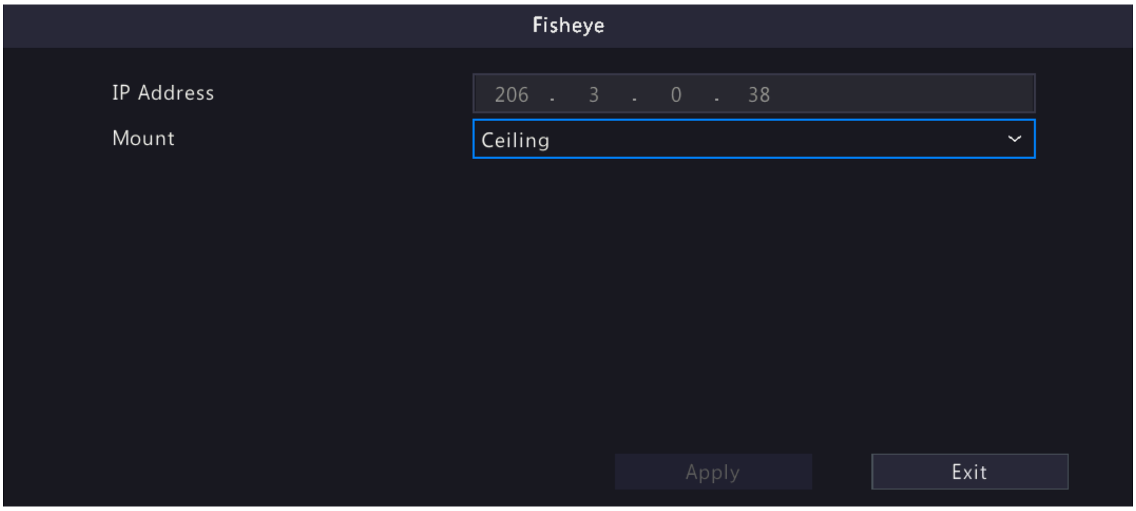
Configure the following parameters after the fisheye camera is installed.

1. Go to **Menu** > **Camera** > **Camera** > **Fisheye**.



IP Address	Mount	Angle of View(°)	Fisheye Mode	Model	Edit
206.3.0.38	Ceiling			IPC814SR-DVSPF16	✎

2. Select the fisheye camera and click ✎.



IP Address: 206 . 3 . 0 . 38

Mount: Ceiling

3. Set the parameters as needed.

Item	Description
Mount	Select the mounting mode, including ceiling mount, wall mount, and desktop mount. If you change how the fisheye camera is installed, change its mounting mode so as to display proper images.
Angle of View (°)	Set the viewing angle of the fisheye camera.
Fisheye Mode	The display mode of the current camera in the live view window. Set it as needed.

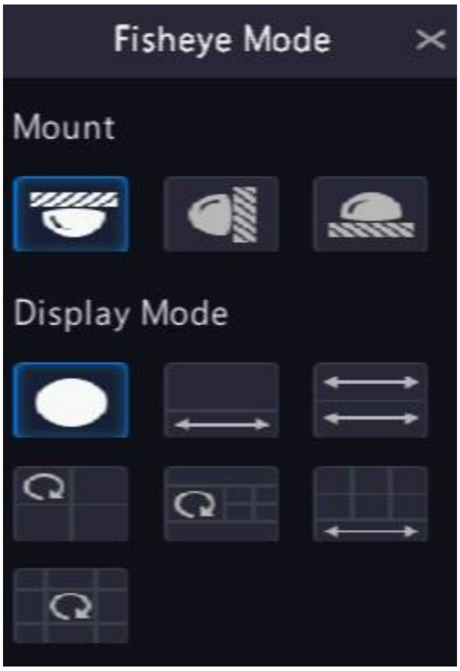
4. Click **Apply**.

Dewarping

Fisheye cameras provide large wide-angle views, but the image captured is distorted. You may adjust the output image by correcting the shooting angle of the fisheye.

Note: Dewarping is available in live view and playback (in normal and corridor playback modes). The operations are similar. The following describes dewarping in live view.

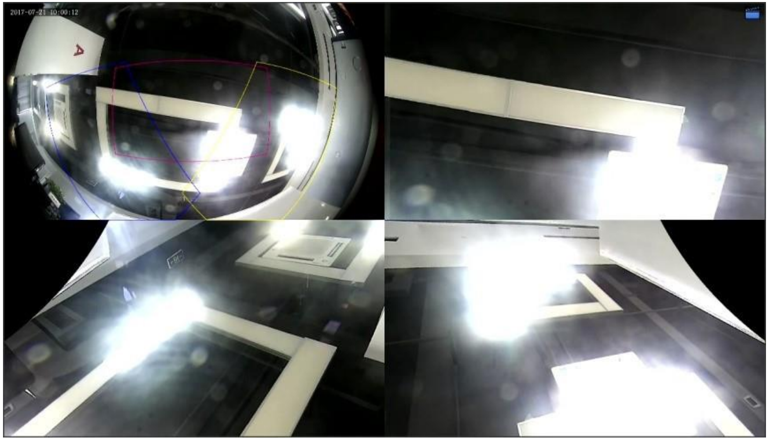
1. On the preview page, click ⊙ on the window. The figure as shown below appears.



2. Set the mounting mode and display mode.

Mount	Display Mode	Description
Ceiling Mount Desktop Mount	⬭	360° panoramic original image
	↔	360° panoramic + 1PTZ
	↔ ↔	180° panoramic
	↻	Fisheye + 3PTZ
	↻	Fisheye + 4PTZ
	↔	360° panoramic + 6PTZ
	↻	Fisheye + 8PTZ
Wall Mount	⬭	360° panoramic original image
	⤡	Panoramic
	⤡	Panoramic + 3PTZ
	⤡	Panoramic + 4PTZ
	⤡	Panoramic + 8PTZ

3. Dewarping operations: Take Ceiling Mount and Fisheye+3PTZ as an example.



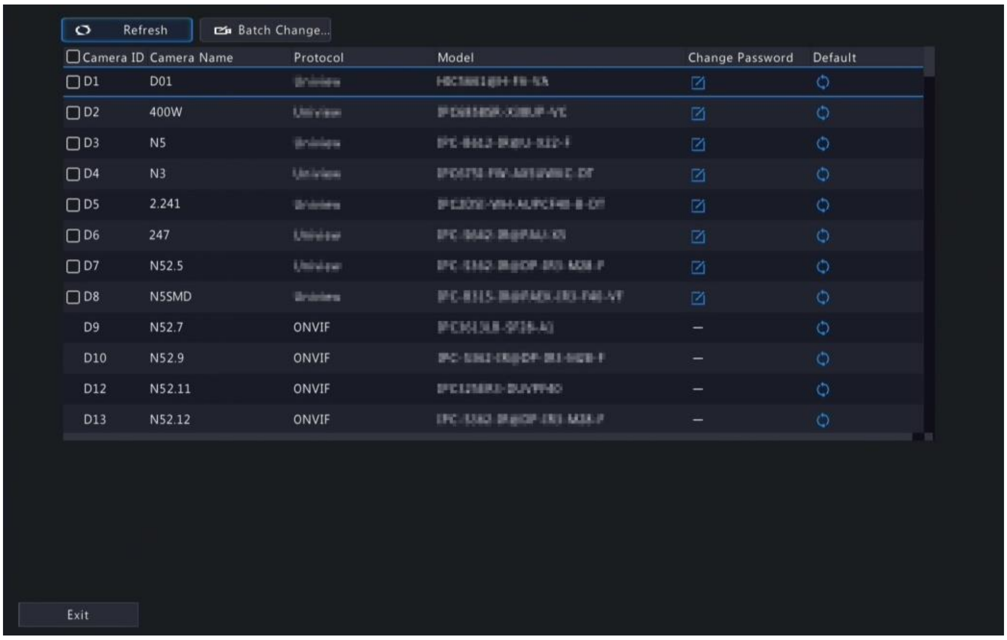
- Drag the mouse to rotate the image or use the scroll wheel to zoom in or out on a PTZ image. A box appears on the fisheye image as the image rotates, and as you drag the box or move the scroll wheel on the fisheye image, the corresponding PTZ image rotates or zooms in or out as well.

4.1.3 Advanced Functions

Change the password of online IP cameras or restore factory default settings for cameras.

Note: Changing camera password is available for cameras connected via the Geovision protocol.

Go to **Menu** > **Camera** > **Camera** > **Advanced**.

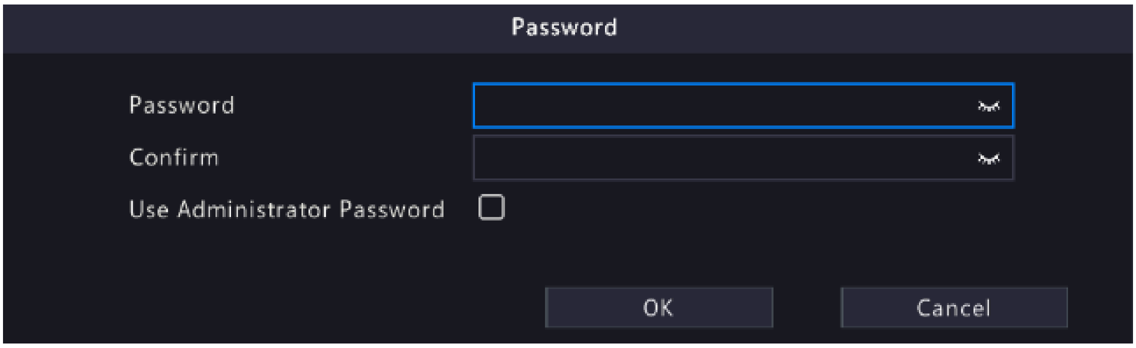


☐ Camera ID	Camera Name	Protocol	Model	Change Password	Default
☐ D1	D01	[redacted]	[redacted]	✎	↻
☐ D2	400W	[redacted]	[redacted]	✎	↻
☐ D3	N5	[redacted]	[redacted]	✎	↻
☐ D4	N3	[redacted]	[redacted]	✎	↻
☐ D5	2.241	[redacted]	[redacted]	✎	↻
☐ D6	247	[redacted]	[redacted]	✎	↻
☐ D7	N52.5	[redacted]	[redacted]	✎	↻
☐ D8	N5SMD	[redacted]	[redacted]	✎	↻
D9	N52.7	ONVIF	[redacted]	–	↻
D10	N52.9	ONVIF	[redacted]	–	↻
D12	N52.11	ONVIF	[redacted]	–	↻
D13	N52.12	ONVIF	[redacted]	–	↻

Change Camera Password

You can change password of camera(s) one by one or in batches.

1. Select a camera and click ✎, or select the target cameras and click **Batch Change Password**.



2. Enter the new password and confirm the password.

   Note: Select **Use Admin Password**, the camera's password is changed to the admin password of the NVR, and cannot be edited.

3. Click **OK**. Check if the password is successfully changed.

Restore Default Settings

Select the camera, click ↻. A message indicating camera restart appears, click **OK** and then the camera's default settings will be restored.

4.2 Audio & Video

Configure encoding and audio parameters.

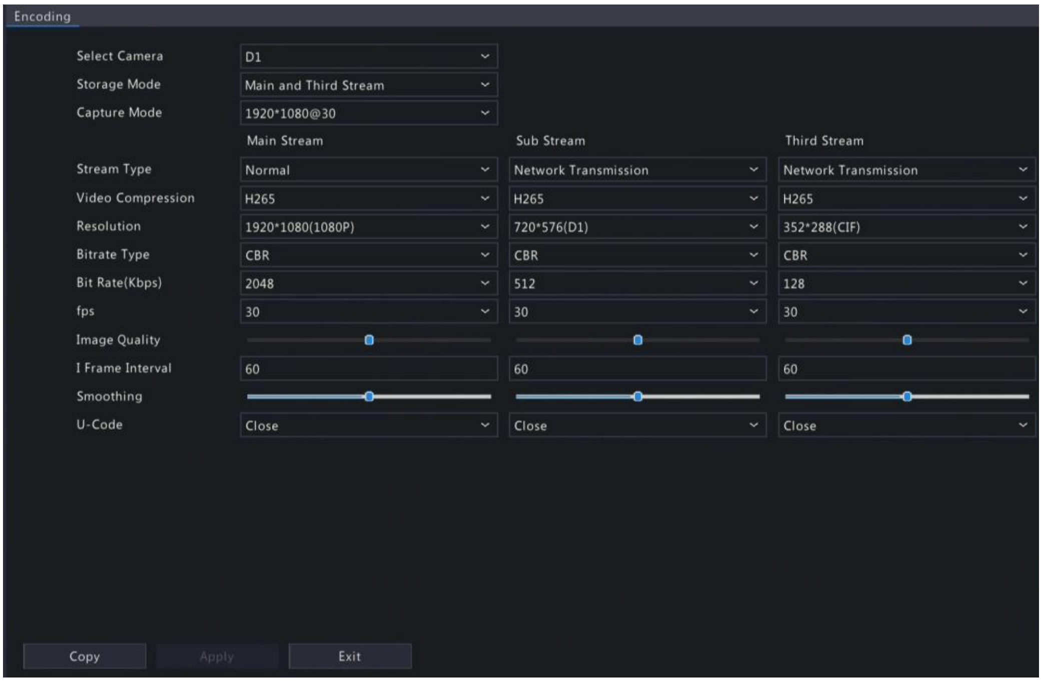
4.2.1 Encoding Settings

Configure storage mode, capture mode, stream type, etc.

Note:

- The configuration items may vary with IPC models or versions.
- Some functions may be unavailable if the IPC version is too low. In this case, you need to upgrade the IPC first.

1. Go to **Menu** > **Camera** > **Audio & Video** > **Encoding**.



Select Camera: D1
Storage Mode: Main and Third Stream
Capture Mode: 1920*1080@30

	Main Stream	Sub Stream	Third Stream
Stream Type	Normal	Network Transmission	Network Transmission
Video Compression	H265	H265	H265
Resolution	1920*1080(1080P)	720*576(D1)	352*288(CIF)
Bitrate Type	CBR	CBR	CBR
Bit Rate(Kbps)	2048	512	128
fps	30	30	30
Image Quality			
I Frame Interval	60	60	60
Smoothing			
U-Code	Close	Close	Close

2. Select the camera from the drop-down list.
3. Choose a storage mode, including main stream, sub stream, main and sub stream, main and third stream, sub and third stream. The default is main and third stream. Only certain NVR models support all the five modes.

   The storage mode determines the recording format (HD or SD). It may affect the clarity and output mode of the recording. Set the storage mode as needed by referring to the table below.

   Table 4-1: Storage Mode

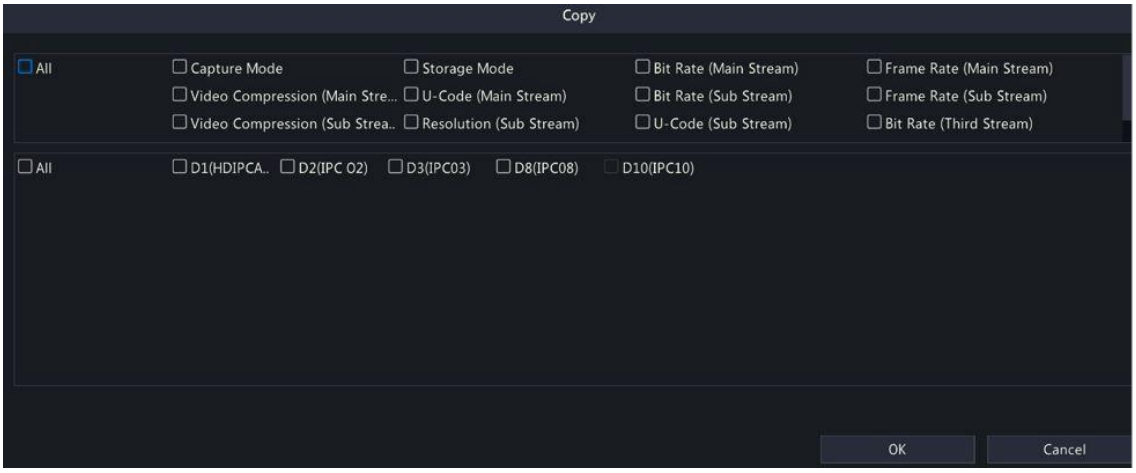
Storage Mode	HD Streaming	SD Streaming
Main stream	Main stream	No video or image
Sub stream	Sub stream	No video or image
Main + sub stream	Main stream	Sub stream
Main + third stream	Main stream	Third stream
Sub + third stream	Sub stream	Third stream

Note: This configuration item only changes the storage stream of the NVR, and does not change the video stream sent from IPC. The IPC sends the main stream by default.

4. Set the capture mode, that is, combinations of resolution and frame rate. This parameter is configurable only when the camera is connected to the NVR via the Geovision protocol.
5. Set the encoding parameters for different streams.

Item	Description
Stream Type	- Main stream: Select **Schedule** or **Event**. - Schedule: Set encoding parameters for scheduled recordings. - Event: Set encoding parameters for events such as motion detection and alarm input. - Sub stream: Set encoding parameters for low resolution videos intended for network transmission.
Video Compression	Choose H264 or H265. The supported video compression may vary with IPC model.
Resolution	The number of pixels in a frame.
Bitrate Type	- VBR: Variable Bit Rate (VBR) is used to keep the quality of video streams as constant as possible by varying the bit rate. - CBR: Constant Bit Rate (CBR) is used to keep a specific bit rate by varying the quality of video streams.
Bit Rate(Kbps)	The number of bits transferred per second. Select a value from the drop-down list, or select **Custom** to set a value as needed.
Frame Rate(fps)	The number of frames per second.
Image Quality	This parameter is configurable when **Bitrate Type** is set to **VBR**. 1 to 9 levels are available.
I Frame Interval	The number of frames between two adjacent I frames.
Smoothing	Use the slider to control the sudden change of bit rate.
U-Code	Select the U-Code mode, including basic mode and advanced mode. The advanced mode achieves higher compression ratios. You can also turn off the U-Code.

6. (Optional) To apply the settings to other camera(s), click **Copy** and select the desired parameter(s) and camera(s), and then click **OK**.



Note:

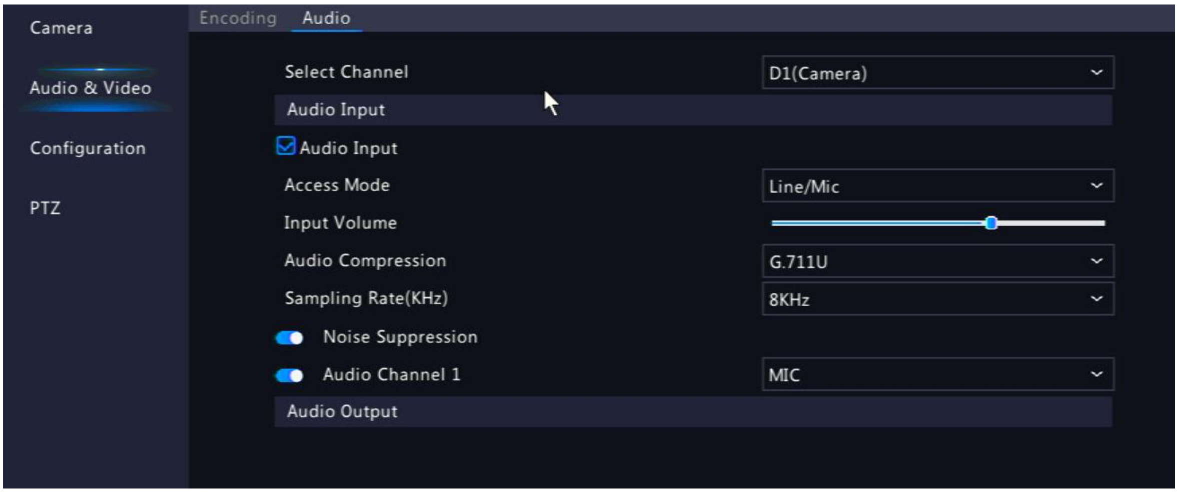
- When you copy **Storage Mode** to other camera(s), if the target camera does not support the storage mode, the operation will fail.
- When you copy **Video Compression** and **U-Code** to other camera(s), **Bit Rate** will be selected automatically because video compression adjusts bit rate automatically.
- Some parameters cannot be selected at the same time.

7. Click **Apply**.

4.2.2 Audio Configuration

Configure audio input and audio output of the IPCs.

1. Go to **Menu** > **Camera** > **Audio & Video** > **Audio**.



Select Channel: D1(Camera)

Audio Input

☑ Audio Input

Access Mode: Line/Mic

Input Volume

Audio Compression: G.711U

Sampling Rate(KHz): 8KHz

● Noise Suppression

● Audio Channel 1: MIC

Audio Output

2. Select the desired camera from the drop-down list.
3. Configure audio input parameters.

Item	Description
Audio Input	Check ☑ to enable audio input.
Access Mode	Select the access method according to the IPC's audio interface, including Line and Mic. • Line-in: The IPC is connected to a sound pickup by a 3.5mm audio cable. • Mic-in: The IPC is connected to a microphone. **Note:** Only certain brands of sound pickups are supported by IPCs. Contact technical support for details.
Input Volume	Drag the slider to adjust the audio input volume.
Audio Compression	Select the audio compression, including G.711A, G.711U, AAC-LC. The supported audio compression may vary with IPC model.
Sampling Rate(KHz)	Select the sampling rate based on the audio compression. • For AAC-LC, select 8 KHz, 16 KHz, or 48KHz. • For G.711A or G.711U, select 8KHz or 16KHz.
Noise Suppression	Select ☑ to enable noise suppression.
Audio Channel 1/Audio Channel 2	Select ☑ to enable audio channel 1 or audio channel 2, and then select the access mode from the drop-down list.

Item	Description
	Note: Only certain dual-channel IPCs support two audio channels, but the two audio channels cannot be enabled at the same time.

4. Configure audio output parameters. Only certain IPC models support audio output.

Item	Description
Audio Output	Select the audio output mode. • Speaker: The default mode. • Line: An external speaker or earphone is required.
Output Volume	Drag the slider to adjust the audio output volume.

5. (Optional) To apply the audio settings to other camera(s), click **Copy** and select the desired parameter(s) and camera(s), and then click **OK**.
6. Click **Apply**.

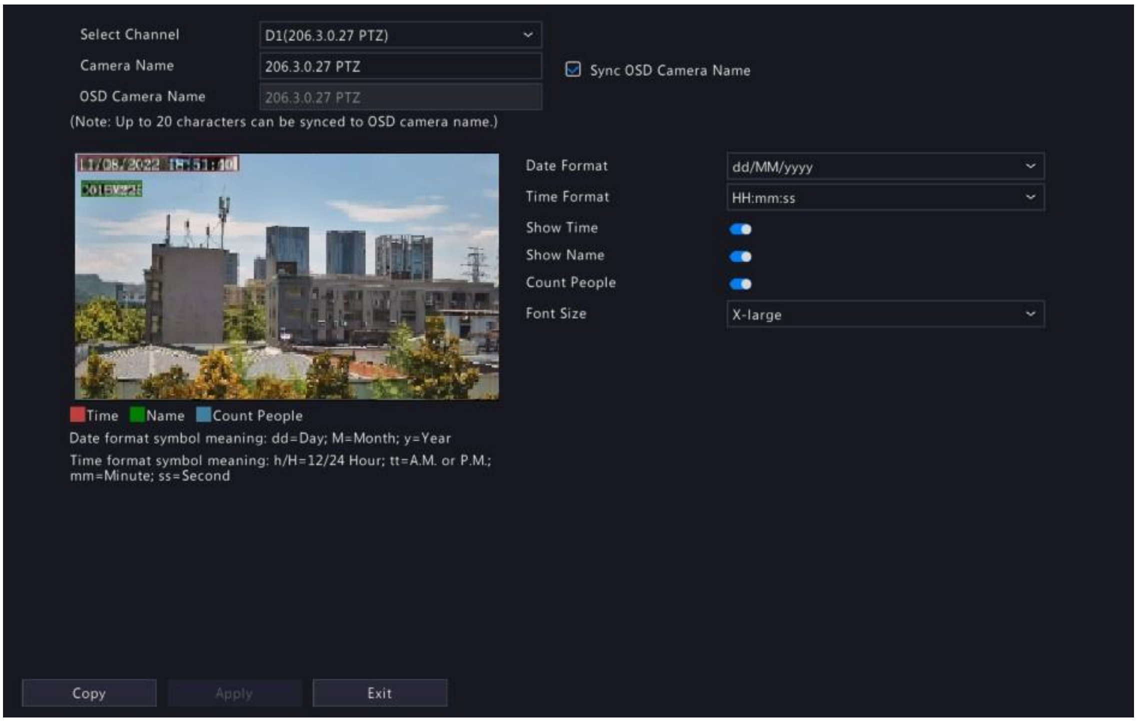
4.3 Display Configuration

Configure OSD characters, image parameters, and privacy mask.

4.3.1 OSD Configuration

Configure the characters overlaid on the preview (live view) window.

1. Go to **Menu** > **Camera** > **Configuration** > **OSD**.



Select Channel: D1(206.3.0.27 PTZ)

Camera Name: 206.3.0.27 PTZ

☑ Sync OSD Camera Name

OSD Camera Name: 206.3.0.27 PTZ

(Note: Up to 20 characters can be synced to OSD camera name.)

Date Format: dd/MM/yyyy

Time Format: HH:mm:ss

Show Time: ●

Show Name: ●

Count People: ●

Font Size: X-large

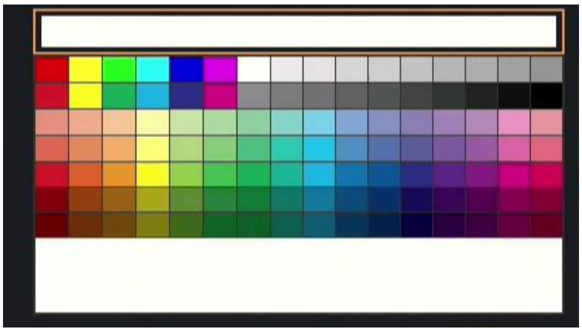
🟥Time 🟩Name 🟦Count People

Date format symbol meaning: dd=Day; M=Month; y=Year

Time format symbol meaning: h/H=12/24 Hour; tt=A.M. or P.M.; mm=Minute; ss=Second

2. Select the desired channel from the drop-down list.
3. Set the OSD parameters.

Item	Description
Camera Name	The name of the selected camera. You may customize the camera name as needed.
Sync OSD Camera Name	**Sync OSD Camera Name** is enabled by default, thus the OSD camera name is synchronized with the camera name automatically.

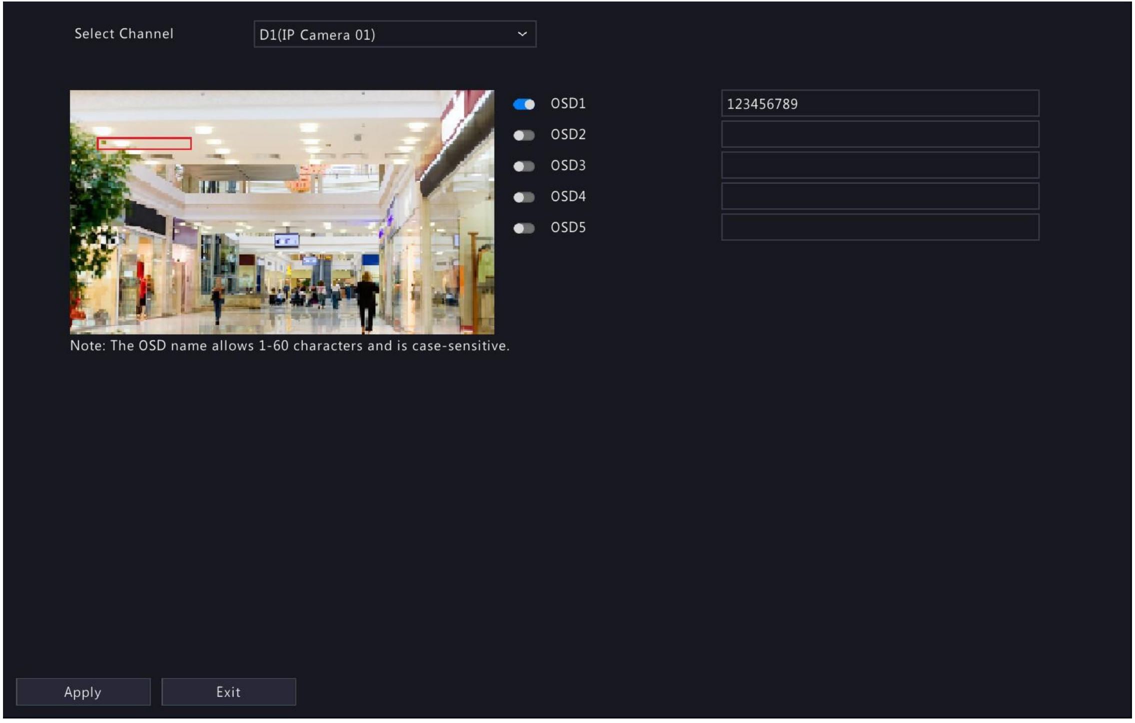
Item	Description
	Note: - Up to 20 characters can be synced to OSD camera name. If the camera name exceeds 20 characters, only the first 20 characters will be displayed. - If **Sync OSD Camera Name** is disabled, after the camera name is changed, the new name will not be synced to OSD camera name.
OSD Camera Name	The camera name displayed on the video image. OSD camera name is same as the camera name by default. You can customize the OSD camera name after disabling **Sync OSD Camera Name**. Up to 20 characters are allowed.
Date Format	Select the date format from the drop-down list.
Time Format	Select the time format from the drop-down list.
Show Time	When enabled, the camera time is displayed on the left side of video image.
Show Name	When enabled, the OSD camera name is displayed on the video image.
Count People	When enabled, people counting statistics are displayed on the video image, including the number of people entered and exited. This function requires you to configure People Flow Counting first.
Font Size	Select the front size from the drop-down list, including X-large, large, medium, and small.
Font Color	Select the front color from the drop-down list. 

4. (Optional) To apply the same OSD settings to other cameras, click **Copy** and select the desired camera(s).
5. Click **Apply**.

4.3.2 OSD Content

Configure other characters overlaid on the preview (live view) window.

1. Go to **Menu** > **Camera** > **Configuration** > **Content**.



Select Channel: D1(IP Camera 01)

OSD1: 123456789

OSD2:

OSD3:

OSD4:

OSD5:

Note: The OSD name allows 1-60 characters and is case-sensitive.

2. Select a channel.
3. Enable OSD(s), and configure OSD name.

Note:

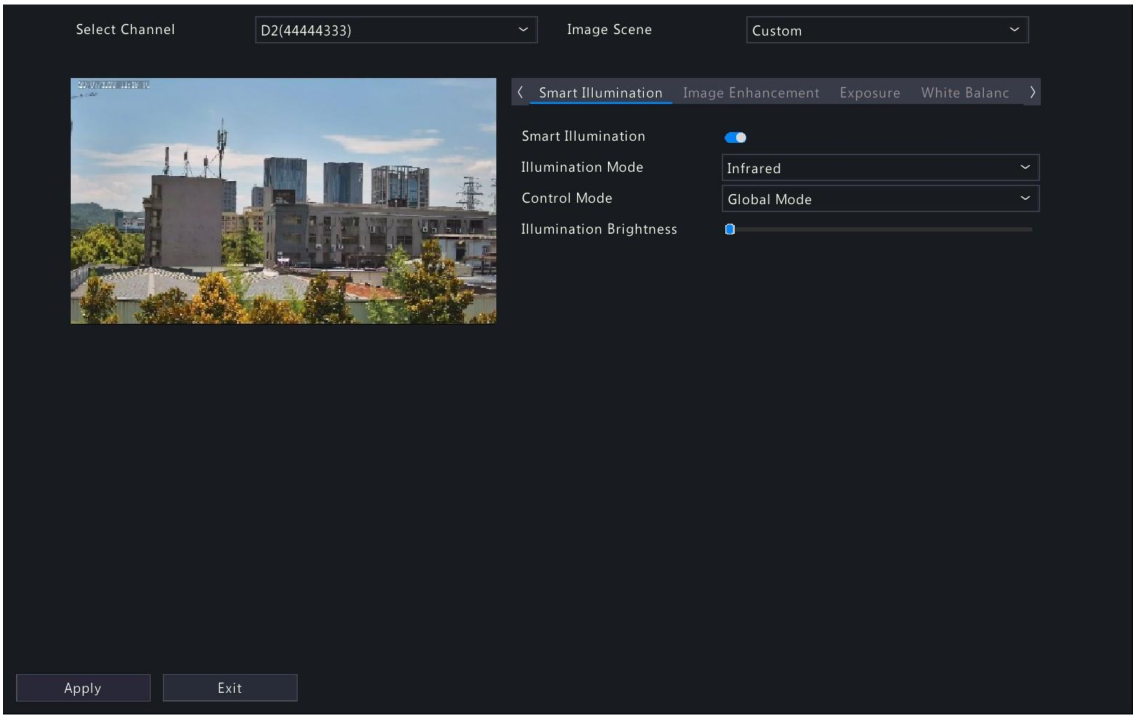
- The number of OSDs may vary with IPC model.
- The OSD name allows 60 characters and is case-sensitive.

4. Click **Apply**
5. (Optional) To adjust the font size and color, go to OSD Configuration.

4.3.3 Image Settings

Adjust image settings to get optimal images.

1. Go to **Menu** > **Camera** > **Configuration** > **Image**.



Select Channel: D2(44444333)

Image Scene: Custom

Smart Illumination: On

Illumination Mode: Infrared

Control Mode: Global Mode

Illumination Brightness

2. Select the desired channel.
3. Select the image scene you want to use.

   The IP camera provides several predefined scene modes for different application scenarios. When you select a scene, the parameters will be automatically set, you can also adjust the parameters as needed.

   - Indoor: Recommended for indoor scenes.
   - Common: Recommended for outdoor scenes.
   - Starlight: Recommended for low light conditions.
   - Test: Recommended for test scenes.
   - Road Highlight Compensation/Park Highlight Compensation: Recommended for capturing vehicle license plates on roads or in parks.
   - WDR: Recommended for scenes with high-contrast lighting, such as window, corridor, front door or other scenes that are bright outside but dim inside.
   - Custom: Set a scene as needed.

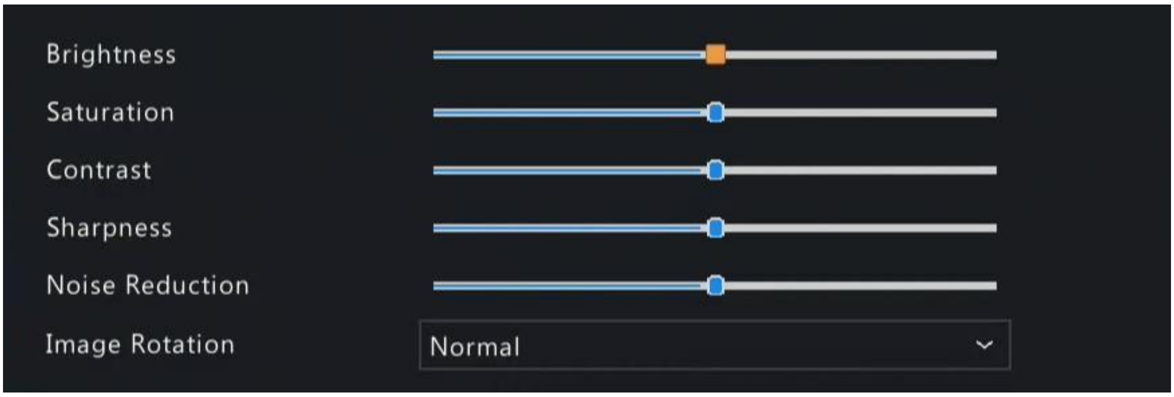
4. Configure the parameters under the tabs in this page.

Note:

- Only certain IPCs support scene selection, and the image parameters may vary with IPC model.
- The default settings are scene-adaptive. Use default settings unless modification is necessary. To restore default settings under all the tabs, click **Default** in the lower left corner. This function is available only when the camera is connected to the NVR via the Geovision protocol.
- Image settings apply to both live and recorded videos.

Image Enhancement

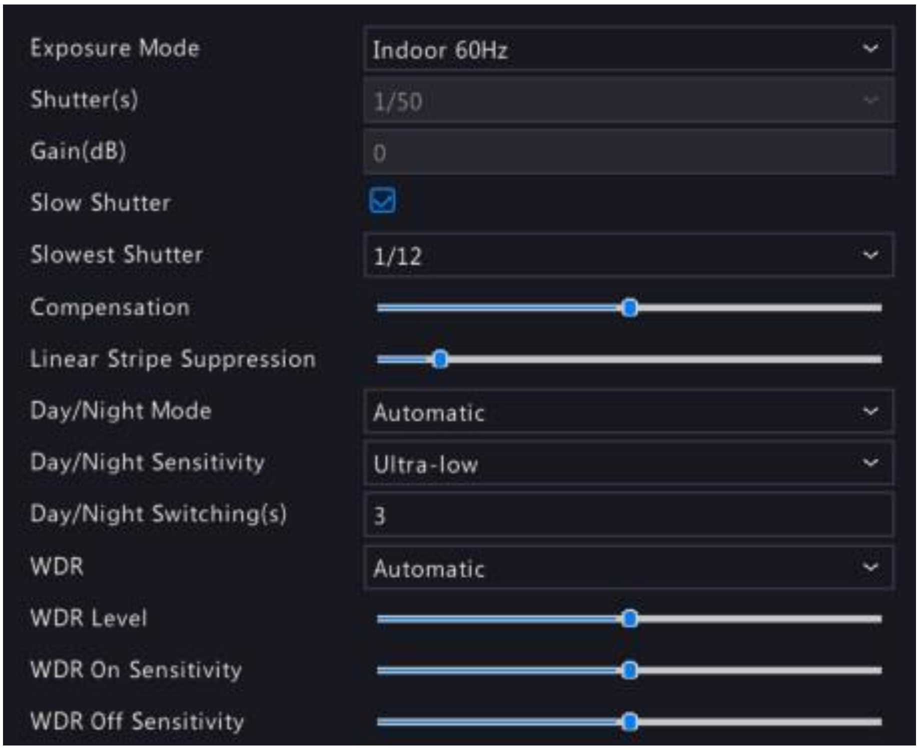
Click the **Image Enhancement** tab, and set the parameters.



Item	Description
Brightness	The overall lightness or darkness of the image.
Saturation	The intensity or vividness of colors in the image.
Contrast	The difference between the lightest and darkest tones in the image.
Sharpness	The contrast between the edges of an object in the image.
Noise Reduction	Reduce noises in images, while it may cause image blur or smearing.
Image Rotation	The rotation of the image. • Normal: Displays images without rotation. • Flip Horizontal: Displays images flipped horizontally. • Flip Vertical: Displays images flipped vertically. • 180°: Displays images flipped vertically and horizontally. • 90° CW: Displays images in corridor format. The camera must be installed correctly (rotated 90° clockwise). • 90° CCW: Displays images in corridor format. The camera must be installed correctly (rotated 90° counterclockwise).
Splice Distance	Adjust splice distance to display splicing image for the dual-lens camera with single channel. The larger the distance, the more natural the splicing effect, thus avoiding video stuttering or image ghosting. The NVR can obtain the current splice distance automatically. Drag the slider to set it as needed. **Note:** • This item appears only for dual-lens cameras that support this function. • Configure the splice distance for the dual-lens camera according to the installation scene so as to achieve the best splicing effect.

Exposure

Click the **Exposure** tab, and set the parameters.



Exposure Mode: Indoor 60Hz
Shutter(s): 1/50
Gain(dB): 0
Slow Shutter: ☑
Slowest Shutter: 1/12
Compensation
Linear Stripe Suppression
Day/Night Mode: Automatic
Day/Night Sensitivity: Ultra-low
Day/Night Switching(s): 3
WDR: Automatic
WDR Level
WDR On Sensitivity
WDR Off Sensitivity

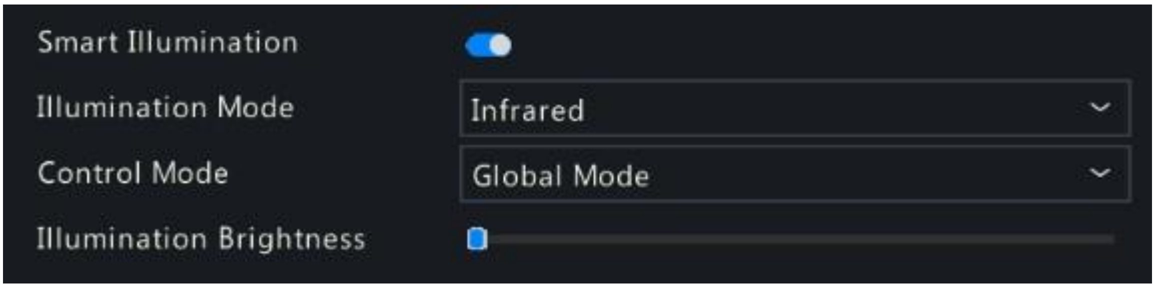
Item	**Description**
Exposure Mode	Select the correct exposure mode to achieve the desired exposure effect. • Automatic: The camera automatically sets the exposure parameters according to the scene. • Custom: User can set exposure parameters as needed. • Shutter Priority: The camera adjusts shutter as priority to adjust the image quality. • Indoor 50Hz: Reduce stripes by adjusting the exposure time. **Note:** • Stripe effect: The high-contrast condition in an image caused by uneven light energy received by the sensor. • Using this mode in brighter environments aids in adjusting the stripe effect in the image with linear stripe suppression. • Indoor 60Hz: Reduce stripes by adjusting the exposure time. **Note:** Using this mode in brighter environments aids in adjusting the stripe effect in the image with linear stripe suppression. • Manual: Fine-tune image quality by setting shutter, gain, and iris manually. • Low Motion Blur: Control the minimum shutter to reduce motion blur.

Shutter(s)	Shutter is used to control the amount of light that comes into the lens. A fast shutter speed is ideal for scenes in quick motion. A slow shutter speed is ideal for scenes that change slowly. This parameter is configurable when **Exposure Mode** is set to **Manual**, **Shutter Priority**, or **Custom**. **Note:** If **Slow Shutter** is disabled, the reciprocal of the shutter speed must be greater than the frame rate.
Gain(dB)	Control image signals so that the camera can output standard video signals in different light conditions. This parameter is configurable when **Exposure Mode** is set to **Manual** or **Custom**.
Slow Shutter	Select ☑ to enable slow shutter. When enabled, the camera improves image brightness in low light conditions.
Slowest Shutter	When enabled, you can set the slowest shutter speed for the camera during exposure.
Compensation	Adjust the compensation value as required to achieve the desired image effect.
Day/Night Mode	• Automatic: The camera automatically switches between night mode and day mode according to the ambient lighting condition to output optimum images. • Day: The camera outputs high-quality images in daylight conditions. • Night: The camera outputs high-quality images in low light conditions.
Day/Night Sensitivity	Light threshold for switching between day mode and night mode. Ultra-low, low, medium, and high are available. A higher sensitivity level means that the camera is more sensitive to the change of light and is therefore more easily to switch between day mode and night mode. This parameter is configurable when **Day/Night Mode** is set to **Automatic**.
Day/Night Switching(s)	Set the length of time before the camera switches between day mode and night mode after the switching conditions are met. This parameter is configurable when **Day/Night Mode** is set to **Automatic**.
WDR	Suitable for high-contract scenes. WDR can balance the brightness in the bright area and dark area, and provide clear image with more details. • On/Off: User needs to identify WDR scenes, and manually enable or disable WDR as needed. • Smart (Automatic): The device can automatically identify typical WDR scenes, and then enable or disable WDR. **Note:** When WDR is enabled, some other functions may not be supported. Refer to the actual interface for details.
WDR Level	Adjust the WDR level to improve image quality when WDR is enabled. **Note:** In the case of low contrast, it is recommended to disable WDR or use level 1 to 6. Level 7 or higher is recommended if there is a high contrast between the bright and dark areas in the scene.

Item	Description
WDR On/Off Sensitivity	When **WDR** is set to **Automatic**, adjust the parameter to change the WDR switching sensitivity.
Metering Control	Perform luminance statistics on the images captured by the device, automatically adjust the exposure value, and output properly exposed images with optimal brightness. The default is the **Center-Weighted Average Metering**, you may configure this according to the actual scene. • Center-Weighted Average Metering: Measure light mainly in the central part of the image. • Evaluative Metering: Measure light in the specified area of the image, • Face Metering: Adjust image quality in poor lighting or back lighting conditions by controlling the brightness of captured faces in face scenes. • Spot Metering: Similar to the evaluative metering. However, it cannot increase the brightness of the image. **Note:** This parameter is configurable when **Exposure Mode** is not set to **Manual**.
Linear Stripe Suppression	Adjust the linear stripes in the image. Range: 1 to 9, the default is 5. The greater the value, the more obvious the linear stripe suppression effect is, but it may cause overexposure in the image. Please configure this according to the actual scene. **Note:** This parameter is configurable when **Exposure Mode** is set to **Indoor 50Hz** or **Indoor 60Hz**.

Smart Illumination

Click the **Smart Illumination** tab, and set the parameters.



Smart Illumination

Illumination Mode: Infrared

Control Mode: Global Mode

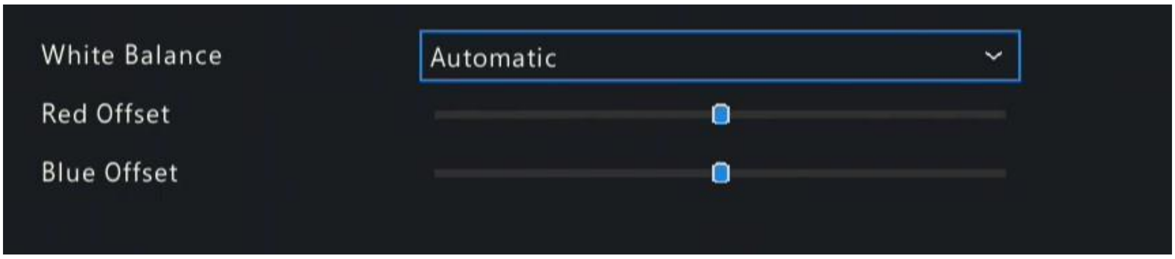
Illumination Brightness

Item	Description
Smart Illumination	Enable **Smart Illumination**.
Illumination Mode	Select the illumination mode from the drop-down list. • Infrared: The camera uses infrared light illumination. • White Light: The camera uses white light illumination. • Dual Light: The camera adjusts the white light or infrared automatically according to the current lighting condition.
Control Mode	Select the control mode from the drop-down list. • Global Mode: The camera automatically adjusts illumination brightness and exposure to achieve the balanced image effect. • Overexposure Restrain: The camera automatically adjusts illumination brightness and exposure to avoid regional overexposure. • Manual: Control the brightness of illumination manually.

Item	Description
Illumination Brightness	Drag the slider to adjust the illumination brightness. This parameter is configurable when **Control Mode** is set to **Manual**. The greater the value, the higher the intensity (0 is off).

White Balance

Click the **White Balance** tab, and set the parameters.



White Balance: Automatic

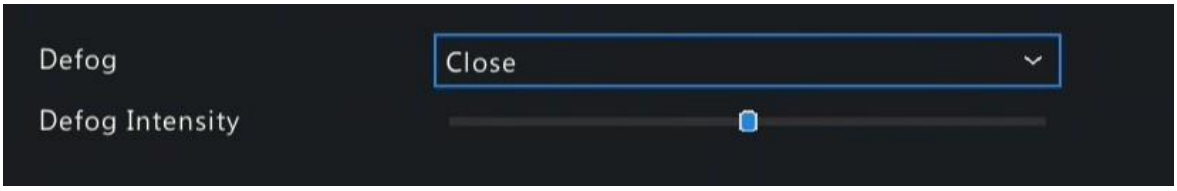
Red Offset

Blue Offset

Item	Description
White Balance	Adjust the red and blue gains of the image to remove unrealistic color casts. • Auto: The camera automatically adjusts the red and blue gains according to the lighting condition (the color tends to be blue). • Fine Tune: Adjust the red or blue offsets manually. • Outdoor: Suitable for outdoor scenes where the color temperature varies widely. • Sodium Lamp: The camera automatically adjusts red and blue gains according to the lighting condition (the color tends to be red). • Locked: Lock the current color temperature to avoid change.
Red Offset	Adjust the red offset manually.
Blue Offset	Adjust the blue offset manually.

Advanced Settings

Click the **Advanced** tab, and set the parameters.



Defog: Close

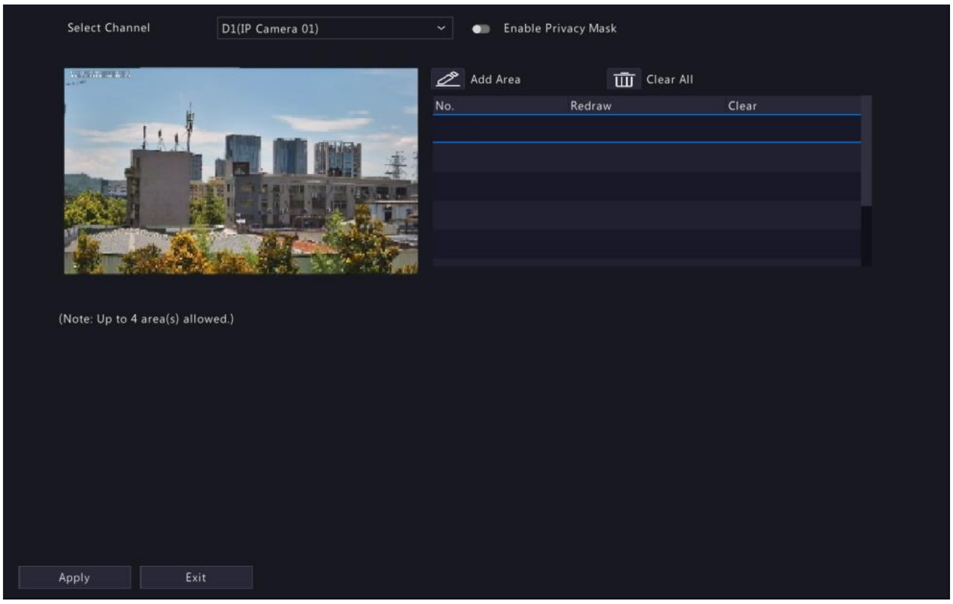
Defog Intensity

Item	Description
Defog	Enable/disable defog from the drop-down list. Defog is used to improve image visibility in foggy, hazy and other low-visibility scenes.
Defog Intensity	When defog is enabled, you can adjust the defog intensity. In a heavy-fog environment, the higher the defog level, the clearer the image. In a fog-free or light-fog environment, there is not much difference between levels 1 to 9. **Note:** Optical defog is available only for certain IPC models. When the defog intensity is set to 6 or higher, optical defog automatically turns on in thick fog, and images change to black and white.

4.3.4 Privacy Mask

Privacy mask is used to cover certain areas on the image for privacy, for example, ATM keyboard. When a PTZ camera rotates and zooms, the privacy mask moves and zooms with the camera and the masked area is always covered.

1. Go to **Menu** > **Camera** > **Configuration** > **Privacy Mask**.

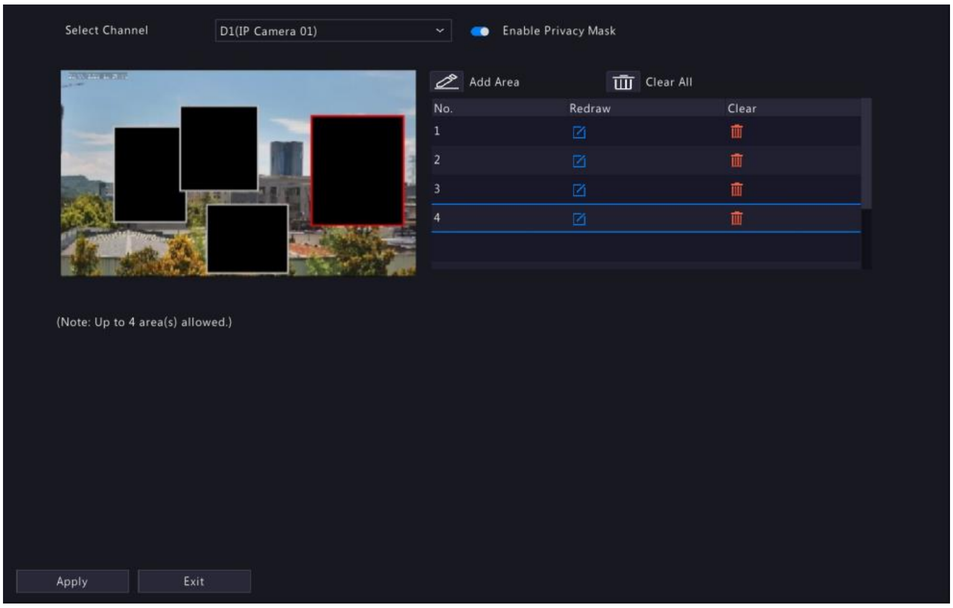


Select Channel: D1(IP Camera 01)

Enable Privacy Mask

(Note: Up to 4 area(s) allowed.)

2. Select the desired channel from the drop-down list.
3. Enable privacy mask.
4. Click ✎, and then use the mouse to specify a rectangle area on the left-side image. The number of areas supported varies with NVR model. Some NVRs support 4 areas and some support 8 areas.



Select Channel: D1(IP Camera 01)

Enable Privacy Mask

No.	Redraw	Clear
1	✎	🗑
2	✎	🗑
3	✎	🗑
4	✎	🗑

(Note: Up to 4 area(s) allowed.)

- Adjust the size and position of the mask: Point to a handle of the mask and drag to resize it. Point to any position of the mask and drag it to the desired position.
- Redraw: Click ✎ to clear all the existing area(s) and draw an area again.
- Delete: Select the mask and click 🗑; Or click 🗑 to delete all the masks.

5. Click **Apply**.

4.4 PTZ Configuration

Configure and control PTZ cameras.

Note:

- This function is only available for PTZ cameras.
- The PTZ parameters may vary with IPC model.
- PTZ (pan, tilt and zoom) control is applicable to PTZ cameras only and may vary depending on the functions and protocols supported by the PTZ cameras. Refer to PTZ camera specifications for details.

PTZ Control Mode

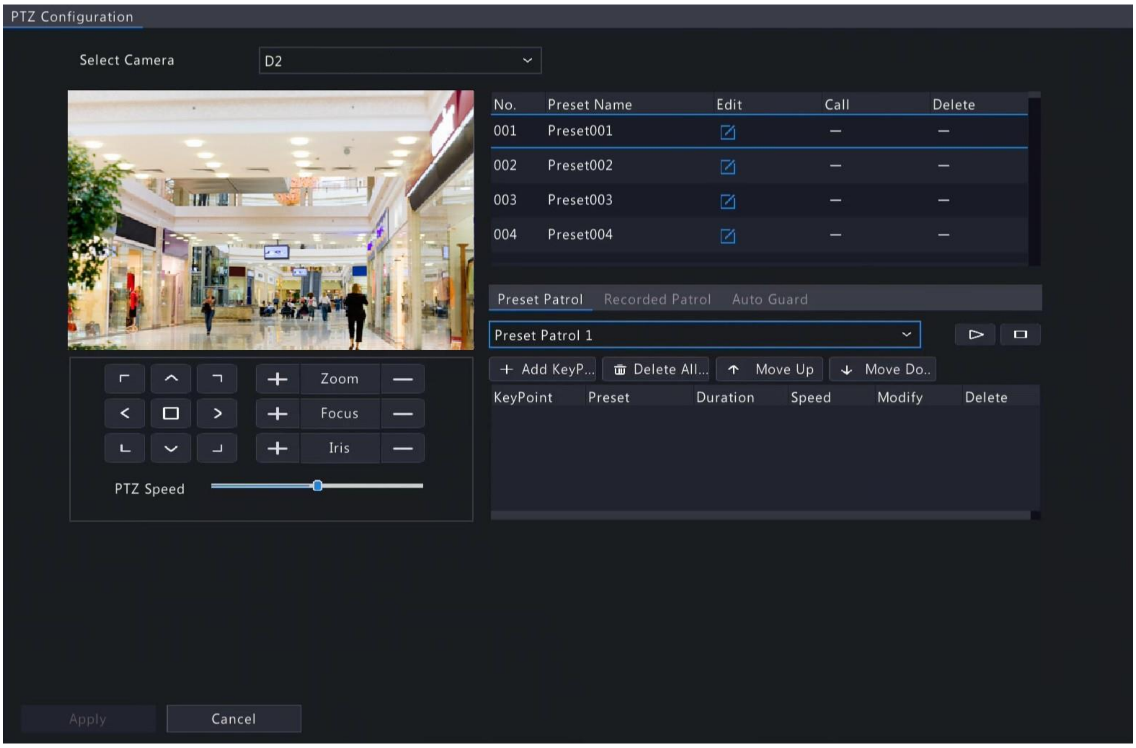
DVRs support two control modes, including **Coaxial** or **Serial Port**. Choose the control mode before using PTZ function.

1. Go to **Menu** > **Camera** > **PTZ**.
2. Choose a control mode according to camera connection method, and complete other settings.

Configure PTZ

Option 1: Enter Menu

1. Go to **Menu** > **Camera** > **PTZ**.
2. Select the target PTZ camera.



PTZ Configuration

Select Camera: D2

No.	Preset Name	Edit	Call	Delete
001	Preset001		–	–
002	Preset002		–	–
003	Preset003		–	–
004	Preset004		–	–

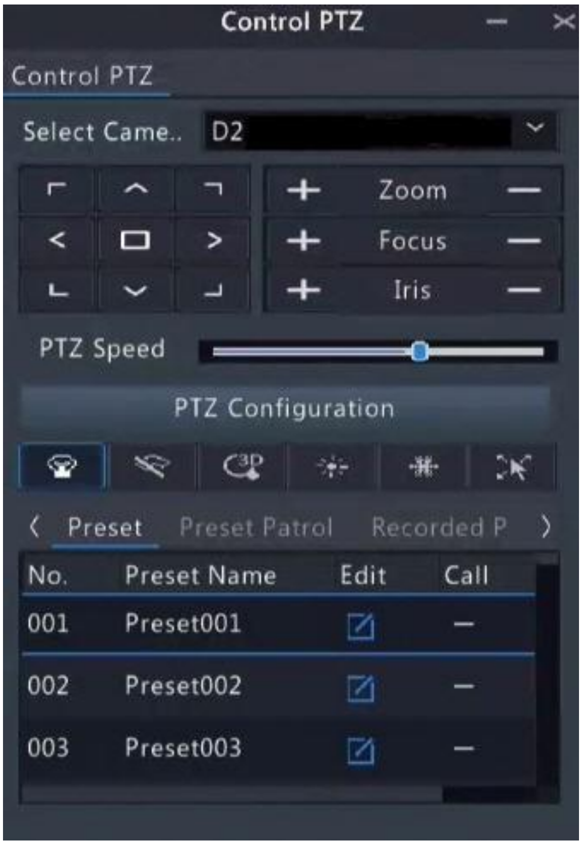
Preset Patrol: Preset Patrol 1

KeyPoint	Preset	Duration	Speed	Modify	Delete

3. Set the parameters. See below for details.

Option 2: Use PTZ Toolbar

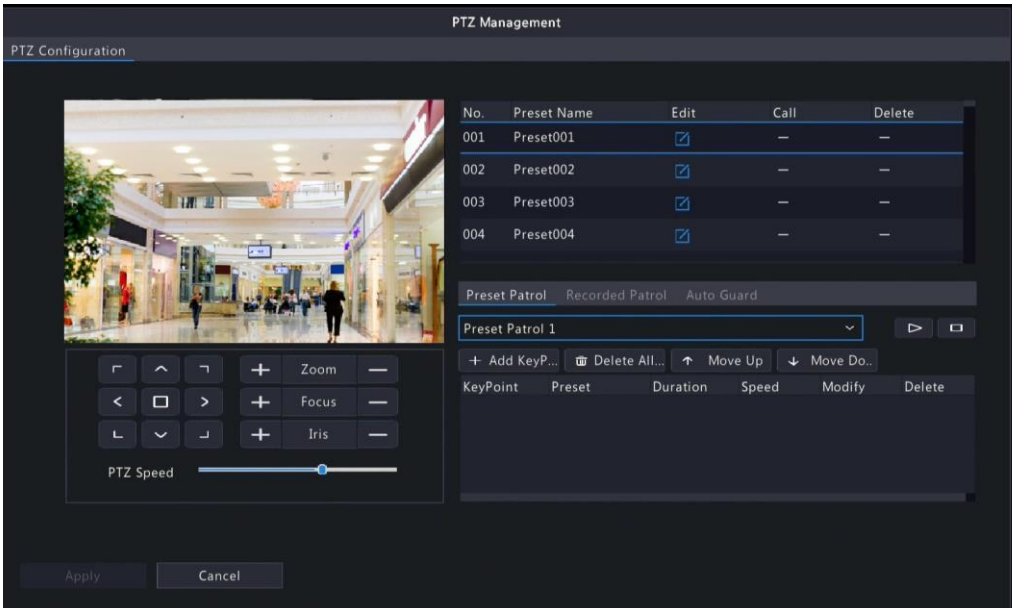
1. On the preview page, select the target window, and click on the window toolbar.



Select Came.. D2

No.	Preset Name	Edit	Call
001	Preset001		—
002	Preset002		—
003	Preset003		—

2. The PTZ control window appears. You can control the PTZ camera as needed.



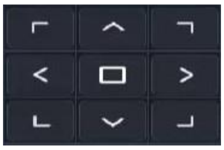
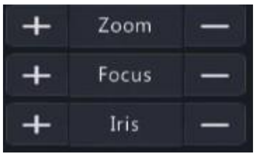
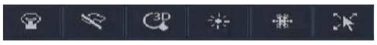
No.	Preset Name	Edit	Call	Delete
001	Preset001		—	—
002	Preset002		—	—
003	Preset003		—	—
004	Preset004		—	—

Preset Patrol 1

KeyPoint	Preset	Duration	Speed	Modify	Delete

3. Click **PTZ Configuration**, and set the parameters.

Table 4-2: PTZ Control Window Buttons

Button	**Description**
	Control the rotation direction of the PTZ camera; release PTZ control.
	• Zoom in or out on images. **Note:** You can also zoom in or out using the scroll wheel on your mouse. • Focus far or near for clear images. • Increase or reduce the amount of light that enters the lens of the camera.
	Control the rotation speed of the camera. 1-9 are available. 1 means the slowest, and 9 means the fastest.
PTZ Configuration	Click to display the **PTZ Configuration** page.
	• Turn on/off the light. • Turn on/off the wiper. • Turn on 3D positioning. • Turn on/off the heater. • Turn on/off the snow removal. • Turn on/off PTZ shortcut operations. **Note:** • Make sure that the 3D positioning, heater and snow removal functions are supported by the camera before using. • Use 3D positioning to zoom in or out. Dragging from top down zooms in. Dragging the other way zooms out.
Preset/ Preset Patrol/Recorded Patrol/ Auto Guard	• For detailed information, see Preset, Preset Patrol, Recorded Patrol, and Auto Guard respectively.
↪/	• Call a preset: Click ↪, and the PTZ camera goes to the preset position. • Delete a preset: Click 🗑 to delete the preset. **Note:** ↪ and 🗑 are displayed for saved presets only.
▷/	Start or stop preset patrol.

OSD Menu

Configure analog cameras on DVRs. This function is only available for DVRs.

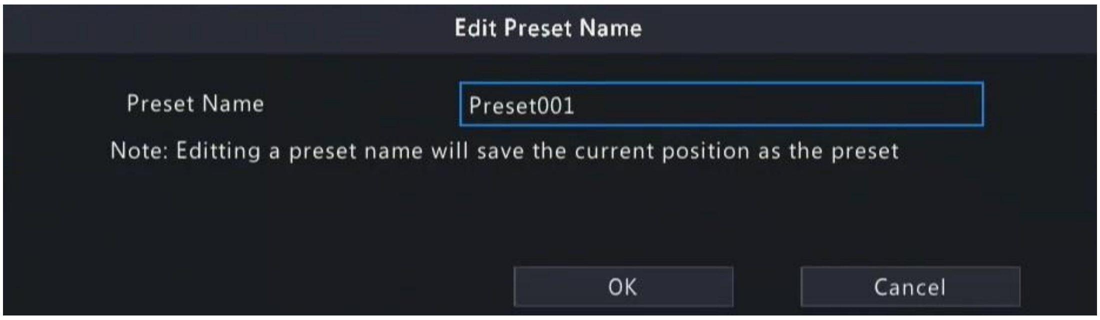
1. On the preview window of an analog camera, click ✥ on the window toolbar.
2. Click **OSD Menu**.
3. Click ☰ or ↵ to open camera settings window, and set the parameters.
4. Click ↵ to save the settings, and then choose **Exit** button to close the window.

Preset

A preset position (preset for short) is a saved view used to quickly steer the PTZ camera to a specific position.

- Add a Preset

1. Use the PTZ direction buttons to steer the PTZ camera to the desired position.
2. Select a preset number not in use, and click ✎ to edit the preset name.

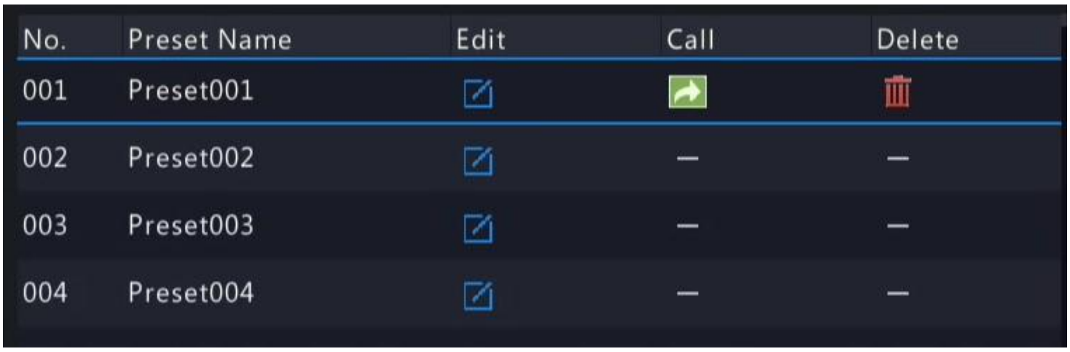


Edit Preset Name

Preset Name: Preset001

Note: Editting a preset name will save the current position as the preset

3. Click **OK** to save. Repeat the above steps to add all the presets.



No.	Preset Name	Edit	Call	Delete
001	Preset001	✎	➦	🗑
002	Preset002	✎	—	—
003	Preset003	✎	—	—
004	Preset004	✎	—	—

- Call a Preset

In the preset list, select the preset to call and click ➦. Then the camera rotates to the preset position.

- Delete a Preset

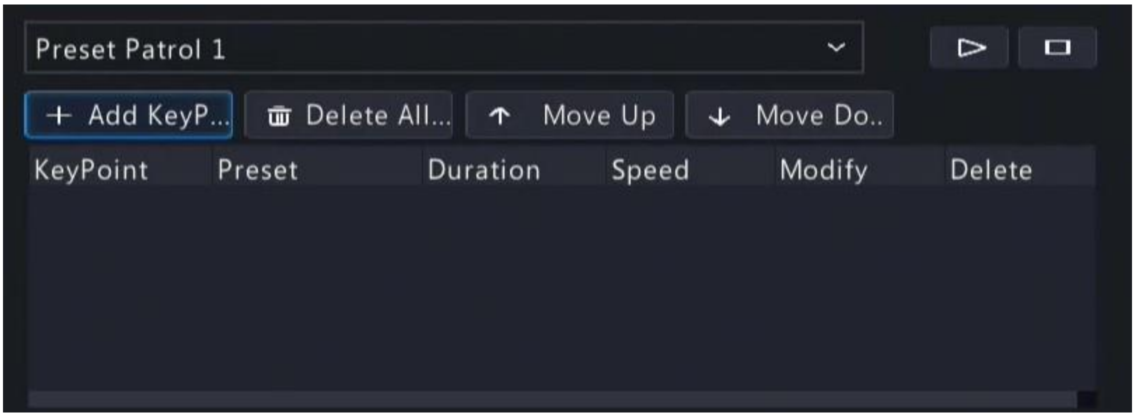
In the preset list, select the preset you want to delete, and then click 🗑.

Preset Patrol

Set a preset patrol route so the PTZ camera can patrol by presets (go from one preset to the next in the specified order).

- Add Preset Route

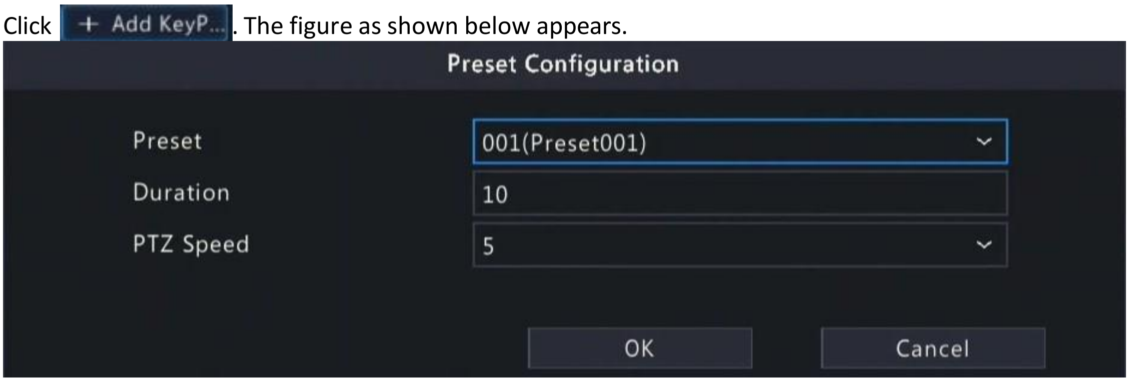
1. Click **Preset Patrol**, and select a patrol route.



Preset Patrol 1

KeyPoint	Preset	Duration	Speed	Modify	Delete

2. Click + Add KeyP... . The figure as shown below appears.



Preset Configuration

Preset: 001(Preset001)

Duration: 10

PTZ Speed: 5

3. Complete the parameters, and click **OK**.

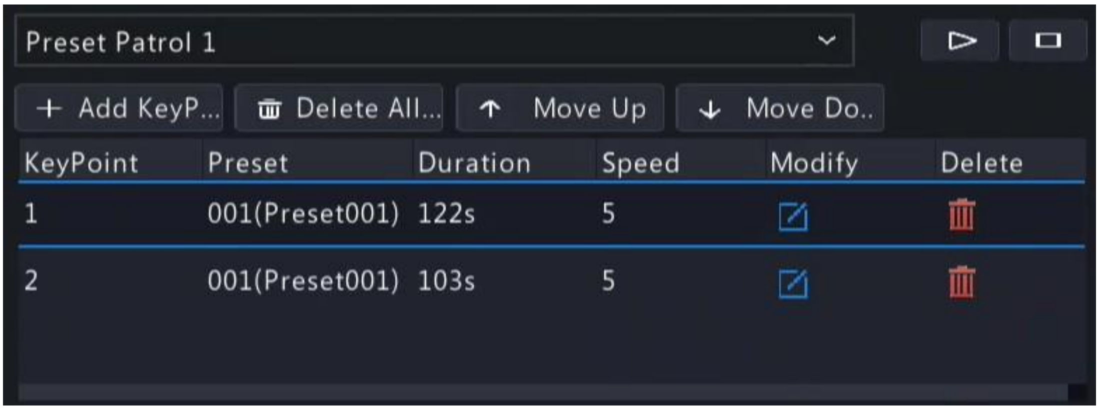
Item	**Description**
Preset	Set the length of time the camera stays at the preset after performing the patrol. See Preset for setting preset.
Duration(s)	Set the time the camera stays at the preset after the patrol is performed. The valid range is from 120 to 1800 seconds. The default is 10s.
Speed	Set the rotation speed. 1 means the slowest, 9 means the fastest. The default is 5.

4. Repeat the above steps to add more routes.

Note: Up to 4 patrol routes are allowed for each PTZ camera. Up to 8 presets (keypoints) are allowed for each patrol route.

- Call a Preset

Select a preset patrol in the list, click ▷ to start the preset patrol. To stop, click ▭.



Preset Patrol 1

KeyPoint	Preset	Duration	Speed	Modify	Delete
1	001(Preset001)	122s	5	✎	🗑
2	001(Preset001)	103s	5	✎	🗑

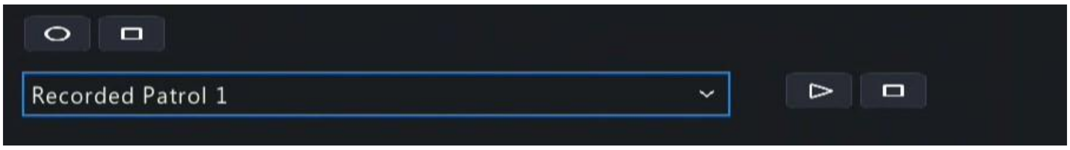
- Other Operations
  - Edit: Click ✎ to edit the preset patrol parameters.
  - Delete: Click 🗑 to delete a keypoint; Click 🗑 Delete All... to delete all keypoints.
  - Move Up/Move Down: Click ↑ Move Up / ↓ Move Do.. to adjust the sequence of these presets.

Recorded Patrol

Record a patrol route so the PTZ camera can patrol according to the recorded patrol.

- Add a Recorded Patrol

  1. On the **Recorded Patrol** tab, select a patrol route.
  2. Click ○ to start recording. Steer the camera to the desired direction, adjust the zoom, focus, iris as needed during the process.



Recorded Patrol 1

  3. Click ▭ to stop recording.
  4. Click **Apply**.

- Call a Recorded Patrol

  Click ▷ to start the recorded patrol. Click ▭ to stop the recorded patrol.

Auto Guard

Configure auto guard so the PTZ camera automatically performs the specified action (e.g., going to a preset or starting a patrol) after being idle (no user operation) for a certain length of time.

Note: Before use, you need to add a preset or a patrol route.

1. On the **Auto Guard** tab, select the **Enable** check box to enable auto guard.
2. Set the parameters.

Item	**Description**
Idle State(s)	Set the idle duration for the camera to start auto guard. 1 to 3600 seconds are available. The default is 60s.
Mode	Select preset or patrol route.
Preset/Patrol	Select a preset number or patrol route number.

3. Click **Apply**.

5 Search

Search for and back up recordings and snapshots based on event, object, and statistical funcitons.

Note: The search and backup functions may vary with device models.

5.1 Recording Backup

Recording backup refers to backing up videos stored on the NVR’s hard disk to a USB storage device. It has the following conditions:

- The USB storage device has been formatted to FAT32 or NTFS.
- Backup permission is required.
- The recording to back up is stored on a hard disk of the NVR.
- The storage device is connected correctly to the NVR.

Note:

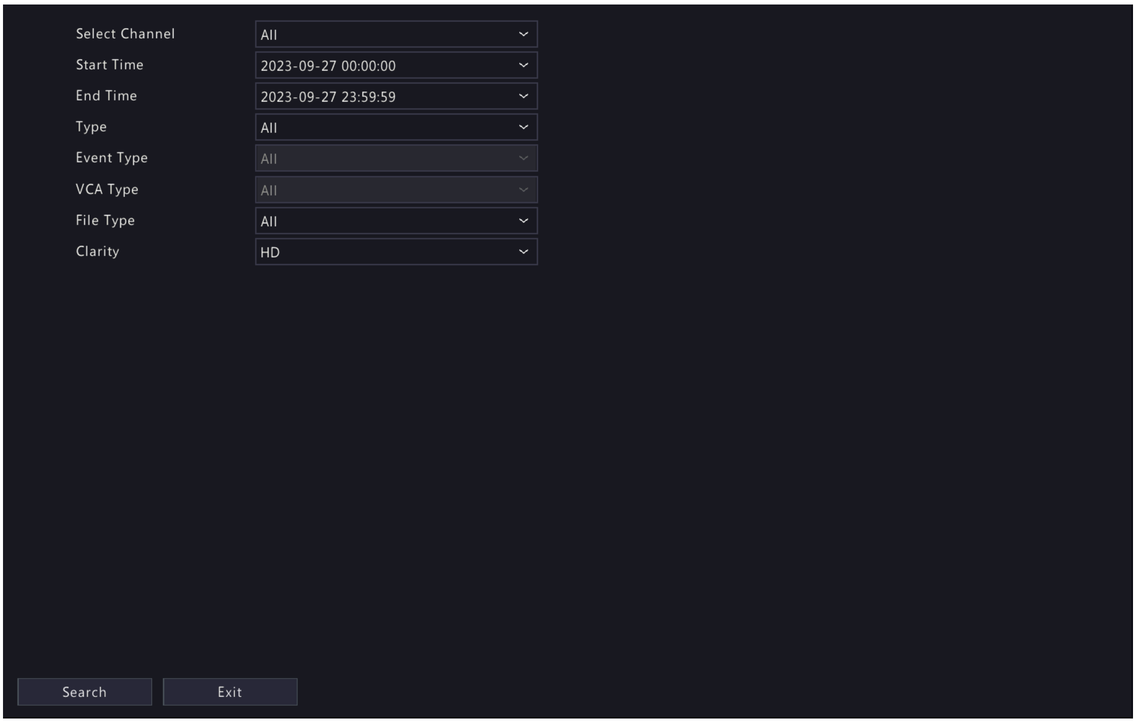
- Recordings are backed up as .mp4 files by default.
- You can back up recordings in HD or SD mode.

Normal Video Backup

Normal video backup refers to backing up scheduled recording, manual recording, and event-triggered recording.

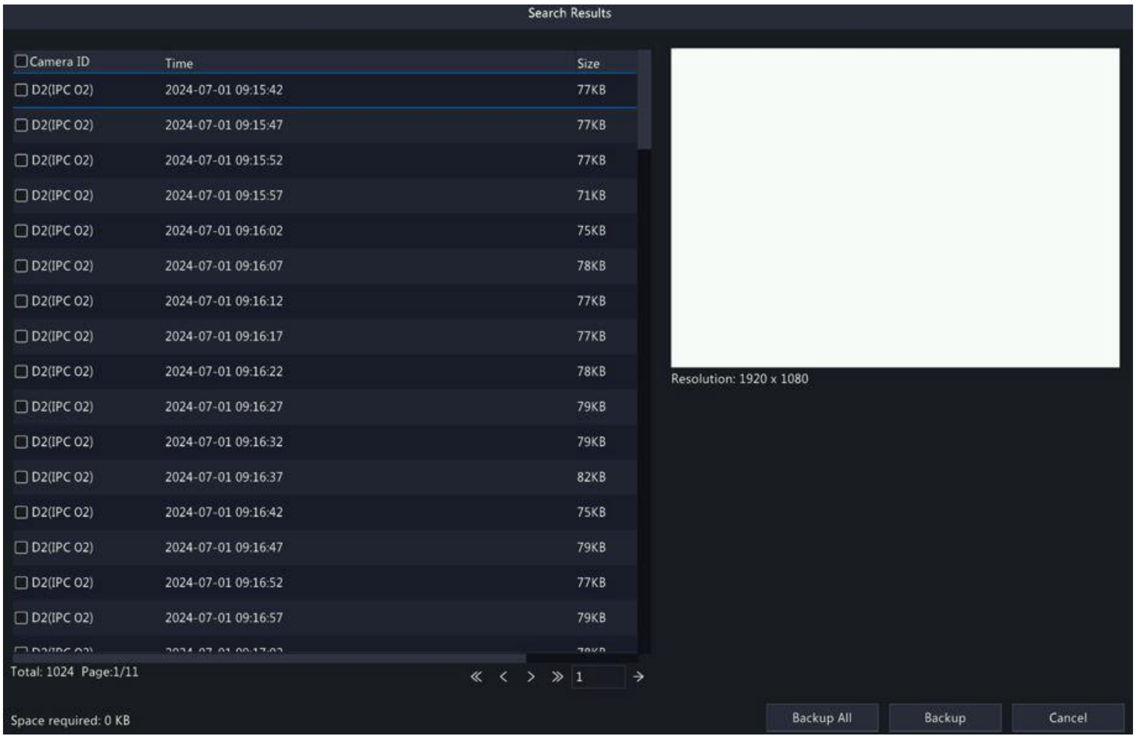
1. Go to **Menu** > **Search** > **Video** > **Recording**.

2. Select the desired camera(s). All cameras are selected by default.



Select Channel	All
Start Time	2023-09-27 00:00:00
End Time	2023-09-27 23:59:59
Type	All
Event Type	All
VCA Type	All
File Type	All
Clarity	HD

3. Set search conditions, including the start time, end time, recording type, event type, VCA type, file type, and clarity (HD or SD).
4. Click **Search**. Search results are displayed. The image from the first search result is displayed on the right side. Click ▶ to play the video.



Search Results

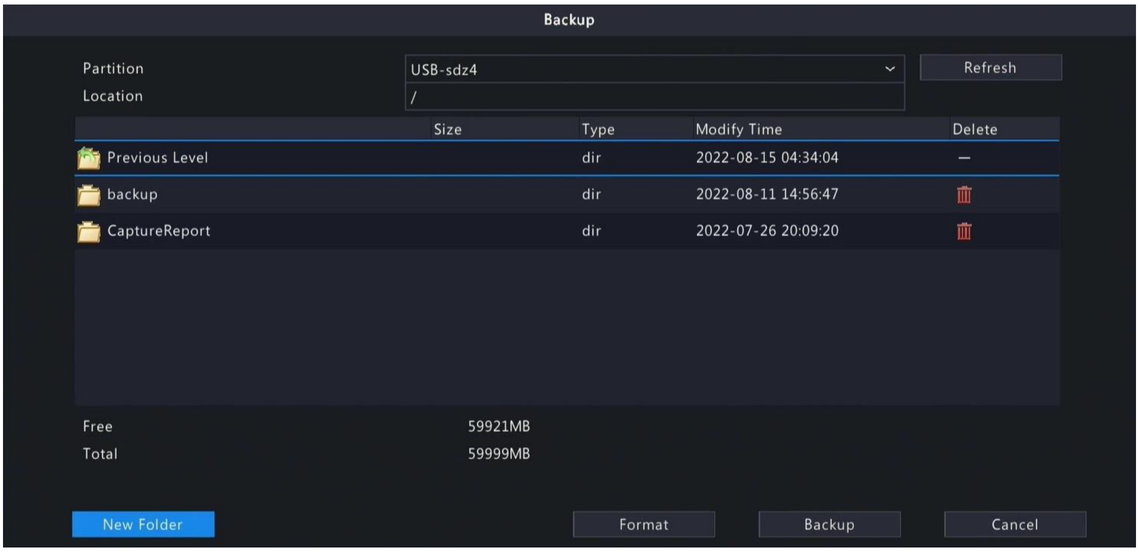
☐ Camera ID	Time	Size
☐ D2(IPC 02)	2024-07-01 09:15:42	77KB
☐ D2(IPC 02)	2024-07-01 09:15:47	77KB
☐ D2(IPC 02)	2024-07-01 09:15:52	77KB
☐ D2(IPC 02)	2024-07-01 09:15:57	71KB
☐ D2(IPC 02)	2024-07-01 09:16:02	75KB
☐ D2(IPC 02)	2024-07-01 09:16:07	78KB
☐ D2(IPC 02)	2024-07-01 09:16:12	77KB
☐ D2(IPC 02)	2024-07-01 09:16:17	77KB
☐ D2(IPC 02)	2024-07-01 09:16:22	78KB
☐ D2(IPC 02)	2024-07-01 09:16:27	79KB
☐ D2(IPC 02)	2024-07-01 09:16:32	79KB
☐ D2(IPC 02)	2024-07-01 09:16:37	82KB
☐ D2(IPC 02)	2024-07-01 09:16:42	75KB
☐ D2(IPC 02)	2024-07-01 09:16:47	79KB
☐ D2(IPC 02)	2024-07-01 09:16:52	77KB
☐ D2(IPC 02)	2024-07-01 09:16:57	79KB

Resolution: 1920 x 1080

Total: 1024 Page:1/11

Space required: 0 KB

5. Choose a way to back up recording(s) as needed.
   - Select the recording(s) you want to back up, and then click **Backup**.
   - Or click **Backup All** to back up all the recordings in the list.



Partition: USB-sdz4

Location: /

	Size	Type	Modify Time	Delete
Previous Level		dir	2022-08-15 04:34:04	—
backup		dir	2022-08-11 14:56:47	🗑
CaptureReport		dir	2022-07-26 20:09:20	🗑

Free 59921MB

Total 59999MB

6. Select the partition and storage path, and then click **Backup**. You can also create a new folder for the recording(s) by clicking **New Folder**.

Note:

- Click **Format** to format the USB device. A USB device with more than 2TB capacity can only be formatted to NTFS, with 2TB or less capacity can be formatted to NTFS or FAT32. Only certain NVRs can format a USB device with more than 2TB capacity.
- During backup, a progress bar is displayed to indicate the progress (e.g., Exporting X/Y) , where X indicates the current number being backed up, and Y indicates the total number of recordings. To stop the backup, click **Cancel**.
- A backup file is named in this format: Camera ID_S recording start time_E recording end time.file extension. For example, D1-S20220823000400_E20220823003148.mp4, where S means the start time, and E means the end time.

5.2 Image Backup

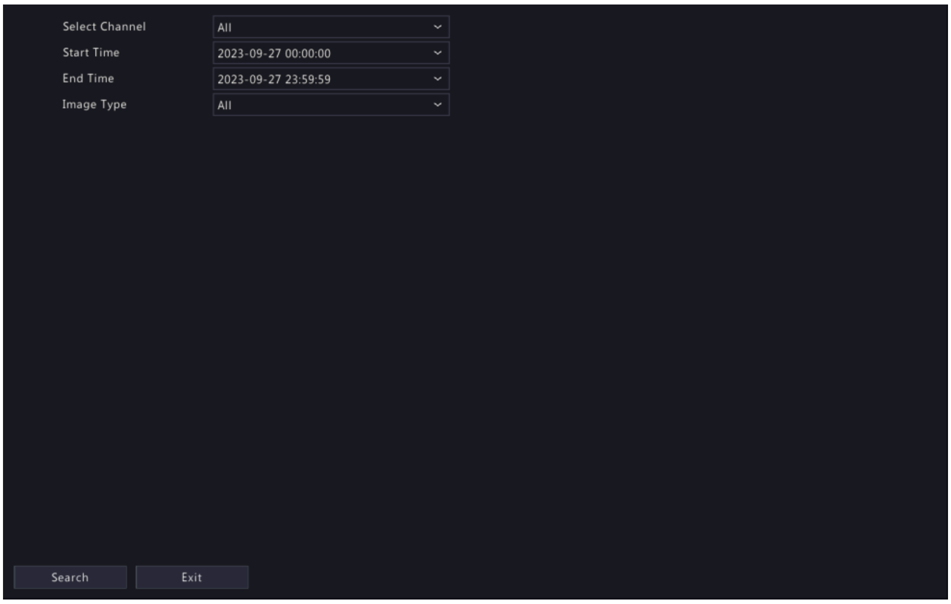
Image backup refers to backing up images stored on the NVR’s hard disk to a USB storage device.

Note: The default format of image backup is *.JPG.

Normal Snapshot Backup

Normal snapshot backup refers to backing up scheduled snapshot, manual snapshot, and event-triggered snapshot.

1. Go to **Menu** > **Search** > **Picture** > **Snapshot Backup**.



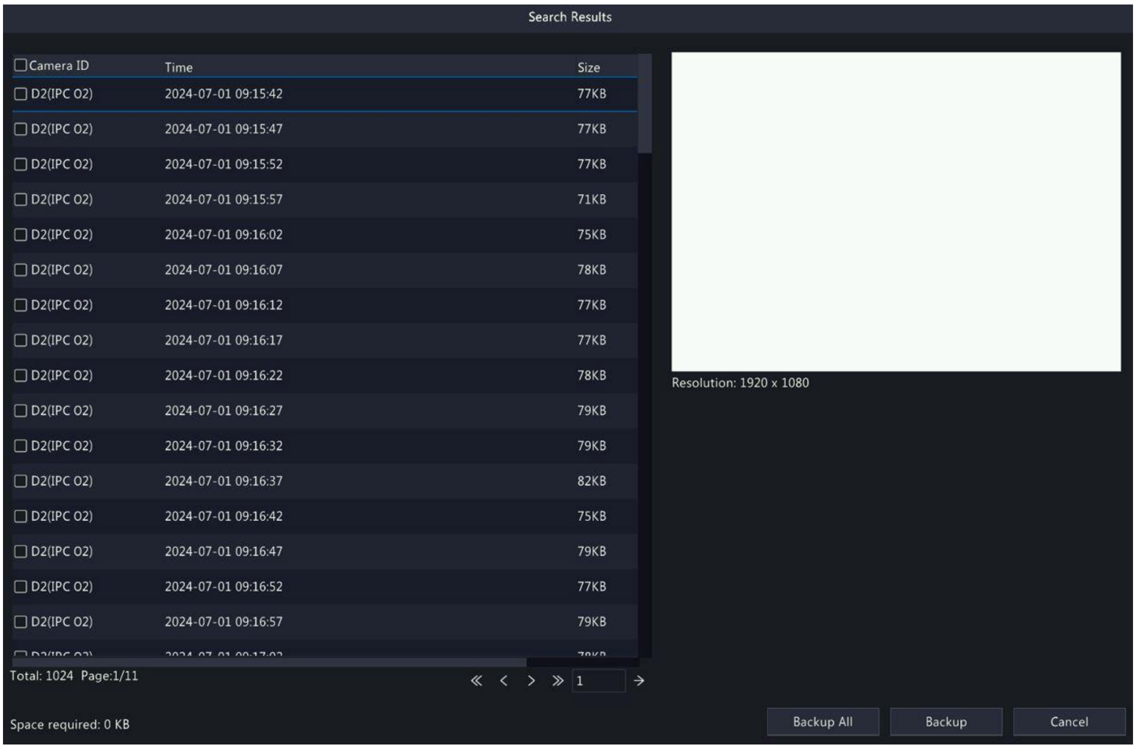
Select Channel: All

Start Time: 2023-09-27 00:00:00

End Time: 2023-09-27 23:59:59

Image Type: All

2. Select the desired camera(s). All cameras are selected by default.
3. Set search conditions, including the image type, start time, and end time.
4. Click **Search**. Search results are displayed. The image displayed on the right is from the first result in the list by default.



Search Results

☐Camera ID	Time	Size
☐ D2(IPC 02)	2024-07-01 09:15:42	77KB
☐ D2(IPC 02)	2024-07-01 09:15:47	77KB
☐ D2(IPC 02)	2024-07-01 09:15:52	77KB
☐ D2(IPC 02)	2024-07-01 09:15:57	71KB
☐ D2(IPC 02)	2024-07-01 09:16:02	75KB
☐ D2(IPC 02)	2024-07-01 09:16:07	78KB
☐ D2(IPC 02)	2024-07-01 09:16:12	77KB
☐ D2(IPC 02)	2024-07-01 09:16:17	77KB
☐ D2(IPC 02)	2024-07-01 09:16:22	78KB
☐ D2(IPC 02)	2024-07-01 09:16:27	79KB
☐ D2(IPC 02)	2024-07-01 09:16:32	79KB
☐ D2(IPC 02)	2024-07-01 09:16:37	82KB
☐ D2(IPC 02)	2024-07-01 09:16:42	75KB
☐ D2(IPC 02)	2024-07-01 09:16:47	79KB
☐ D2(IPC 02)	2024-07-01 09:16:52	77KB
☐ D2(IPC 02)	2024-07-01 09:16:57	79KB

Resolution: 1920 x 1080

Total: 1024 Page:1/11

Space required: 0 KB

Note: The image resolution depends on the resolution from the output interface and the number of windows displayed when the snapshot is taken.

5. Choose a way to back up image(s) as needed.
   - Select the desired image(s) you want to back up, and then click **Backup**.
   - Or click **Backup All** to back up all the images in the list.
6. Select the partition and storage path, click **Backup**. Then the images are backed up to the specified path on the storage device. You can also create a new folder for the image(s) by clicking **New Folder**.

5.3 Event

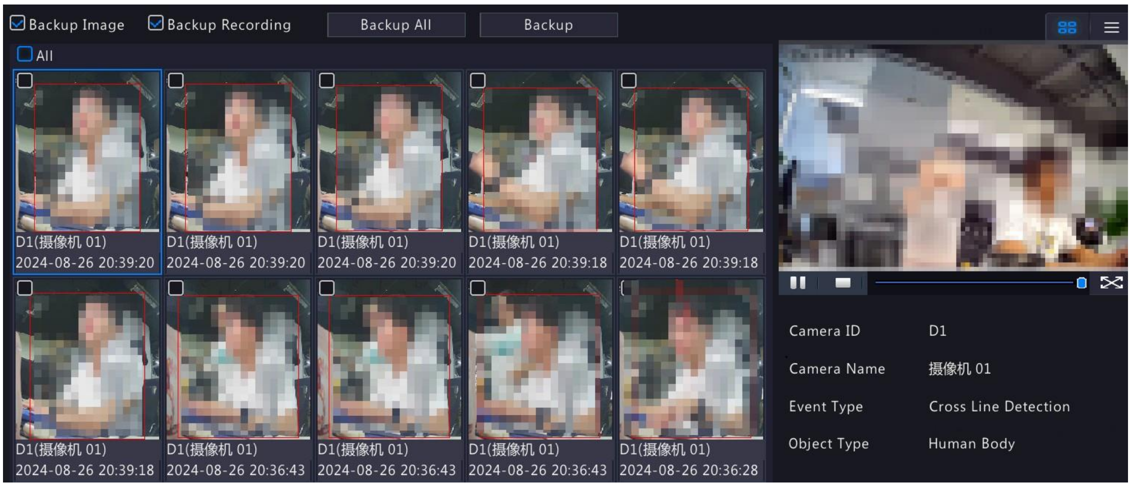
Smart Event

Back up images and recordings triggered by smart event alarms.

1. Go to **Menu** > **Search** > **Event** > **Event Search**.
2. Set search conditions.

Parameter	Description
Select Channel	Select the channel(s) to search.
Start/End Time	Specify the time period to search. **Note:** A search range smaller than five months is recommended, because earlier snapshots and recordings may have been overwritten due to full storage.
Event Type	Select **Smart Event**.
Smart Event Type	Select the smart event type: **All**, **Cross Line Detection**, **Intrusion Detection**, **Enter Area**, **Leave Area**, and **Ultra Motion Detection**.

3. Click **Search**. The search results are shown in tile mode ⊞ by default. You may click ≡ to switch to list mode.


☑ Backup Image
☑ Backup Recording
Backup All
Backup
☐ All
D1(摄像机 01) 2024-08-26 20:39:20
D1(摄像机 01) 2024-08-26 20:39:20
D1(摄像机 01) 2024-08-26 20:39:20
D1(摄像机 01) 2024-08-26 20:39:18
D1(摄像机 01) 2024-08-26 20:39:18
D1(摄像机 01) 2024-08-26 20:39:18
D1(摄像机 01) 2024-08-26 20:36:43
D1(摄像机 01) 2024-08-26 20:36:43
D1(摄像机 01) 2024-08-26 20:36:43
D1(摄像机 01) 2024-08-26 20:36:28

Camera ID D1
Camera Name 摄像机 01
Event Type Cross Line Detection
Object Type Human Body

- Click any image to view the 15s video (10s before and 5s after the snapshot time) and detailed information about it.
- Double-click an image on the left to magnify it; double-click the recording on the right to play it in full screen. See search results of Motor Vehicle Search for details.

4. Select **Backup** or **Backup All**. See for details.

Basic Event

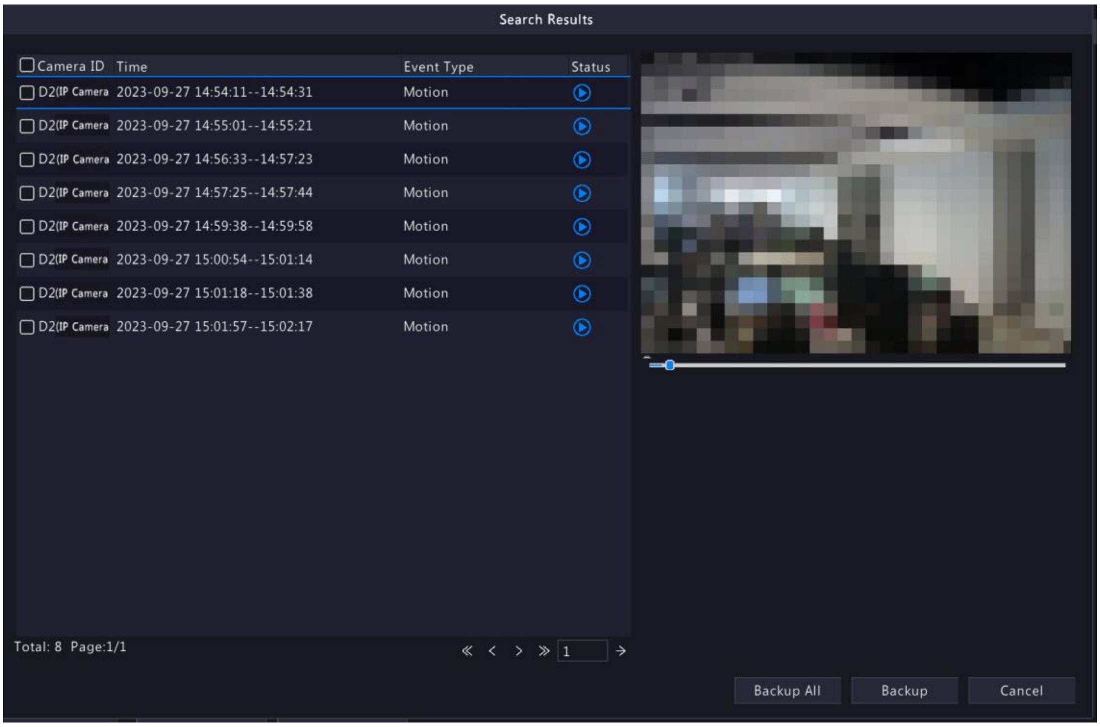
Back up images and recordings triggered by basic event alarms.

1. Go to **Menu** > **Search** > **Event** > **Event Search**.
2. Set search conditions.

Parameter	Description
Select Channel	Select the channel(s) to search.
Start/End Time	Specify the time period to search. **Note:** A search range smaller than five months is recommended, because earlier snapshots and recordings may have been overwritten due to full storage.
Event Type	Select **Basic Event**.

Parameter	Description
Basic Event Type	Select the basic event type: **All**, **Motion Detection**, **Video Loss**, **Audio Detection**, **People Present Alarm**, **Human Body Detection**, **People Present Minor Alarm**, **People Present Major Alarm**, and **People Present Critical Alarm**.

3. Click **Search**.
   - The search results are shown in tile mode ⊞ by default. You may click ≡ to switch to list mode.



Search Results

☐ Camera ID	Time	Event Type	Status
☐ D2(IP Camera	2023-09-27 14:54:11--14:54:31	Motion	▶
☐ D2(IP Camera	2023-09-27 14:55:01--14:55:21	Motion	▶
☐ D2(IP Camera	2023-09-27 14:56:33--14:57:23	Motion	▶
☐ D2(IP Camera	2023-09-27 14:57:25--14:57:44	Motion	▶
☐ D2(IP Camera	2023-09-27 14:59:38--14:59:58	Motion	▶
☐ D2(IP Camera	2023-09-27 15:00:54--15:01:14	Motion	▶
☐ D2(IP Camera	2023-09-27 15:01:18--15:01:38	Motion	▶
☐ D2(IP Camera	2023-09-27 15:01:57--15:02:17	Motion	▶

Total: 8 Page:1/1

   - The image from the first search result is displayed on the right side. Click ▶ to play the video.

4. Back up search results. See Back up search results for details.

5.4 Object

Search for images based on various objects, including person, motor vehicle, and non-motor vehicle.

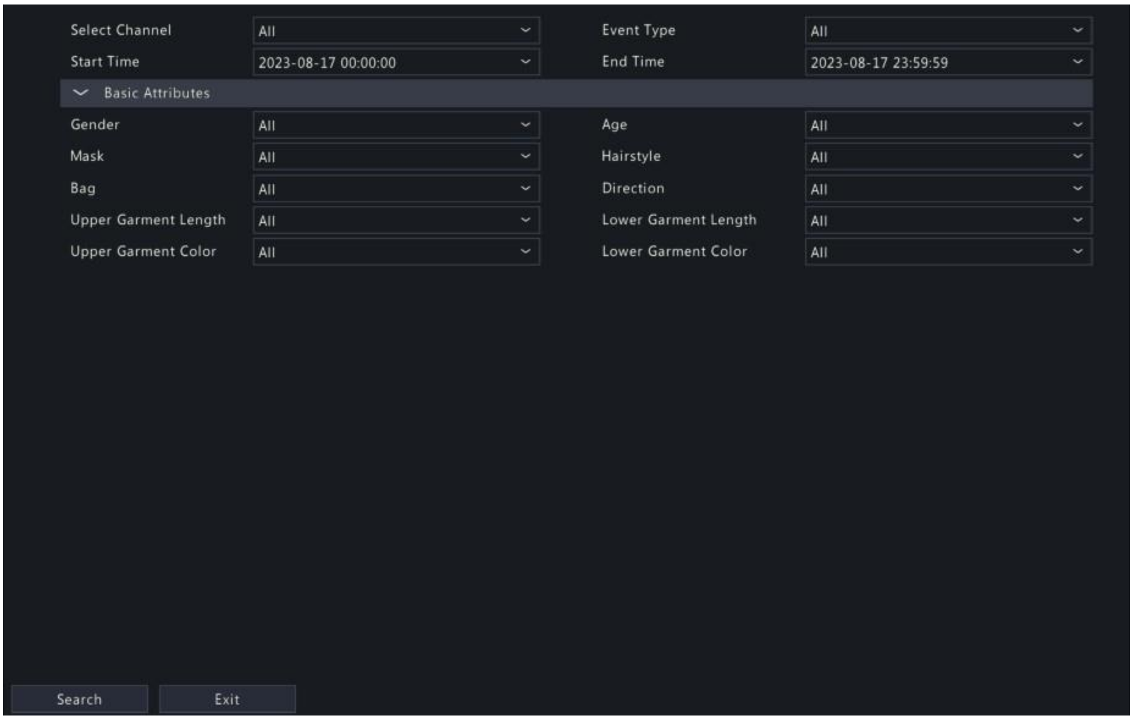
5.4.1 Person Search

Search for images based on human body events, face snapshots and face comparison results.

5.4.1.1 Human Body Search

Search for images based on human body events.

1. Go to **Menu** > **Search** > **Object** > **Person** > **Human Body Search**.



Select Channel: All

Event Type: All

Start Time: 2023-08-17 00:00:00

End Time: 2023-08-17 23:59:59

Basic Attributes

Gender: All

Age: All

Mask: All

Hairstyle: All

Bag: All

Direction: All

Upper Garment Length: All

Lower Garment Length: All

Upper Garment Color: All

Lower Garment Color: All

2. Set search conditions.

Parameter	Description
Select Channel	Select the channel(s) to search.
Event Type	Select the event type: **All**, **Cross Line Detection**, **Intrusion Detection**, **Enter Area**, **Leave Area**, and **Ultra Motion Detection**.
Start/End Time	Specify the time period to search. **Note:** A search range smaller than five months is recommended, because earlier snapshots and recordings may have been overwritten due to full storage.
Gender	Select the gender: **All**, **Male**, or **Female**.
Age	Select the age: **All**, **Childhood**, **Teenager**, **Youth**, **Middle Age**, or **Senior**.
Mask	Select the mask: **All**, **No Mask**, or **With Mask**.
Hairstyle	Select the hairstyle: **All**, **Long Hair**, or **Short Hair**.
Bag	Select the bag: **All**, **No Bag**, **Handbag**, or **Backpack**.
Direction	Select the direction: **All**, **Motionless**, **Upward**, **Downward**, **Leftward**, **Rightward**, **Top Left**, **Bottom Left**, **Top Right**, or **Bottom Right**.
Upper Garment Length	Select the upper garment length: **All**, **Short Sleeve**, or **Long Sleeve**.
Lower Garment Length	Select the lower garment length: **All**, **Shorts**, or **Trousers**.

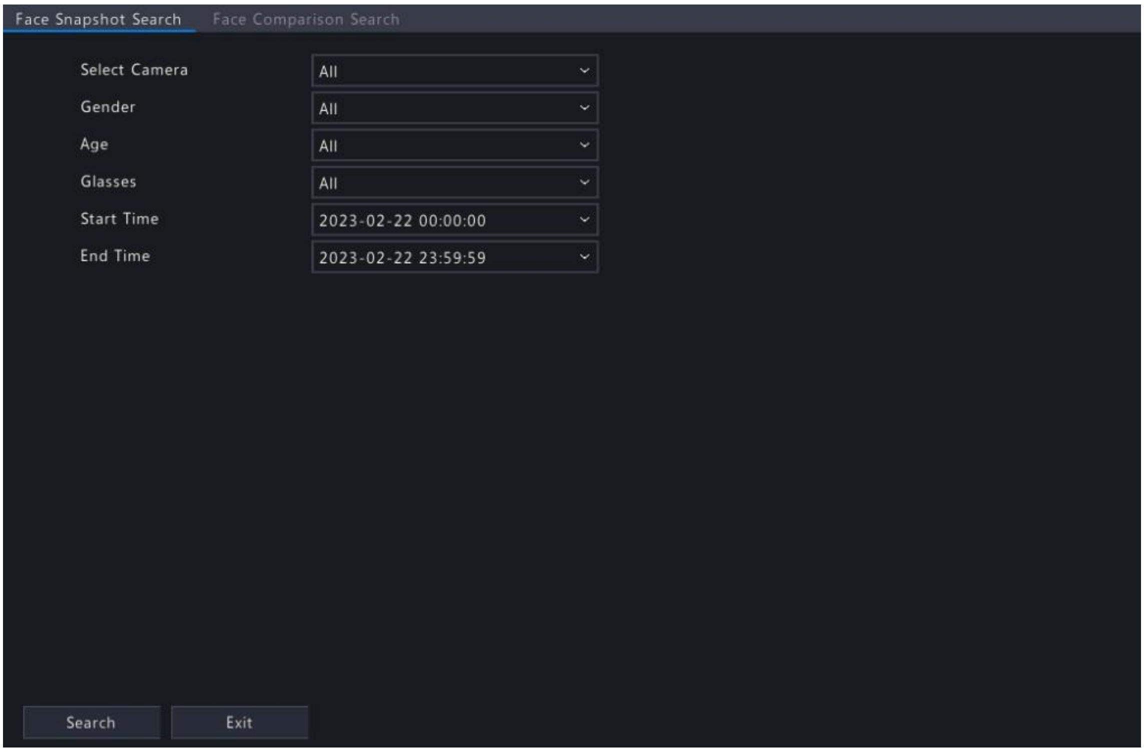
3. Click **Search**. The search results are shown in tile mode ▦ by default. You may click ≡ to switch to list mode.
   - Click any image to view the 15s video (10s before and 5s after the snapshot time) and detailed information about it.
   - Double-click an image on the left to magnify it; double-click the recording on the right to play it in full screen.
   - You can click **All Attributes** to view detailed human body attributes.
4. Back up search results. See Back up search results for details.

5.4.1.2 Face Snapshot Search

Search for face snapshots.

Search Face Snapshots

1. Go to **Menu** > **Search** > **Object** > **Person** > **Face Snapshot Search**.



Select Camera: All
Gender: All
Age: All
Glasses: All
Start Time: 2023-02-22 00:00:00
End Time: 2023-02-22 23:59:59

2. Set search conditions.

Parameter	Description
Select Camera	Select the camera(s) to search.
Gender	Select the gender: **All**, **Male**, or **Female**.
Age	Select the age: **All**, **Childhood**, **Teenager**, **Youth**, **Middle Age**, or **Senior**.
Glasses	Select the glasses status: **All**, **No Glasses**, or **With Glasses**.
Start/End Time	Specify the time period to search for face snapshots. **Note:** A search range smaller than five months is recommended, because earlier snapshots and recordings may have been overwritten due to full storage.

3. Click **Search**. The search results are shown in tile mode by default. You may click ≡ to switch to list mode.

- Click any image to view the 15s video (10s before and 5s after the snapshot time) and detailed information about it.
- Double-click an image on the left to magnify it; double-click the recording on the right to play it in full screen.

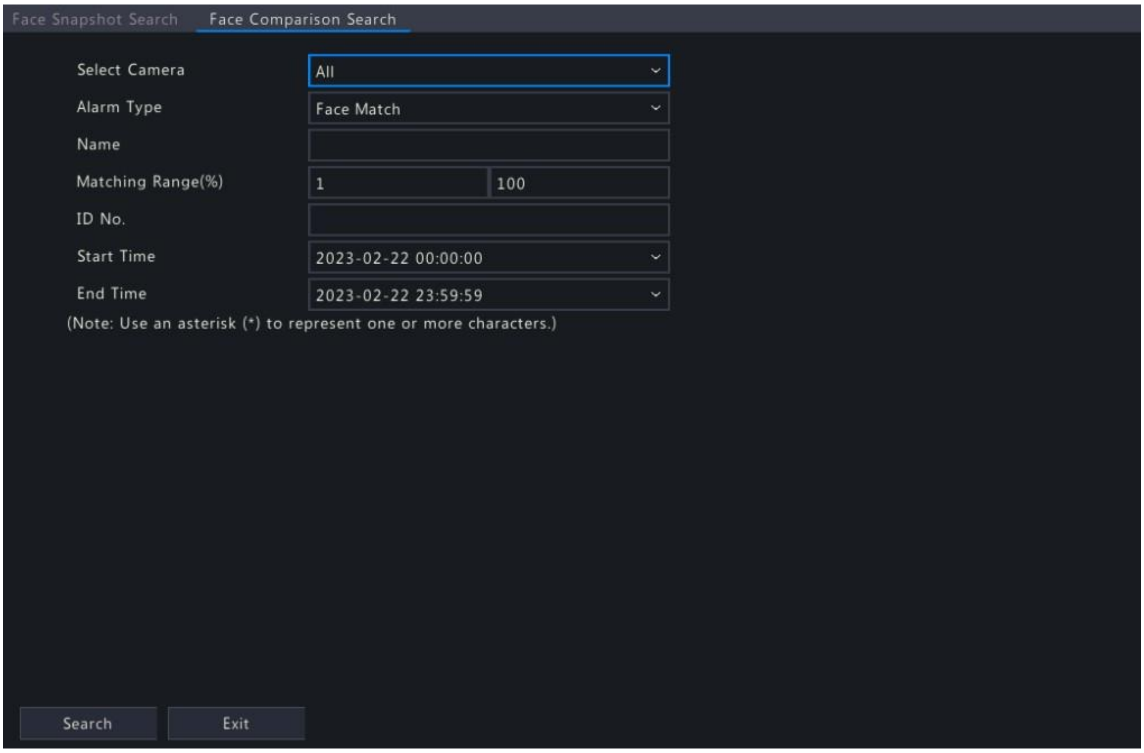
Other Operations

Operation	Description
Backup/Backup All	1. Enable **Backup Image** or/and **Backup Recording** as needed. By default, they are both enabled. • Backup Image: Back up the selected image(s) to an external device. • Backup Recording: Back up the 15s video of the selected image(s) to an external device. 2. Select **Backup** or **Backup All**. • Backup: Back up specified search results. Select the search result(s) you want to back up and click **Backup**. • Backup All: Back up all search results. Click **Backup All**.
Export Results	1. Enable **Backup Image** or/and **Backup Recording** as needed, and click **Export Results**. 2. Select the export partition and click **Export Results** to export the search results to an external storage device.

5.4.1.3 Face Comparison Search

Search for face comparison results.

1. Go to **Menu** > **Search** > **Object** > **Person** > **Face Comparison Search**.



Select Camera: All
Alarm Type: Face Match
Name:
Matching Range(%): 1 100
ID No.:
Start Time: 2023-02-22 00:00:00
End Time: 2023-02-22 23:59:59
(Note: Use an asterisk (*) to represent one or more characters.)

2. Set search conditions.

Parameter	Description
Select Camera	Select the camera(s) to search.
Alarm Type	Select the alarm type: **Face Match** or **Face Not Match**.
Name	Enter the name you want to search.
Matching Range (%)	The similarity between the captured faces and the face images in face lists, ranging from 1% to 100%. The higher the similarity, the more accurate the face comparison. Set it as needed.

ID No.	Enter the ID number you want to search.
Start/End Time	Specify the time period to search for face snapshots. **Note:** A search range smaller than five months is recommended, because earlier snapshots and recordings may have been overwritten due to full storage.

3. Click **Search**. The search results are shown in tile mode by default. You may click ≡ to switch to list mode.
   - Click any image to view the 15s video (10s before and 5s after the snapshot time) and detailed information about it.
   - Double-click an image on the left to magnify it; double-click the recording on the right to play it in full screen.
4. Back up search results.

   (1) Enable **Backup Image** or/and **Backup Recording** as needed. By default, they are both enabled.

   - Backup Image: Back up the selected image(s) to an external device.
   - Backup Recording: Back up the 15s video of the selected image(s) to an external device.

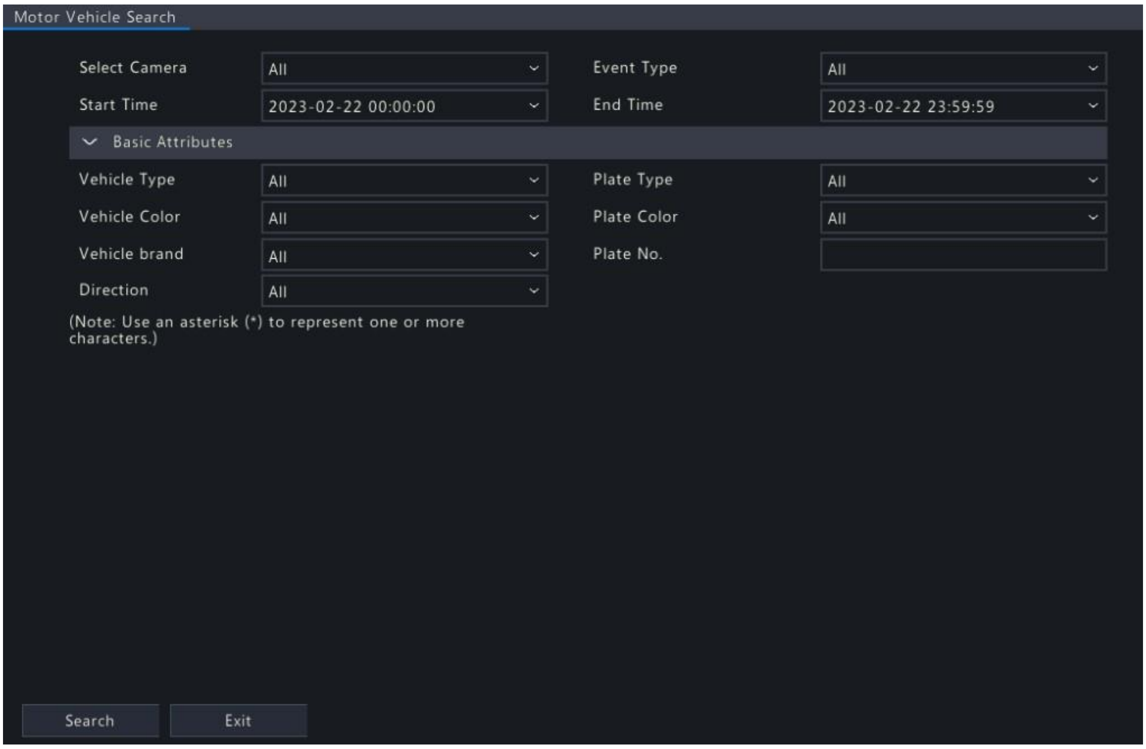
   (2) Select **Backup** or **Backup All**.

   - Backup: Back up specified search results. Select the search result(s) you want to back up and click **Backup**.
   - Backup All: Back up all search results. Click **Backup All**.

5.4.2 Motor Vehicle Search

Search for images based on motor vehicle monitoring events.

1. Go to **Menu** > **Search** > **Object** > **Motor Vehicle** > **Motor Vehicle Search**.



Motor Vehicle Search

Select Camera	All	Event Type	All
Start Time	2023-02-22 00:00:00	End Time	2023-02-22 23:59:59

Basic Attributes

Vehicle Type	All	Plate Type	All
Vehicle Color	All	Plate Color	All
Vehicle brand	All	Plate No.	
Direction	All		

(Note: Use an asterisk (*) to represent one or more characters.)

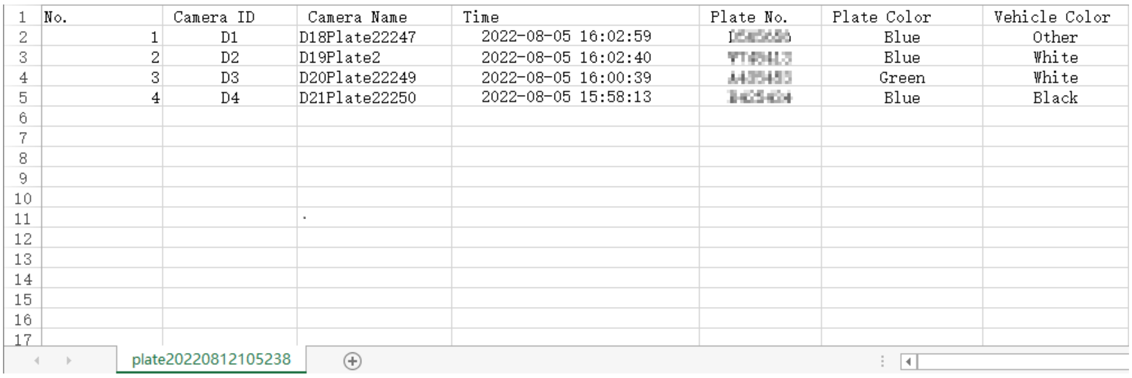
2. Set search conditions.

Parameter	**Description**
Select Camera	Select the camera(s) to search.
Event Type	Select the event type: **All**, **Cross Line Detection**, **Intrusion Detection**, **Enter Area**, **Leave Area**, and **Ultra Motion Detection**.
Start/End Time	Specify the time period to search. **Note:** A search range smaller than five months is recommended, because earlier snapshots and recordings may have been overwritten due to full storage.
Vehicle Type	Select the vehicle type to search.
Plate Type	Select the plate type to search.
Vehicle Color	Select the vehicle color to search.
Plate Color	Select the plate color to search.
Vehicle Brand	Select the vehicle brand to search.
Plate No.	Enter the plate number to search.
Direction	Select the direction: **All**, **Motionless**, **Upward**, **Downward**, **Leftward**, **Rightward**, **Top Left**, **Bottom Left**, **Top Right**, or **Bottom Right**.
Plate Comparison	Select the plate comparison type: **All**, **Match**, or **Not Match**. **Note:** This parameter appears when **Event Type** is **Plate Comparison**.

3. Click **Search**. The search results are shown in tile mode ▦ by default. You may click ☰ to switch to list mode.

- Click any image to view the 15s video (10s before and 5s after the snapshot time) and detailed information about it.
- Double-click an image on the left to magnify it; double-click the recording on the right to play it in full screen.
- You can click **All Attributes** to view detailed motor vehicle attributes.

4. Back up search results. See Back up search results for details.
5. To export the search results as a .CSV file, click **Export Results**.

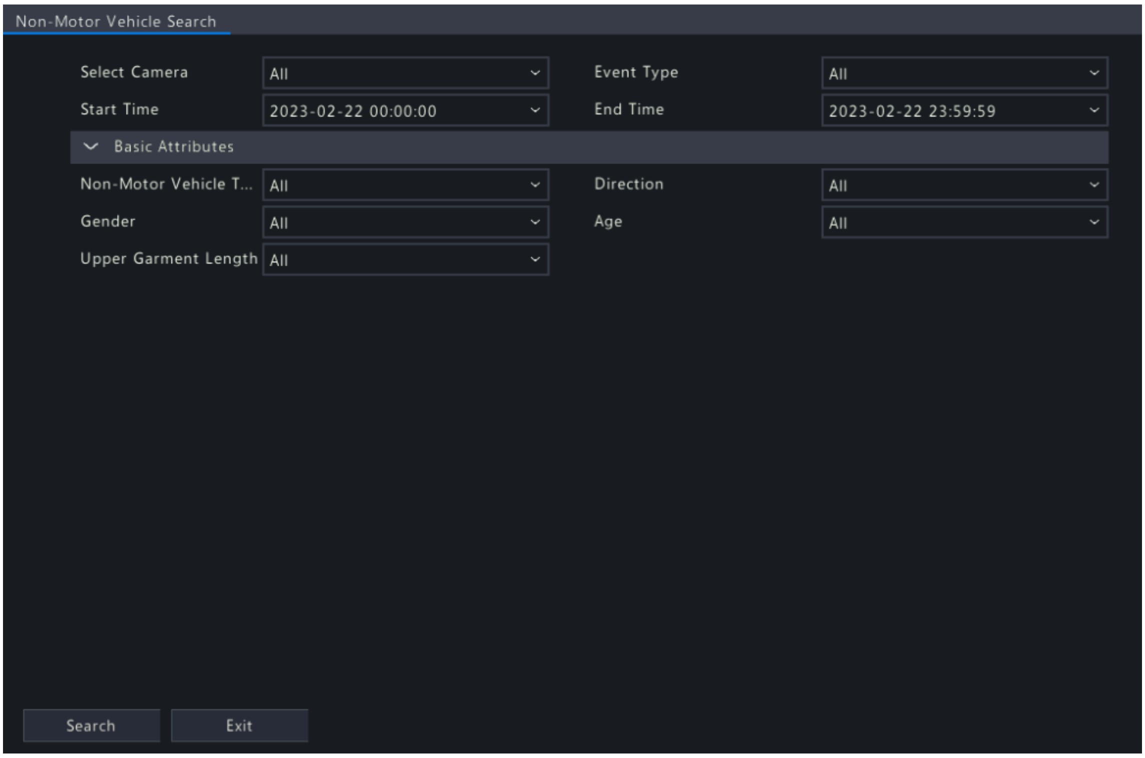


1	No.	Camera ID	Camera Name	Time	Plate No.	Plate Color	Vehicle Color
2	1	D1	D18Plate22247	2022-08-05 16:02:59	[redacted]	Blue	Other
3	2	D2	D19Plate2	2022-08-05 16:02:40	[redacted]	Blue	White
4	3	D3	D20Plate22249	2022-08-05 16:00:39	[redacted]	Green	White
5	4	D4	D21Plate22250	2022-08-05 15:58:13	[redacted]	Blue	Black

5.4.3 Non-Motor Vehicle Search

Search for images based on non-motor vehicle events.

1. Go to **Menu** > **Search** > **Object** > **Non-Motor Vehicle** > **Non-Motor Vehicle Search**.



Non-Motor Vehicle Search

Select Camera: All

Event Type: All

Start Time: 2023-02-22 00:00:00

End Time: 2023-02-22 23:59:59

Basic Attributes

Non-Motor Vehicle T...: All

Direction: All

Gender: All

Age: All

Upper Garment Length: All

2. Set search conditions.

Parameter	Description
Select Camera	Select the camera(s) to search.
Event Type	Select the event type: **All**, **Cross Line Detection**, **Intrusion Detection**, **Enter Area**, **Leave Area**, and **Ultra Motion Detection**.
Start/End Time	Specify the time period to search. **Note:** A search range smaller than five months is recommended, because earlier snapshots and recordings may have been overwritten due to full storage.
Non-Motor Vehicle Type	Select the non-motor vehicle type: **All**, **Bicycle**, **3-wheel Vehicle**, **Motorcycle**, **Electric Moped**, or **2-wheel Vehicle**.
Direction	Select the direction: **All**, **Motionless**, **Upward**, **Downward**, **Leftward**, **Rightward**, **Top Left**, **Bottom Left**, **Top Right**, or **Bottom Right**.
Gender	Select the gender: **All**, **Male** or **Female**.
Age	Select the age: **All**, **Childhood**, **Teenager**, **Youth**, **Middle Age**, or **Senior**.
Upper Garment Length	Select the upper garment length worn by drivers: **All**, **Short Sleeve**, or **Long Sleeve**.

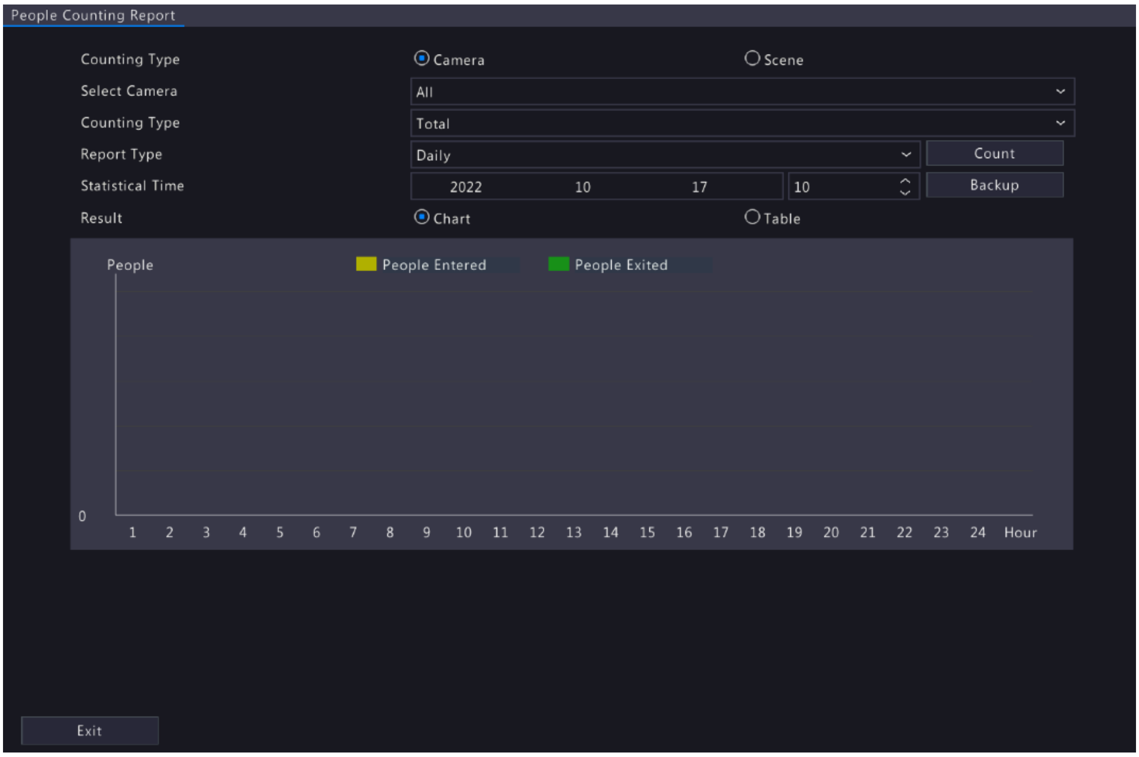
3. Click **Search**. The search results are shown in tile mode by default. You may click ≡ to switch to list mode.
   - Click any image to view the 15s video (10s before and 5s after the snapshot time) and detailed information about it.
   - Double-click an image on the left to magnify it; double-click the recording on the right to play it in full screen.
   - You can click **All Attributes** to view detailed non-motor vehicle attributes (human body attributes will be shown when event type is multi-target detection).
4. Select **Backup** or **Backup All**. See Backup or Backup All for details.

5.5 Statistics

5.5.1 People Counting Report

Search for people counting data. You can view daily/weekly/monthly/yearly people counting reports, the number of people entering and/or leaving a certain area or scene during a specified time period.

1. Go to **Menu** > **Search** > **Statistics** > **People Counting Report**.



People Counting Report

Counting Type ● Camera ○ Scene

Select Camera: All

Counting Type: Total

Report Type: Daily

Statistical Time: 2022 10 17 10

Result ● Chart ○ Table

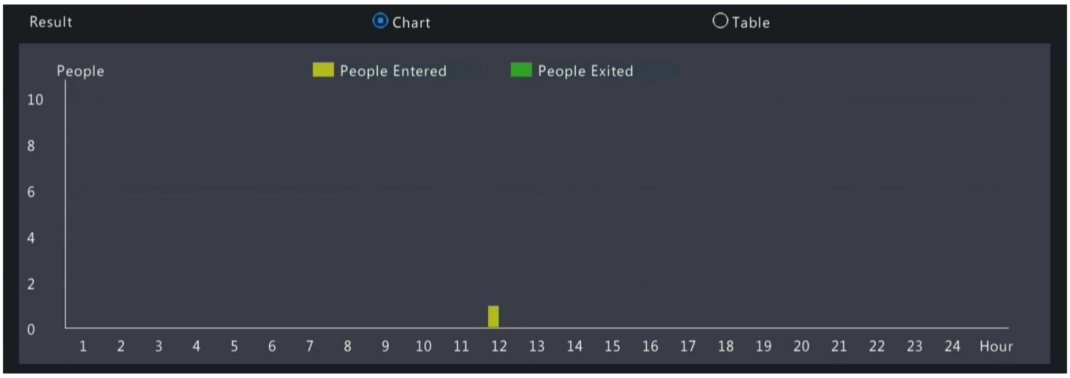
Count
Backup
People
🟨 People Entered
🟩 People Exited
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 Hour
Exit

2. Set search conditions.

Parameter	Description
Counting Type	Count people flow data according to the camera or scene.
Select Camera/Scene Select	- Camera: Select the camera(s) to search. - Scene: Select the scene to search. Please configure scene information first, see People Present Alarm for details.
Counting Type	Select the counting type to search: **Total**, **People Entered**, or **People Exited**.
Report Type	Select the report type to view: **Hourly**, **Daily**, **Weekly**, **Monthly**, or **Yearly**.
Statistical Time	Select the time to count.

3. Select to create the report as a chart or a table.

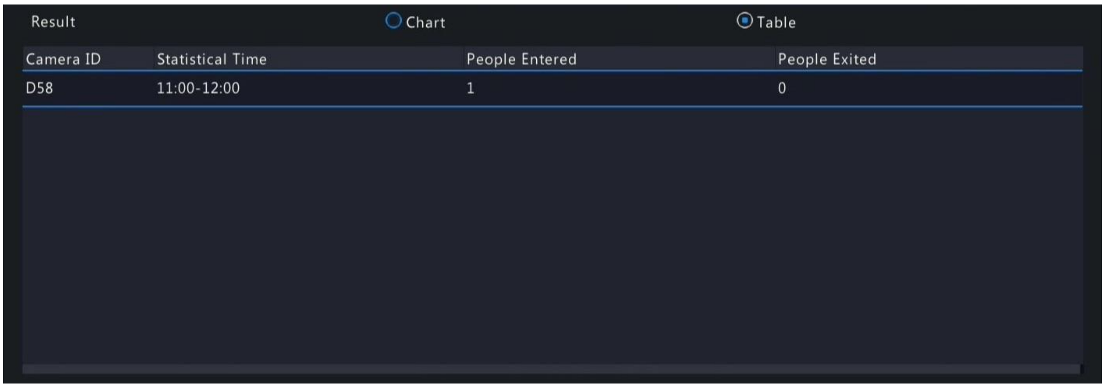
- Chart



Result ● Chart ○ Table

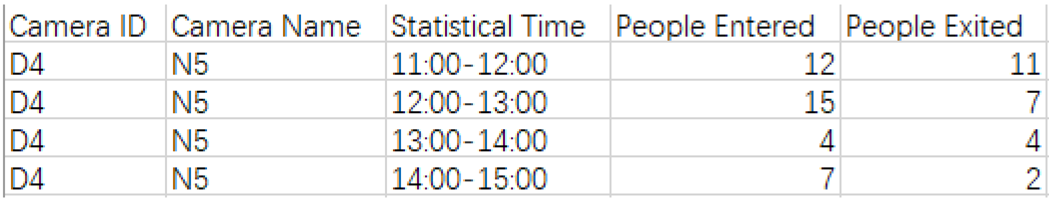
People
🟨 People Entered
🟩 People Exited
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 Hour

- Table



Camera ID	Statistical Time	People Entered	People Exited
D58	11:00-12:00	1	0

4. Click **Backup** to export the report to an external storage device as a .CSV file. The content of the file exported from a report in chart or table format is the same. Take the exported results of daily report as an example:

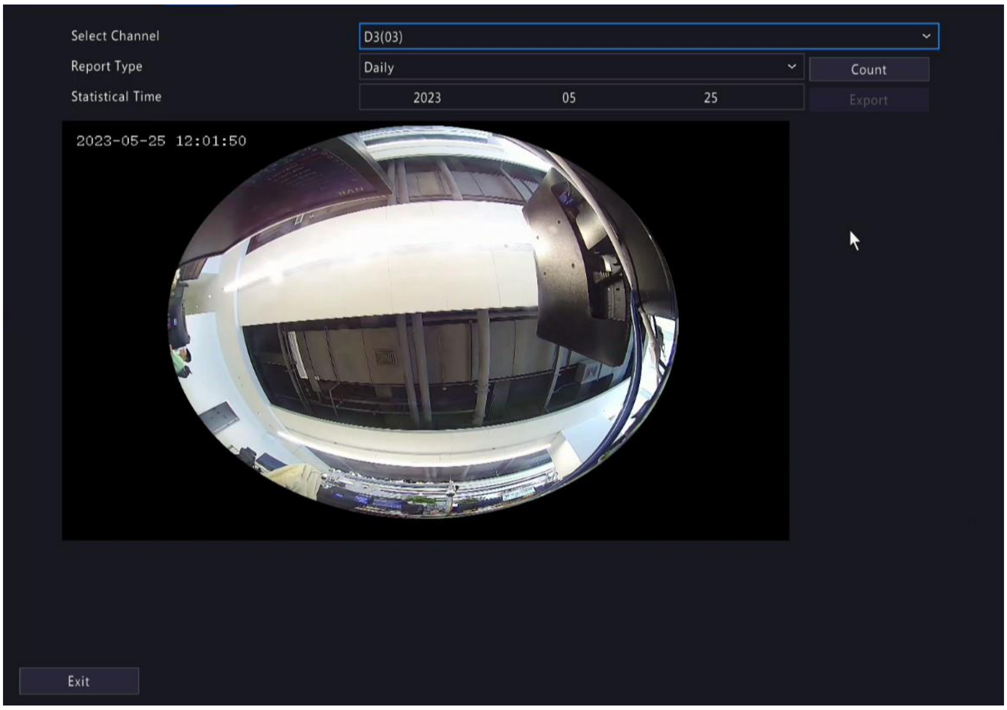


Camera ID	Camera Name	Statistical Time	People Entered	People Exited
D4	N5	11:00-12:00	12	11
D4	N5	12:00-13:00	15	7
D4	N5	13:00-14:00	4	4
D4	N5	14:00-15:00	7	2

5.5.2 Heat Map

The heat map function is used with a fisheye camera to monitor people counting in supermarkets or shops. You can view the heat map formed by the people flow statistics of a specified channel during a specified time period, which can help you plan accordingly, and improve service, operational efficiency and profitability.

1. Go to **Menu** > **Search** > **Statistics** > **Heat Map**.



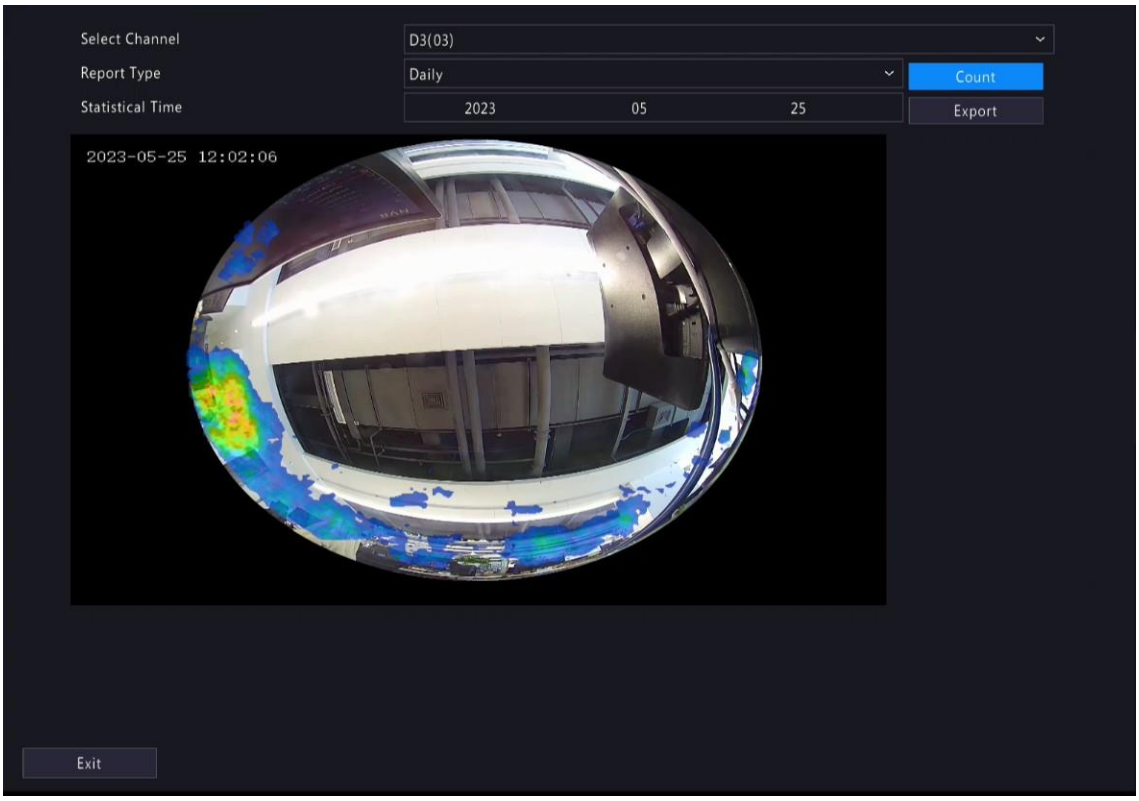
Select Channel: D3(03)
Report Type: Daily
Statistical Time: 2023 05 25

2023-05-25 12:01:50

2. Set search conditions.

Parameter	**Description**
Select Channel	Select the channel to count heat data.
Report Type	Select the report type to view: **Daily**, **Weekly**, **Monthly**, or **Yearly**.
Statistical Time	Select a statistical period.

3. Click **Count** to view the result.



Select Channel D3(03)

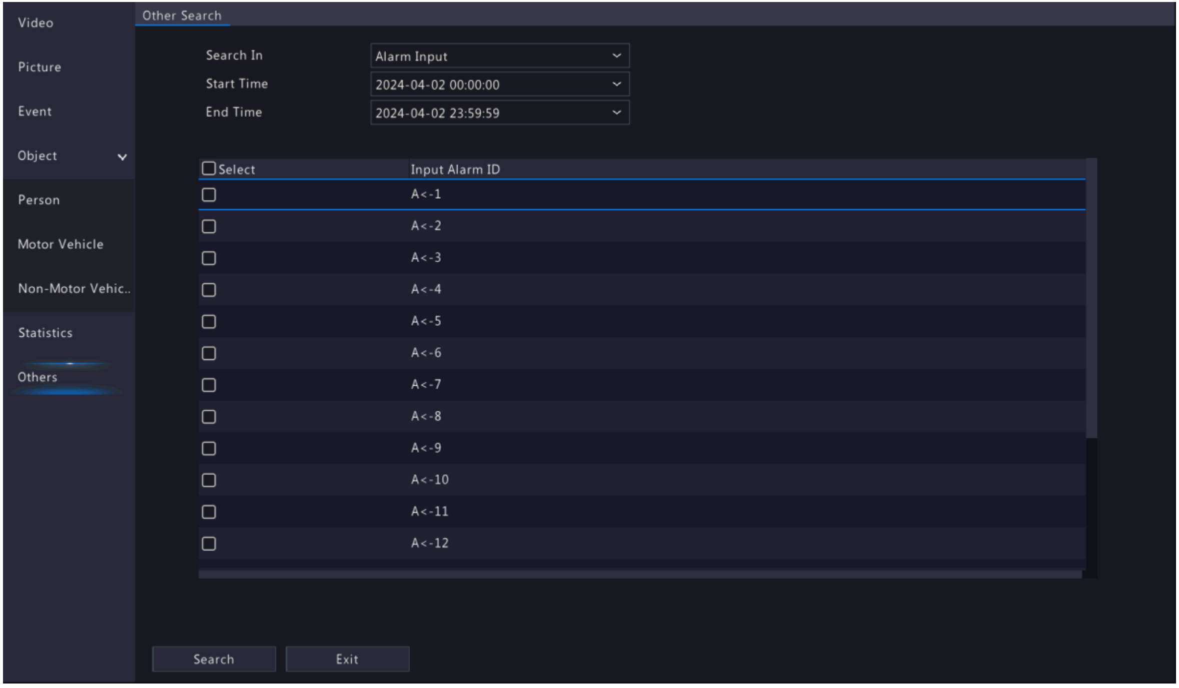
Report Type Daily

Statistical Time 2023 05 25

4. Click **Export** to export the heat map image to an external storage device as a .jpg file. The exported file is an image, regardless of the report type. Take the exported result of daily report as an example:

5.6 Others

Search for recordings based on alarm input, tags search, POS search, people present alarm, people present minor alarm, people present major alarm, and people present critical alarm.



Search In: Alarm Input
Start Time: 2024-04-02 00:00:00
End Time: 2024-04-02 23:59:59

☐ Select	Input Alarm ID
☐	A<-1
☐	A<-2
☐	A<-3
☐	A<-4
☐	A<-5
☐	A<-6
☐	A<-7
☐	A<-8
☐	A<-9
☐	A<-10
☐	A<-11
☐	A<-12

6 VCA

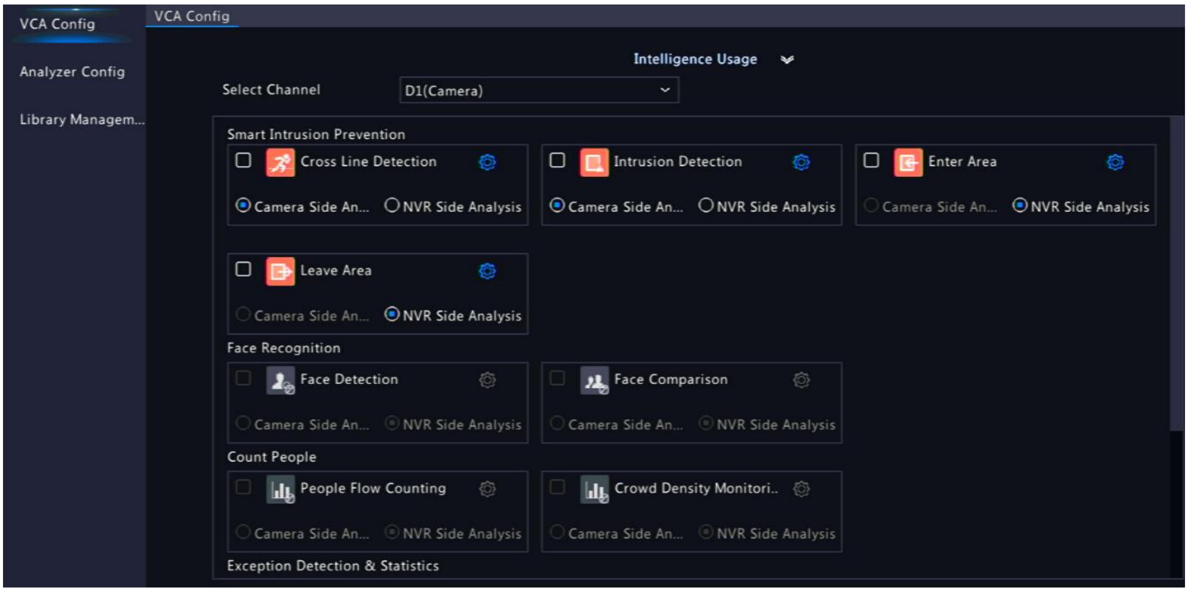
Configure VCA (Video Content Analysis), analyzer, face library, work clothes library, plate list, and VCA search.

6.1 VCA Configuration

VCA includes face recognition, smart intrusion prevention, behavior analysis, object detection, exception detection & statistics, temperature detection, and people counting. You can monitor people flow, roads, and moving objects by configuring VCA. The VCA functions and parameters may vary with NVR model.

Note: VCA functions are not available if there is no disk in slot 1.

1. Go to **Menu** > **VCA** > **VCA Config**.


VCA Config
Analyzer Config
Library Managem...
VCA Config
Intelligence Usage
Select Channel
D1(Camera)
Smart Intrusion Prevention
☐ Cross Line Detection
● Camera Side An... ○ NVR Side Analysis
☐ Intrusion Detection
● Camera Side An... ○ NVR Side Analysis
☐ Enter Area
○ Camera Side An... ● NVR Side Analysis
☐ Leave Area
○ Camera Side An... ● NVR Side Analysis
Face Recognition
☐ Face Detection
○ Camera Side An... ○ NVR Side Analysis
☐ Face Comparison
○ Camera Side An... ○ NVR Side Analysis
Count People
☐ People Flow Counting
○ Camera Side An... ○ NVR Side Analysis
☐ Crowd Density Monitori...
○ Camera Side An... ○ NVR Side Analysis
Exception Detection & Statistics

2. Select a channel.
3. Select the check box for the VCA function to be enabled, and choose to implement this function on the camera side or the NVR side.
   - Camera Side Analysis: The VCA function is implemented by the camera.
   - NVR Side Analysis: The VCA function is implemented by the NVR.

   Note:

   - For some VCA functions, the camera side supports more parameters than the NVR side.
   - Before you enable camera side analysis, make sure the camera is connected via the Geovision protocol.
   - VCA functions that are not supported by the camera or NVR are grayed out.
   - VCA functions on the NVR side is subject to device capabilities. For more information, go to **Menu** > **VCA** > **Analyzer Config**.
   - VCA function is grayed out when the NVR-side analyzer capability reaches the upper limit. You can hover over the function to view the details, and disable certain types of functions to free up some of the analyzer's capacity.
   - When the camera goes online for the first time, the system will automatically sync camera-side configuration and enabled/disabled state to the NVR side; When the camera goes online again, the system will automatically sync camera-side configuration to the NVR side, however, the enabled/ disabled state will not be synced.
   - When the camera goes online, if the channel enabled/disabled state on the IPC is not consistent with the NVR, and the NVR-side analysis is enabled while the camera-side analysis is disabled, then a prompt will appear and ask if you want to sync NVR enabled/disabled state to the IPC.
4. Click ⚙ to configure the function.

6.1.1 Face Recognition

Face recognition includes face detection and face comparison.

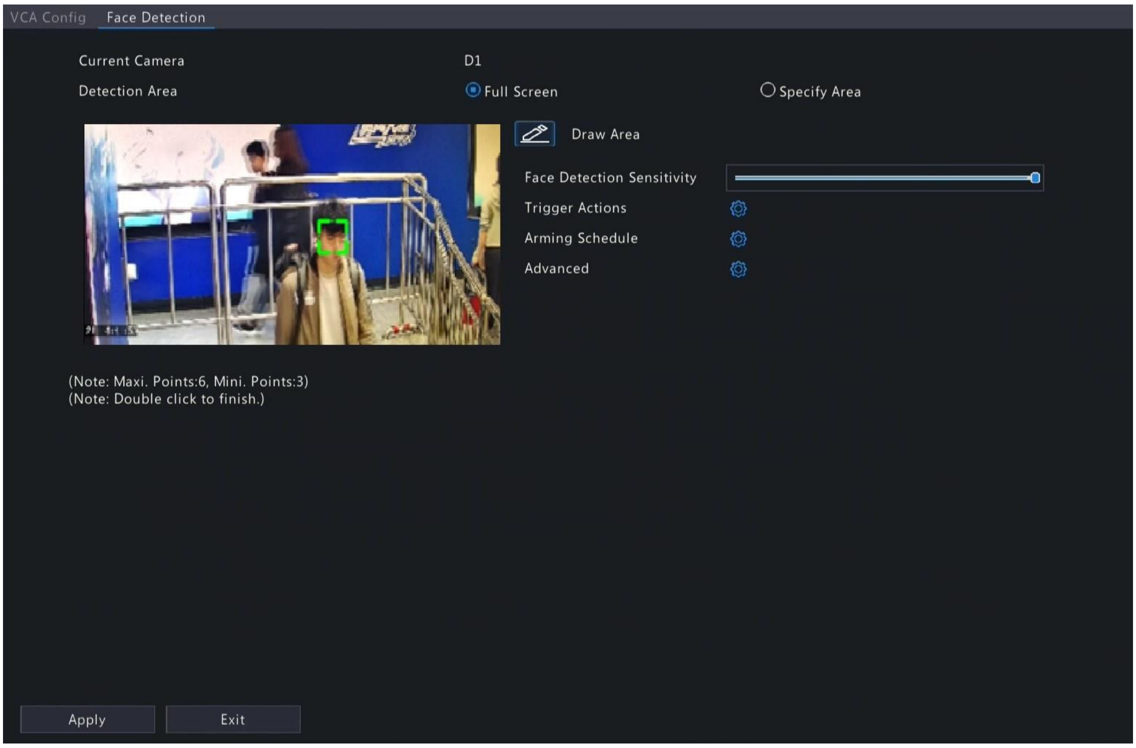
6.1.1.1 Face Detection

Face detection detects and captures faces in a specified detection area.

Note: The functions and parameters supported by camera side analysis and NVR side analysis are different.

Note: Before configuring the Face Detection, you must first enable **Face Recognition** in Analyzer (VCA > Analyzer Config).

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Face Detection** and click ⚙ to configure it.



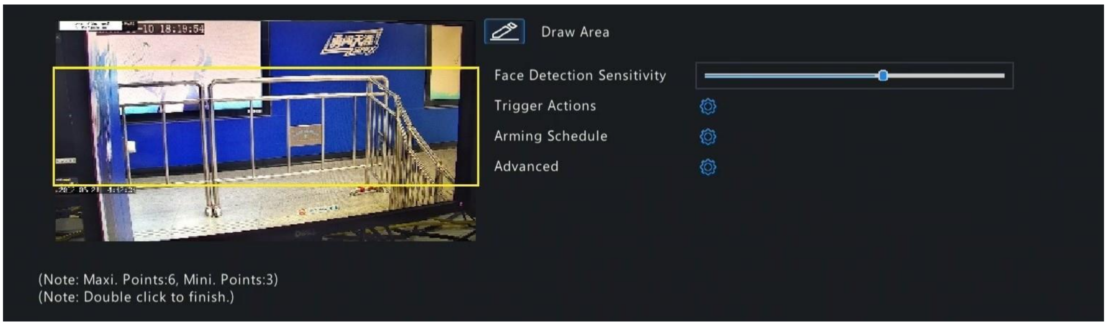
Current Camera D1

Detection Area ● Full Screen ○ Specify Area

Face Detection Sensitivity

(Note: Maxi. Points:6, Mini. Points:3)
(Note: Double click to finish.)

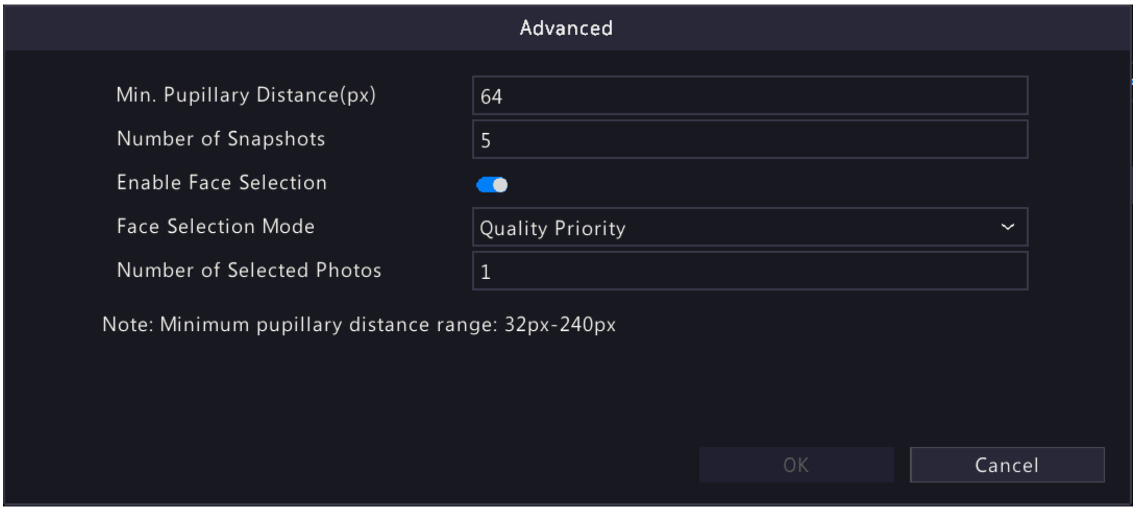
4. Set the detection area. Only 1 detection area is allowed.
    - Full Screen: Detects all faces in the live video.
    - Specify Area: Detects faces in a specified area of the live video. Select **Specify Area**, click , then the full screen will be displayed and a default detection box appears. You can adjust the position of the area or draw an area as needed. Right-click to exit the full screen.



(Note: Maxi. Points:6, Mini. Points:3)
(Note: Double click to finish.)

- Adjust the position of the area. Point to a border of the area and drag it to the desired position.
- Draw an area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed.

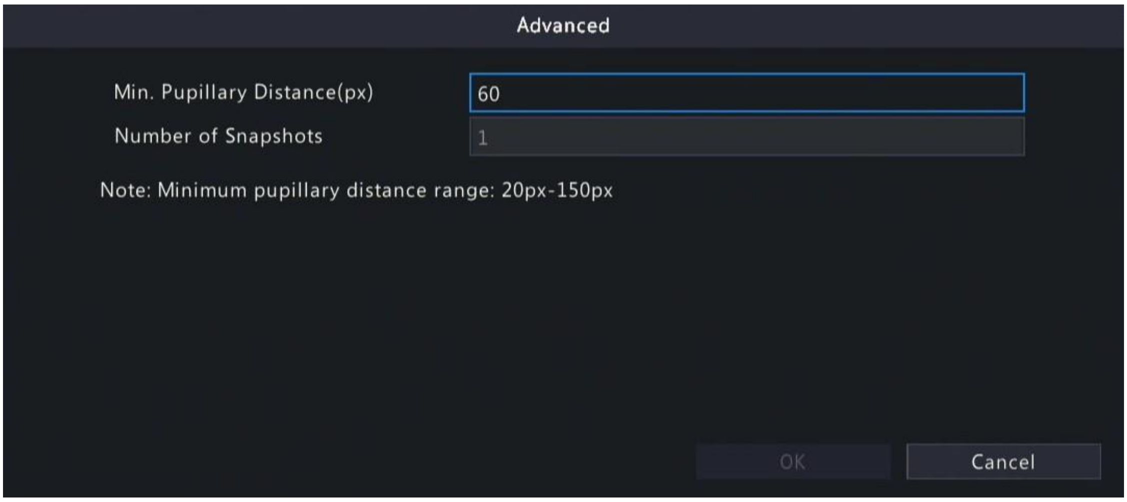
5. Set the face detection sensitivity by dragging the slider. The higher the sensitivity, the more likely a face will be detected. The lower the sensitivity, the less likely a side face or blurring face will be detected.
6. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
7. Click right to **Advanced**, configure the parameters as needed, and then click **OK**.



Min. Pupillary Distance(px): 64
Number of Snapshots: 5
Enable Face Selection: ●
Face Selection Mode: Quality Priority
Number of Selected Photos: 1

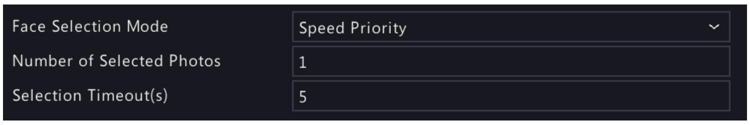
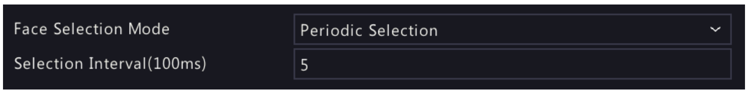
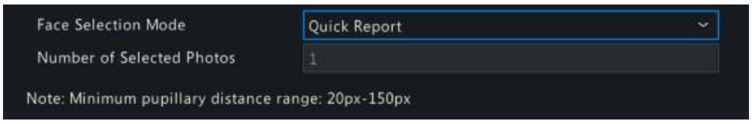
Note: Minimum pupillary distance range: 32px-240px

On certain NVRs, the **Advanced** page shows as follows:



Min. Pupillary Distance(px): 60
Number of Snapshots: 1

Note: Minimum pupillary distance range: 20px-150px

Parameter	Description
Min. Pupillary Distance(px)	The minimum distance (measured in pixels) between two pupils. Faces with pupillary distance smaller than the value will not be captured. **Note:** The default value varies by image resolution, and the valid range varies by NVR model.
Number of Snapshots	The number of snapshots to be captured when the detection rule is triggered. Range: 1 to 30. Default: 5.
Enable Face Selection	Select whether to select face snapshots to report.
Face Selection Mode	- Quality Priority: Set the **Number of Selected Photos**, then the NVR selects the specified number of snapshots with the best quality from all the snapshots captured when a face is detected to report. - Speed Priority: Set the **Number of Selected Photos** and **Selection Timeout**, then the NVR selects the specified number of snapshots from the moment that a face is detected till **Selection Timeout** is up to report. Range: 1 to 1800.  Face Selection Mode: Speed Priority Number of Selected Photos: 1 Selection Timeout(s): 5 - Periodic Selection: Set the **Selection Interval**, for example, 600ms, then the NVR selects a face snapshot every 600ms to report.  Face Selection Mode: Periodic Selection Selection Interval(100ms): 5 - Quick Report: A face snapshot that exceeds the set score will be reported, and a higher quality snapshot will be reported to replace the previous one. The number of face snapshots is 1 by default and cannot be modified.  Face Selection Mode: Quick Report Number of Selected Photos: 1 Note: Minimum pupillary distance range: 20px-150px **Note:** Only the NVR-side face detection supports quick report.
Number of Selected Photos	The number of face snapshots to be selected. Range: 1 to 3. This parameter is set to 1 by default and cannot be modified on certain models.
Max/Min Face Width(px)	The NVR only captures faces within **Min. Face Width** and **Max. Face Width**. Range: 20 to 500.

8. Click **Apply**.

6.1.1.2 Face Comparison

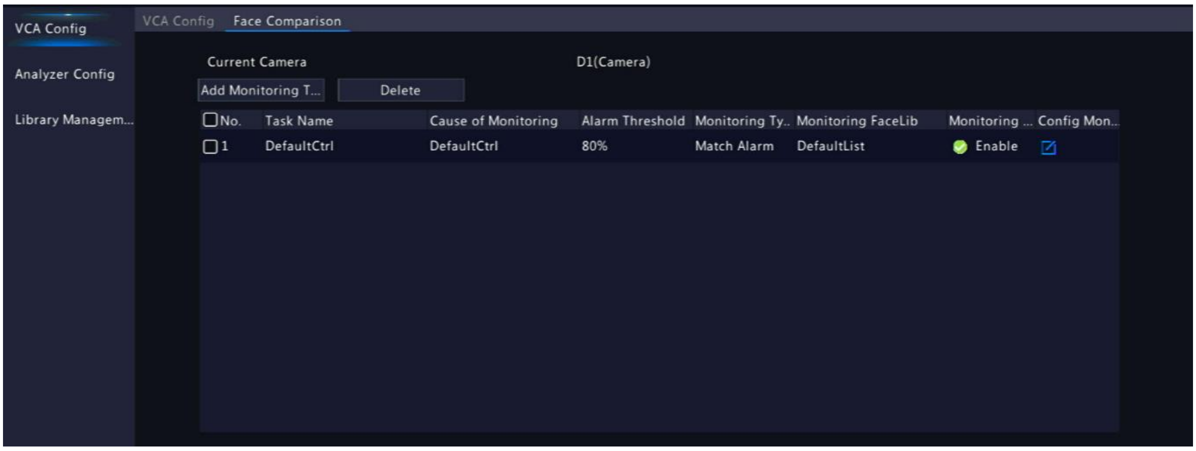
Face comparison compares captured faces with face images in face libraries (also called face list). To use face comparison, you need to enable face detection first.

Note: The functions and parameters supported by camera side analysis and NVR side analysis are different.

Note: Before configuring the Face Comparison, you must first enable **Face Recognition** in Analyzer (VCA > Analyzer Config).

Configure Monitoring Task

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Face Comparison** and click ⚙ to configure it.

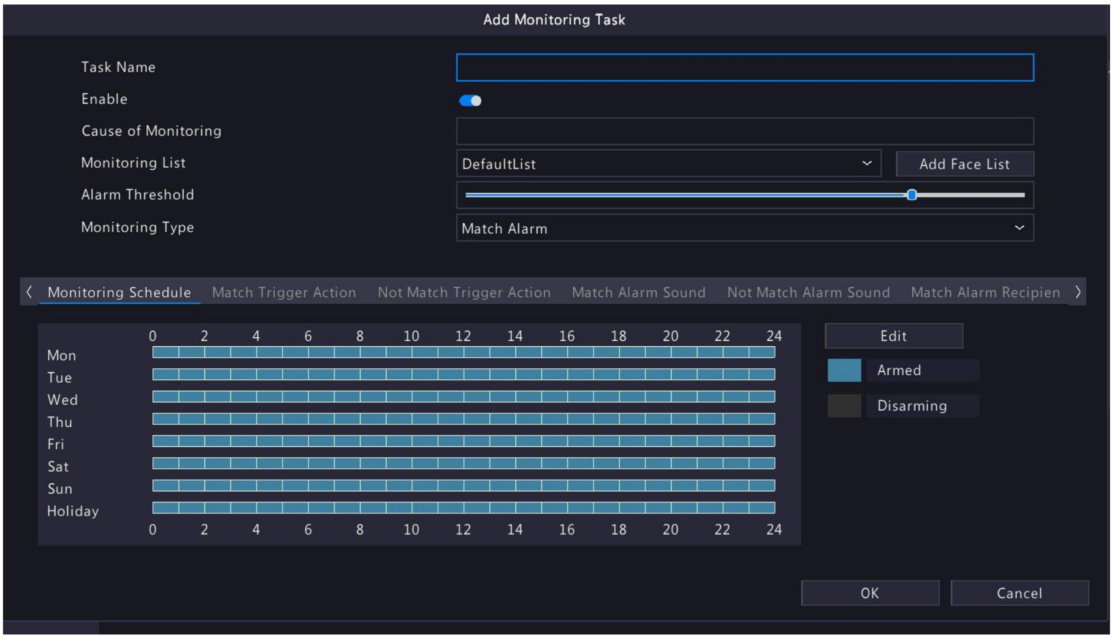


Current Camera: D1(Camera)

☐No.	Task Name	Cause of Monitoring	Alarm Threshold	Monitoring Ty..	Monitoring FaceLib	Monitoring ...	Config Mon..
☐1	DefaultCtrl	DefaultCtrl	80%	Match Alarm	DefaultList	✓ Enable	✎

4. Configure monitoring tasks. A monitoring task of "Default List 80% Match Alarm" is enabled by default. You can click ✎ to modify it, or click **Add Monitoring Task** to add more.

(1) Click **Add Monitoring Task**.



Task Name:
Enable: ●
Cause of Monitoring:
Monitoring List: DefaultList
Alarm Threshold:
Monitoring Type: Match Alarm

(2) Complete the monitoring task settings.

Parameter	Description
Task Name	Enter a name for the monitoring task.
Enable	Enable/disable the monitoring task.
Cause of Monitoring	Enter the cause of the monitoring task.
Monitoring List	Select a face list from the **Monitoring List** drop-down list or click **Add Face List** to create a face list to monitor.
Alarm Threshold	Set the alarm threshold by dragging the slider. The NVR takes snapshots when the similarity between a detected face and a face image in the monitoring list reaches the threshold. Default: 80.
	The higher the alarm threshold, the more accurate the matching result.

Monitoring Type	Select the monitoring type. • Match Alarm: A match alarm occurs when the similarity between a detected face and a face image in the monitoring list reaches the alarm threshold. • Not Match Alarm: A not match alarm occurs when the similarity between a detected face and a face image in the monitoring list fails to reach the alarm threshold. • All: An alarm occurs when a face is detected.
Monitoring Schedule	Set the monitoring schedule. See Recording Schedule for details.
Match Trigger Action	Set the actions to be triggered by a match alarm. See Alarm-triggered Actions for details.
Not Match Trigger Action	Set the actions to be triggered by a not match alarm. See Alarm-triggered Actions for details.
Match Alarm Recipient	Choose the recipient(s), and then the NVR sends an email with alarm information to the selected email address(es) when a captured face matches a face image in the monitoring list. Please set the recipient information in Email. Up to 6 recipients are allowed.
Not Match Alarm Recipient	Choose the recipient(s), and then the NVR sends an email with alarm information to the selected email address(es) when a captured face does not match any face image in the monitoring list. Please set the recipient information in Email. Up to 6 recipients are allowed.

(3) Click **OK**.

5. (Optional) To apply the monitoring tasks to other cameras, click **Copy**, select the desired monitoring task(s) and camera(s), and then click **OK**.
6. Click **Apply**.

View Library Sync Status

This function is only available to cameras with face recognition support and camera side analysis enabled. Library sync indicates the sync of face libraries from NVR to IPC. After IPC receives a face list, it can compare the captured faces with the face images in the face list and upload the comparison results to NVR.

Click **Library sync state** to view the sync status of face lists and faces in the face lists from NVR to IPC. You may manually synchronize the face lists in **Not Started** state.

- View faces by status: Select a state from the **Sync Status** drop-down list to view faces in this state.
- Manually sync face lists: Select the face list to be synced and click **Manual sync**. If a face in a face list is not synced successfully, you can manually sync the face list.

Other Operations

Operation	**Description**
Delete	Delete the selected monitoring task(s).
○/	Enable/disable the monitoring task.
✎	Edit the monitoring task.

View Real-time Snapshots

1. Right-click on the live view page and select **Preview Mode** > **Smart**, then the real-time snapshots are shown on the right.
2. Click a snapshot to view detailed information. See Face Recognition for details.

6.1.2 Smart Intrusion Prevention

Smart intrusion prevention includes cross line detection, intrusion detection, enter area, and leave area.

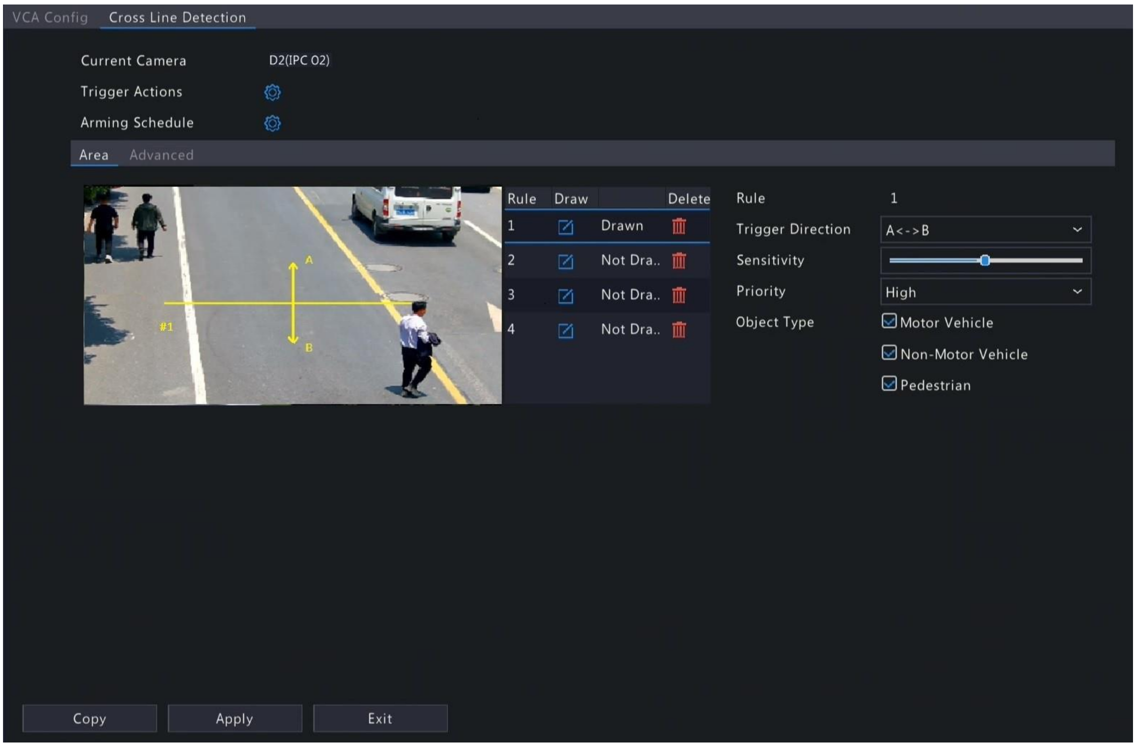
Note: Before configuring the following Smart Intrusion Prevention functions, you must first enable **Smart Intrusion Preventio**n in Analyzer (VCA > Analyzer Config).

6.1.2.1 Cross Line Detection

Cross line detection detects objects crossing a user-specified virtual line in a specified direction. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Configure Cross Line Detection

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Cross Line Detection** and click ⚙ to configure it.



Current Camera D2(IPC 02)

Trigger Actions ⚙

Arming Schedule ⚙

Rule	Draw		Delete
1		Drawn	
2		Not Dra..	
3		Not Dra..	
4		Not Dra..	

Rule 1

Trigger Direction A<->B

Sensitivity

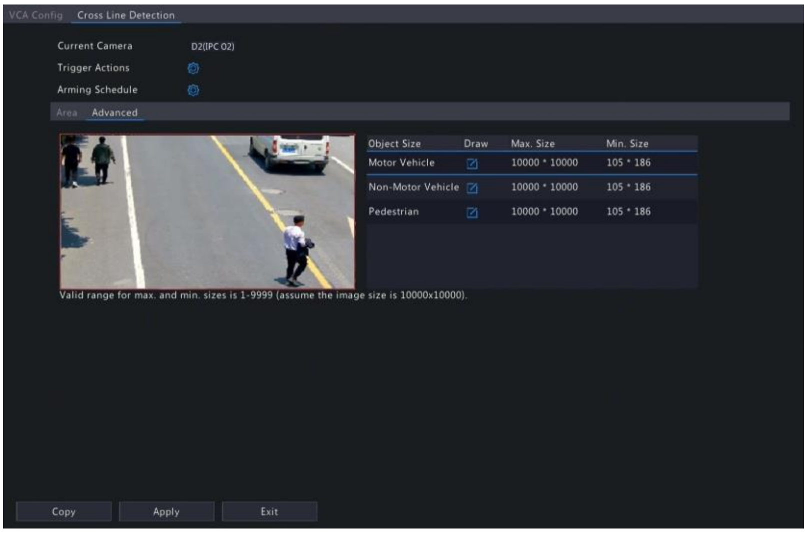
Priority High

Object Type ☑ Motor Vehicle ☑ Non-Motor Vehicle ☑ Pedestrian

4. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

Parameter	Description
Detection Line	Select Rule 1, click , and the full screen is displayed. Click on the image and drag to draw a detection line. The line defaults to A<->B direction. You can modify it as needed. Right-click to exit the full screen.
Trigger Direction	Select the direction from which the object crosses the line to trigger an alarm. • A->B: A cross line alarm occurs when an object crossing the line from A to B is detected. • B->A: A cross line alarm occurs when an object crossing the line from B to A is detected. • A<->B (default): A cross line alarm occurs when an object crossing the line from A to B or from B to A is detected.
Sensitivity	Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely cross line behaviors will be detected, but the false alarm rate will increase.
Priority	Select the priority of the detection rule, including **High**, **Medium**, and **Low**. The NVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the NVR detects the rule with higher priority.
Object Type	Select the object(s) to be detected, including **Motor Vehicle**, **Non-Motor Vehicle**, and **Pedestrian**.

5. Under the **Advanced** tab, you can filter objects by size. For example, if you have selected **Motor Vehicle** as a detection object, after you set the **Max. Size** and **Min. Size** for it, motor vehicles larger than the max. size and smaller than the min. size will not be detected.



Current Camera D2(IPC 02)
Trigger Actions
Arming Schedule

Object Size	Draw	Max. Size	Min. Size
Motor Vehicle	☑	10000 * 10000	105 * 186
Non-Motor Vehicle	☑	10000 * 10000	105 * 186
Pedestrian	☑	10000 * 10000	105 * 186

Valid range for max. and min. sizes is 1-9999 (assume the image size is 10000x10000).

(1) Select an object type and click . A **Max. Size** box and a **Min. Size** box appear in the left preview window.

(2) Modify the max./min. size by adjusting the size of the box as follows: Point to a handle of the box and drag to resize it.

Note:

- The **Max. Size** and **Min. Size** settings take effect after you select the object as a detection object.
- The width and height of the maximum size must be greater than that of the minimum size.

6. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.

7. (Optional) To apply the same settings to other cameras, click **Copy**, select the desired setting(s) and camera(s), and then click **OK**.
8. Click **Apply**.

View Real-time Snapshots

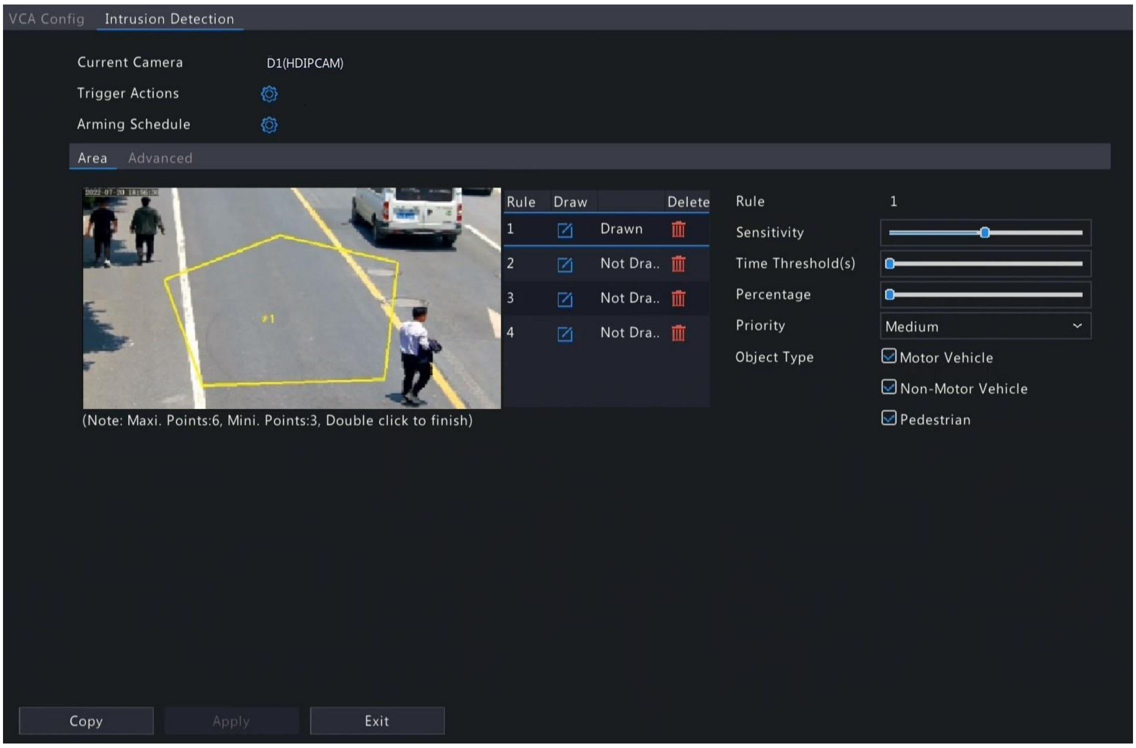
1. Right-click on the live view page and select **Preview Mode** > **Smart**, then the real-time snapshots are shown on the right.
2. Click a snapshot to view detailed information. See Smart Intrusion Prevention for details.

6.1.2.2 Intrusion Detection

Intrusion detection detects objects entering a user-specified area and staying for a preset time. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Configure Intrusion Detection

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Intrusion Detection** and click ⚙ to configure it.



Current Camera D1(HDIPCAM)

Trigger Actions ⚙

Arming Schedule ⚙

Rule	Draw		Delete
1	✎	Drawn	🗑
2	✎	Not Dra..	🗑
3	✎	Not Dra..	🗑
4	✎	Not Dra..	🗑

Rule 1

Sensitivity

Time Threshold(s)

Percentage

Priority Medium

Object Type ☑ Motor Vehicle ☑ Non-Motor Vehicle ☑ Pedestrian

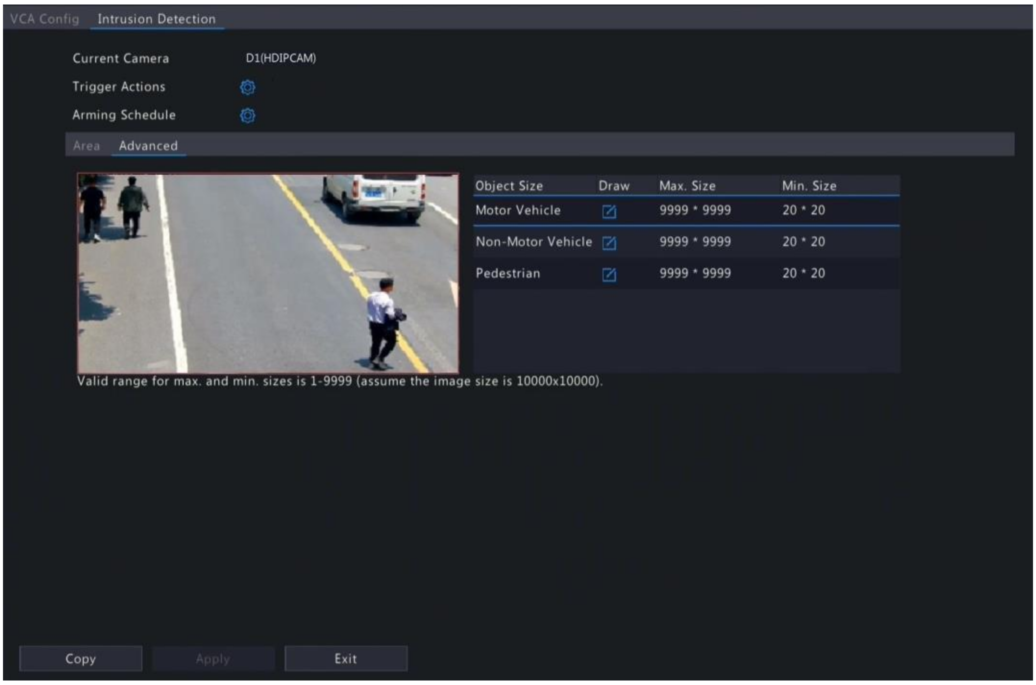
(Note: Maxi. Points:6, Mini. Points:3, Double click to finish)

4. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

Parameter	**Description**
Detection Area	Select Rule 1, click ✎, and the full screen is displayed, then draw a detection area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen.

Parameter	Description
	Note: For a rule in **Drawn** state, you can click to redraw a detection area. To delete a detection area, click .
Sensitivity	Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely intrusion behaviors will be detected, but the false alarm rate will increase.
Time Threshold(s)	Set the time threshold by dragging the slider. If an object stays in the detection area for the set time, an intrusion alarm will be triggered.
Percentage	Set the percentage by dragging the slider. If the proportion of the object size to the detection area size reaches the set value, an intrusion alarm will be triggered.
Priority	Select the priority of the detection rule, including **High**, **Medium**, and **Low**. The NVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the NVR detects the rule with higher priority.
Object Type	Select the object(s) to be detected, including **Motor Vehicle**, **Non-Motor Vehicle**, and **Pedestrian**.

5. Under the **Advanced** tab, you can filter objects by size. For example, if you have selected **Motor Vehicle** as a detection object, after you set the **Max. Size** and **Min. Size** for it, motor vehicles larger than the max. size and smaller than the min. size will not be detected.



Current Camera D1(HDIPCAM)

Trigger Actions ⚙

Arming Schedule ⚙

Object Size	Draw	Max. Size	Min. Size
Motor Vehicle	✎	9999 * 9999	20 * 20
Non-Motor Vehicle	✎	9999 * 9999	20 * 20
Pedestrian	✎	9999 * 9999	20 * 20

Valid range for max. and min. sizes is 1-9999 (assume the image size is 10000x10000).

(1) Select an object type and click ✎. A **Max. Size** box and a **Min. Size** box appear in the left preview window.

(2) Modify the max./min. size by adjusting the size of the box as follows: Point to a handle of the box and drag to resize it.

Note:

- The **Max. Size** and **Min. Size** settings take effect after you select the object as a detection object.
- The width and height of the maximum size must be greater than that of the minimum size.

6. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
7. (Optional) To apply the same settings to other cameras, click **Copy**, select the desired setting(s) and camera(s), and then click **OK**.
8. Click **Apply**.

View Real-time Snapshots

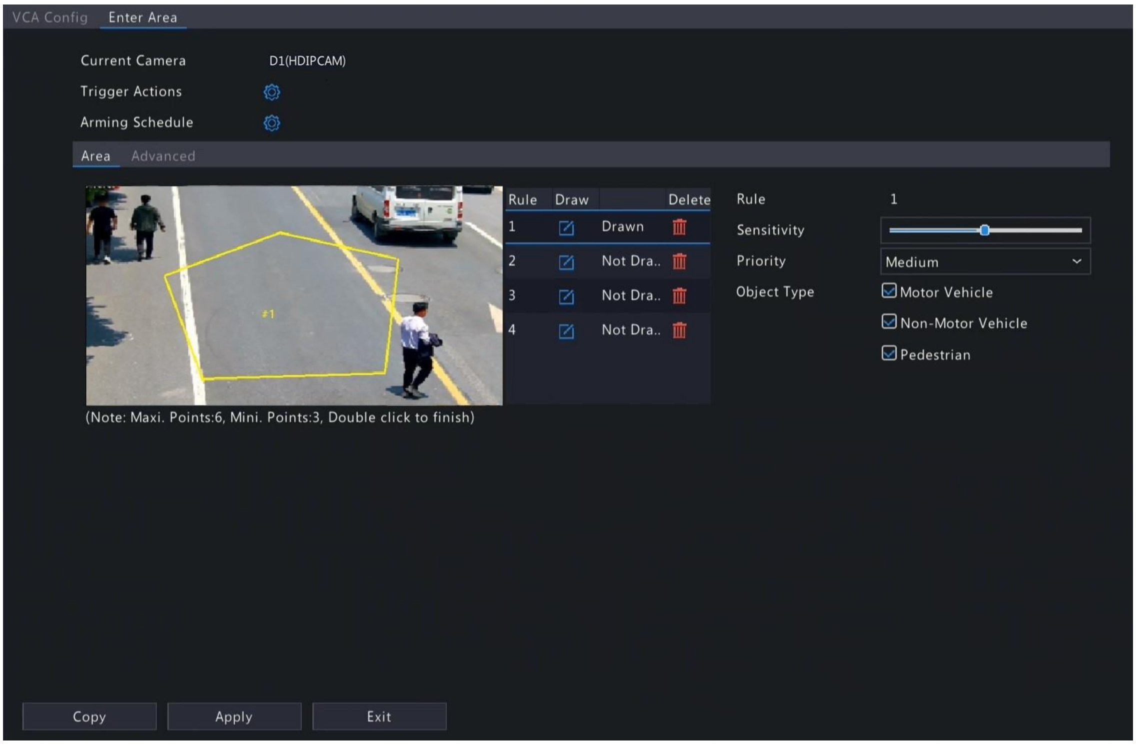
1. Right-click on the live view page and select **Preview Mode** > **Smart**, then the real-time snapshots are shown on the right.
2. Click a snapshot to view detailed information. See Smart Intrusion Prevention for details.

6.1.2.3 Enter Area Detection

Enter area detection detects objects entering a user-specified area. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Configure Enter Area Detection

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Enter Area** and click to configure it.



Current Camera D1(HDIPCAM)
Trigger Actions
Arming Schedule

Rule	Draw		Delete
1		Drawn	
2		Not Dra..	
3		Not Dra..	
4		Not Dra..	

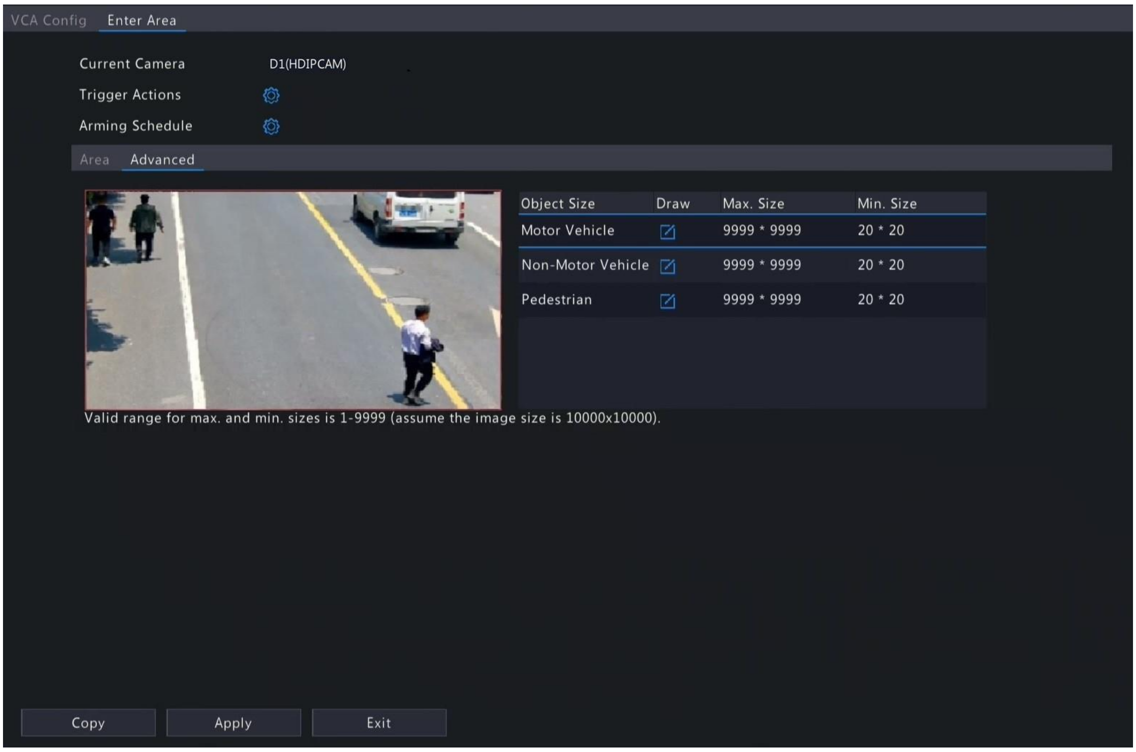
(Note: Maxi. Points:6, Mini. Points:3, Double click to finish)

Rule 1
Sensitivity
Priority Medium
Object Type ☑ Motor Vehicle
☑ Non-Motor Vehicle
☑ Pedestrian

4. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

Parameter	**Description**
Detection Area	Select Rule 1, click ✎, and the full screen is displayed, then draw a detection area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen.
	Note: For a rule in **Drawn** state, you can click to redraw a detection area. To delete a detection area, click .
Sensitivity	Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely entry behaviors will be detected, but the false alarm rate will increase.
Priority	Select the priority of the detection rule, including **High**, **Medium**, and **Low**. The NVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the NVR detects the rule with higher priority.
Object Type	Select the object(s) to be detected, including **Motor Vehicle**, **Non-Motor Vehicle**, and **Pedestrian**.

5. Under the **Advanced** tab, you can filter objects by size. For example, if you have selected **Motor Vehicle** as a detection object, after you set the **Max. Size** and **Min. Size** for it, motor vehicles larger than the max. size and smaller than the min. size will not be detected.



Current Camera D1(HDIPCAM)

Trigger Actions

Arming Schedule

Object Size	Draw	Max. Size	Min. Size
Motor Vehicle	✎	9999 * 9999	20 * 20
Non-Motor Vehicle	✎	9999 * 9999	20 * 20
Pedestrian	✎	9999 * 9999	20 * 20

Valid range for max. and min. sizes is 1-9999 (assume the image size is 10000x10000).

(1) Select an object type and click ✎. A **Max. Size** box and a **Min. Size** box appear in the left preview window.

(2) Modify the max./min. size by adjusting the size of the box as follows: Point to a handle of the box and drag to resize it.

Note:

- The **Max. Size** and **Min. Size** settings take effect after you select the object as a detection object.
- The width and height of the maximum size must be greater than that of the minimum size.

6. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
7. (Optional) To apply the same settings to other cameras, click **Copy**, select the desired setting(s) and camera(s), and then click **OK**.
8. Click **Apply**.

View Real-time Snapshots

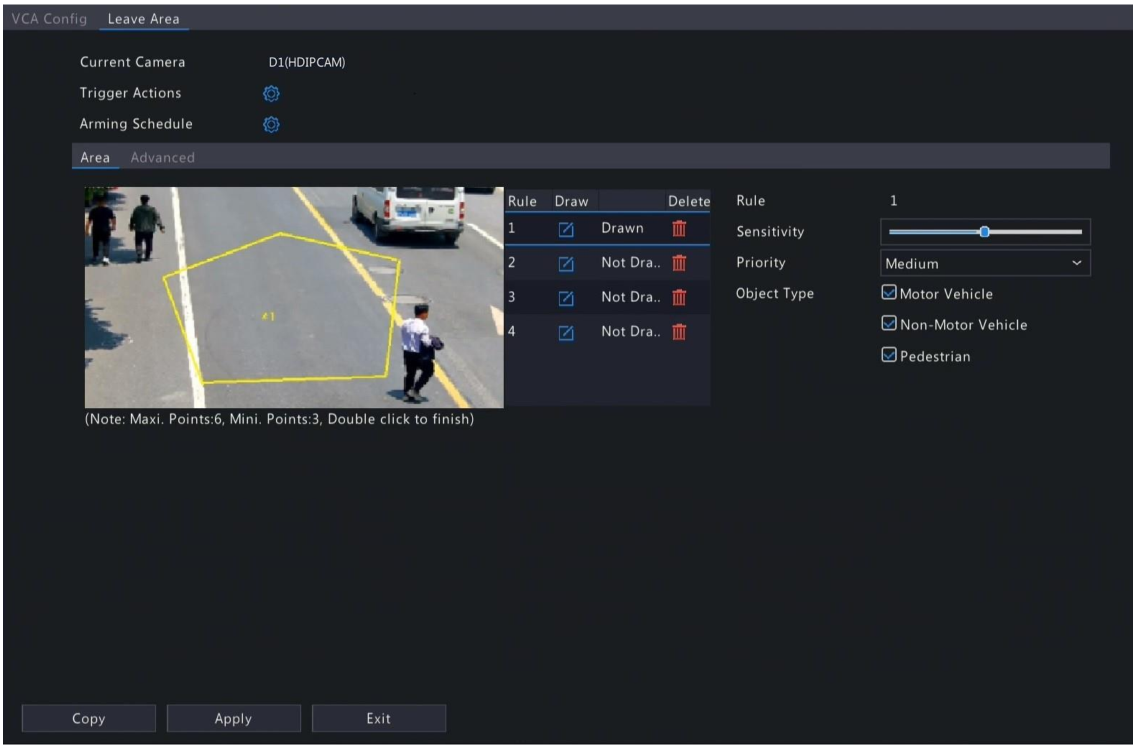
1. Right-click on the live view page and select **Preview Mode** > **Smart**, then the real-time snapshots are shown on the right.
2. Click a snapshot to view detailed information. See Smart Intrusion Prevention for details.

6.1.2.4 Leave Area Detection

Leave area detection detects objects leaving a user-specified area. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Configure Leave Area Detection

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Leave Area** and click ⚙ to configure it.



Current Camera D1(HDIPCAM)
Trigger Actions ⚙
Arming Schedule ⚙

Rule	Draw		Delete
1	✎	Drawn	🗑
2	✎	Not Dra..	🗑
3	✎	Not Dra..	🗑
4	✎	Not Dra..	🗑

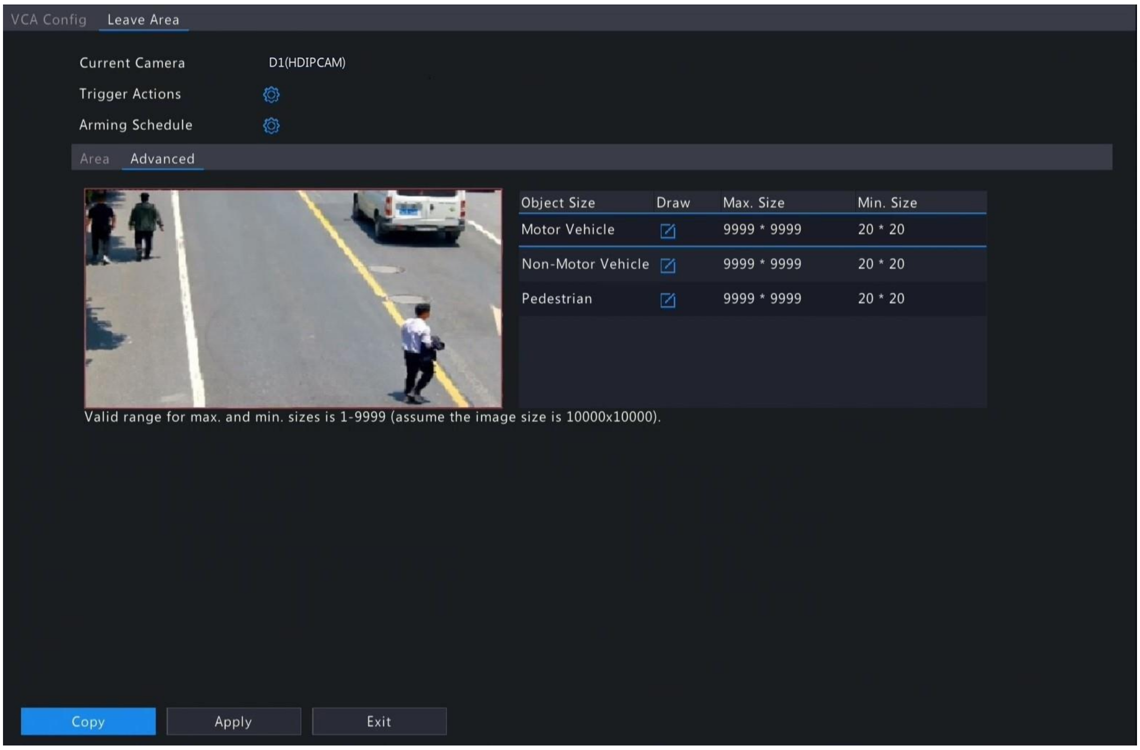
Rule 1
Sensitivity
Priority Medium
Object Type ☑ Motor Vehicle ☑ Non-Motor Vehicle ☑ Pedestrian

(Note: Maxi. Points:6, Mini. Points:3, Double click to finish)

4. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

Parameter	Description
Detection Area	Select Rule 1, click ✎, and the full screen is displayed, then draw a detection area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen. **Note:** For a rule in **Drawn** state, you can click ✎ to redraw a detection area. To delete a detection area, click 🗑.
Sensitivity	Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely leaving behaviors will be detected, but the false alarm rate will increase.
Priority	Select the priority of the detection rule, including **High**, **Medium**, and **Low**. The NVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the NVR detects the rule with higher priority.
Object Type	Select the object(s) to be detected, including **Motor Vehicle**, **Non-Motor Vehicle**, and **Pedestrian**.

5. Under the **Advanced** tab, you can filter objects by size. For example, if you have selected **Motor Vehicle** as a detection object, after you set the **Max. Size** and **Min. Size** for it, motor vehicles larger than the max. size and smaller than the min. size will not be detected.



Current Camera D1(HDIPCAM)
Trigger Actions
Arming Schedule

Object Size	Draw	Max. Size	Min. Size
Motor Vehicle	✎	9999 * 9999	20 * 20
Non-Motor Vehicle	✎	9999 * 9999	20 * 20
Pedestrian	✎	9999 * 9999	20 * 20

Valid range for max. and min. sizes is 1-9999 (assume the image size is 10000x10000).

(1) Select an object type and click ✎. A **Max. Size** box and a **Min. Size** box appear in the left preview window.

(2) Modify the max./min. size by adjusting the size of the box as follows: Point to a handle of the box and drag to resize it.

Note:

- The **Max. Size** and **Min. Size** settings take effect after you select the object as a detection object.
- The width and height of the maximum size must be greater than that of the minimum size.

6. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
7. (Optional) To apply the same settings to other cameras, click **Copy**, select the desired setting(s) and camera(s), and then click **OK**.
8. Click **Apply**.

View Real-time Snapshots

1. Right-click on the live view page and select **Preview Mode** > **Smart**, then the real-time snapshots are shown on the right.
2. Click a snapshot to view detailed information. See Smart Intrusion Prevention for details.

6.1.3 Exception Detection & Statistics

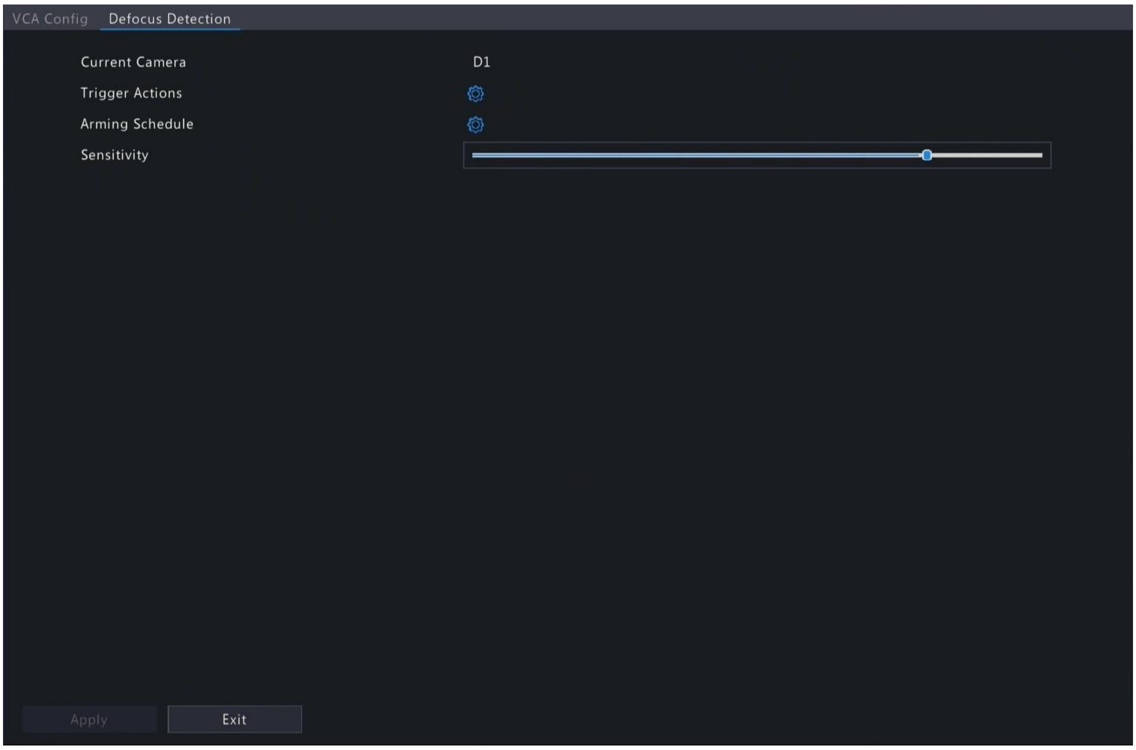
Exception detection and statistics includes defocus detection, scene change, object removed, and object left behind detection.

6.1.3.1 Defocus Detection

Defocus detection detects lens defocus. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Note: Defocus Detection only works with compatible AI GV-IP Cameras that support this feature (see the datasheet for compatible AI cameras).

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Defocus Detection** and click ⚙ to configure it.



Current Camera D1
Trigger Actions ⚙
Arming Schedule ⚙
Sensitivity

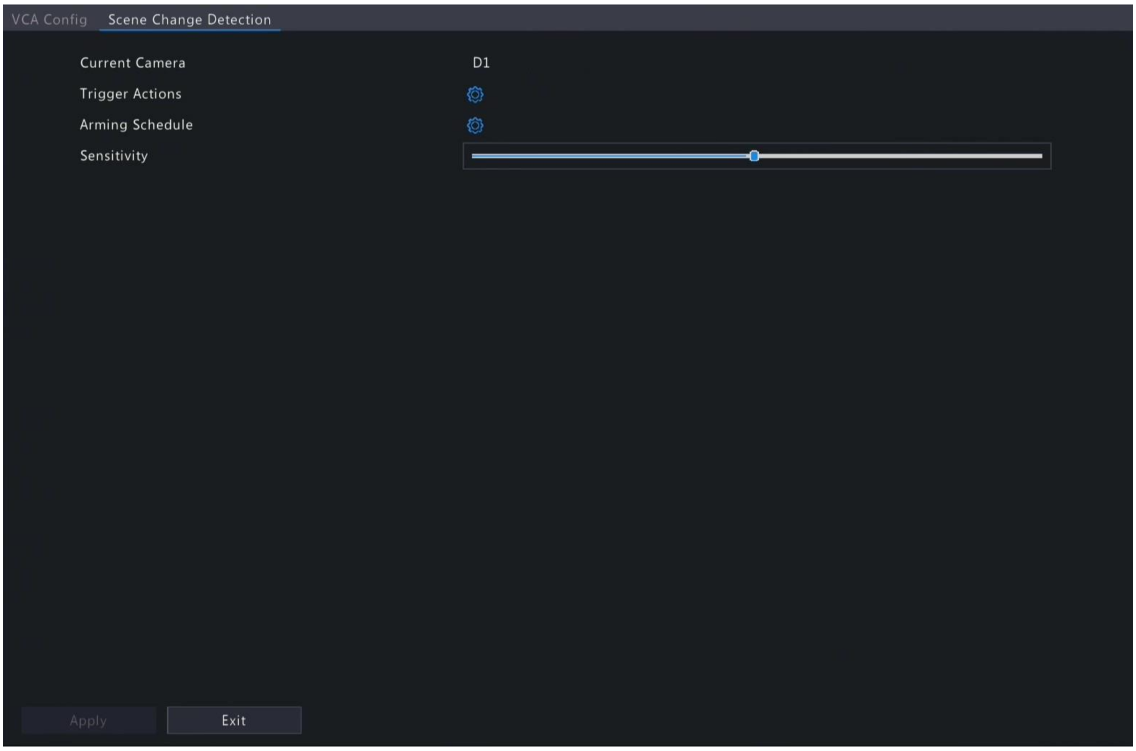
4. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
5. Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely defocus will be detected, but the false alarm rate will increase.
6. Click **Apply**.

6.1.3.2 Scene Change Detection

Scene change detection detects the change of surveillance scene caused by external factors such as intentional camera movement. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Note: Scene Change Detection only works with compatible AI GV-IP Cameras that support this feature (see the datasheet for compatible AI cameras).

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Scene Change Detection** and click ⚙ to configure it.



Current Camera D1

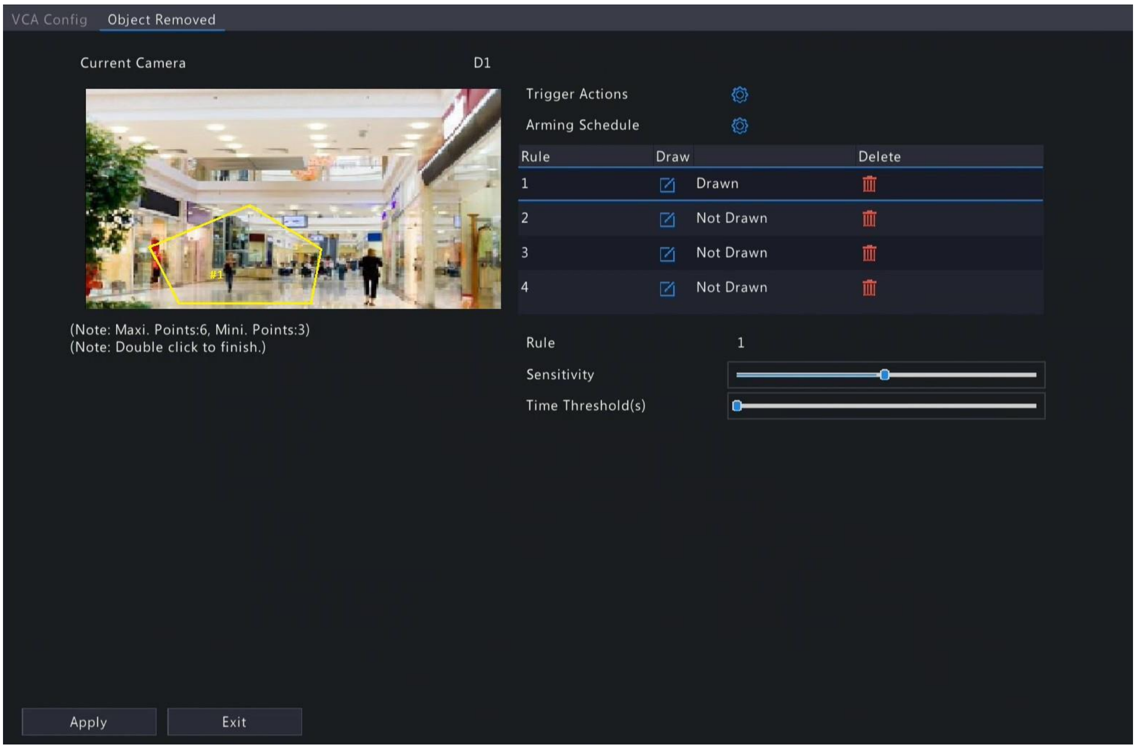
4. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
5. Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely scene change behaviors will be detected, but the false alarm rate will increase.
6. Click **Apply**.

6.1.3.3 Object Removed Detection

Object removed detection detects objects removed from a user-specified area for a preset time. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Note: Object Removed Detection only works with compatible AI GV-IP Cameras that support this feature (see the datasheet for compatible AI cameras).

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Object Removed** and click ⚙ to configure it.



VCA Config　Object Removed

Current Camera　D1

Trigger Actions ⚙

Arming Schedule ⚙

Rule	Draw	Delete
1	✎ Drawn	🗑
2	✎ Not Drawn	🗑
3	✎ Not Drawn	🗑
4	✎ Not Drawn	🗑

(Note: Maxi. Points:6, Mini. Points:3)
(Note: Double click to finish.)

Rule　1

Sensitivity

Time Threshold(s)

Apply　Exit

4. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

Parameter	**Description**
Detection Area	Select Rule 1, click ✎, and the full screen is displayed, then draw a detection area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen. **Note:** For a rule in **Drawn** state, you can click ✎ to redraw a detection area. To delete a detection area, click 🗑.
Sensitivity	Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely object removal behaviors will be detected, but the false alarm rate will increase.
Time Threshold(s)	Set the time threshold by dragging the slider. If an object is removed from the detection area for the set time, an alarm will be triggered.

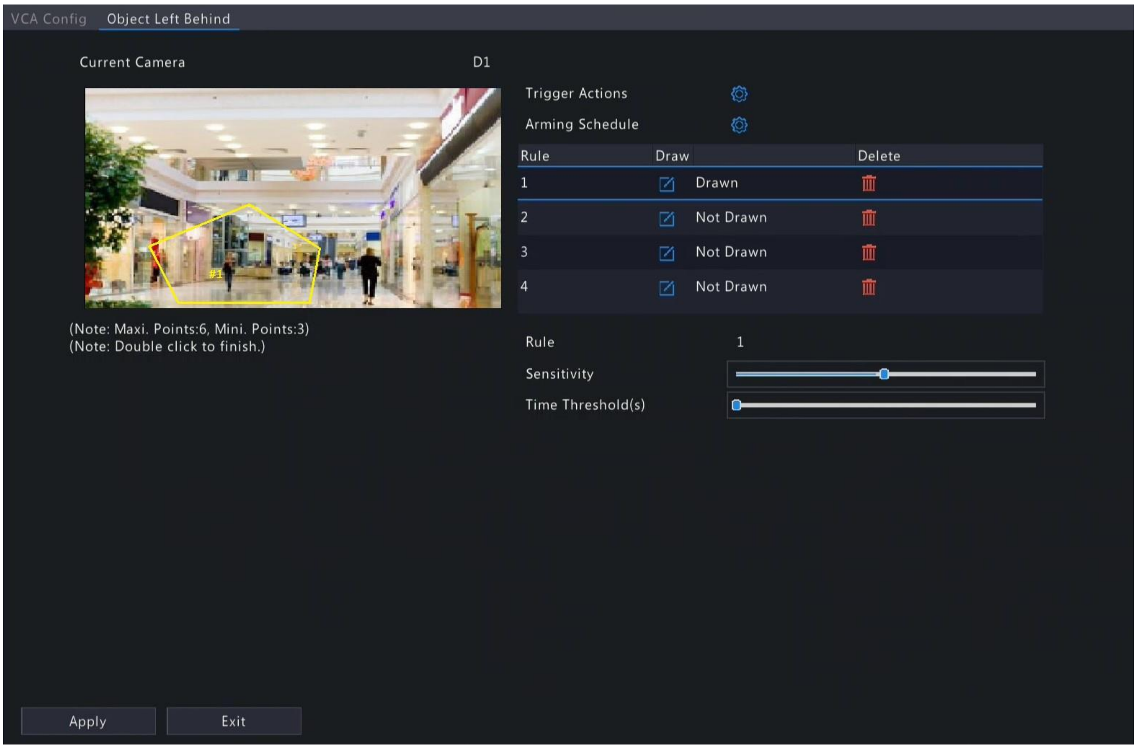
5. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
6. Click **Apply**.

6.1.3.4 Object Left Behind Detection

Object left behind detection detects objects left behind in a user-specified area for a preset time. The NVR takes snapshots and reports an alarm when the detection rule is triggered.

Note: Object Left Behind Detection only works with compatible AI GV-IP Cameras that support this feature (see the datasheet for compatible AI cameras).

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Object Left Behind** and click ⚙ to configure it.



Current Camera D1

Trigger Actions ⚙

Arming Schedule ⚙

Rule	Draw	Delete
1	✎ Drawn	🗑
2	✎ Not Drawn	🗑
3	✎ Not Drawn	🗑
4	✎ Not Drawn	🗑

(Note: Maxi. Points:6, Mini. Points:3)
(Note: Double click to finish.)

Rule 1

Sensitivity

Time Threshold(s)

4. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

Parameter	**Description**
Detection Area	Select Rule 1, click ✎, and the full screen is displayed, then draw a detection area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen. **Note:** For a rule in **Drawn** state, you can click ✎ to redraw a detection area. To delete a detection area, click 🗑.
Sensitivity	Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely object left behind behaviors will be detected, but the false alarm rate will increase.
Time Threshold(s)	Set the time threshold by dragging the slider. If an object is left behind in the detection area for the set time, an alarm will be triggered.

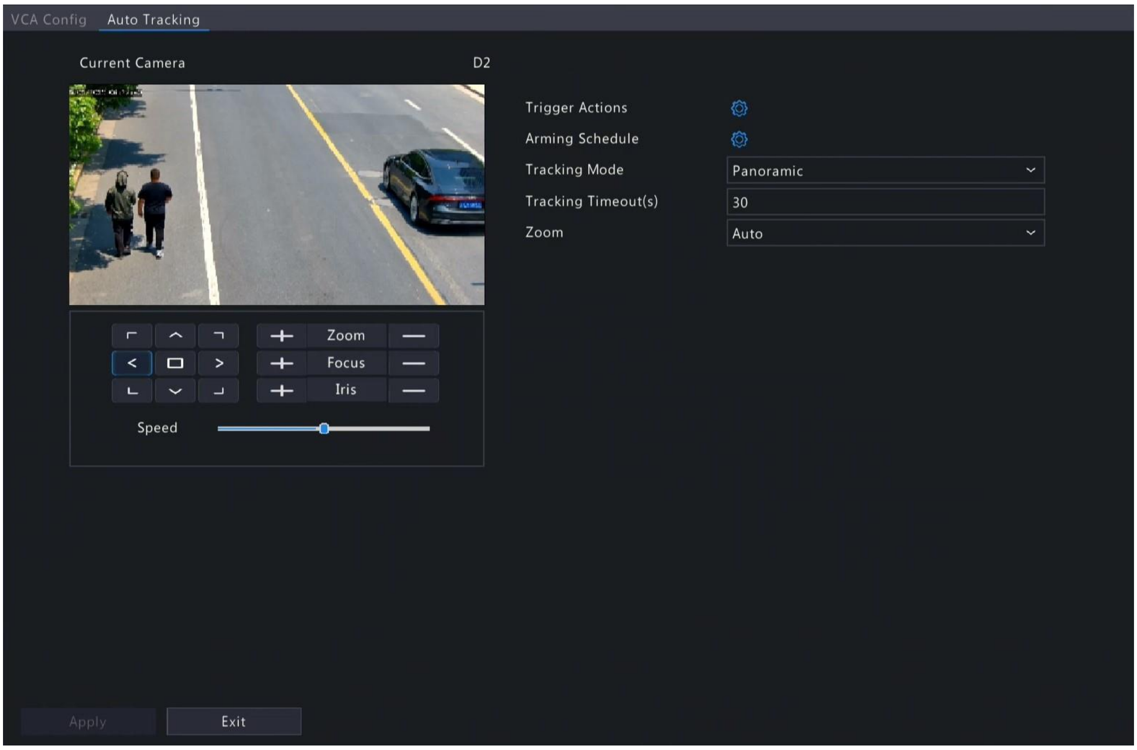
5. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
6. Click **Apply**.

6.1.3.5 Auto Tracking

Auto tracking detects moving objects in the live video and tracks the first object detected.

Note: Auto Tracking only works with compatible AI GV-IP Cameras that support this feature (see the datasheet for compatible AI cameras).

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Auto Tracking** and click ⚙ to configure it.



Current Camera D2

Trigger Actions

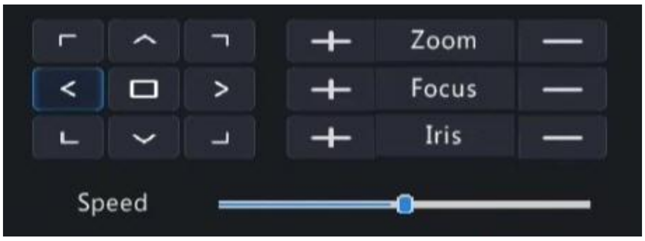
Arming Schedule

Tracking Mode: Panoramic

Tracking Timeout(s): 30

Zoom: Auto

4. Set the tracking parameters.

Parameter	**Description**
Tracking Area	In the PTZ operation area, use the PTZ control buttons to adjust the tracking area, including shooting angle, zoom, focus, iris and rotation speed. 
Tracking Mode	Panoramic: Continuously tracks objects that appear in the tracking area until they disappear from the tracking area.
Tracking Timeout(s)	Set the maximum tracking time. The device stops tracking when the object disappears or the set time is up. Range: 1 to 300. Default: 30.
Zoom	Select the tracking zoom ratio: **Auto** or **Current Zoom**. The default is **Auto**. • Auto: Automatically adjusts the zoom ratio according to the tracking distance, focusing more on the object behavior. • Current Zoom: Keeps the zoom ratio when the object is tracked, focusing more on the whole monitoring scene.

5. Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.
6. Click **Apply**.

6.1.4 People Counting

People counting includes people flow counting and crowd density monitoring.

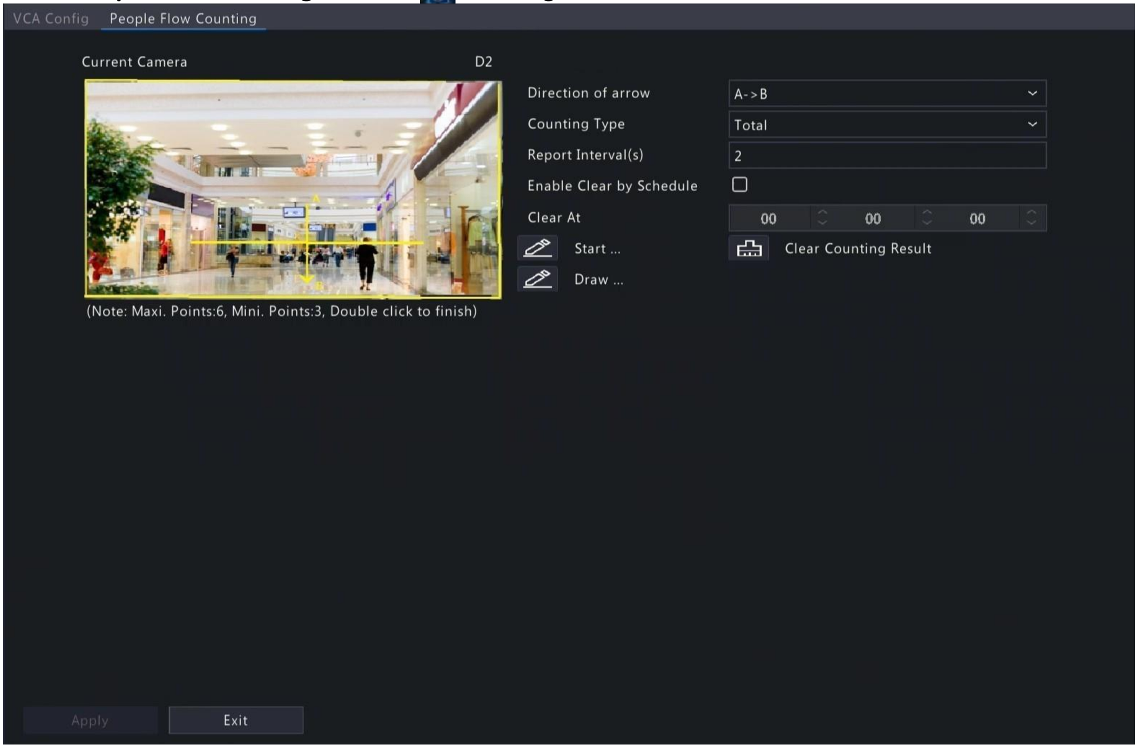
6.1.4.1 People Flow Counting

People flow counting counts people passing a specified tripwire in a user-defined area.

Note: People Flow Counting only works with compatible AI GV-IP Cameras that support this feature (see the datasheet for compatible AI cameras).

Configure People Flow Counting

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **People Flow Counting** and click ⚙ to configure it.



Current Camera D2

Direction of arrow: A->B

Counting Type: Total

Report Interval(s): 2

Enable Clear by Schedule: ☐

Clear At: 00 00 00

(Note: Maxi. Points:6, Mini. Points:3, Double click to finish)

4. Set the people flow counting rule.

Parameter	Description
Draw Area	Click ✎ to enter the full screen and then draw a detection area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen.
Draw Tripwire	Click ✎ to enter the full screen and then draw a tripwire. Only 1 tripwire is allowed. Right-click to exit the full screen.
Direction of arrow	Set the entry direction. • A- >B: A to B is entry, B to A is exit. • B- >A: B to A is entry, A to B is exit.

Counting Type	Select the counting type: **Total**, **People Entered**, or **People Exited**. **Total** is the default counting type. • Total: Displays the number of people entering and leaving the detection area. • People Entered: Displays the number of people entering the detection area. An entry is counted as a person crosses the tripwire in the direction of the arrow and passes through the detection area. • People Exited: Displays the number of people leaving the detection area. An exit is counted as an object crosses the tripwire in the opposite direction of the arrow and passes through the detection area. **Note:** • Before use, you need to enable people counting OSD under **Menu** > **Camera** > **OSD**. • People that loiter in the detection area, cross the tripwire only, or cross the detection area only are not counted.
Report Interval(s)	Set the time interval for reporting people flow statistics. Default: 60. Range: 1 to 60. The NVR reports people flow statistics to the uplink platform at set intervals. The uplink platform must subscribe to the function to receive the statistics.
Enable Clear by Schedule	Select the **Enable Clear by Schedule** check box and set the time to clear people counting statistics.
Clear At	The clearing time defaults to 00:00:00. You can modify it as needed. The NVR will clear people counting statistics on the OSD at the set time everyday. This operation does not affect statistics and data reporting.
Clear Counting Result	Click to clear people counting statistics displayed on the live video immediately. This operation only affect the people counting OSD and does not affect statistics and data reporting.

5. To be alerted when the number of people in the detection area exceeds a certain number, you can enable and configure **People Present Alarm** under **Menu** > **Alarm** > **People Present Alarm**. See People Present Alarm for details.
6. Click **Apply**.

View Real-time Statistics

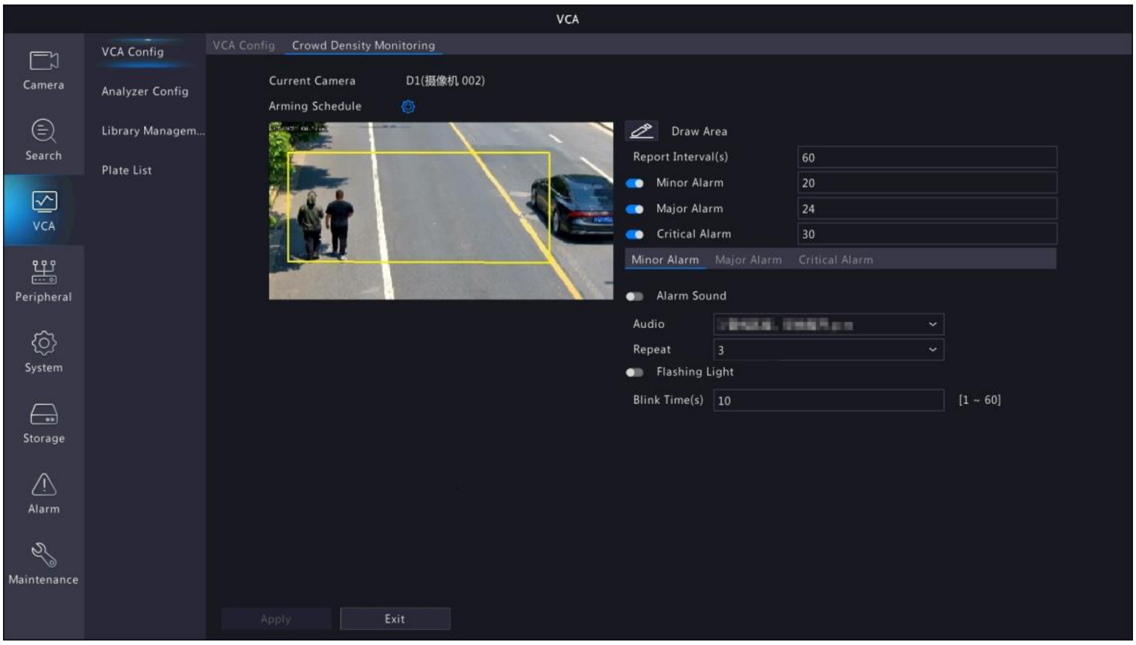
Right-click on the live view page and select **Preview Mode** > **Smart**, then the real-time people statistics are shown on the right. See People Flow Counting for details.

6.1.4.2 Crowd Density Monitoring

Crowd density monitoring monitors the number of people in a specified area and triggers an alarm if the number exceeds the set alarm threshold.

Note: Crowd Density Monitoring only works with compatible AI GV-IP Cameras that support this feature (see the datasheet for compatible AI cameras).

1. Go to **Menu** > **VCA** > **VCA Config**.
2. Select a camera.
3. Select **Crowd Density Monitoring** and click ⚙ to configure it.



Current Camera D1(摄像机 002)
Arming Schedule ⚙
Report Interval(s) 60
● Minor Alarm 20
● Major Alarm 24
● Critical Alarm 30
○ Alarm Sound
Audio [redacted]
Repeat 3
○ Flashing Light
Blink Time(s) 10 [1 ~ 60]

4. Set the crowd density monitoring rule.

Parameter	Description
Detection Area	A detection box is displayed in the left preview window by default. You can adjust the position of it or draw an area as needed. Only 1 detection area is allowed. • Adjust the position of the default detection area: Point to a border of the area and drag it to the desired position. • Draw an area: Click ✎, and the full screen is displayed. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen.
Report Interval(s)	Set the time interval for reporting crowd density statistics. Default: 60. Range: 1 to 60. The device reports crowd density statistics to the uplink platform at set intervals. The uplink platform must subscribe to the function to receive the statistics.
Minor Alarm	A minor alarm is triggered when the number of people in the specified area reaches the set value. Select the **Minor Alarm** check box and set the number of people to trigger minor alarms. Range: 1 to 40.
Major Alarm	A major alarm is triggered when the number of people in the specified area reaches the set value. The value of major alarm must be greater than that of minor alarm. Select the **Major Alarm** check box and set the number of people to trigger major alarms. Range: 1 to 40.
Critical Alarm	A critical alarm is triggered when the number of people in the specified area reaches the set value. The value of critical alarm must be greater than that of major alarm. Select the **Critical Alarm** check box and set the number of people to trigger critical alarms. Range: 1 to 40.

5. Enter the **Minor Alarm**, **Major Alarm**, and **Critical Alarm** tabs, and set the alarm sound and flashing light respectively.
    - Alarm Sound: Enable **Alarm Sound**, and set the audio file and the number of times the audio file to be played by the camera when an alarm occurs.
    - Flashing Light: Enable **Flashing Light**, and set the duration that the illuminator flashes when an alarm occurs.
6. Set the arming schedule. See Arming Schedule for details.
7. Click **Apply**.

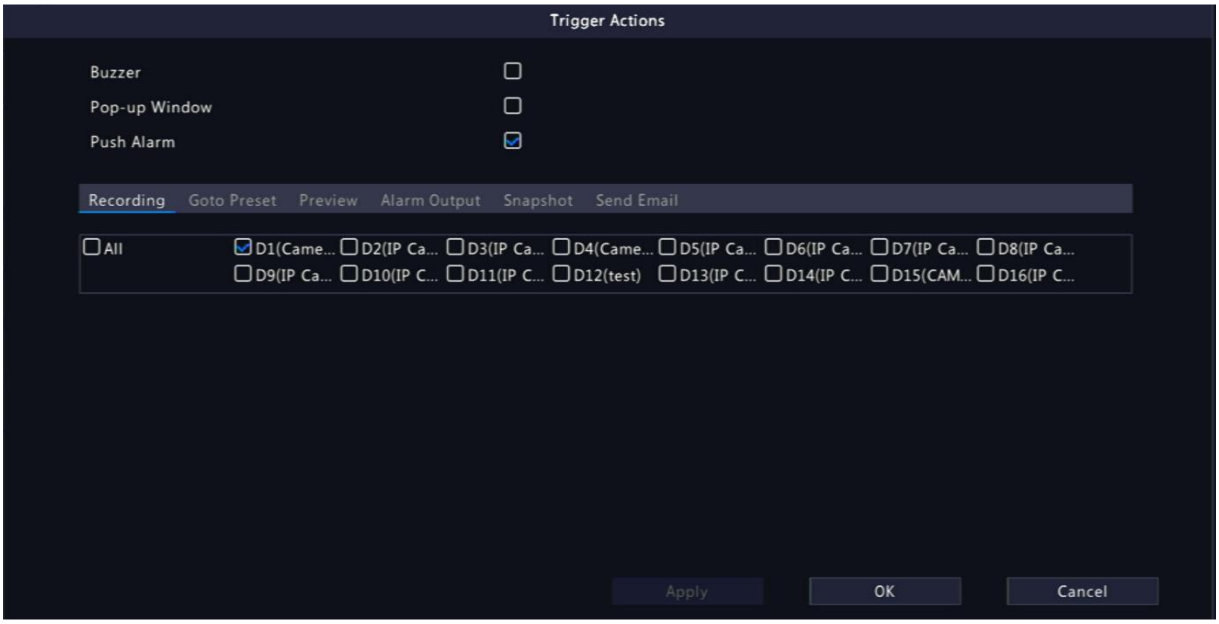
6.1.5 Alarm-triggered Actions

Configure actions to be triggered when an alarm occurs to alert user or the specified people.

Click ⚙ right to **Trigger Actions**, set the actions, and then click **OK**.

Note: The actions supported may vary with NVR model and VCA function.

Some actions are detailed below.



Trigger Actions

Buzzer ☐
Pop-up Window ☐
Push Alarm ☑

☐ All
☑ D1(Came... ☐ D2(IP Ca... ☐ D3(IP Ca... ☐ D4(Came... ☐ D5(IP Ca... ☐ D6(IP Ca... ☐ D7(IP Ca... ☐ D8(IP Ca...
☐ D9(IP Ca... ☐ D10(IP C... ☐ D11(IP C... ☐ D12(test) ☐ D13(IP C... ☐ D14(IP C... ☐ D15(CAM... ☐ D16(IP C...

Buzzer

The NVR makes a buzzing sound when an alarm occurs.

Pop-up Window

An alarm message pops up when an alarm occurs.

Push Alarm

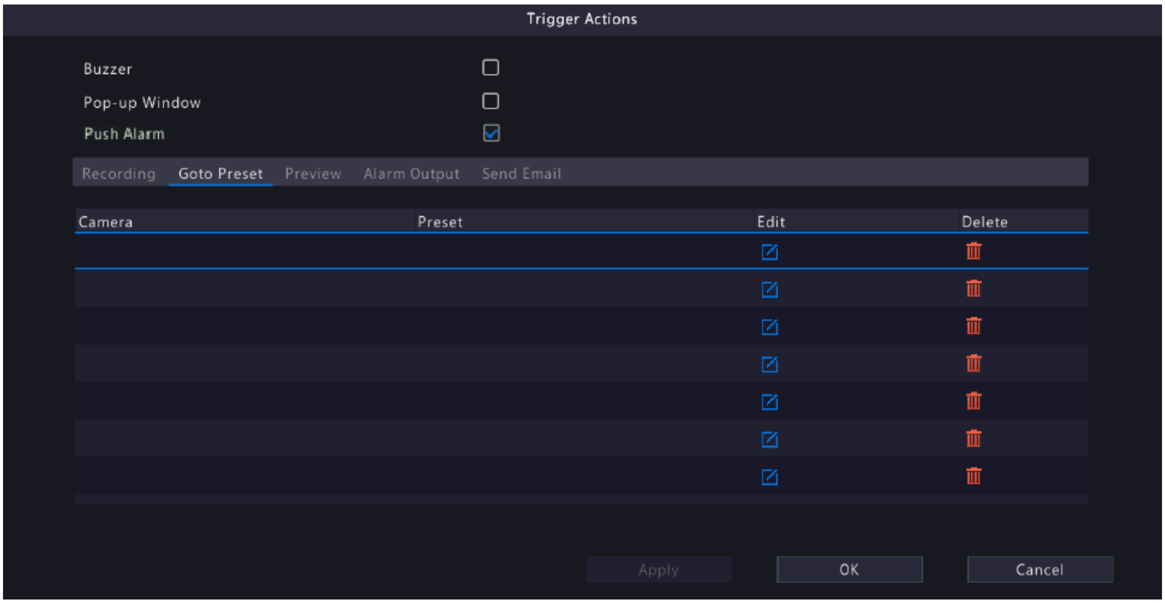
An alarm information will be pushed to the upper platform when an alarm occurs.

Recording

The NVR records video from the selected camera when an alarm occurs.

Goto Preset

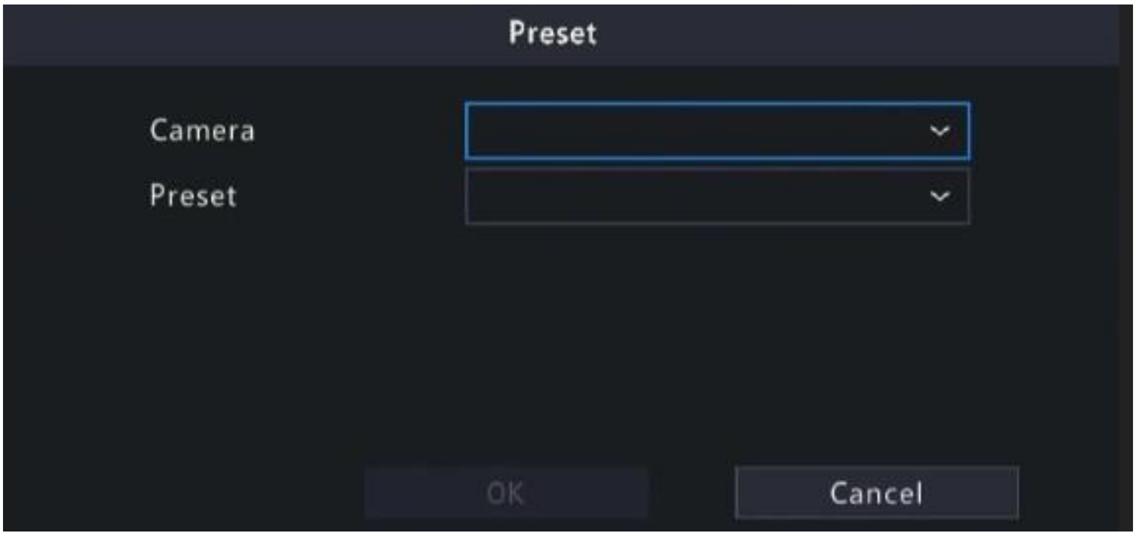
A PTZ camera moves to a preset position when an alarm occurs.



Buzzer ☐
Pop-up Window ☐
Push Alarm ☑

Configure this action as follows:

1. Click ✎.



2. Select the camera to perform this action and select the preset you want the camera to go to when an alarm occurs.

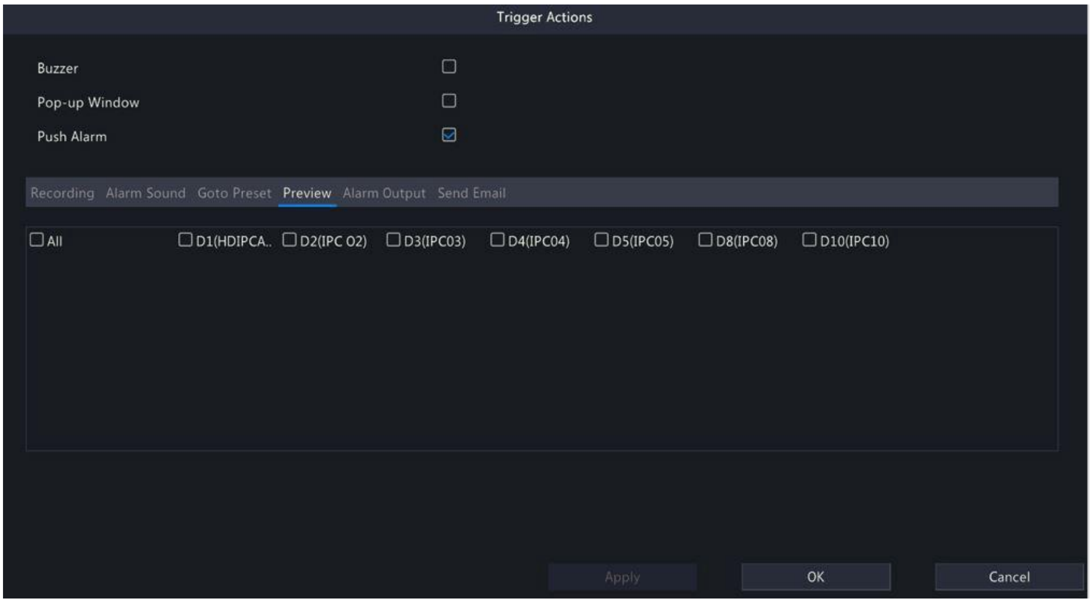
   Note: Before use, you need to configure presets on the PTZ camera. See *Network Camera User Manual* for details.

3. Click **OK**.

   Note: To delete the action, click 🗑.

Preview

The NVR plays the live video of the specified camera(s) when an alarm occurs. To perform this action, you need to configure **Max. Alarm-Triggered Live View Windows** (1/4/9 available) under **Menu** > **System** > **Preview**.



Trigger Actions

Buzzer ☐

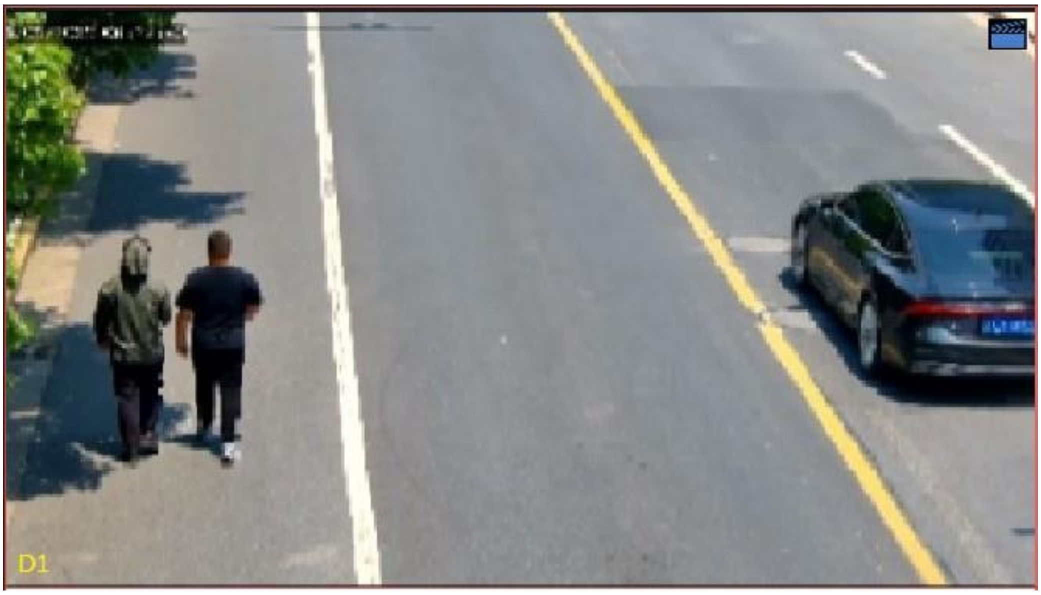
Pop-up Window ☐

Push Alarm ☑

☐ All ☐ D1(HDIPCA.. ☐ D2(IPC 02) ☐ D3(IPC03) ☐ D4(IPC04) ☐ D5(IPC05) ☐ D8(IPC08) ☐ D10(IPC10)

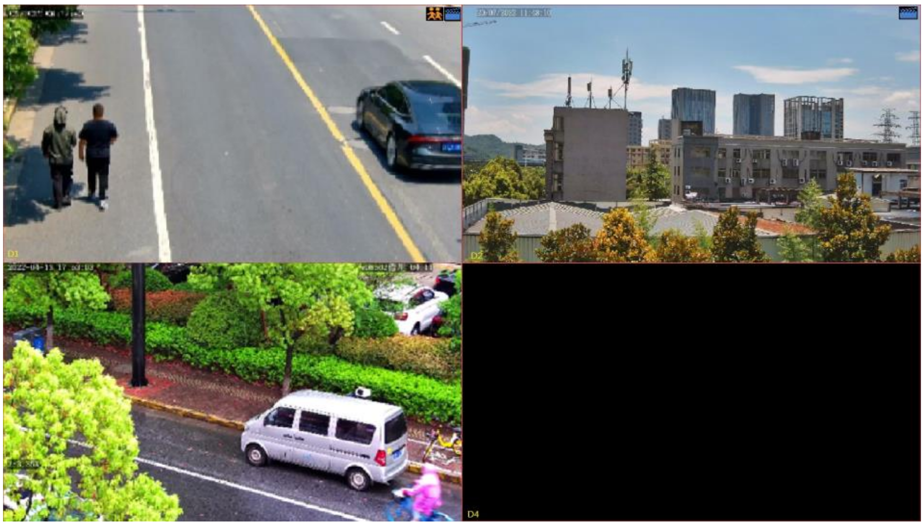
The live view page displayed in the event of alarms varies depending on the number of linked cameras and the number of alarm-triggered live view windows. When an alarm occurs, the live view page shows the live video from the linked camera(s) with a red frame; when the alarm ends, the live view page returns to the original state.

- When **Max. Alarm-Triggered Live View Windows** is set to **1 Window**, the live view page plays live video in one window. If more than one camera is linked, the live video switches at 5s.

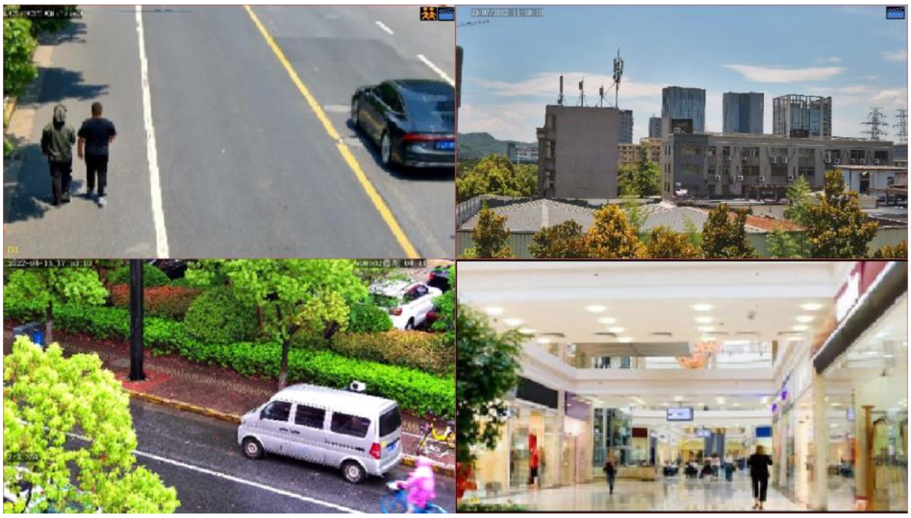


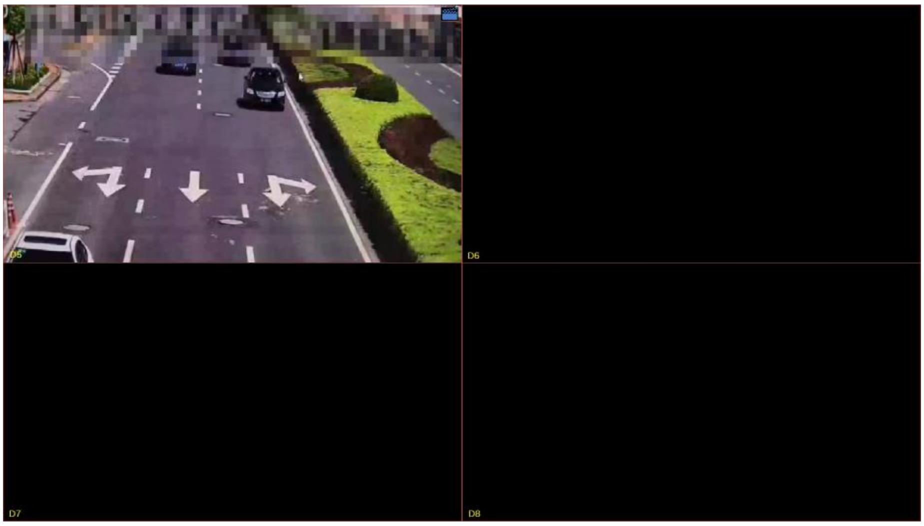
- When **Max. Alarm-Triggered Live View Windows** is set to **4 Windows**, the live view page plays the live video of each camera in 4-split mode. If more than 4 cameras are linked, the live video switches at 5s.

  Live view page with 3 cameras linked:



  Live view page with 5 cameras linked:

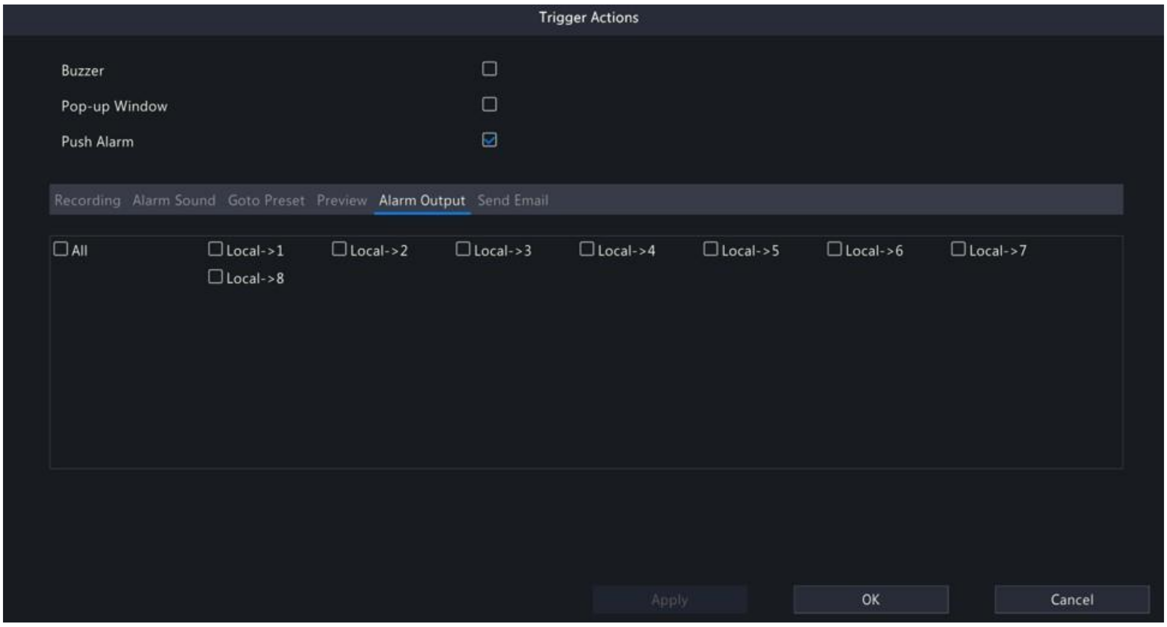




- When **Max. Alarm-Triggered Live View Windows** is set to **9 Windows**, the live view page plays the live video of each camera in 9-split mode. If more than 9 cameras are linked, the live video switches at 5s.

Alarm Output

A third-party device is triggered to raise an alarm when it receives an alarm output by the NVR.



Trigger Actions

Buzzer ☐

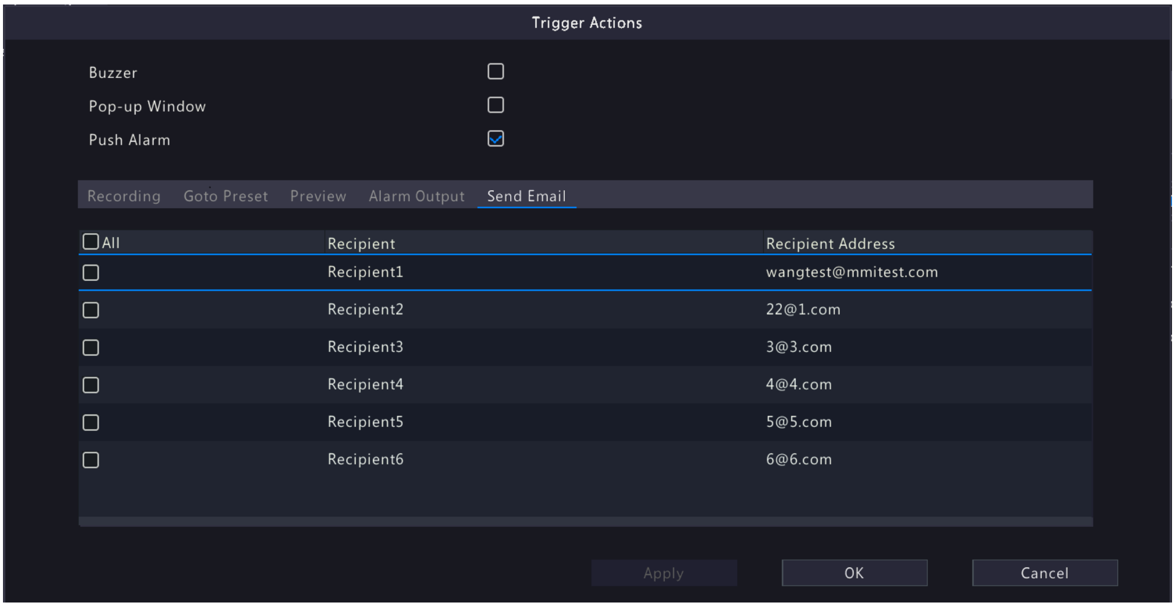
Pop-up Window ☐

Push Alarm ☑

☐ All ☐ Local->1 ☐ Local->2 ☐ Local->3 ☐ Local->4 ☐ Local->5 ☐ Local->6 ☐ Local->7 ☐ Local->8

Send Email

The NVR sends an email with alarm information to the specified email address(es) when an alarm occurs. Please set the recipient information in Email. Up to 6 recipients are allowed.



Trigger Actions

Buzzer ☐

Pop-up Window ☐

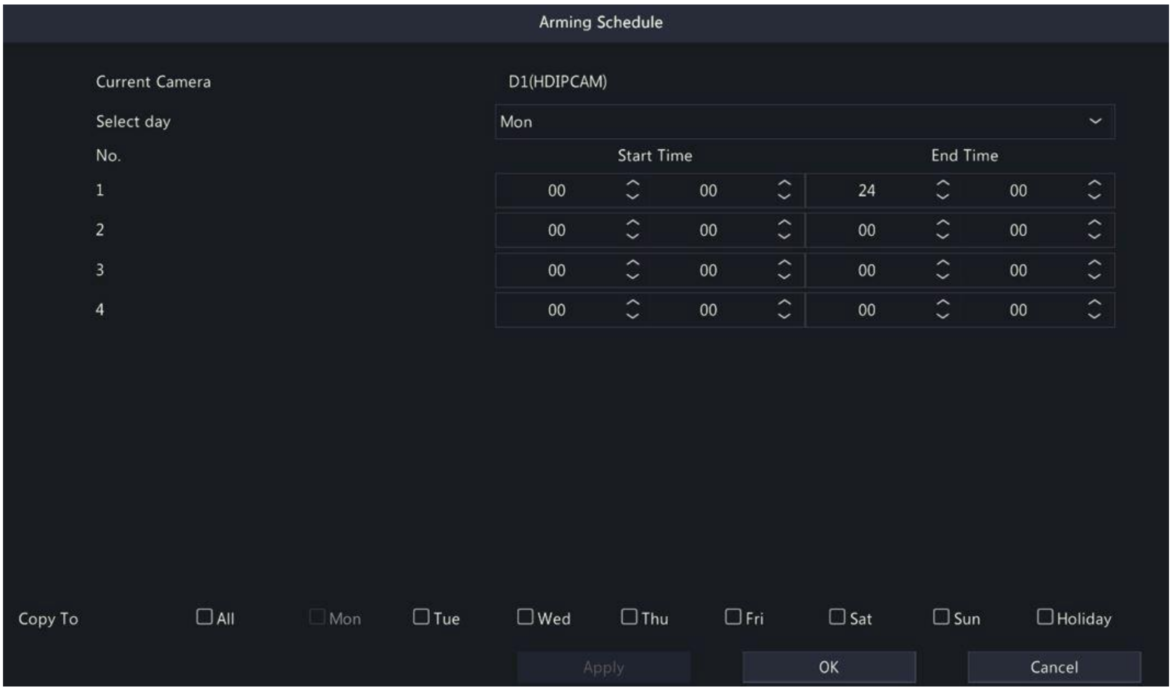
Push Alarm ☑

☐ All	Recipient	Recipient Address
☐	Recipient1	wangtest@mmitest.com
☐	Recipient2	22@1.com
☐	Recipient3	3@3.com
☐	Recipient4	4@4.com
☐	Recipient5	5@5.com
☐	Recipient6	6@6.com

6.1.6 Arming Schedule

Configure an arming schedule to determine when the NVR receives alarms and performs predefined alarm-triggered actions.

Click right to **Arming Schedule**, configure the schedule as needed, and then click **OK**.



Arming Schedule

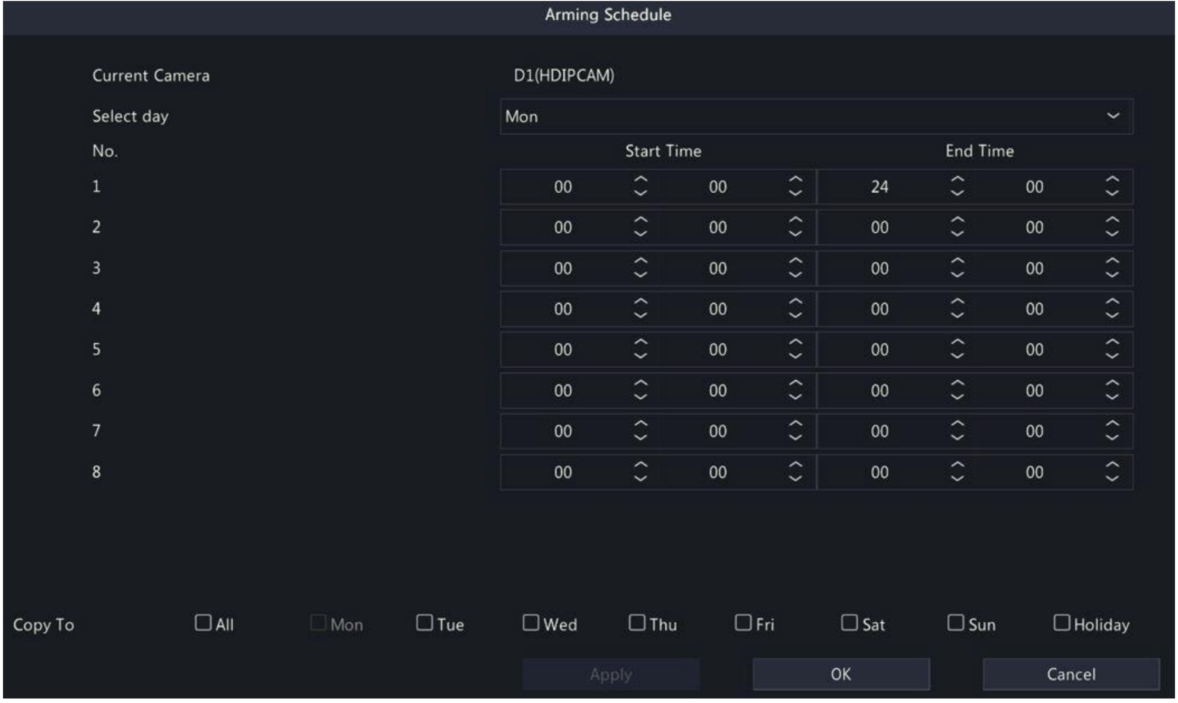
Current Camera: D1(HDIPCAM)

Select day: Mon

No.	Start Time		End Time	
1	00	00	24	00
2	00	00	00	00
3	00	00	00	00
4	00	00	00	00

Copy To ☐ All ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun ☐ Holiday

On certain NVRs, the **Arming Schedule** page shows as follows:



Arming Schedule

Current Camera: D1(HDIPCAM)

Select day: Mon

No.	Start Time		End Time	
1	00	00	24	00
2	00	00	00	00
3	00	00	00	00
4	00	00	00	00
5	00	00	00	00
6	00	00	00	00
7	00	00	00	00
8	00	00	00	00

Copy To ☐ All ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun ☐ Holiday

Note:

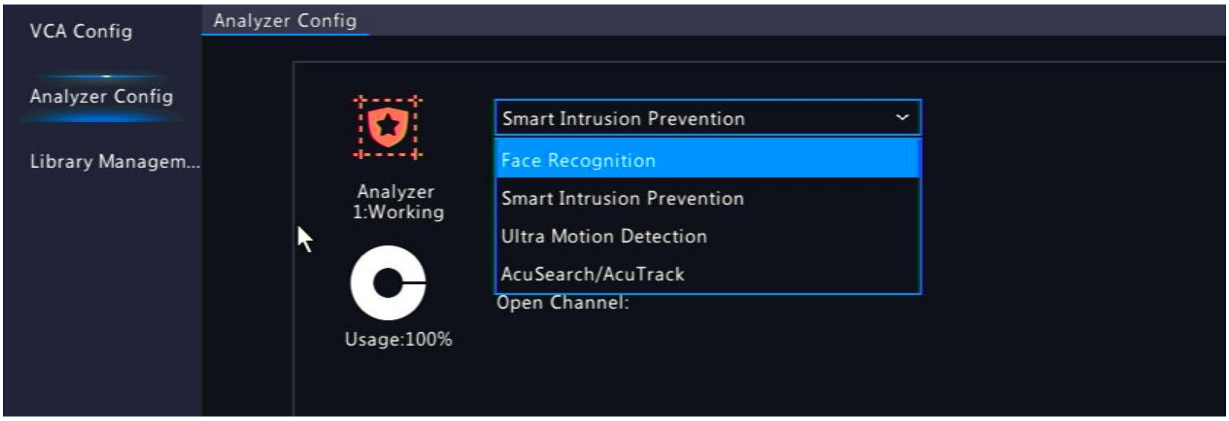
- Up to 4 or 8 time periods are allowed per day, and the time periods cannot overlap.
- (Optional) To apply the same schedule to other days, select the desired day(s) after **Copy To**.
- The number of arming time periods available varies by function.
- If a SIP camera is connected to the NVR and configured with camera side analysis of **Intrusion Detection**, **Cross Line Detection**, **Enter Area**, **Leave Area**, or **Human Body Detection**, the arming schedule configured for these functions on the NVR will be synchronized to the camera.

6.2 Analyzer Configuration

View the analyzer usage and change the analysis mode.

Analyzer is a smart chip used to process face recognition, smart intrusion prevention, behavior analysis, ultra motion detection, people counting, AcuSearch/Track, etc. The analyzer capacity varies by NVR model, which requires you to allocate channels appropriately.

1. Go to **Menu** > **VCA** > **Analyzer Config**.
2. View the analyzer's capacity usage. The analyzer's capacity can be represented by the number of video streams or image streams it can analyze.



Analyzer 1:Working

Usage:100%

Note: Only one analyzer setup (*Camera-Side Analysis* or *NVR-Side Analysis*) can be enabled at a time.

AI Analytics	Camera-Side Analysis	Intrusion Detection, Cross Line Detection, Enter Area, Face Detection, Leave Area, People Flow Counting, Crowd Density Monitoring * All channels (up to 8 images per second in total) *These functions are only applicable when the NVR is connected to AI GV-IP cameras, as listed in the *Compatible AI-Capable GV-IP Cameras* section in the datasheet.
	NVR-Side Analysis	- Face Recognition (Face Detection, Face Comparison): max. 1 CH - Smart Intrusion Protection (Cross Line Detection, Intrusion Detection, Enter Area, Leave Area): max. 2 CHs - Ultra Motion Detection (only to AI-capable GV-IP cameras, as listed in the *Compatible AI-Capable GV-IP Cameras* section below): max. 4 CHs - AcuSearch: max. 1 CH

6.3 Library Management

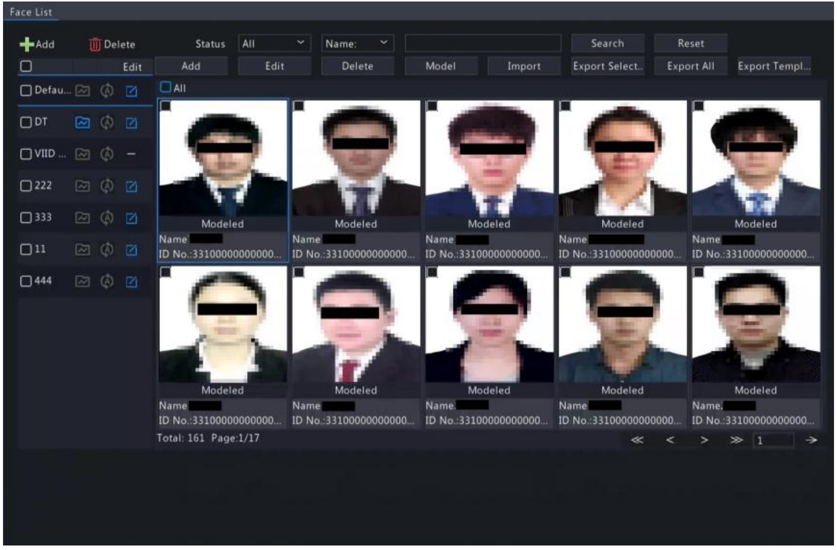
Manage face library.

6.3.1 Face List

Configure face lists for face comparison.

Configure Face List

1. Go to **Menu** > **VCA** > **Library Management** > **Face List**.



Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

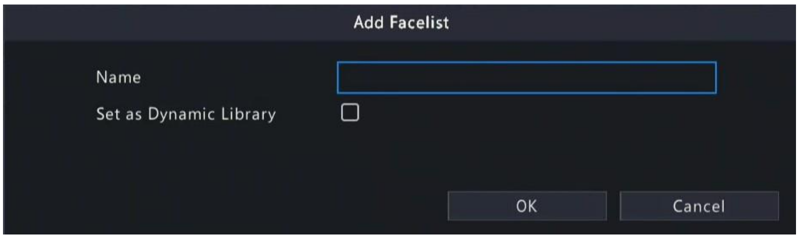
Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

Modeled
Name [redacted]
ID No.:33100000000000...

Total: 161 Page:1/17

2. Configure face lists. A face list is created by default. Up to 128 face lists are allowed.

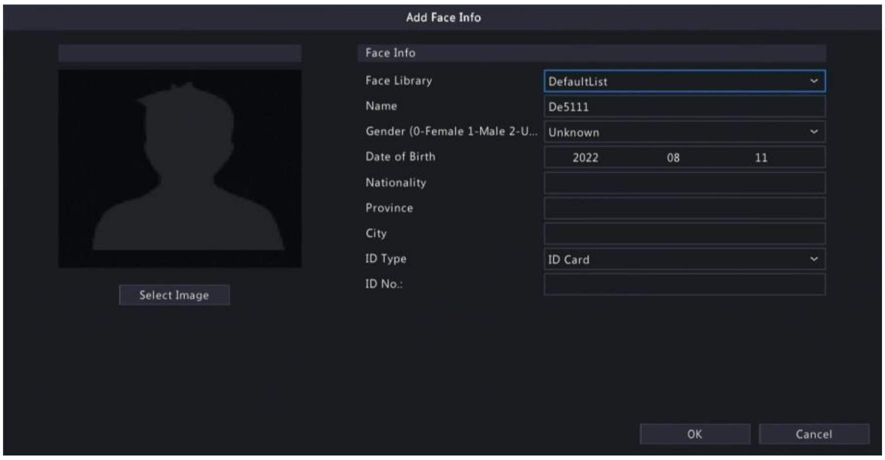
Parameter	Description
➕	(1) Click ➕ to add a face list.  Add Facelist Name Set as Dynamic Library ☐ OK Cancel (2) Enter the list name. (3) (Optional) Select the **Set as Dynamic Library** check box to set the face list as a dynamic list. The captured face images that do not match any face image in face lists will be automatically added to the dynamic list. **Note:** • If there is no dynamic face list, you can add a new face list and set it as a dynamic list. You can only configure a dynamic list while adding a face list. • Only 1 dynamic list is allowed. To change the dynamic list, you need to delete the original dynamic list and add a new one. (4) Click **OK**.
🗑	Delete the selected face list(s). **Note:** Deleting a face list will also delete its related historical alarm records. Please handle with caution.

✎/	Click ✎ to edit the face list. You can only edit the list name. — indicates that the face list cannot be edited.
🖼/	🖼 indicates that the face list is a dynamic list. 🖼 indicates that the face list is not a dynamic list.
⟳/⟳	Click ⟳/⟳ to enable/disable **Auto Snapshot to Library**.

3. Import face images. You can import one by one or in batches.

- Import one by one

  (1) Click **Add**.



Add Face Info

Face Info

Face Library: DefaultList

Name: De5111

Gender (0-Female 1-Male 2-U...: Unknown

Date of Birth: 2022 08 11

Nationality:

Province:

City:

ID Type: ID Card

ID No.:

  (2) Click **Select Image** to import the desired face image.

  (3) Complete the face information including face library, name, gender, date of birth, nationality, province, city, ID type, and ID number.

  (4) Click **OK**.

- Import in batches

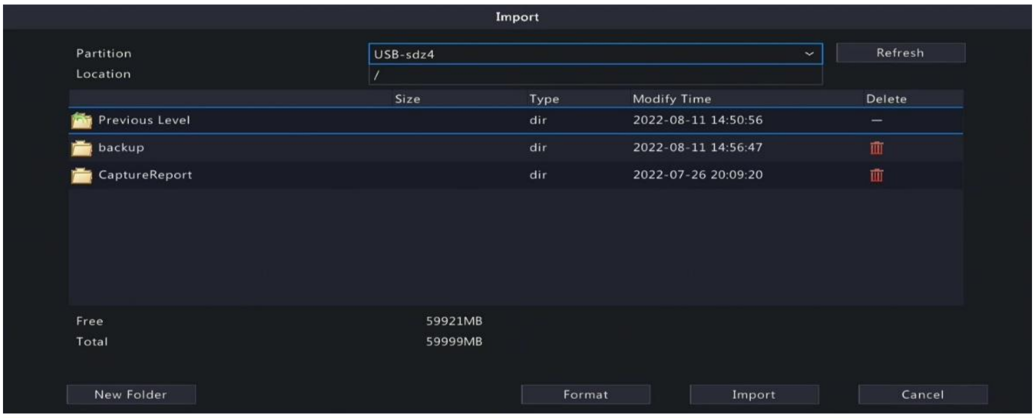
  (1) Click **Export Template**.

  (2) Select the location to save the template and click **Backup**.

  Note: You can export the template to an external storage device (connect a storage device to the NVR) or a PC (log in to the NVR's web interface, go to **Smart** > **List Management** > **Face List**, click **DefaultList**, and then click **Export Template**).

  (3) Complete the template with reference to the import guide.

  (4) Click **Import**, select the template, and click **Import**.



Import

Partition: USB-sdz4

Location: /

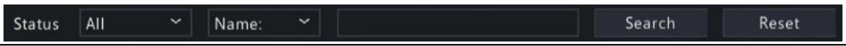
	Size	Type	Modify Time	Delete
Previous Level		dir	2022-08-11 14:50:56	—
backup		dir	2022-08-11 14:56:47	🗑
CaptureReport		dir	2022-07-26 20:09:20	🗑

Free: 59921MB

Total: 59999MB

Note: The number of images allowed for a file depends on the library capacity of the device.

Other Operations

Parameter	**Description**
Search	1. Set search conditions.  • Select the modeling state: **All**, **Modeled**, **Modeling Failed**, **Modeling**, or **Not Modeled**. • Select **Name** or **ID No.** and enter the name or ID number to search. 2. Click **Search**. 3. To clear the search conditions, click **Reset**.
Edit	Select a face image and click **Edit** to modify its information.
Model	Model face images in **Not Modeled** or **Modeling Failed** status.
Export Selected	Export the selected face image(s).
Export All	Export all face images in the selected face list.

6.4 Smart Preview

View real-time snapshots and statistics of VCA functions on the live view page, including motor vehicle, non-motor vehicle, human body, face and people flow counting.

Right-click on the live view page and select **Preview Mode** > **Smart**, then the real-time snapshots are displayed on the right.

Note: To have real-time face detection in Preview, ensure to set up Face Detection or Face Comparison (see Face Recognition). To have real-time vehicle detection in Preview, ensure to set up Intrusion Detection (see *Intrusion Detection,* Smart Intrusion Prevention).

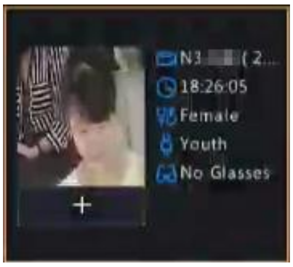
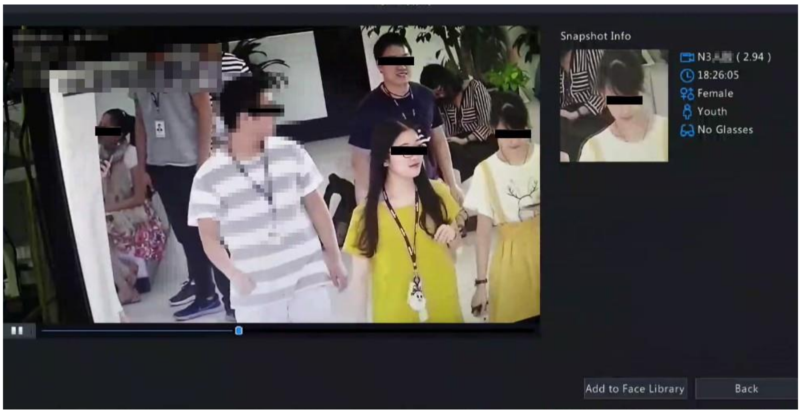
Preview Interface

Icon	Description
☑ 🚗 ☑ 🚲 ☑ 🚶 ☑ 👤	Select the object type(s) for which you want to view real-time snapshots. 🚗 means the motor vehicle, 🚲 means the non-motor vehicle, 🚶 means the human body, and 👤 means the face.

Icon	Description
📈	Open the **Event** page.
⚙	Open the **VCA Config** page.
🧹	Clear real-time snapshots displayed on the live view page. Search records and statistics are not affected.

6.5.1 Face Recognition

View face snapshots, face snapshot information, and face matching/mismatching information.

Type	Description
Not Match Face Info	1. Select a mismatched face snapshot.  2. Click on the snapshot to view more details.  Snapshot Info N3 (2.94) 18:26:05 Female Youth No Glasses Add to Face Library Back
Face Snapshot Info	1. Select a face snapshot. 2. Click on the snapshot to view more details.
Match Face Info	1. Select a matched face snapshot. The left image is the captured image, and the right image is the face image in the face list. 2. Click on the snapshot to view more details.

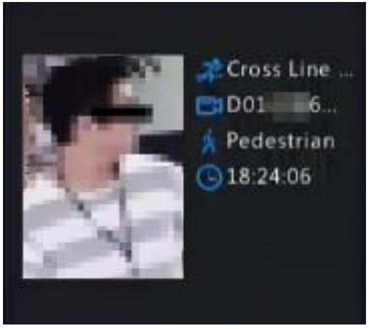
Note:

- In the **View Details** dialog box, a 15s video (10s before and 5s after the snapshot time) is automatically played on the left, and the snapshot and its detailed information are displayed on the right.
- You can click + under a face snapshot or click **Add to Face Library** in the details page of a face snapshot to add the snapshot to the face list, and click 🔍 to search face images in face lists by this snapshot.

6.5.2 Smart Intrusion Prevention

View real-time snapshots of smart intrusion prevention functions including cross line detection, intrusion detection, enter area detection, and leave area detection.

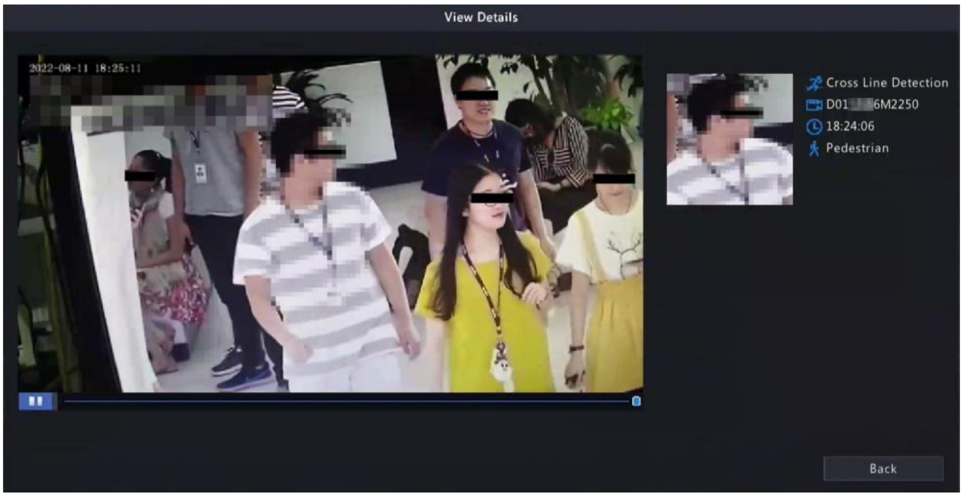
1. Select a snapshot.



Cross Line ...
D01[redacted]6...
Pedestrian
18:24:06

2. Click on the snapshot to view more details.

In the **View Details** dialog box, a 15s video (10s before and 5s after the snapshot time) is automatically played on the left, and the snapshot and its detailed information including event type, camera name, time, and object type are displayed on the right.



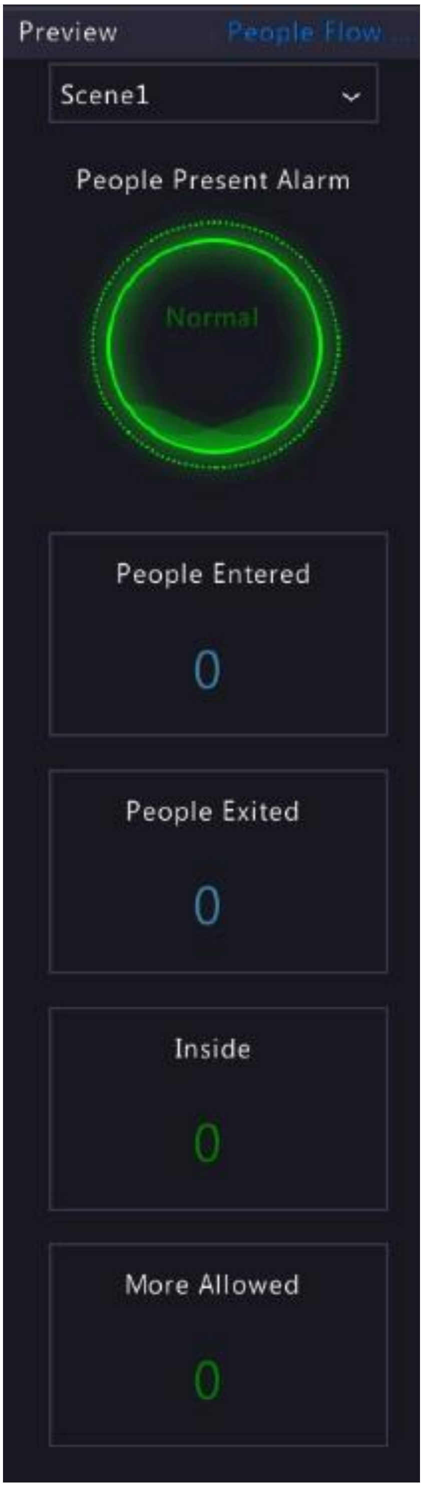
2022-08-11 18:25:11
Cross Line Detection
D01[redacted]6M2250
18:24:06
Pedestrian

In the **View Details** dialog box, a 15s video (10s before and 5s after the snapshot time) is automatically played on the left, and the snapshot and its detailed information including camera name, time, license plate number, vehicle color, and plate color are displayed on the right.

6.5.3 People Flow Counting

Select a scene and view real-time people flow statistics including the number of people entering/leaving/ currently allowed/present.

The green icon under **People Present Alarm** means the number of people present in the detection area does not exceed the set threshold. If the icon is red, it means the number of people present in the detection area exceeds the set threshold.



Scene1

People Present Alarm

Normal

People Entered
0

People Exited
0

Inside
0

More Allowed
0

7 Peripheral Management

Manage the external devices connected to the NVR.

Note: This function is only available to certain NVR models.

7.1 POS Configuration

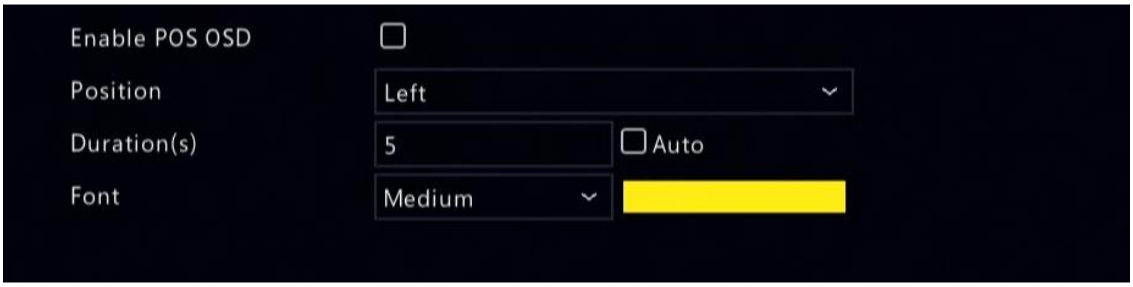
Overlay transaction information to live and recorded videos for check and audit.

POS configuration includes POS OSD Configuration and POS Configuration. After the configuration is completed, POS information will be displayed on both live and recorded videos, and POS recordings can be retrieved for playback.

7.2.1 POS OSD Configuration

Configure POS OSD parameters.

1. Go to **Menu** > **Peripheral** > **POS** > **POS OSD**.



Enable POS OSD ☐

Position: Left

Duration(s): 5 ☐ Auto

Font: Medium 🟨

2. Select **Enable POS OSD**.
3. Configure the parameters.

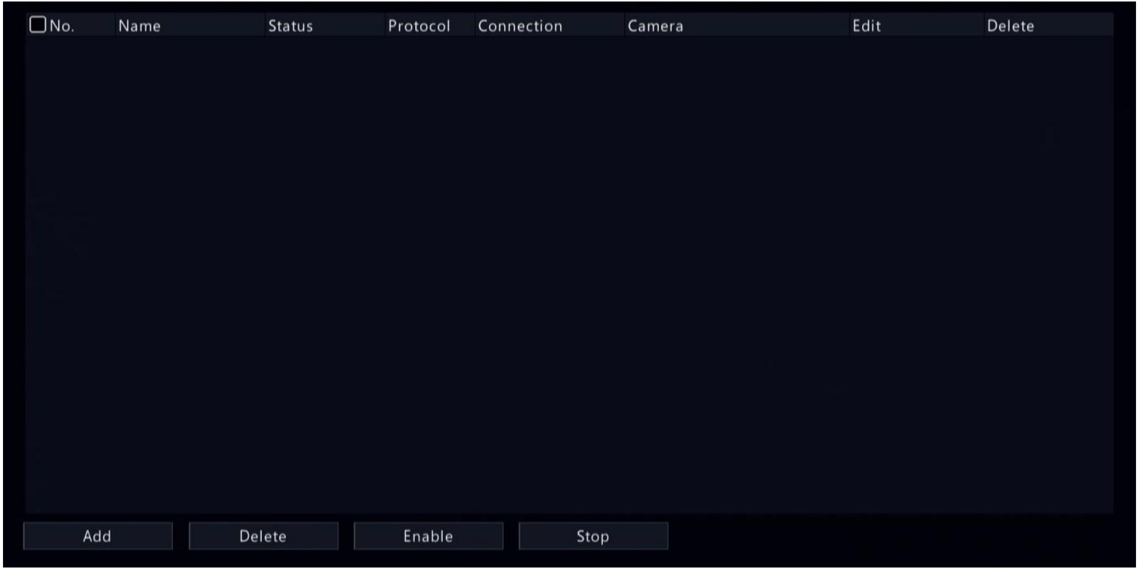
Parameter	**Description**
Position	POS OSD position. • Left: In the upper-left corner of the image. • Center: In the middle of the image. • Right: In the upper-right corner of the image.
Duration(s)	Length of time that POS OSD is displayed on live and recorded video images. Default: 5s. Max. 120s.
Auto	Displays POS OSD according to the POS data duration obtained based on **Time Start Identifier** and **Time End Identifier**. For **Time Start Identifier** and **Time End Identifier**, see also POS Configuration.
Font	Font size and color of POS OSD. Font sizes include X-large, Large, Medium, and Small.

4. Click **OK**.

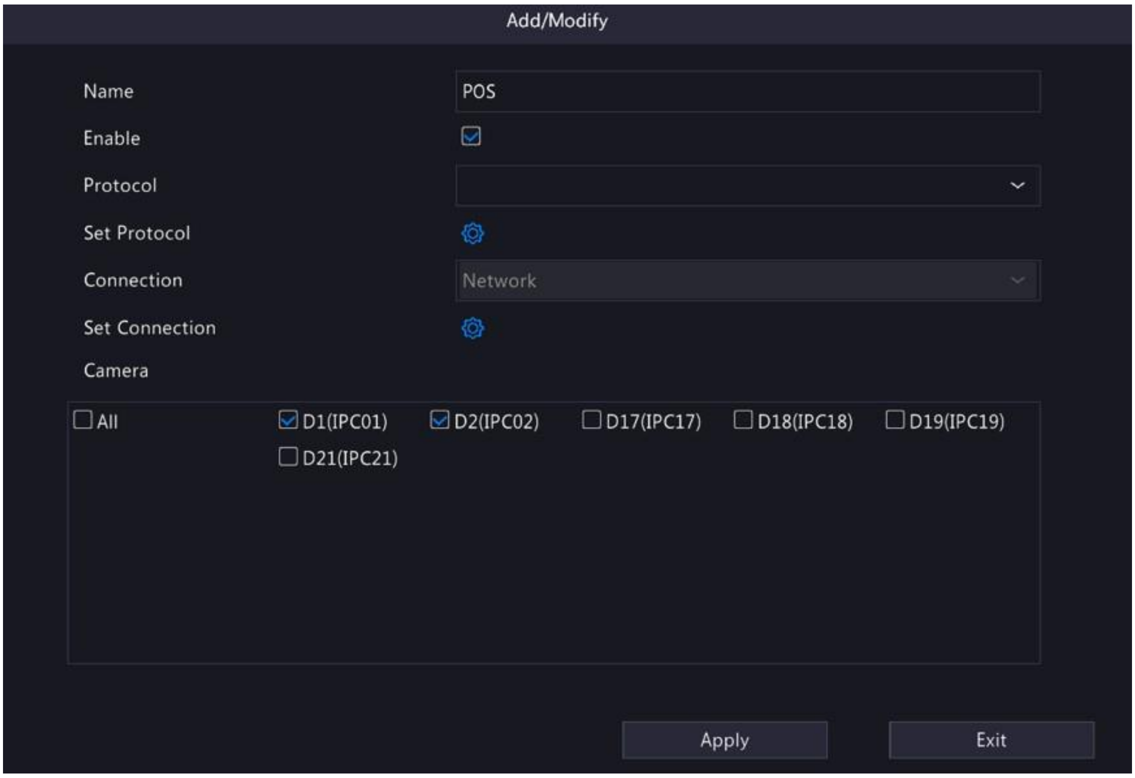
7.2.2 POS Configuration

Add POS and configure POS protocols.

1. Go to **Menu** > **Peripheral** > **POS** > **POS**.



2. Click **Add**.



Add/Modify

Name: POS

Enable: ☑

Protocol:

Set Protocol

Connection: Network

Set Connection

Camera

☐ All ☑ D1(IPC01) ☑ D2(IPC02) ☐ D17(IPC17) ☐ D18(IPC18) ☐ D19(IPC19) ☐ D21(IPC21)

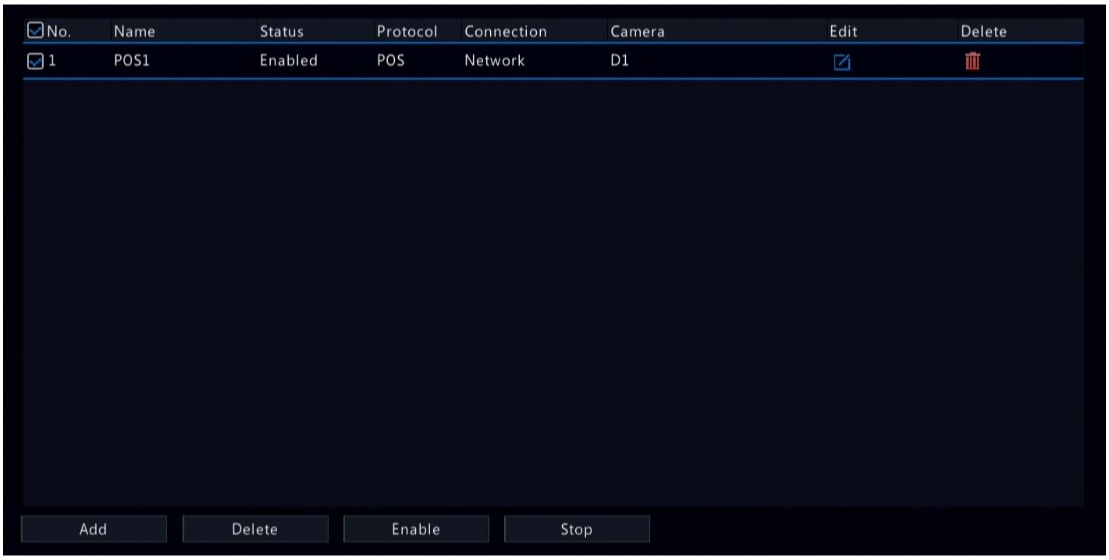
3. Configure the parameters.

Parameter	Description
Name	Set a name that is easy to recognize. The POS name must be unique.
Enable	The new POS is enabled by default. You may clear the checkbox to disable the POS, and enable it on the POS page at any time.

Protocol	• General: The POS is directly connected to the NVR. **Note:** Choose this option with caution. POS connection may fail due to different protocols of different POS machine vendors. • AVE: The POS machine transmits data to the AVE device, and the AVE device connects to the NVR. **Note:** AVE is a device that supports multiple POS protocols. It integrates POS data in different formats and converts them into data transmittable via TCP/UDP.

	Only applicable to the General protocol. Click ⚙. The start identifier, end identifier, and line delimiter must be converted into hexadecimal values using Notepad+ before being entered. • Start Identifier: (Optional) The NVR starts receiving POS data from the start identifier. • Stop Identifier: (Optional) The NVR stops receiving POS data at the received stop identifier. • Line Delimiter: (Optional) The NVR inserts a line break into POS data at the line delimiter.
	• Ignore Characters: (Optional) The NVR displays ignored POS data as *. • Time Start Identifier: (Optional) Start time of POS data. • Time End Identifier: (Optional) End time of POS data.
Set Connection	Transmission protocols include TCP and UDP. Transaction data are sent to the NVR via TCP or UDP.
	Local Receiving Port: Port that the NVR uses to receive data. Set an unused port.
	Source IPv4 Address: IP address that the POS machine uses to send data.
	Source Port: Port that the POS machine uses to send data.
	Destination IPv4 Address: Not required. Address that the NVR uses to forward the received POS data.
	Destination Port: Not required. Port that the NVR uses to forward the received POS data.
	Timeout: Time that the NVR receives POS data before it stops. Default: 5s. Range: 1-3600s. If a stop identifier is configured, the NVR stops receiving POS data at the stop identifier; if no stop identifier is configured, the NVR stops receiving POS data when the timeout expires. The AVE protocol does not involve start and stop identifiers. Therefore, it is necessary to configure a timeout for the NVR to stop receiving POS data and to display POS information. If no timeout is configured, the NVR does not stop receiving POS data, and POS information cannot be displayed.
Camera	Choose the camera to which you want to overlay POS data.

4. Click **OK**.



☑ No.	Name	Status	Protocol	Connection	Camera	Edit	Delete
☑ 1	POS1	Enabled	POS	Network	D1	✎	🗑

- Click ⚙ to edit the POS.
- Click 🗑 to delete the POS.
- Click **Disable** to disable the POS.

8 System Configuration

This chapter describes how to configure the system parameters.

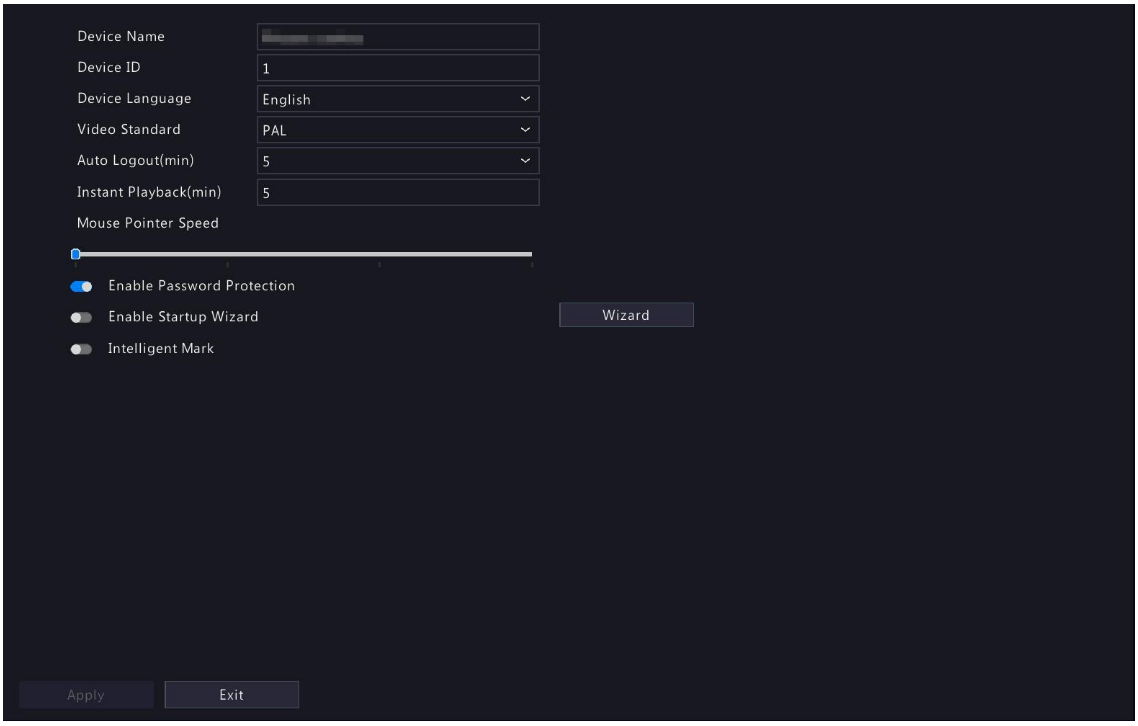
8.1 General Configuration

Configure device basic information, time display mode, DST, time synchronization mode, and holidays.

8.1.1 Basic Configuration

Configure the basic information of the system.

1. Go to **Menu** > **System** > **General** > **Basic Setup**.



Device Name [redacted]
Device ID 1
Device Language English
Video Standard PAL
Auto Logout(min) 5
Instant Playback(min) 5
Mouse Pointer Speed
● Enable Password Protection
○ Enable Startup Wizard
○ Intelligent Mark

2. Configure the basic parameters.

Parameter	Description
Device Name	The default name is the NVR model. You can change it as needed.
Device ID	Used to distinguish devices if you have more than one device. You can change it as needed.
Device Language	Choose the system language. The system will restart after you change the system language.
Video Standard	Choose a video standard, and then the device may automatically adjust the capture mode of the connected cameras. • PAL: 50Hz • NTSC: 60Hz
Auto Logout(min)	If you are not on the live view page and don't perform any operation, you will log out automatically when the set time is over, and the live view page will be displayed. Default: 5 minutes. You can change it as needed.
Instant Playback (min)	Set the instant playback time. Default: 5 minutes.
Mouse Pointer Speed	Drag the slider to adjust the speed (left to right: slow to fast).
Enable Password Protection	When the auto logout time is over, the user needs to enter the login password in order to access the main menu. This feature is enabled by default. **Note:** Only admin can change the setting.
Enable Startup Wizard	Startup wizard appears when the NVR starts up for the first time. When enabled, the startup wizard appears every time the device starts up. You may click **Wizard** to set wizard on the **Menu** page.
Intelligent Mark	When enabled, smart detection rules will be displayed on the live video, or smart detection objects will be marked, and the corresponding smart data will be displayed. Smart rules are yellow detection boxes or detection lines. Detection boxes have two colors with different meaning as described below: • Green: Data have changed but didn't trigger the rules. • Red: Data in the area have triggered the rules configured for the VCA alarm and a VCA alarm has occurred. **Note:** Some smart functions do not support this feature.

3. Click **Apply**.

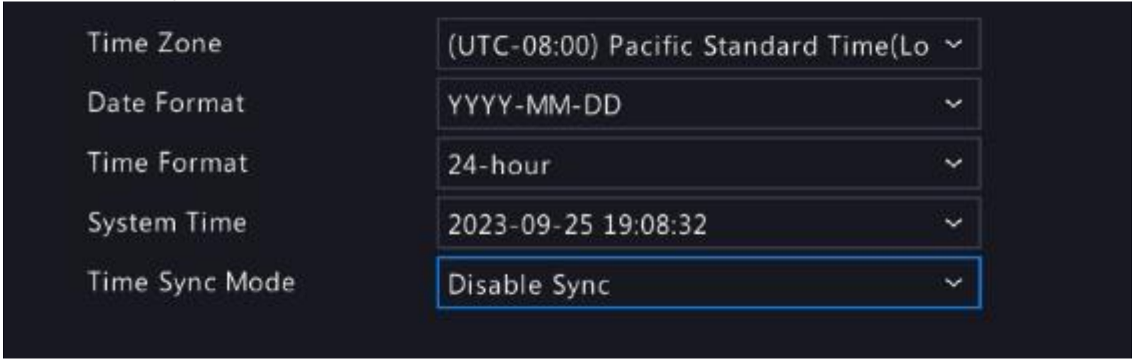
8.1.2 Time Configuration

Configure the time format and update method.

Note: If the device's battery is low, the following message will appear on the screen: Device time error. Please replace the button battery on the motherboard and reset the time.

Basic Time Config

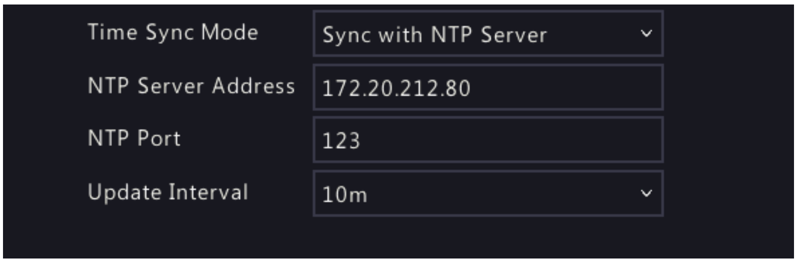
Go to **Menu** > **System** > **General** > **Time**. Choose the time zone, date, and time format as needed.



Time Zone: (UTC-08:00) Pacific Standard Time(Lo
Date Format: YYYY-MM-DD
Time Format: 24-hour
System Time: 2023-09-25 19:08:32
Time Sync Mode: Disable Sync

System Time

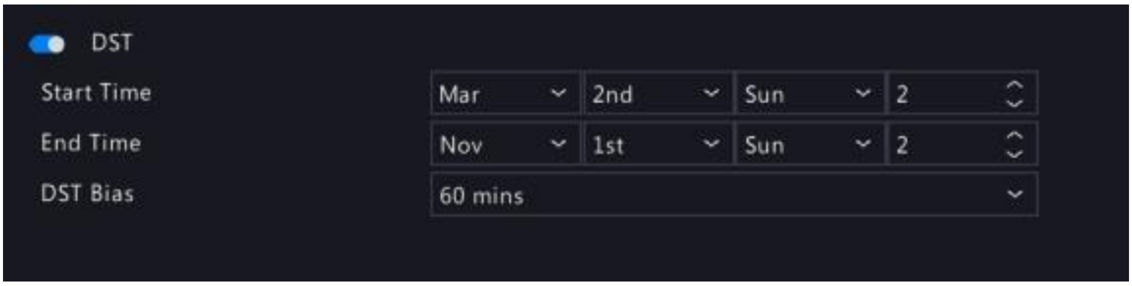
- Set the system time manually.
- Select the sync mode from the drop-down list, and then the system time will be updated based on the set mode. It is **Disable Sync** by default.

Sync Mode	Description
Sync with NTP Server	The system time will be synced from the NTP server. Configure parameters below as needed.  Time Sync Mode: Sync with NTP Server NTP Server Address: 172.20.212.80 NTP Port: 123 Update Interval: 10m

8.1.3 DST

Configure DST.

1. Go to **Menu** > **System** > **General** > **DST**.



DST
Start Time: Mar 2nd Sun 2
End Time: Nov 1st Sun 2
DST Bias: 60 mins

2. Enable DST.
3. Configure the parameters.
4. Click **Apply**.

8.1.4 Camera Time Synchronization

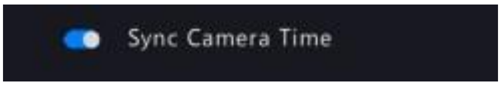
When **Sync Camera Time** is enabled, the NVR syncs time to the connected cameras regularly.

This feature is enabled by default.

Note:

- Time sync occurs when a camera goes online for the first time.
- If **Sync Camera Time** is enabled, time sync occurs every 30 minutes.

1. Go to **Menu** > **System** > **General** > **Time Sync**.



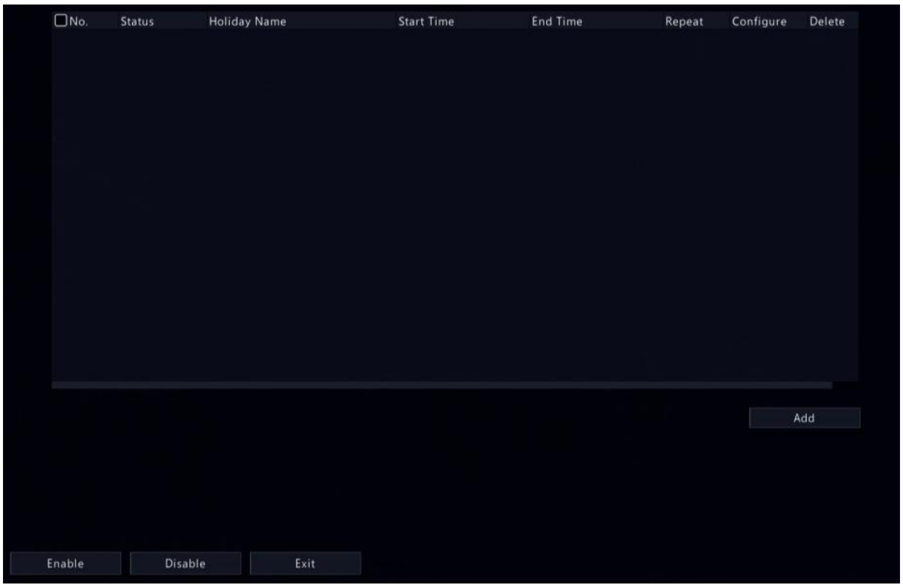
● Sync Camera Time

2. Enable/disable this feature as needed.
3. Click **Apply**.

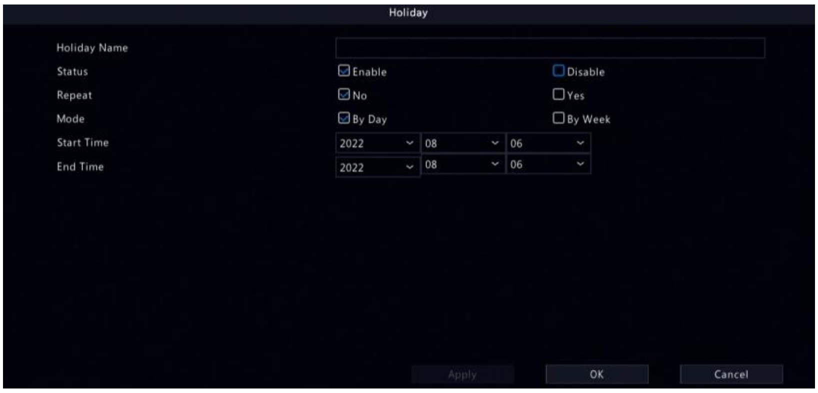
8.1.5 Holiday Configuration

Configure special time periods as holidays for use in recording schedules.

1. Go to **Menu** > **System** > **General** > **Holiday**.



2. Click **Add** in the lower-right corner.



Holiday

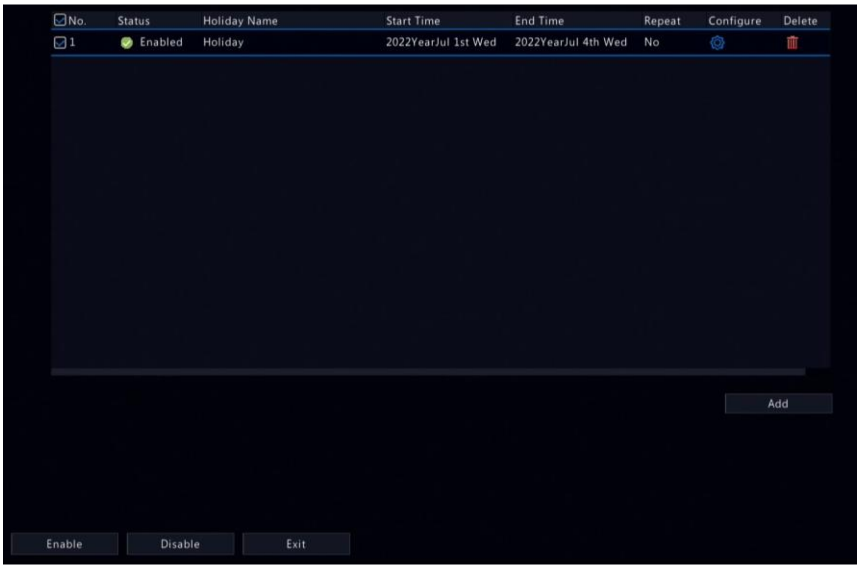
Holiday Name
Status ☑Enable ☐Disable
Repeat ☑No ☐Yes
Mode ☑By Day ☐By Week
Start Time 2022 08 06
End Time 2022 08 06

3. Configure the parameters.

Parameter	**Description**
Holiday Name	Set a meaningful and easy-to-remember holiday name.
Status	The new holiday is enabled by default. If you want to disable it, select **Disable**.

Parameter	Description
Repeat	• No: The holiday is effective once only in the specified year. Specify a year for the holiday. • Yes: The holiday is effective every year.
Mode	• By Day: Set the holiday in the specified format: year/month/day. • By Week: Set the holiday in the specified format: year/month/week/day of the week.
Start Time/End Time	Set according to the specified format.

4. Click **Apply**.
5. Click **OK**.



☑ No.	Status	Holiday Name	Start Time	End Time	Repeat	Configure	Delete
☑ 1	Enabled	Holiday	2022YearJul 1st Wed	2022YearJul 4th Wed	No		

- Click ⚙ to edit the current holiday.
- Click 🗑 to delete a holiday. Deleting a holiday will not delete the relevant recordings.
- Click **Disable** to disable the holiday.

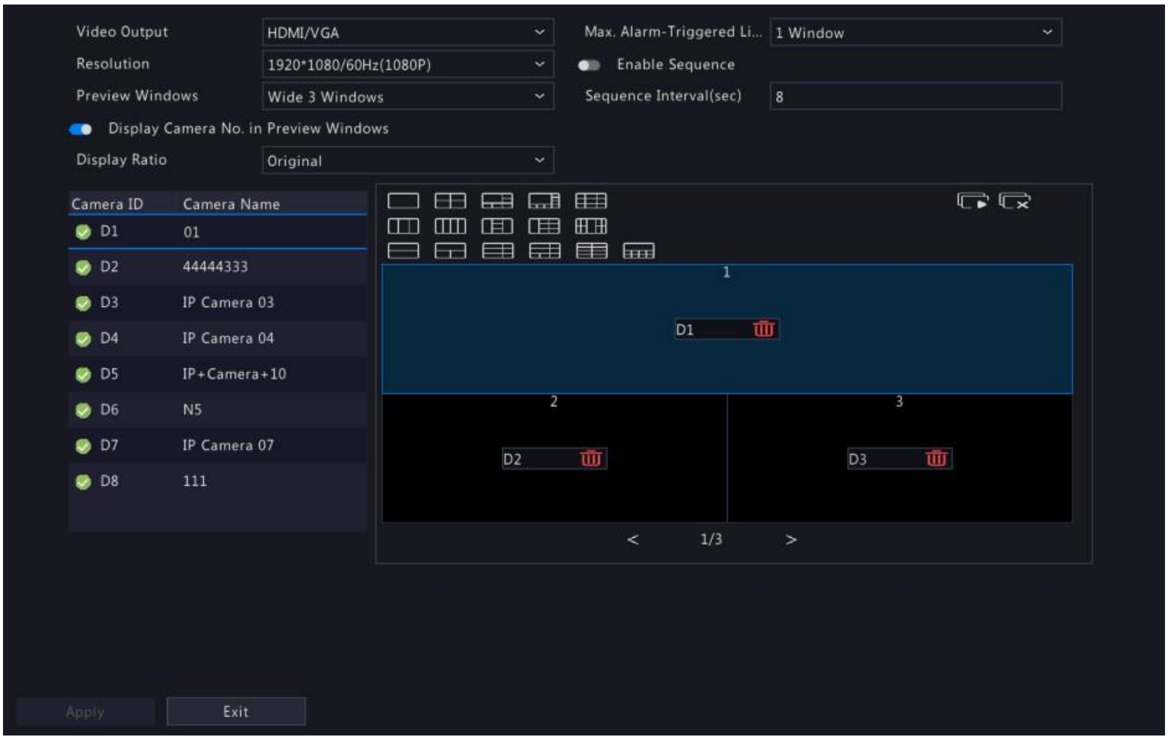
8.2 Preview Configuration

Configure the screen display and preferred stream type for preview.

8.2.1 Preview Configuration

Configure the basic preview parameters and display mode.

Go to **Menu** > **System** > **Preview** > **Preview**.



Video Output: HDMI/VGA

Resolution: 1920*1080/60Hz(1080P)

Preview Windows: Wide 3 Windows

● Display Camera No. in Preview Windows

Display Ratio: Original

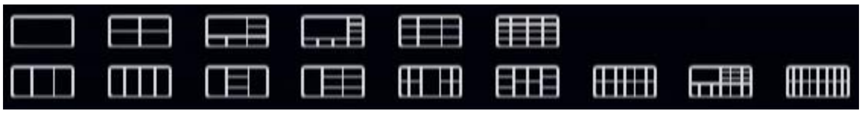
Max. Alarm-Triggered Li...: 1 Window

○ Enable Sequence

Sequence Interval(sec): 8

Camera ID	Camera Name
D1	01
D2	44444333
D3	IP Camera 03
D4	IP Camera 04
D5	IP+Camera+10
D6	N5
D7	IP Camera 07
D8	111

Basic Preview Configuration

Parameter	Description
Video Output	Outputs the system display to an external display device. Choose an output port. **Note:** The NVR provides three output ports (VGA, HDMI1/HDMI2, BNC) and can output the system display to three displays simultaneously for independent operations. The actual port types available may vary with device.
Resolution	The resolution includes the display format and refresh rate. The display format refers to the number of pixels that can be displayed on the screen, for example, 1920x1080, 1280x720, 1280x1024, etc. More pixels displayed means higher image quality. The refresh rate can be 60Hz, 50Hz, 25Hz, etc. Choose an option that best fits your needs.
Preview Windows	Displays images in the desired window layout. Choose an option from the list, or click an icon to choose the layout. 
Max. Alarm-Triggered Live View Windows	Three options: 1/4/9 windows. See Preview for more information.
Enable Sequence	Enable sequence. See Sequence for more information.
Sequence Interval(sec)	Set the sequence interval time. Default: 8 seconds.

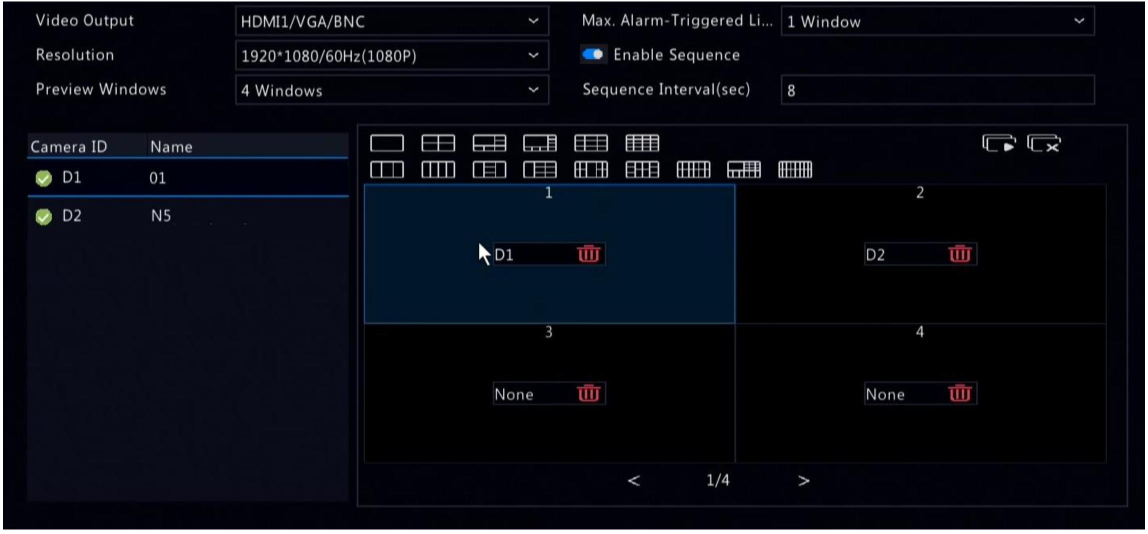
Display Camera No. in Preview Windows	When enabled, camera IDs will be displayed in live view windows. This feature is enabled by default.

Screen Configuration

By default, camera IDs correspond to live view windows: D1 to window 1, D2 to window 2, and so on. You can change the correspondence relationship as follows. The example below shows how to switch D1 and D2.

Note: You may also drag an image on the live view page to swap windows, and then view the changed window-channel binding relationship on this page. But this method requires the Configure permission, and it cannot switch windows that are not on the same screen.

1. Click window 1 on the right side. Window 1 is selected.

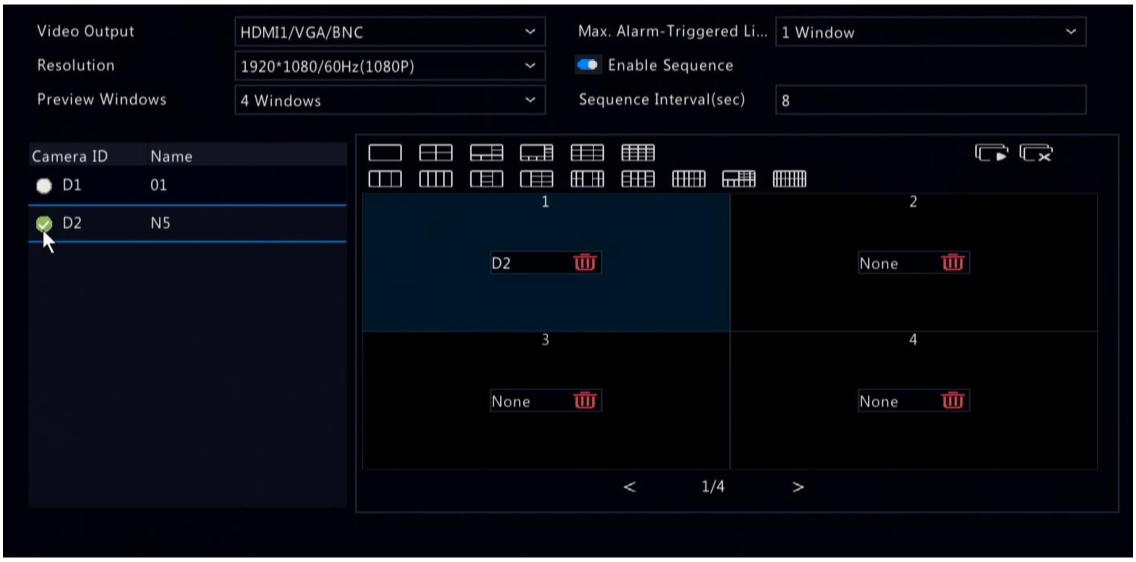


Video Output: HDMI1/VGA/BNC
Resolution: 1920*1080/60Hz(1080P)
Preview Windows: 4 Windows
Max. Alarm-Triggered Li...: 1 Window
Enable Sequence
Sequence Interval(sec): 8

Camera ID	Name
D1	01
D2	N5

1: D1
2: D2
3: None
4: None
1/4

2. Click D2 on the left-side channel list. Now window 1 shows D2, and window 2 shows None.



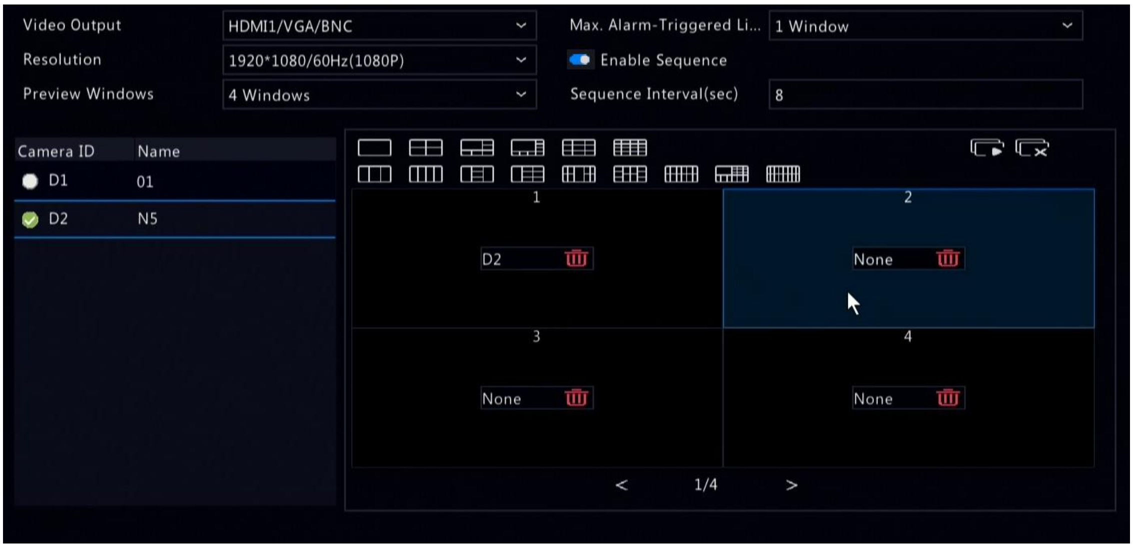
Video Output: HDMI1/VGA/BNC
Resolution: 1920*1080/60Hz(1080P)
Preview Windows: 4 Windows
Max. Alarm-Triggered Li...: 1 Window
Enable Sequence
Sequence Interval(sec): 8

Camera ID	Name
D1	01
D2	N5

1: D2
2: None
3: None
4: None
1/4

Note: On the left-side channel list, ○ is empty for D1, which means the channel is not bound to any window.

3. Click window 2 on the right side. Window 2 is selected.



Video Output: HDMI1/VGA/BNC

Resolution: 1920*1080/60Hz(1080P)

Preview Windows: 4 Windows

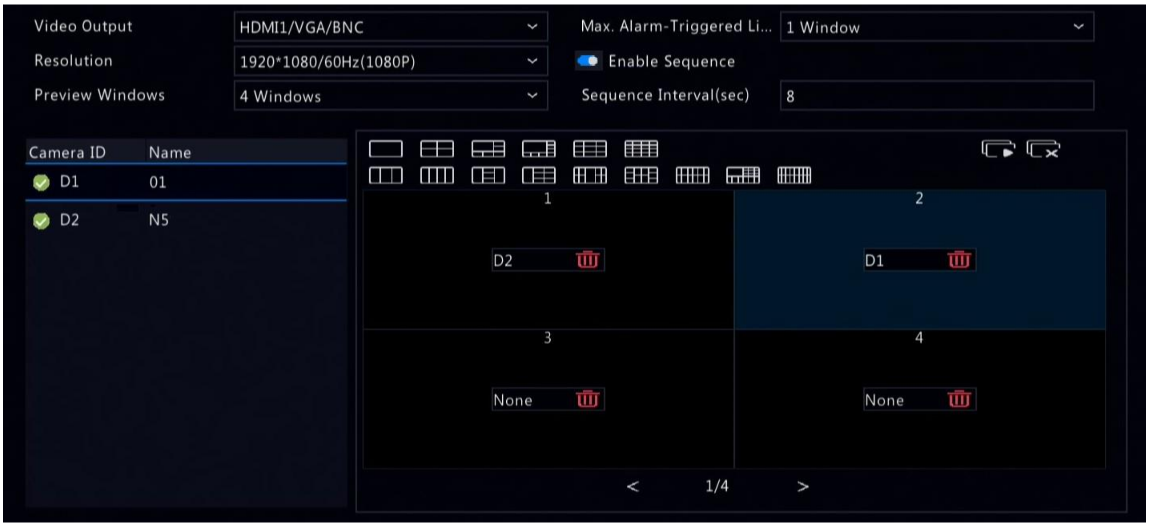
Max. Alarm-Triggered Li...: 1 Window

Enable Sequence

Sequence Interval(sec): 8

Camera ID	Name
D1	01
D2	N5

4. Click D1 on the left-side channel list. Now window 2 shows D1, which means D1 and D2 have switched windows with each other.



Video Output: HDMI1/VGA/BNC

Resolution: 1920*1080/60Hz(1080P)

Preview Windows: 4 Windows

Max. Alarm-Triggered Li...: 1 Window

Enable Sequence

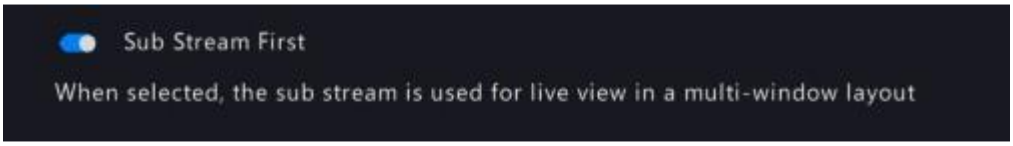
Sequence Interval(sec): 8

Camera ID	Name
D1	01
D2	N5

5. Click **Apply**.

8.2.2 Advanced Configuration

1. Go to **Menu** > **System** > **Preview** > **Advanced**.



Sub Stream First

When selected, the sub stream is used for live view in a multi-window layout

2. Enable **Sub Stream First**.
3. Click **Apply**.

8.3 Network Configuration

Configure the network parameters of the NVR, such as IP address.

Note: The default IP address of network interface is 192.168.0.100.

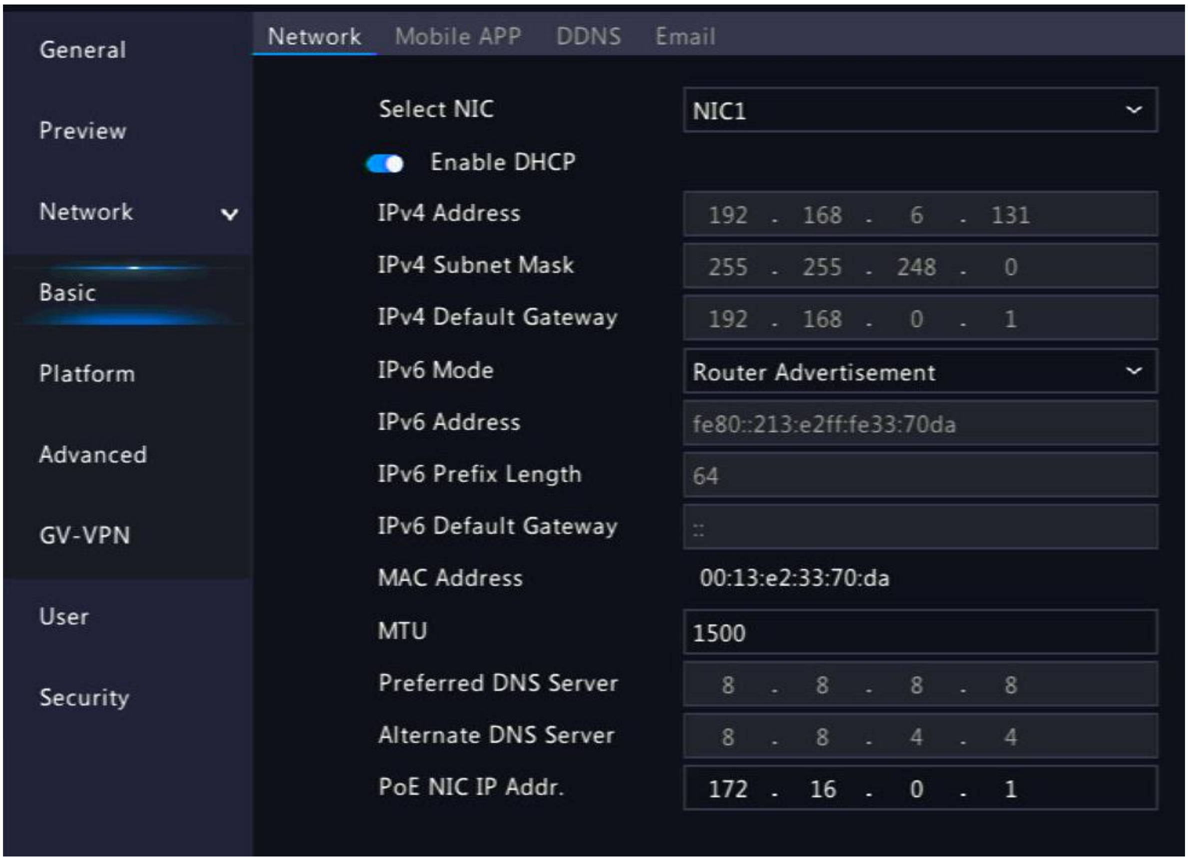
8.3.1 Basic Configuration

Configure the network, mobile app, DDNS, email, etc.

8.3.1.1 Network Configuration

Configure IP address and other network parameters of the NVR.

1. Go to **Menu** > **System** > **Network** > **Basic** > **Network**.



Select NIC: NIC1
Enable DHCP
IPv4 Address: 192 . 168 . 6 . 131
IPv4 Subnet Mask: 255 . 255 . 248 . 0
IPv4 Default Gateway: 192 . 168 . 0 . 1
IPv6 Mode: Router Advertisement
IPv6 Address: fe80::213:e2ff:fe33:70da
IPv6 Prefix Length: 64
IPv6 Default Gateway: ::
MAC Address: 00:13:e2:33:70:da
MTU: 1500
Preferred DNS Server: 8 . 8 . 8 . 8
Alternate DNS Server: 8 . 8 . 4 . 4
PoE NIC IP Addr.: 172 . 16 . 0 . 1

2. Configure the network parameters according to the actual network environment.

Note:

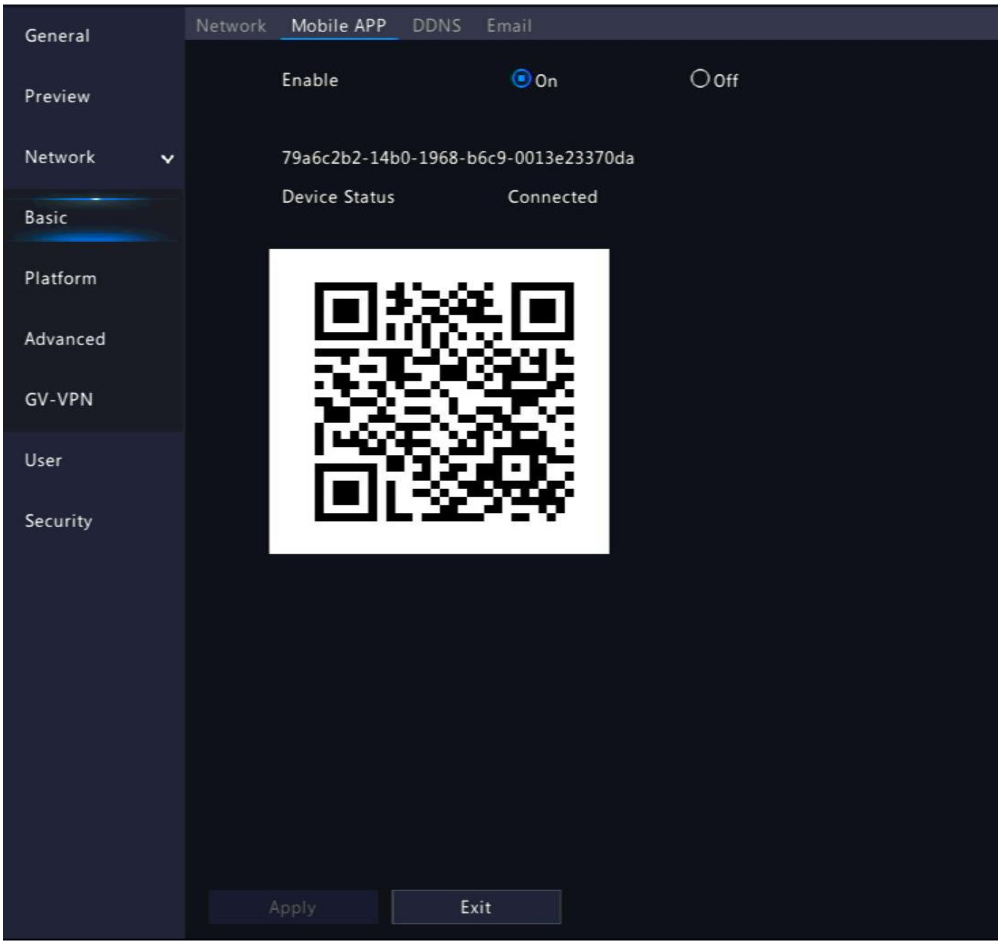
- For an NVR with PoE ports, you can configure an IPv4 address for the internal NIC.
- The MTU must be in the range of [576-1500]. To use IPv6, you must set MTU within [1280-1500], and make sure the IPv6 addresses of the NVR and PC are connected. To use functions such as live view, playback, make sure IPv4 addresses of the NVR and PC are also connected.

3. Click **Apply**.

8.3.1.2 Mobile APP

You can scan this QR cord with the GV-Eye mobile app to remote view the NVR. For details, see *GV-Relay QR Code* in the GV-Eye Installation Guide.

Go to **Menu** > **System** > **Network** > **Basic** > **Mobile APP** .



Enable ● On ○ Off

79a6c2b2-14b0-1968-b6c9-0013e23370da

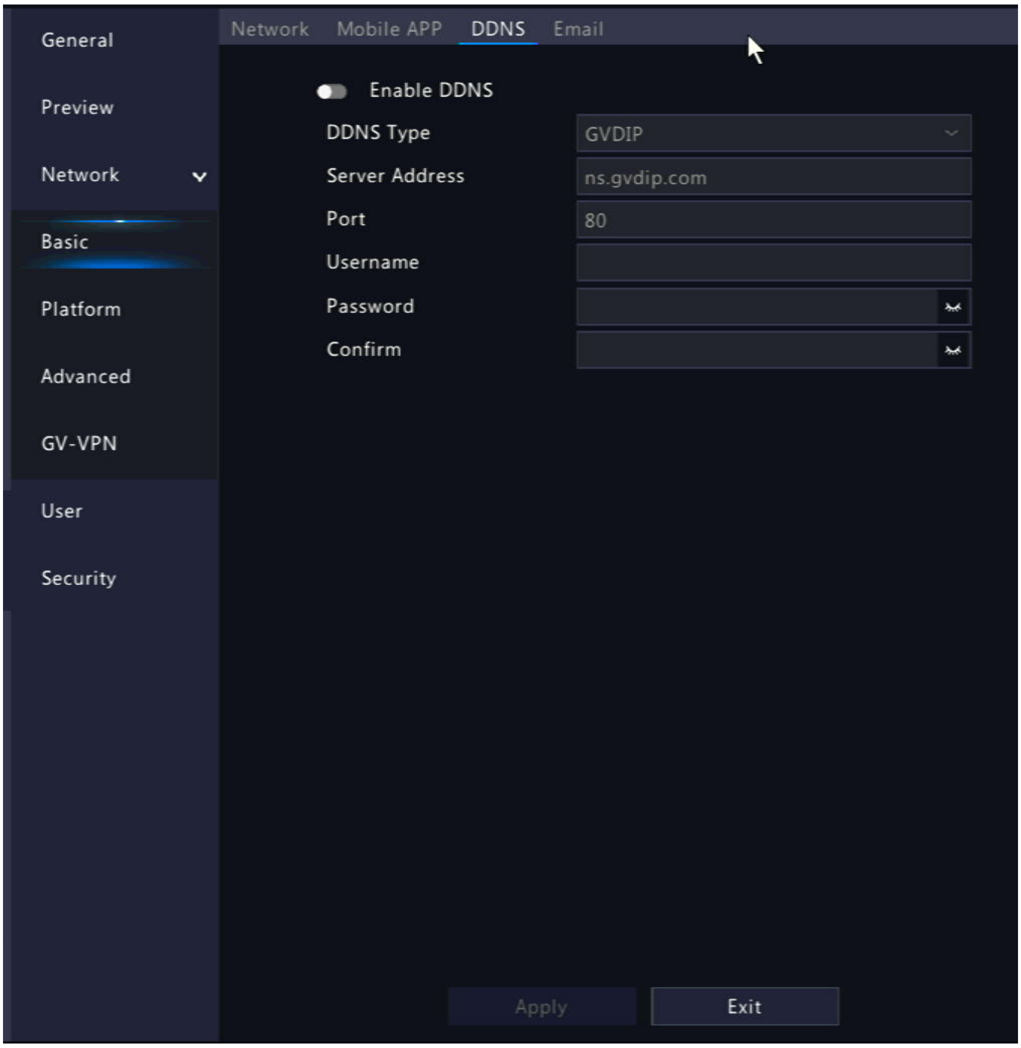
Device Status Connected

8.3.1.3 DDNS

Configure DDNS so you can access the NVR on the LAN from the Internet by visiting a fixed domain name instead of the changing IP addresses.

Note: You can open the NVR's Web page by visiting **http://*server address/NVR's domain name*** using a Web browser.

1. Go to **Menu** > **System** > **Network** > **Basic** > **DDNS**.



Enable DDNS

DDNS Type: GVDIP

Server Address: ns.gvdip.com

Port: 80

Username

Password

Confirm

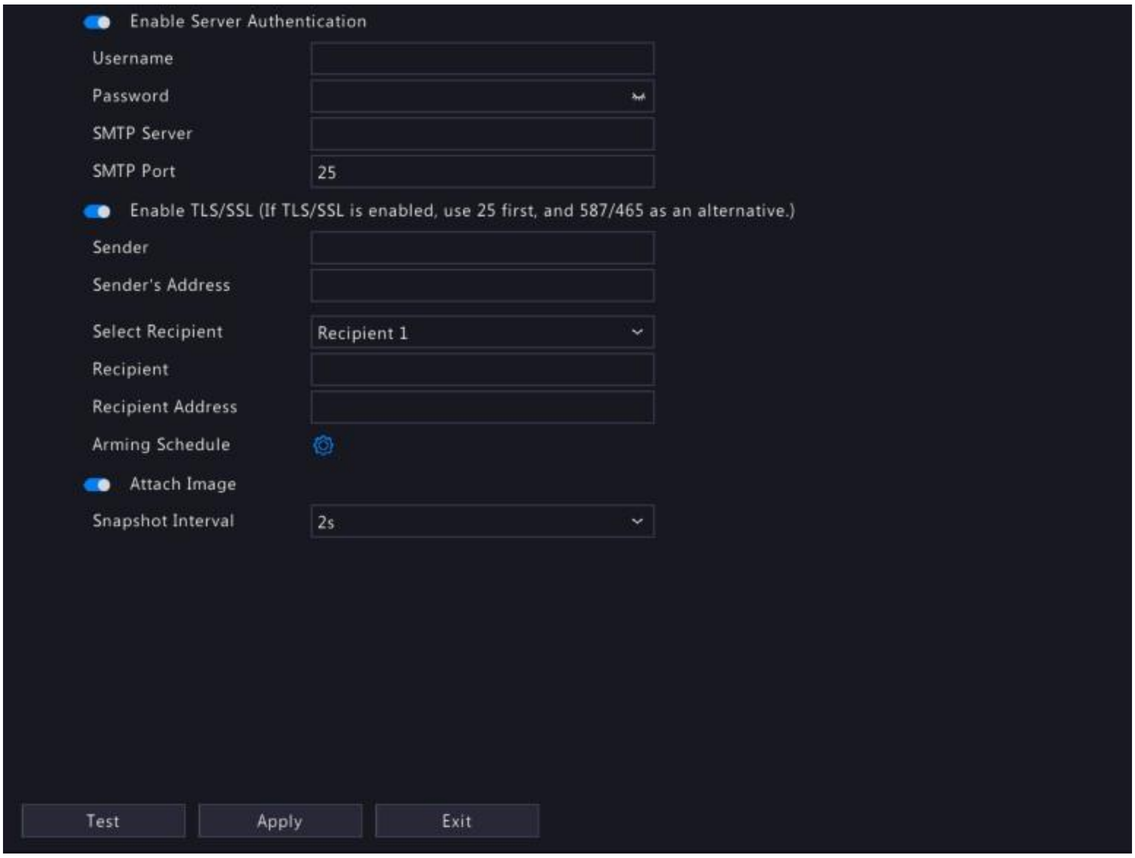
2. Enable DDNS, choose a DDNS type, and configure the parameters.
   - DynDNS/No-IP: Third-party DDNS service provider. Enter the domain name and username/password that you acquired from your DDNS service provider.
     - Domain name: Domain name assigned by your DDNS service provider.
     - Username and password: The corresponding username/password for your DDNS account.
   - GVDIP: DDNS service provided by GeoVision.
3. Click **Apply**.

8.3.1.4 Email

Configure email so the NVR can send alarm information to specified users through email when an alarm occurs.

Note: Select the **Send Email** checkbox on the **Trigger Actions** page before you start configuration.

1. Go to **Menu** > **System** > **Network** > **Basic** > **Email**.



Enable Server Authentication

Username

Password

SMTP Server

SMTP Port: 25

Enable TLS/SSL (If TLS/SSL is enabled, use 25 first, and 587/465 as an alternative.)

Sender

Sender's Address

Select Recipient: Recipient 1

Recipient

Recipient Address

Arming Schedule

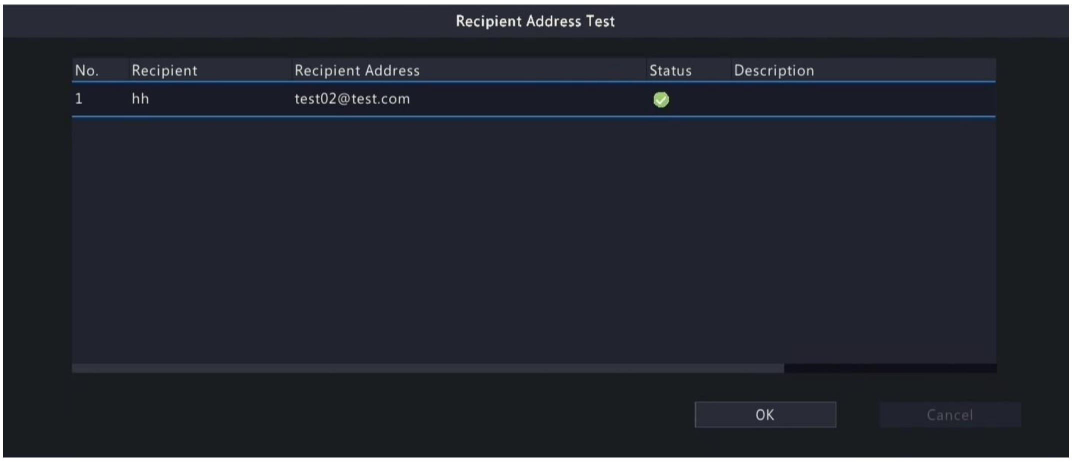
Attach Image

Snapshot Interval: 2s

2. Configure the parameters.

Parameter	Description
Enable Server Authentication	SMTP server authentication, when enabled, can enhance email security. This feature is disabled by default. To enable it, you need to enter the correct username and password.
Username/Password	Username and password of the SMTP server. Usually it is the username and password of the email box.
SMTP Server	SMTP server address.
SMTP Port	Default: 25. Range: [1-65535].
Enable TLS/SSL	When enabled, communication security will be improved by encrypting emails via TLS or SSL. This feature requires the SMTP server to support TLS/SSL. **Note:** After TLS/SSL is enabled, if email sending via port 25 failed, try 587 or 465.
Sender	Sender's name.
Sender's Address	Sender's email address, which can the same as the recipient's address.
Select Recipient	Choose a recipient from the list and then complete the recipient information. Up to 6 recipients are allowed. **Note:** Select Send Email, user can receive the corresponding alarm.
Recipient	Recipient's name.
Recipient Address	Recipient's email address.
Arming Schedule	Click ⚙ to configure an arming schedule. See Arming Schedule.
Attach Image	When enabled, the NVR will send an email attached with alarm information and snapshot(s) every a snapshot interval when an alarm occurs. When disabled, the NVR will send only an email with alarm information when an alarm occurs. **Note:** This function is only available to certain devices.
Snapshot Interval	Options are 2s (default), 3s, 4s, and 5s.

3. Click **Test**. The system will check the recipient address by sending it a test email. ✓ in the **Status** column means the test succeeded and the email address is valid.



Recipient Address Test

No.	Recipient	Recipient Address	Status	Description
1	hh	test02@test.com	✓	

4. Click **Apply**.

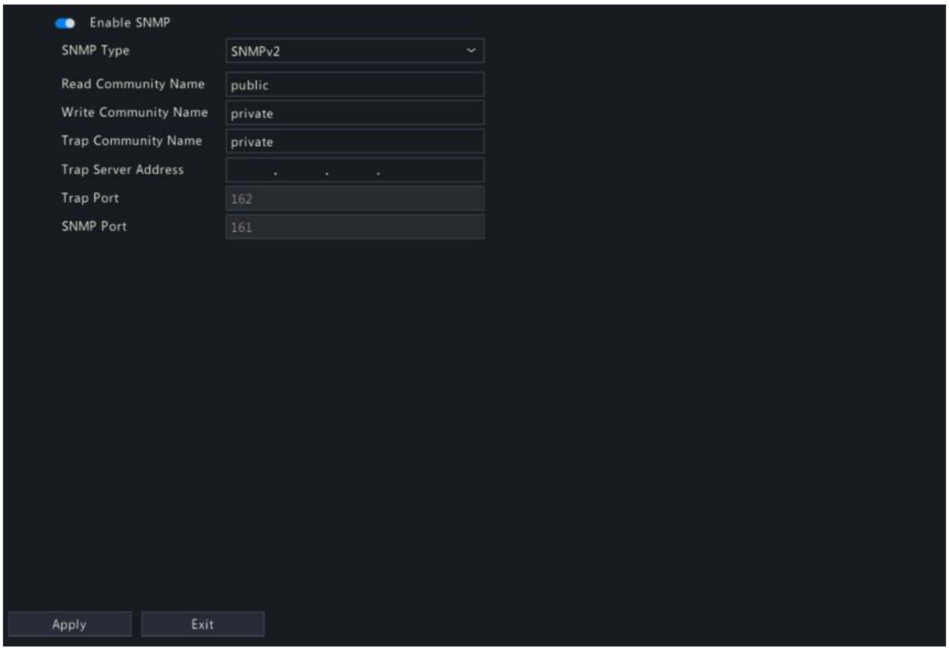
8.3.2 Platform Configuration

Configure an upper platform for the NVR.

8.3.2.1 SNMP

The NVR can use SNMP to interconnect with the upper platform and transfer certain configuration information.

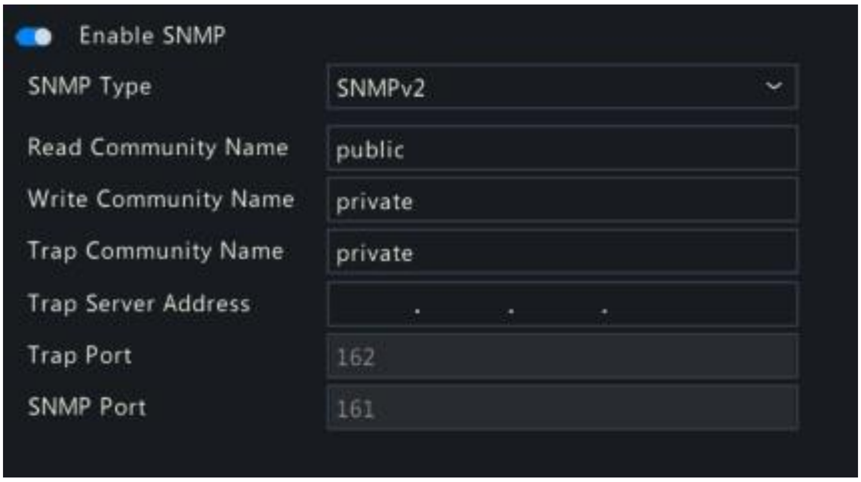
1. Go to **Menu** > **System** > **Network** > **Platform** > **SNMP**.
2. Enable SNMP.



Enable SNMP
SNMP Type: SNMPv2
Read Community Name: public
Write Community Name: private
Trap Community Name: private
Trap Server Address: . . .
Trap Port: 162
SNMP Port: 161

3. Choose an SNMP type and configure the parameters.
   - SNMPv2:

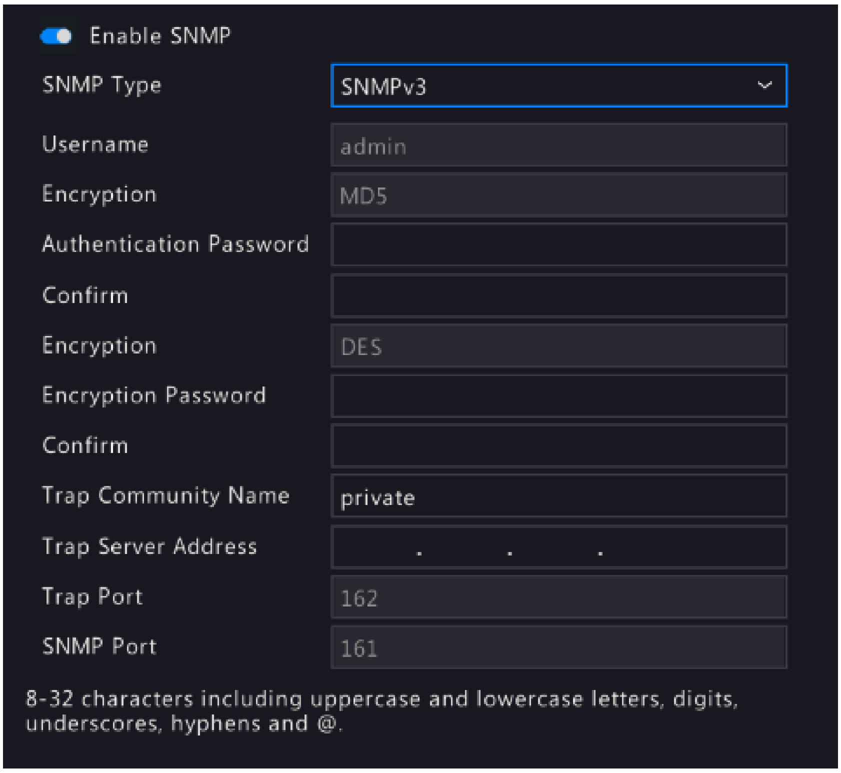
     Set the read community's name and write community name for the platform to read NVR data.



Enable SNMP
SNMP Type: SNMPv2
Read Community Name: public
Write Community Name: private
Trap Community Name: private
Trap Server Address: . . .
Trap Port: 162
SNMP Port: 161

   - SNMPv3:

     Set authentication password and encryption password. The authentication password is used by the platform to access the NVR. The encryption password is used to encrypt data sent from the NVR to the platform.



Enable SNMP

SNMP Type: SNMPv3

Username: admin

Encryption: MD5

Authentication Password:

Confirm:

Encryption: DES

Encryption Password:

Confirm:

Trap Community Name: private

Trap Server Address: . . .

Trap Port: 162

SNMP Port: 161

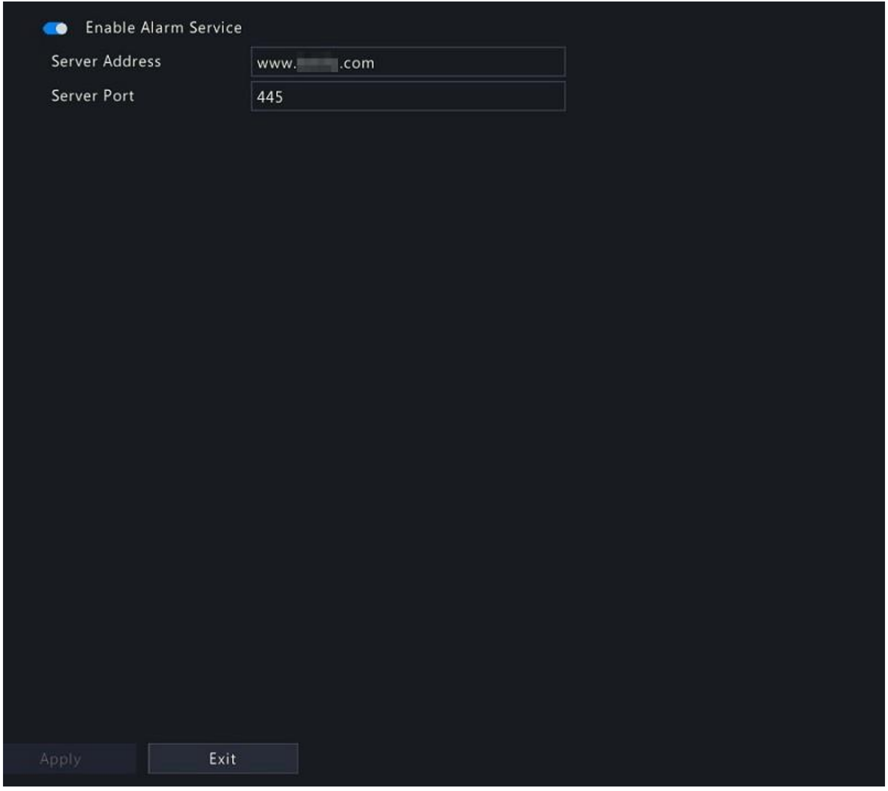
8-32 characters including uppercase and lowercase letters, digits, underscores, hyphens and @.

4. Click **Apply**.

8.3.2.2 Alarm Service

Configure an upper server to receive alarms and images from the NVR.

1. Go to **Menu** > **System** > **Network** > **Platform** > **Alarm Service**.



Enable Alarm Service

Server Address: www.[redacted].com

Server Port: 445

2. Enable alarm service.

3. Configure the parameters.

Parameter	Description
Server Address	Upper server's IP address or domain name.
Server Port	Upper server's port number.

Note: This configuration only enables the sending of alarm-related packets to the alarm host. The specific alarm methods on the alarm host need to be configured separately.

4. Click **Apply**.

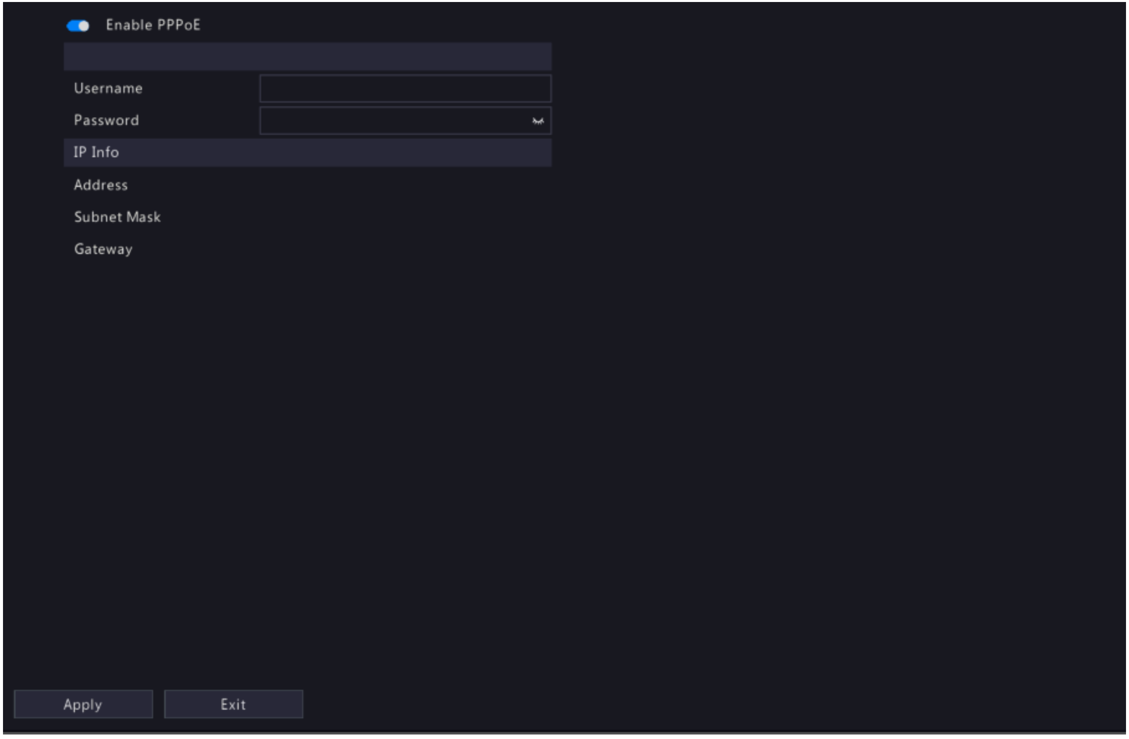
8.3.3 Advanced Configuration

Configure PPPoE, ports, port mapping, multicast, and FTP.

8.3.3.1 PPPoE

Use Point to Point Protocol over Ethernet (PPPoE) to connect the NVR to network.

1. Go to **Menu** > **System** > **Network** > **Advanced** > **PPPoE**.



2. Enable PPPoE.
3. Enter the username and password provided by the Internet Service Provider (ISP). IP information is displayed when dial-up succeeds.

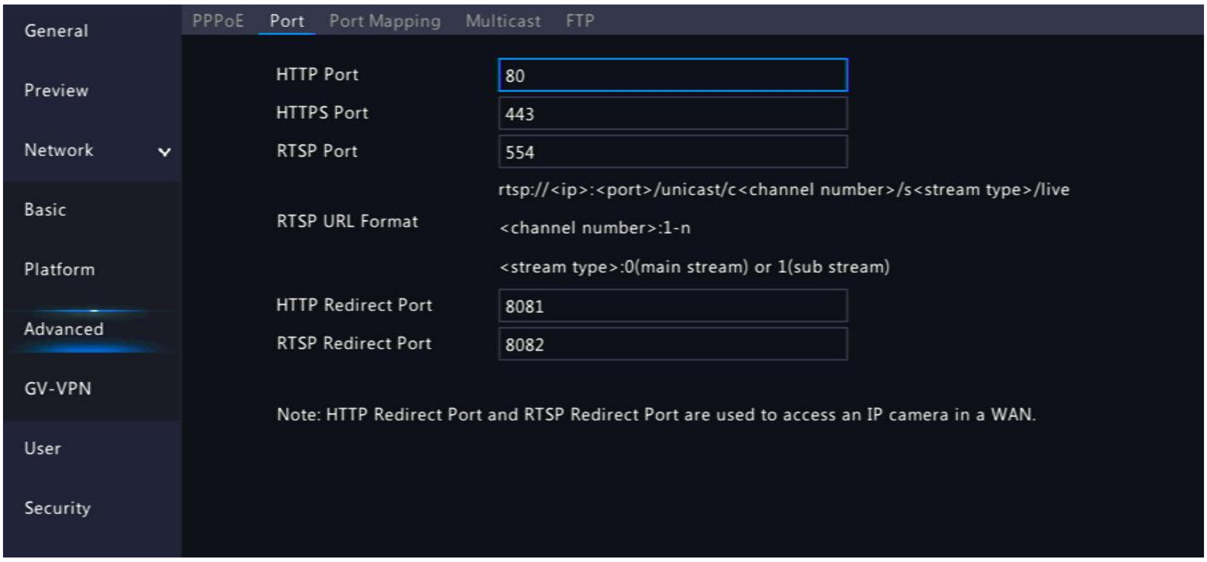
   Note: For a multi-NIC device, dial-up shall be performed on the NIC that is configured as the default route.

4. Click **Apply**.

8.3.3.2 Port

Configure HTTP, HTTPS, RTSP, HTTP redirect port, and RTSP redirect port.

1. Go to **Menu** > **System** > **Network** > **Advanced** > **Port**.



HTTP Port: 80
HTTPS Port: 443
RTSP Port: 554
RTSP URL Format: rtsp://<ip>:<port>/unicast/c<channel number>/s<stream type>/live
<channel number>:1-n
<stream type>:0(main stream) or 1(sub stream)
HTTP Redirect Port: 8081
RTSP Redirect Port: 8082

Note: HTTP Redirect Port and RTSP Redirect Port are used to access an IP camera in a WAN.

2. Configure the ports.

Note:

- The port range is 1-65535, among which, ports 21, 23, 2000, 3702 and 60000 are reserved for other purposes. Duplicate ports are not allowed.
- The upper platform can access the live video of a camera using the displayed RTSP URL.

3. Click **Apply**.

8.3.3.3 Port Mapping

Configure port mapping so client computers can access the NVR on the LAN across the Internet.

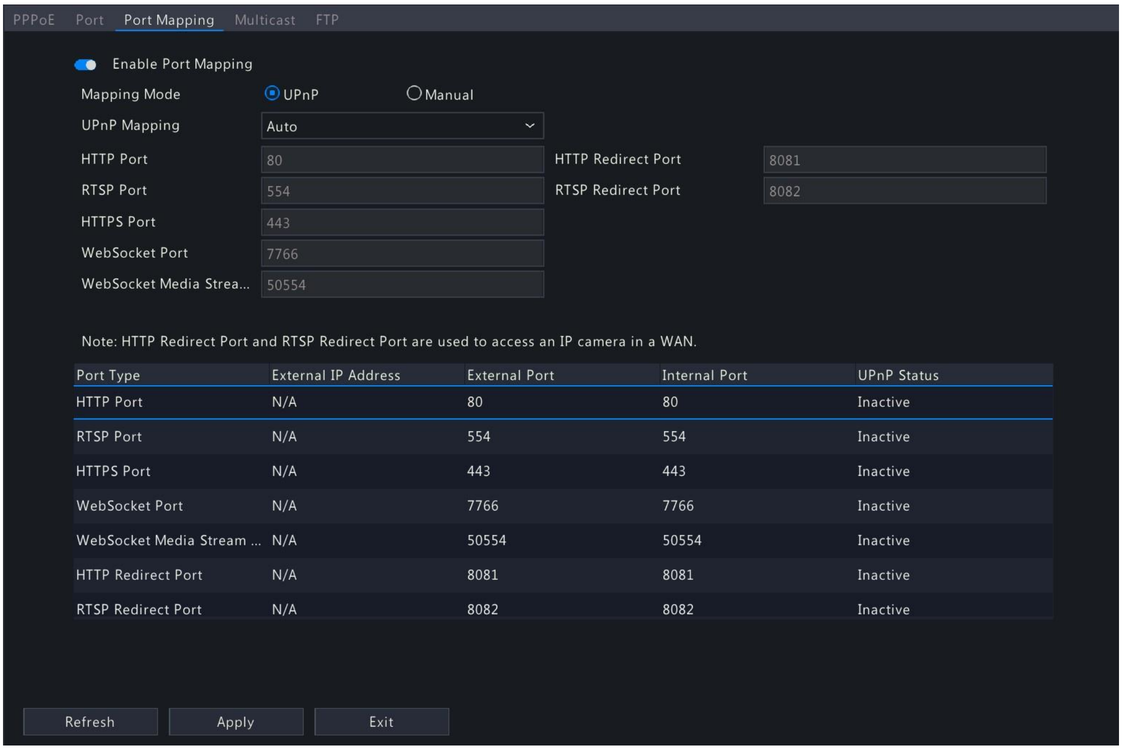
1. Go to **Menu** > **System** > **Network** > **Advanced** > **Port Mapping**.
2. Port mapping is enabled by default. You can choose a mapping mode, UPnP or manual port mapping.

UPnP

UPnP is short for Universal Plug and Play. UPnP-enabled network address translation (NAT) can perform automatic port mapping to enable client computers to access the NVR on the LAN from the Internet.

Note: This function requires router support. You need to enable UPnP on the router before starting configuration on the NVR.

1. Choose the **UPnP** mapping mode.



Enable Port Mapping
Mapping Mode ● UPnP ○ Manual
UPnP Mapping: Auto
HTTP Port: 80
HTTP Redirect Port: 8081
RTSP Port: 554
RTSP Redirect Port: 8082
HTTPS Port: 443
WebSocket Port: 7766
WebSocket Media Strea...: 50554

Note: HTTP Redirect Port and RTSP Redirect Port are used to access an IP camera in a WAN.

Port Type	External IP Address	External Port	Internal Port	UPnP Status
HTTP Port	N/A	80	80	Inactive
RTSP Port	N/A	554	554	Inactive
HTTPS Port	N/A	443	443	Inactive
WebSocket Port	N/A	7766	7766	Inactive
WebSocket Media Stream ...	N/A	50554	50554	Inactive
HTTP Redirect Port	N/A	8081	8081	Inactive
RTSP Redirect Port	N/A	8082	8082	Inactive

2. Choose a mode from the **UPnP Mapping** list:
    - Auto: The NVR automatically assigns external port numbers, which are usually the same as the internal port numbers.
    - Specify ports: User specifies ports within the range of [1-65535].

    Note:

    - Auto is recommended. Port conflict may occur when external ports are specified manually.
    - For a multi-NIC NVR, port mapping shall be performed on the NIC that is configured as the default route.
3. Click **Refresh**, and check whether **Active** is displayed in the **UPnP Status** column.
4. Click **Apply**.

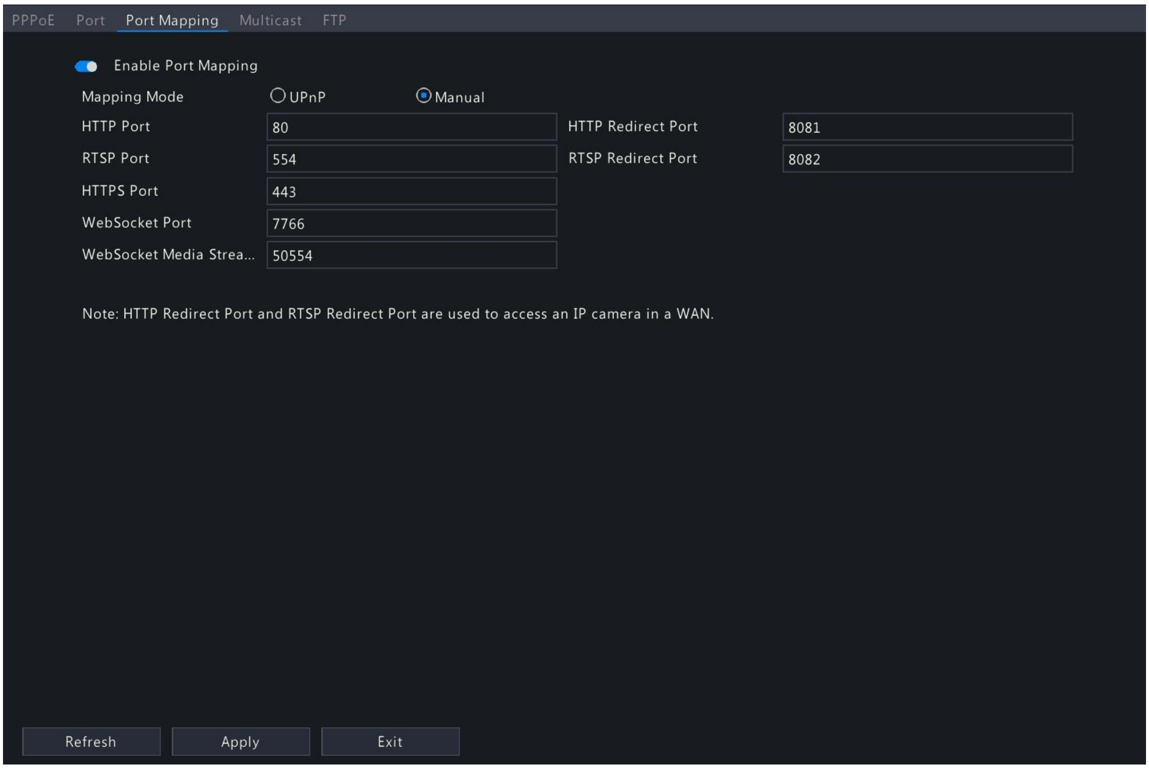
Manual

If the router does not support UPnP, you must configure internal and external ports manually.

Note:

- Make sure the ports configured on the NVR are consistent with that configured on the router.
- For some routers, the NVR's external and internal ports must be the same, and they also must be the same as the ports on the router.

1. Choose the **Manual** mapping mode.



Enable Port Mapping

Mapping Mode ○ UPnP ● Manual

HTTP Port	80	HTTP Redirect Port	8081
RTSP Port	554	RTSP Redirect Port	8082
HTTPS Port	443		
WebSocket Port	7766		
WebSocket Media Strea...	50554		

Note: HTTP Redirect Port and RTSP Redirect Port are used to access an IP camera in a WAN.

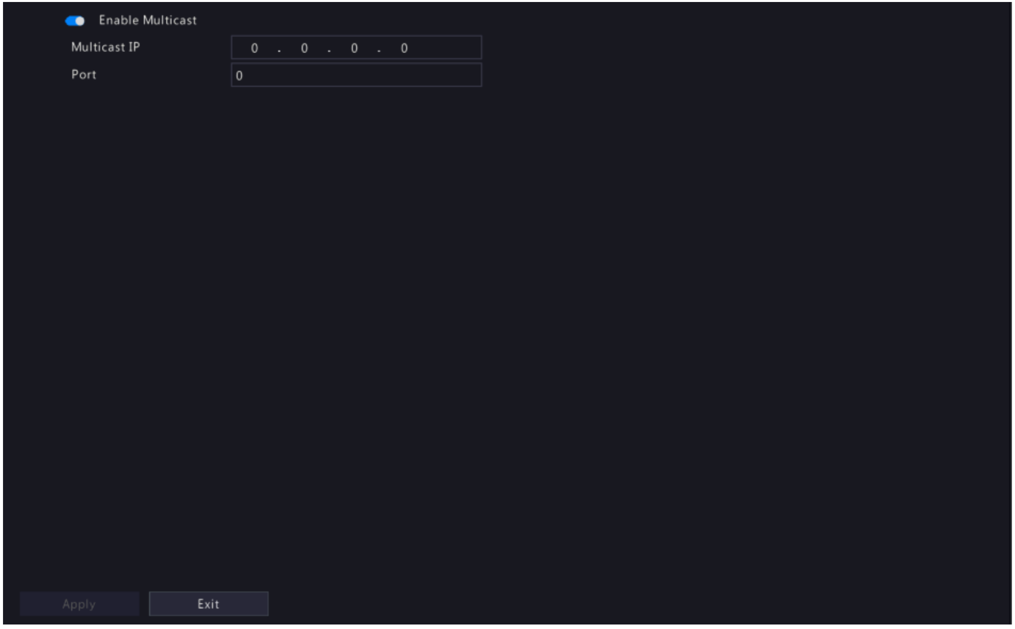
2. Set the external ports manually.
3. Click **Apply**.

Note: After port mapping is configured, you can open the Web interface using the following address: *Router's WAN IP:external HTTP port*. For example, the router's external IP address is 10.2.2.10, and the external HTTP port is 82, then enter http://10.2.2.10:82 in the Web browser's address bar.

8.3.3.4 Multicast

When the number of users accessing the Web client has reached the upper limit and live video is unavailable, you can use multicast to solve this issue.

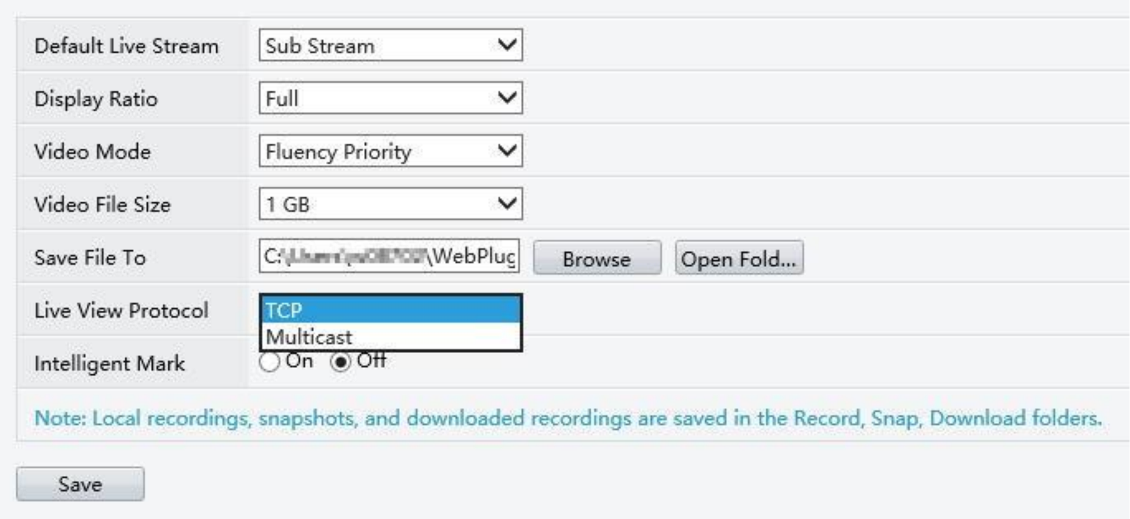
1. Go to **Menu** > **System** > **Network** > **Advanced** > **Multicast**.



Enable Multicast

Multicast IP	0 . 0 . 0 . 0
Port	0

2. Enable multicast, enter the multicast IP address and port number.
3. Click **Apply**.
4. Log in to the Web interface, go to **Setup** > **Client**, set **Live View Protocol** to **Multicast**. Now live view is available through multicast.



Default Live Stream	Sub Stream
Display Ratio	Full
Video Mode	Fluency Priority
Video File Size	1 GB
Save File To	C:\[redacted]\WebPluc
Live View Protocol	TCP Multicast
Intelligent Mark	○ On ● Off

Note: Local recordings, snapshots, and downloaded recordings are saved in the Record, Snap, Download folders.

Note:

- IP multicast addresses are class-D addresses. 224.0.1.0 - 238.255.255.255 can be used on the Internet.
- In the range of 224.0.0.0 - 239.255.255.255, some are reserved for special uses, for example, 224.0.0.0 - 244.0.0.255 can only be used on the LAN, where packets with these addresses will not be forwarded by a router; 224.0.0.1 is used by all the hosts on the subnet; 224.0.0.2 is used by all the routers on the subnet; 224.0.0.5 is used by OSPF routers; 224.0.0.13 is used by PIMv2 routers; and 239.0.0.0 - 239.255.255.255 are private addresses (e.g., 192.168.x.x).

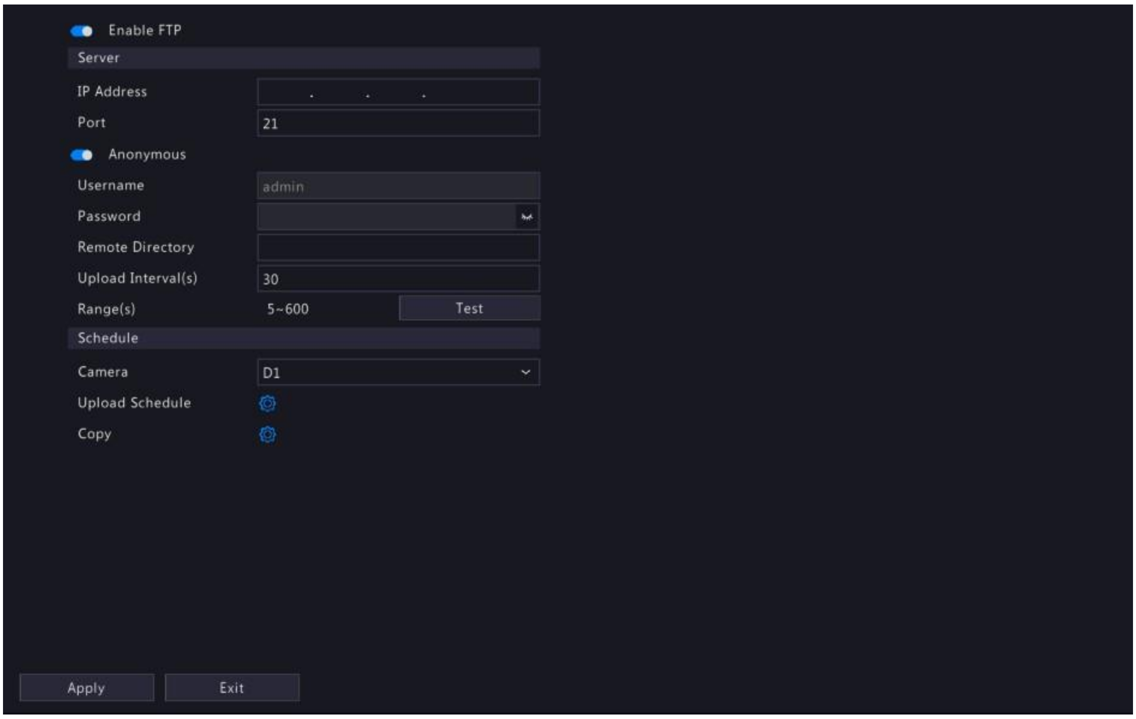
8.3.3.5 FTP

Configure FTP so the NVR can upload images to the FTP server.

Note:

- This feature is only available to certain NVRs.
- To use this feature, you need to deploy an FTP server first.
- After the FTP server is enabled and connected, the NVR can automatically upload images to the FTP server.

1. Go to **Menu** > **System** > **Network** > **Advanced** > **FTP**.



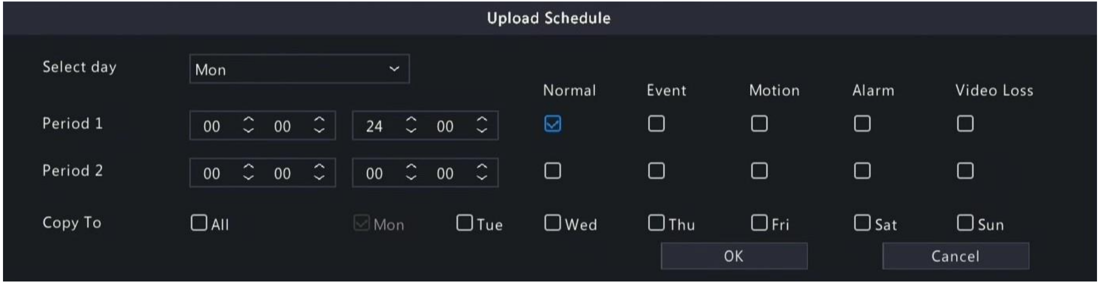
Enable FTP
Server
IP Address: . . .
Port: 21
Anonymous
Username: admin
Password
Remote Directory
Upload Interval(s): 30
Range(s): 5~600
Schedule
Camera: D1
Upload Schedule
Copy

2. Enable FTP.
3. Configure server parameters. Click **Test** to test the connection between the NVR and the FTP server.

Parameter	Description
IP Address	FTP server address.
Port	The default is 21. You can set a different port as needed.
Anonymous	When enabled, the NVR will connect to the FTP server as anonymous user without username/password required.
Username	Username used to access the FTP server.
Password	Password used to access the FTP server.

Remote Directory	Input the remote directory in the correct format (abc/efg/xyz), and the system will create folders level by level accordingly under the root directory, and then create different folders based on IP, time, and channel. **Note:** • For example, if the remote directory is abc, then the created folder is FTP > abc > 206.2.5.8 > 2022-10-08 > D5. If the remote directory is abc/efg/xyz, then the created folder is FTP > abc efg > xyz > 206.2.5.8 > 2022-10-08 > D5. • If the remote directory is empty, the system will create folders under the root directory based on IP, time, and channel, for example, FTP > 206.2.5.8 > 2022-10-08 > D5.
Upload Interval(s)	The NVR uploads images captured within the set periods to the FTP server at the set interval. The default is 30s. You can alter the setting as needed.
Range(s)	Show the range of image upload interval: [5-600]s

4. Set an upload schedule.
   (1) Choose a camera from the list.
   (2) Click ⚙ behind **Upload Schedule**, configure time periods during which the camera will upload images of the desired type(s). Click **OK**.



Select day: Mon

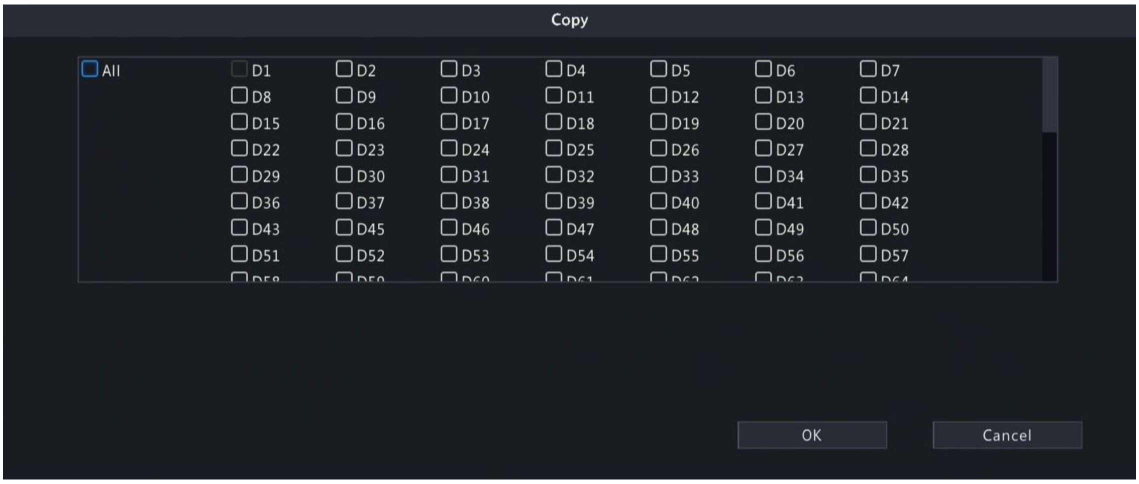
Period 1: 00:00 – 24:00, ☑ Normal ☐ Event ☐ Motion ☐ Alarm ☐ Video Loss

Period 2: 00:00 – 00:00, ☐ Normal ☐ Event ☐ Motion ☐ Alarm ☐ Video Loss

Note:

- Two image upload periods are allowed each day, and the periods must not overlap.
- To apply the schedule to other days, select **All** or days and then click **OK**.

5. (Optional) To apply the current upload schedule to other cameras, click ⚙ behind **Copy**, select cameras, and then click **OK**.


Copy
☐ All
☐ D1 ☐ D2 ☐ D3 ☐ D4 ☐ D5 ☐ D6 ☐ D7
☐ D8 ☐ D9 ☐ D10 ☐ D11 ☐ D12 ☐ D13 ☐ D14
☐ D15 ☐ D16 ☐ D17 ☐ D18 ☐ D19 ☐ D20 ☐ D21
☐ D22 ☐ D23 ☐ D24 ☐ D25 ☐ D26 ☐ D27 ☐ D28
☐ D29 ☐ D30 ☐ D31 ☐ D32 ☐ D33 ☐ D34 ☐ D35
☐ D36 ☐ D37 ☐ D38 ☐ D39 ☐ D40 ☐ D41 ☐ D42
☐ D43 ☐ D45 ☐ D46 ☐ D47 ☐ D48 ☐ D49 ☐ D50
☐ D51 ☐ D52 ☐ D53 ☐ D54 ☐ D55 ☐ D56 ☐ D57
OK
Cancel

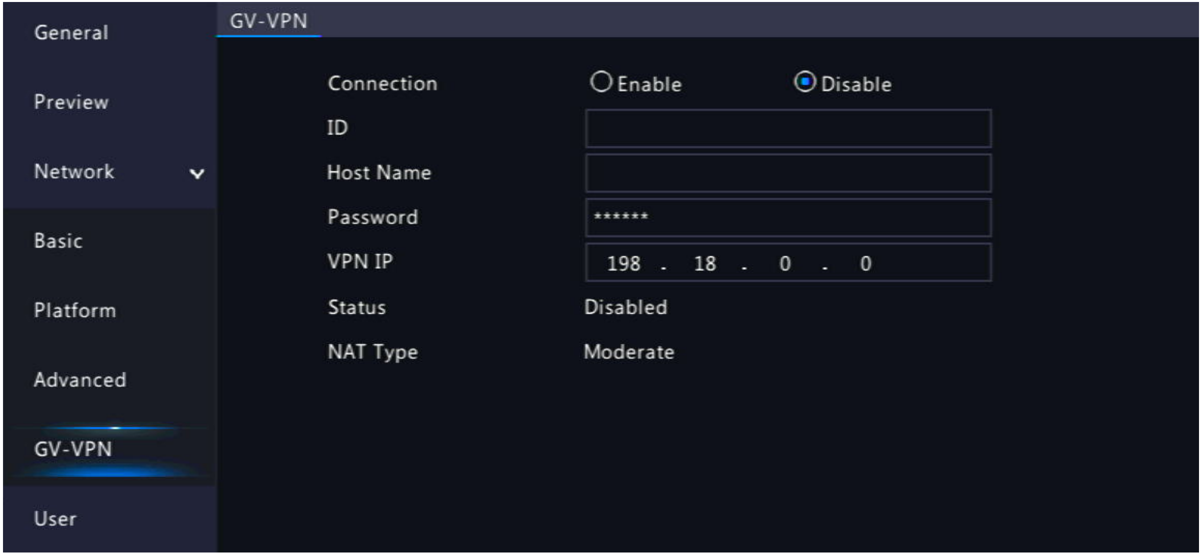
6. Click **Apply**.

8.3.4 GV-VPN

GV-VPN is an application powered by P2P VPN technology and the cloud-based GV-Cloud platform. It enables users to create a secure virtual private network (VPN) environment that connects multiple NVRs. With GV-VPN, there is no need for complex router configurations — the NVRs are seamlessly linked within the same virtual network.

For details, see *GV-VPN Guide*.

1. Go to **Menu** > **System** > **Network** > **GV-VPN**.



Connection ○ Enable ● Disable
ID
Host Name
Password ******
VPN IP 198 . 18 . 0 . 0
Status Disabled
NAT Type Moderate

2. Click **Refresh** to refresh the wireless hotspot list.
3. Choose the desired hotspot and then click 🔗 to connect it.

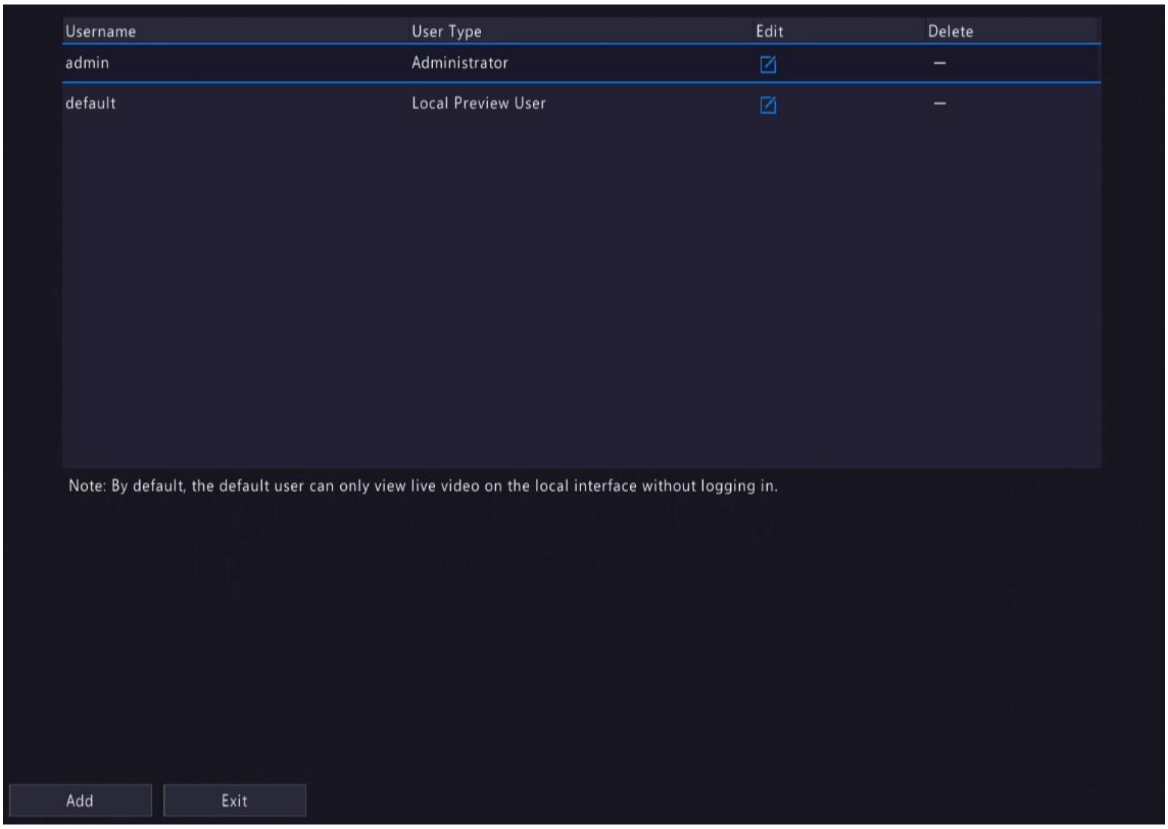
8.4 User Configuration

Users are entities that manage and operate the system. A user type is a set of operation permissions. After a user type is assigned to a user, the user has all the permissions defined in the type.

The system supports four user types:

User Type	**Description**
admin	The default super administrator, which has the maximum permissions. **Note:** Only admin can add or delete users and edit other users' permissions.
default	The default reserved user, which cannot be added or deleted, only has live view and two-way audio permissions by default, and can be configured by admin only. **Note:** If the default user is forbidden to use live view and two-way audio on a camera, the camera will be locked when no user is logged in, and 🔒 is displayed in the corresponding window. By default, the default user can only view live video on the local interface without logging in.
Operator	By default, an operator has basic permissions and camera permissions.
Guest	By default, a guest only has camera permissions.

Go to **Menu** > **System** > **User**.

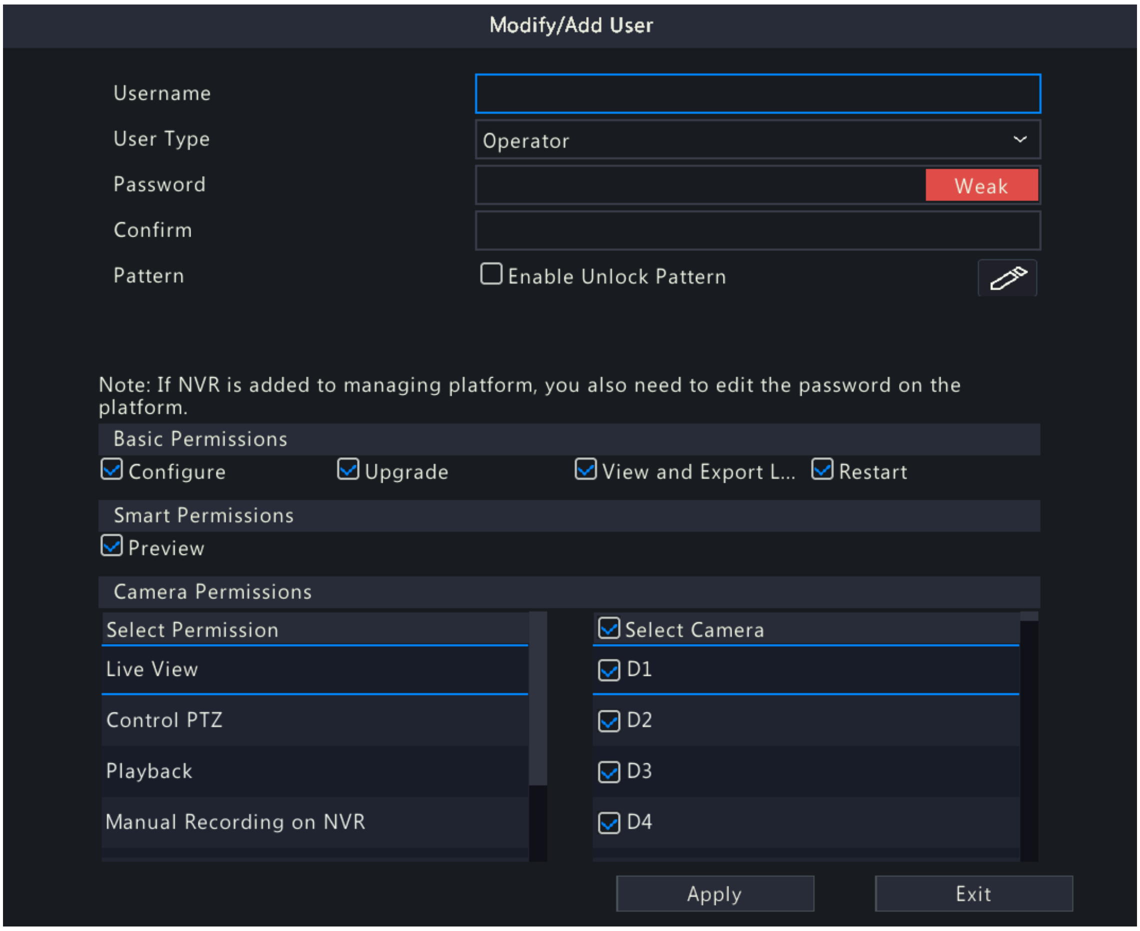


Username	User Type	Edit	Delete
admin	Administrator	✎	–
default	Local Preview User	✎	–

Note: By default, the default user can only view live video on the local interface without logging in.

Add User

1. Click **Add**.



Username

User Type: Operator

Password: Weak

Confirm

Pattern: ☐ Enable Unlock Pattern

Note: If NVR is added to managing platform, you also need to edit the password on the platform.

Basic Permissions

☑ Configure ☑ Upgrade ☑ View and Export L... ☑ Restart

Smart Permissions

☑ Preview

Camera Permissions

Select Permission	☑ Select Camera
Live View	☑ D1
Control PTZ	☑ D2
Playback	☑ D3
Manual Recording on NVR	☑ D4

2. Configure the parameters. Enter the username, password, choose a user type, enable/disable unlock pattern, and choose permissions.

Item	**Description**
Username	Set a username as you need. Cannot be empty or include Chinese characters.
Password/Confirm	Set a strong password.
Pattern	To enable the unlock pattern, select the checkbox. Click ✎, and then follow on-screen instructions to set a pattern.
Basic Permissions/Smart Permissions	Select the permissions you want to assign to the user.

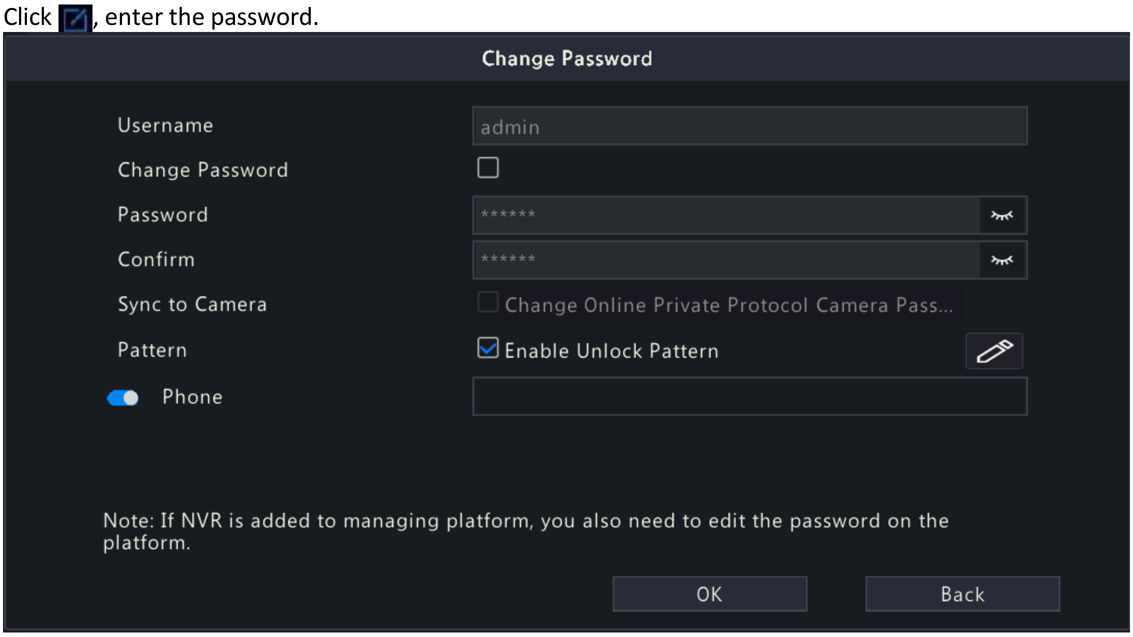
3. Click **OK**.

Delete User

1. On the **User** page, select the user you want to delete.
2. Click 🗑. A confirmation message appears.
3. Click **Yes**.

Edit User

1. On the **User** page, select the user you want to edit.
2. Click ✎, enter the password.



Change Password

Username: admin

Change Password ☐

Password: ******

Confirm: ******

Sync to Camera: ☐ Change Online Private Protocol Camera Pass...

Pattern: ☑ Enable Unlock Pattern

● Phone

Note: If NVR is added to managing platform, you also need to edit the password on the platform.

3. Edit the user type, password, or permissions.
4. Click **OK**.

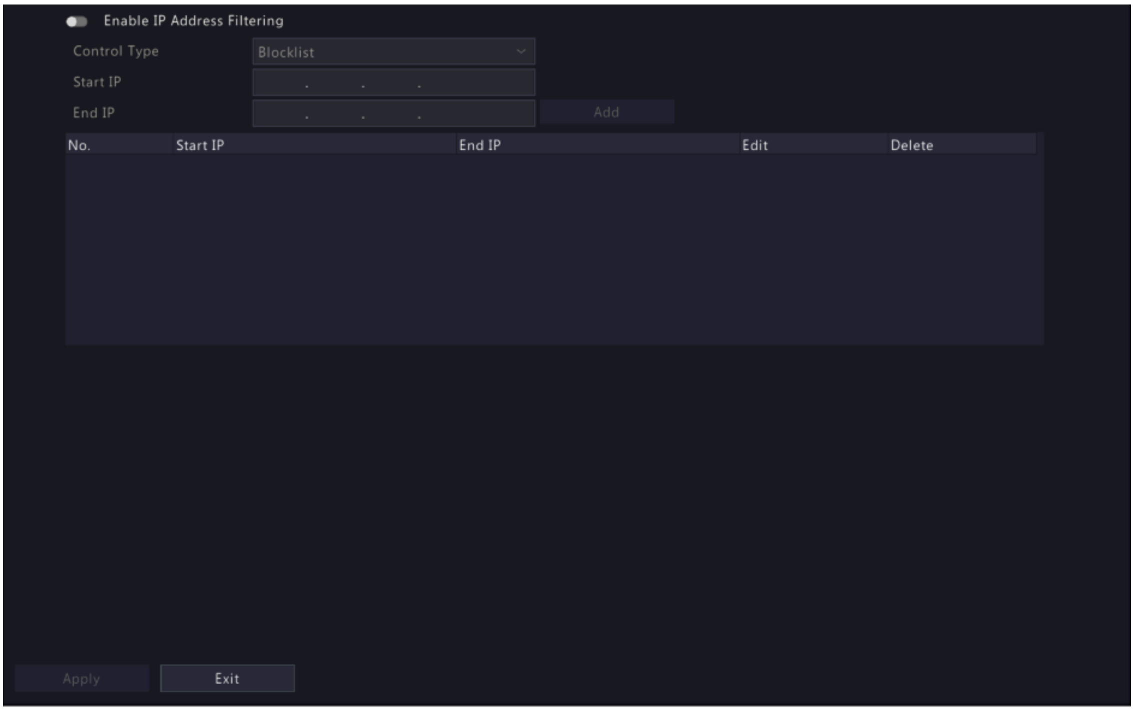
8.5 Security Configuration

Security configuration includes IP address filtering, Onvif authentication, 802.1x, and ARP protection.

8.5.1 IP Address Filtering

IP address filtering can ensure only certain source IP addresses can be used to access the NVR's web interface.

1. Go to **Menu** > **System** > **Security** > **IP Address Filtering**.



2. Enable IP address filtering.
3. Configure the parameters.

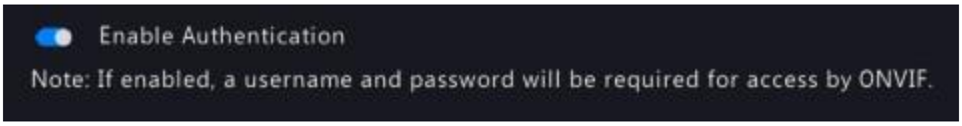
Parameter	Description
Control Type	Blocklist: Access is forbidden if the IP is on the blocklist.
	Allowlist: Access is allowed only when the IP is on the allowlist. If **Allowlist** is selected but is empty, remote access will be forbidden.
Start IP/End IP	Enter the start and end IP addresses. If you want to add only one IP address, enter it in the **Start IP** field.

4. Click **Add**.

8.5.2 ONVIF Authentication

When Onvif authentication is enabled, a username and password will be required to access the NVR via Onvif.

This feature is enabled by default. Go to **Menu** > **System** > **Security** > **ONVIF Auth**.



Note: If enabled, a username and password will be required for access by ONVIF.

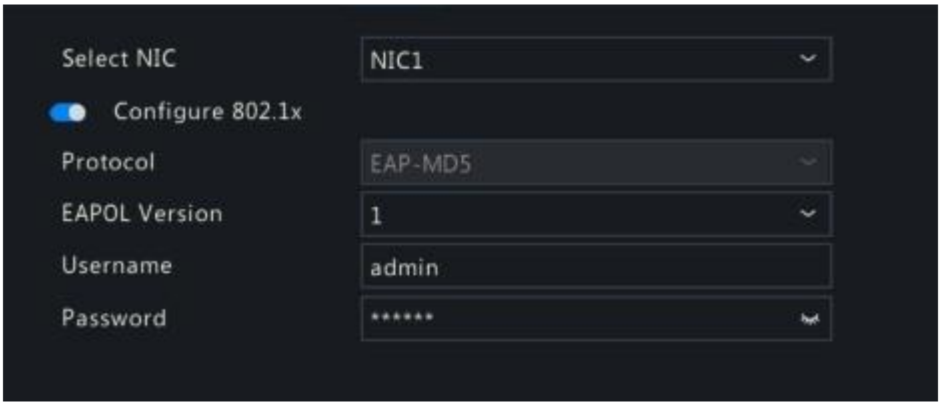
8.5.3 802.1x

802.1X can prevent unauthenticated devices from accessing the local area network.

Note:

- Only some NVRs support this function.
- You need to configure and enable this function on the network switch first.
- For multi-NIC devices, this feature will be disabled automatically if you change the NIC's working mode.

1. Go to **Menu** > **System** > **Security** > **802.1x**.



Select NIC: NIC1

Configure 802.1x

Protocol: EAP-MD5

EAPOL Version: 1

Username: admin

Password: ******

2. Choose the NIC. Skip this step if the device has only one NIC.
3. Enable **Configure 802.1x**.
4. Configure the parameters.

Parameter	**Description**
Protocol	Default: EAP-MD5.
EAPOL Version	Choose **1** or **2**. It must be the same version configured on the network switch.
Username/Password	Must be the username and password configured on the network switch.

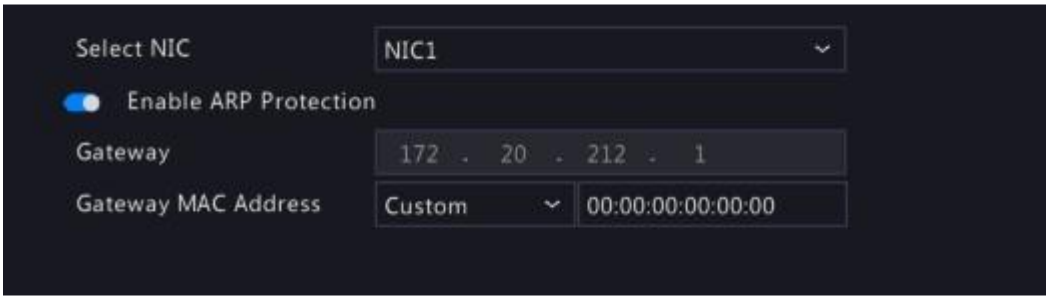
5. Click **Apply**.

8.5.4 ARP Protection

The Address Resolution Protocol (ARP) dynamically maps an IP address to a MAC address. In a local area network, ARP is necessary for devices to communicate with each other through MAC addresses. ARP attacks exploit ARP vulnerabilities to forge IP addresses and MAC addresses. ARP protection can bind the gateway's IP address and an MAC address to prevent ARP spoofing.

Note: For multi-NIC devices, this feature will be disabled automatically if you change the NIC's working mode. For information about changing the working mode, see Network Configuration.

1. Go to **Menu** > **System** > **Security** > **ARP Protection**.



Select NIC: NIC1
Enable ARP Protection
Gateway: 172 . 20 . 212 . 1
Gateway MAC Address: Custom, 00:00:00:00:00:00

2. Choose the NIC. Skip this step if the device only has one NIC.
3. Enable ARP protection.
4. Configure the parameters.

Parameter	Description
Gateway	Gateway you have configured in **Menu** > **Network** > **Basic** > **Network**.
Gateway MAC Address	Custom: Enter the gateway's physical address in the network switch.
	Auto: Automatically obtains the gateway's physical address in the network switch.

5. Click **Apply**.

9 Storage

Configure disk storage parameters.

You can configure the storage mode under **Camera** > **Audio & Video** > **Encoding**.

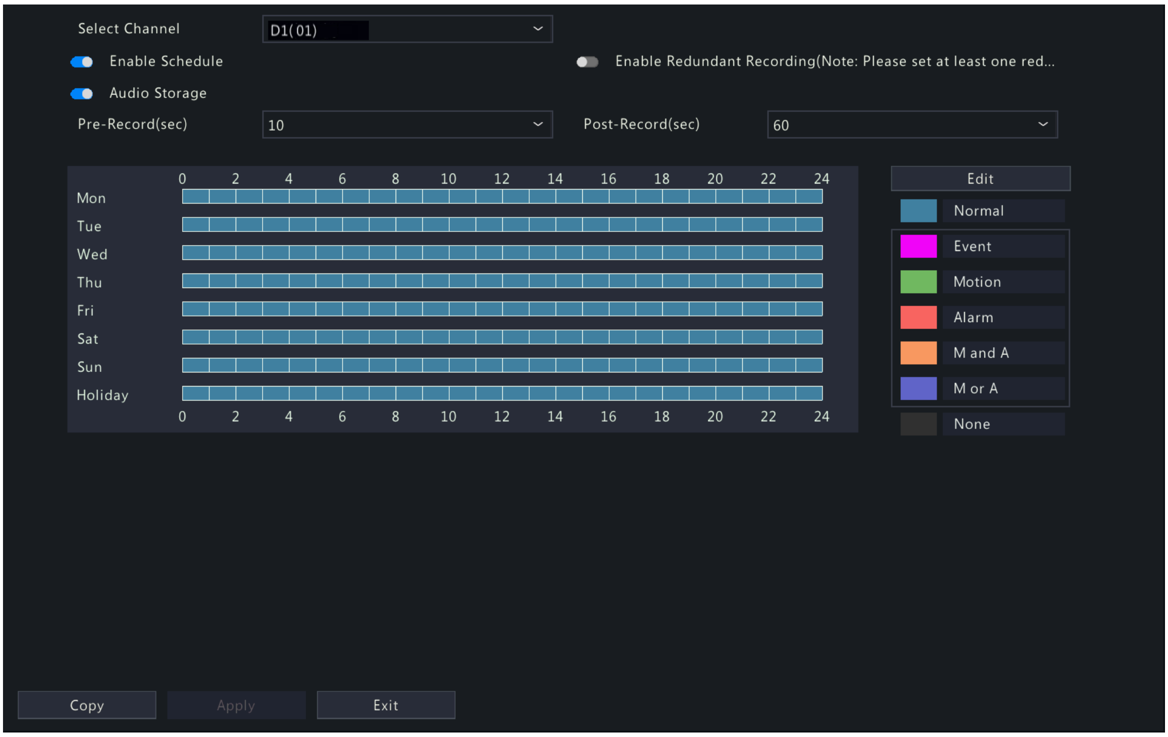
Note: The device uses hard disks to store data, and the hard disks need to be formatted; otherwise, data storage function will be unavailable or affected. A message will alert you if there is no hard disk or any hard disk unformatted.

9.1 Recording Schedule

Make a recording schedule.

A 24/7 normal recording schedule is enabled by default. You can modify the schedule by drawing or editing as needed.

Go to **Menu** > **Storage** > **Recording Schedule**. Select the camera for which you want to make a recording schedule.



Select Channel: D1(01) [redacted]

Enable Schedule: ●

Audio Storage: ●

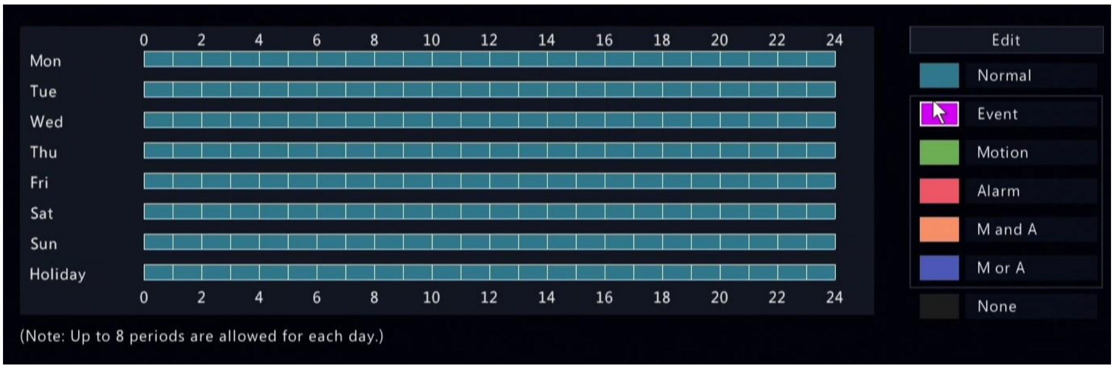
Enable Redundant Recording(Note: Please set at least one red...: ○

Pre-Record(sec): 10

Post-Record(sec): 60

Draw a Schedule

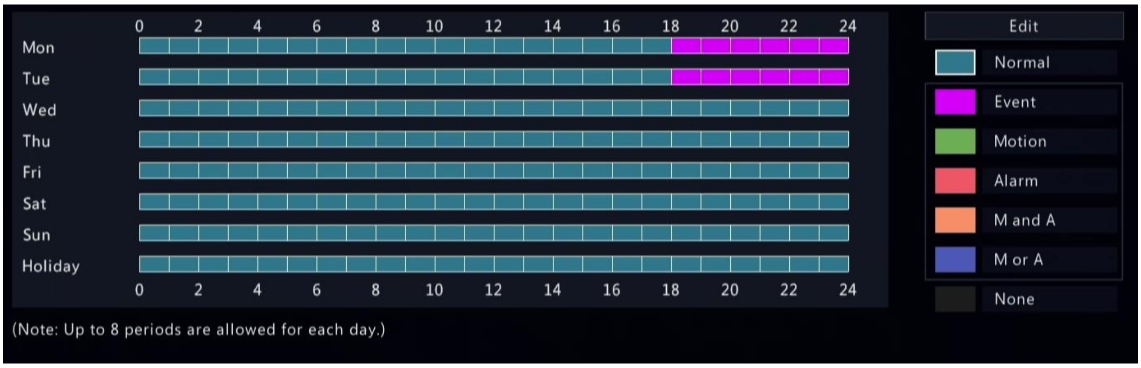
1. Select a recording type.



(Note: Up to 8 periods are allowed for each day.)

Recording Type	Description
Normal	Records video during specified time periods.
Event	Records video in the event of an event-triggered alarm.
Motion	Records video in the event of motion.
Alarm	Records video in the event of alarm input. Configure Alarm Input first before making an alarm schedule.
M and A	Records video when motion and alarm input occur simultaneously.
M or A	Records video when motion or alarm input occurs.
None	No recording schedule.

2. Drag on the time schedule to specify time periods for the recording type. The figure below shows a recording schedule with event recording from 18:00 to 24:00 on Monday and Tuesday, and normal recording during the rest of the time.

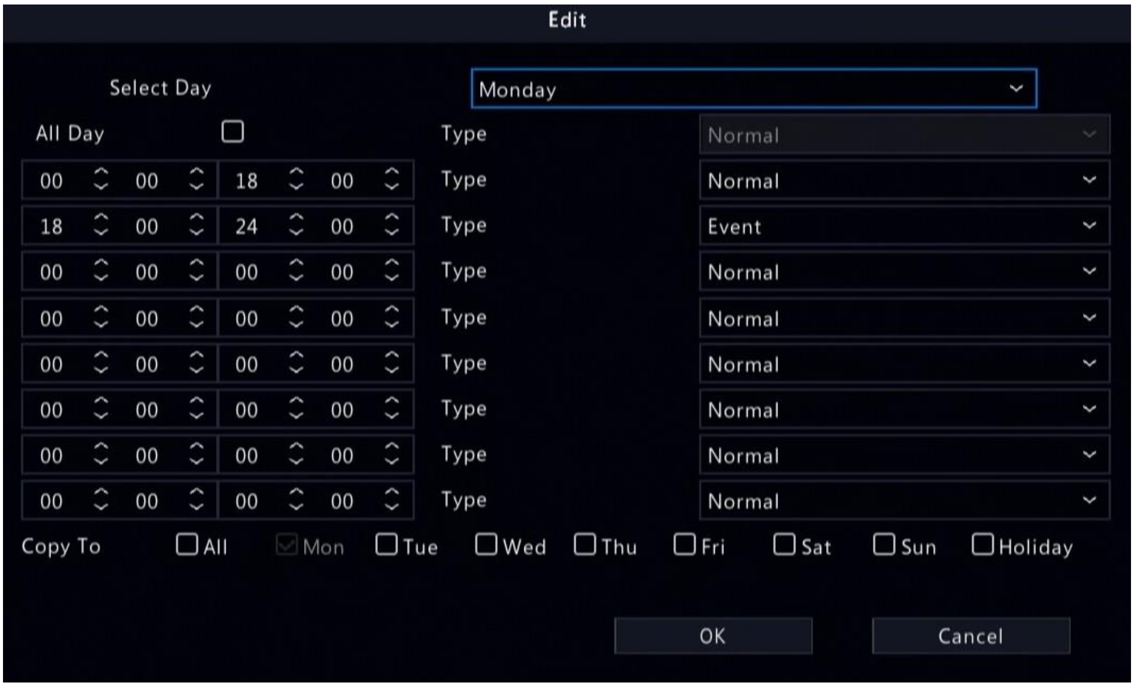


(Note: Up to 8 periods are allowed for each day.)

3. Click **Apply**.

Edit a Schedule

1. Click **Edit**.



Edit

Select Day: Monday

All Day ☐ Type Normal

00 00 18 00 Type Normal

18 00 24 00 Type Event

00 00 00 00 Type Normal

00 00 00 00 Type Normal

00 00 00 00 Type Normal

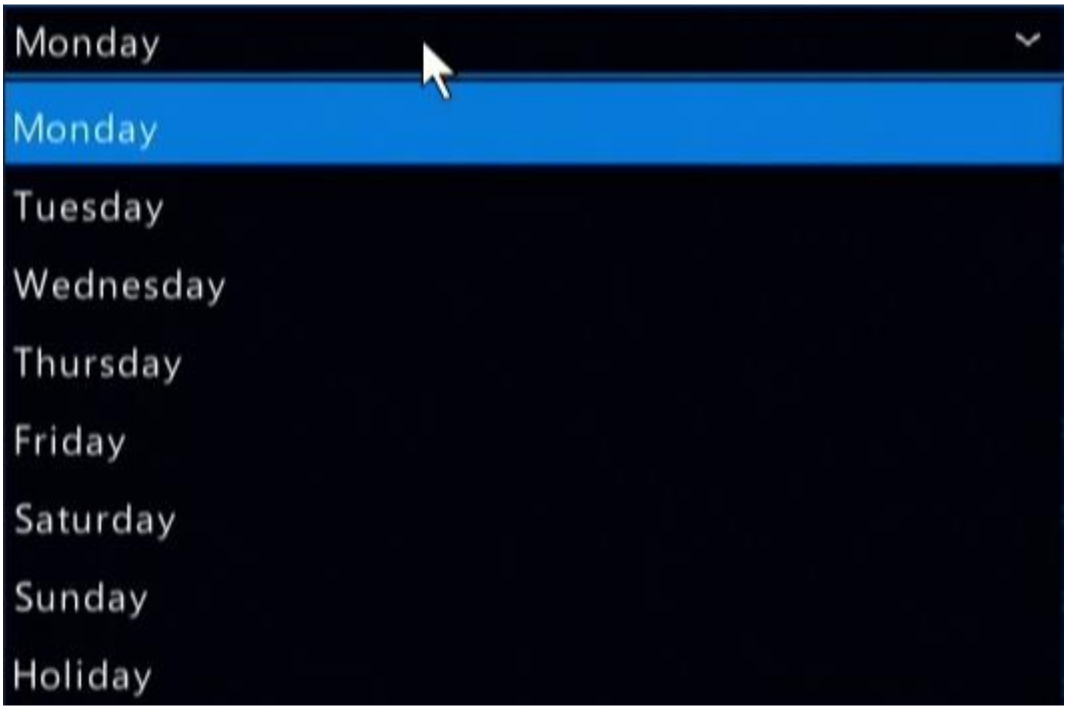
00 00 00 00 Type Normal

00 00 00 00 Type Normal

00 00 00 00 Type Normal

Copy To ☐ All ☑ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun ☐ Holiday

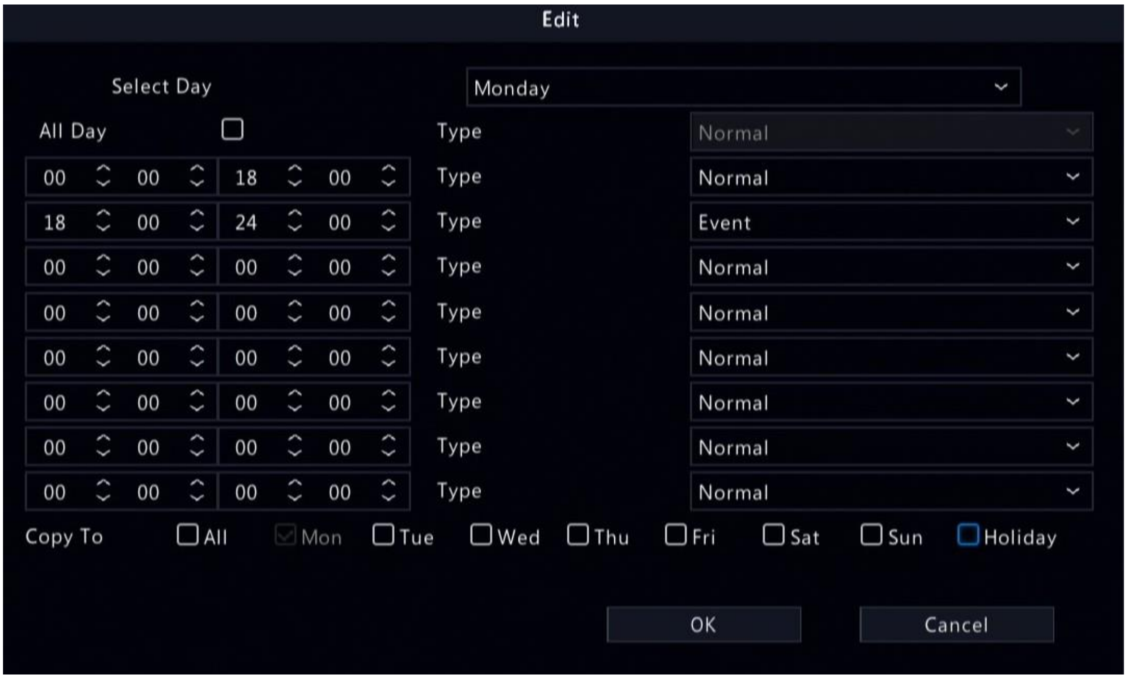
2. Select a day.



Note: Before you select **Holiday**, go to **System** > **Time** > **Holiday** and complete the holiday settings.

3. Clear the **All Day** check box. As a 24/7 normal recording schedule is enabled by default, you cannot modify the schedule unless **All Day** is unchecked.

4. Set time periods and the corresponding recording types.



Select Day: Monday

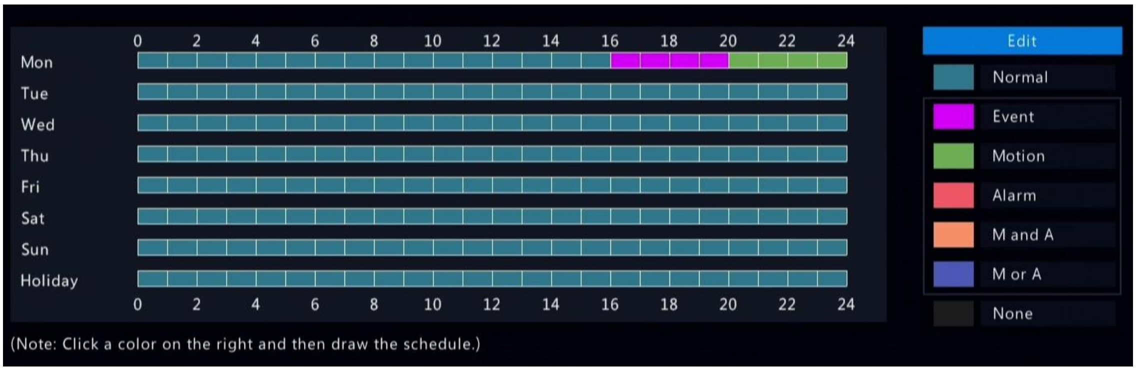
All Day ☐ | Type: Normal

00	00	18	00	Type	Normal
18	00	24	00	Type	Event
00	00	00	00	Type	Normal
00	00	00	00	Type	Normal
00	00	00	00	Type	Normal
00	00	00	00	Type	Normal
00	00	00	00	Type	Normal
00	00	00	00	Type	Normal

Copy To ☐ All ☑ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun ☐ Holiday

5. To apply the same settings to other days, select the desired day(s) after **Copy To**.

6. Click **OK**.



(Note: Click a color on the right and then draw the schedule.)

7. Click **Apply**.

Other Settings

Item	Description
Pre-Record	The duration of video to be recorded before an alarm. The default value is 10s.
Post-Record	The duration of video to be recorded after an alarm. The default value is 60s.
Enable Redundant Recording	Recording backup, stores recorded videos to redundant disks synchronously to prevent video loss in case of read/write disk failure. You need to configure at least one redundant disk before enabling redundant recording. See Disk Management for details.
Audio Storage	Set whether to record audio. Audio is not recorded by default.

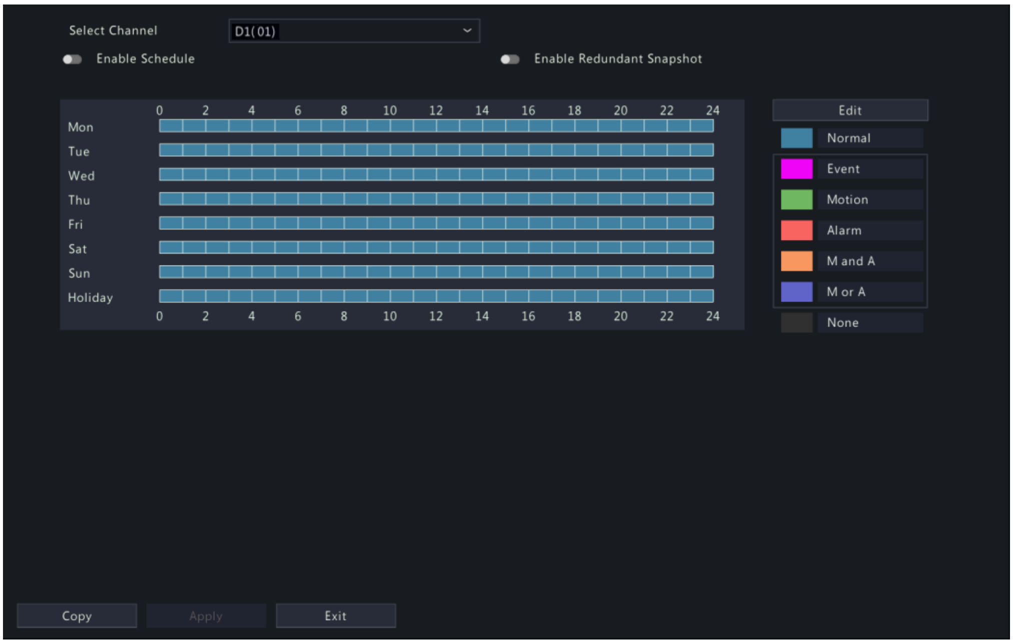
9.2 Snapshot Schedule

Configure snapshot schedule and snapshot type.

9.2.1 Configure Snapshot Schedule

Make a snapshot schedule.

1. Go to **Menu** > **Storage** > **Snapshot Schedule** > **Configure Snapshot Schedule**.



Select Channel D1(01)

2. Select the camera for which you want to make a snapshot schedule.
3. Enable schedule.
4. Set the snapshot schedule. See Draw a Schedule and Edit a Schedule.

Snapshot Type	Description
Normal	Captures images during specified time periods.
Event	Captures images in the event of an event-triggered alarm.
Motion	Captures images in the event of motion.
Alarm	Captures images in the event of alarm input. Configure Alarm Input first before making an alarm schedule.
M and A	Captures images when motion and alarm input occur simultaneously.
M or A	Captures images when motion or alarm input occurs.
None	No snapshot schedule.

5. Click **Apply**.

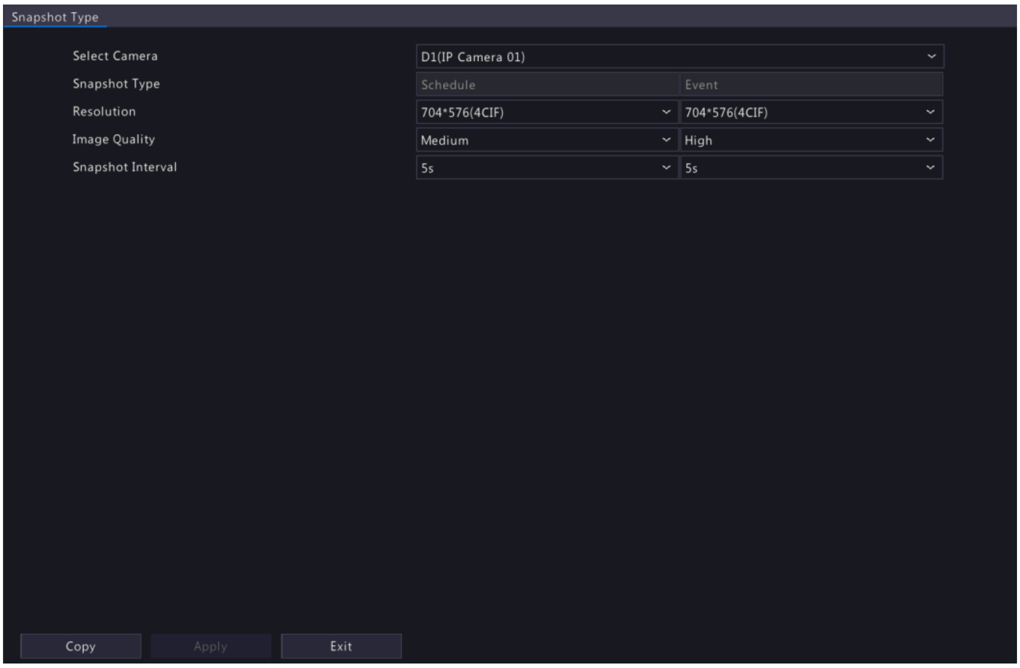
Other Settings

Item	Description
Enable Redundant Snapshot	Snapshot backup, stores snapshots to redundant disks synchronously to prevent snapshot loss in case of read/write disk failure. You need to configure at least one redundant disk before enabling redundant snapshot. See Disk Management for details. **Note:** A redundant disk can be used for both recording backup and snapshot backup.

9.2.2 Snapshot Type

Configure snapshot parameters.

1. Go to **Menu** > **Storage** > **Snapshot Schedule** > **Snapshot Type**.



Select Camera: D1(IP Camera 01)
Snapshot Type: Schedule | Event
Resolution: 704*576(4CIF) | 704*576(4CIF)
Image Quality: Medium | High
Snapshot Interval: 5s | 5s

2. Select the camera and set the parameters as needed.

Item	**Description**
Snapshot Type	Supports scheduled snapshot and event-triggered snapshot. You need set image quality and snapshot interval for them respectively. • Schedule: A snapshot is taken according to the set schedule. • Event: A snapshot is triggered by an event such as alarm input and motion detection alarm. Manual snapshots are event-triggered snapshots.
Resolution	The number of pixels in a frame. Only certain NVRs support setting resolution.
Image Quality	Set the snapshot quality. High, medium, or low are available.
Snapshot Interval	Select the time interval between two snapshots from the drop-down list.

3. (Optional) To apply the same settings to other cameras, click **Copy** and select the desired camera(s).
4. Click **Apply**.

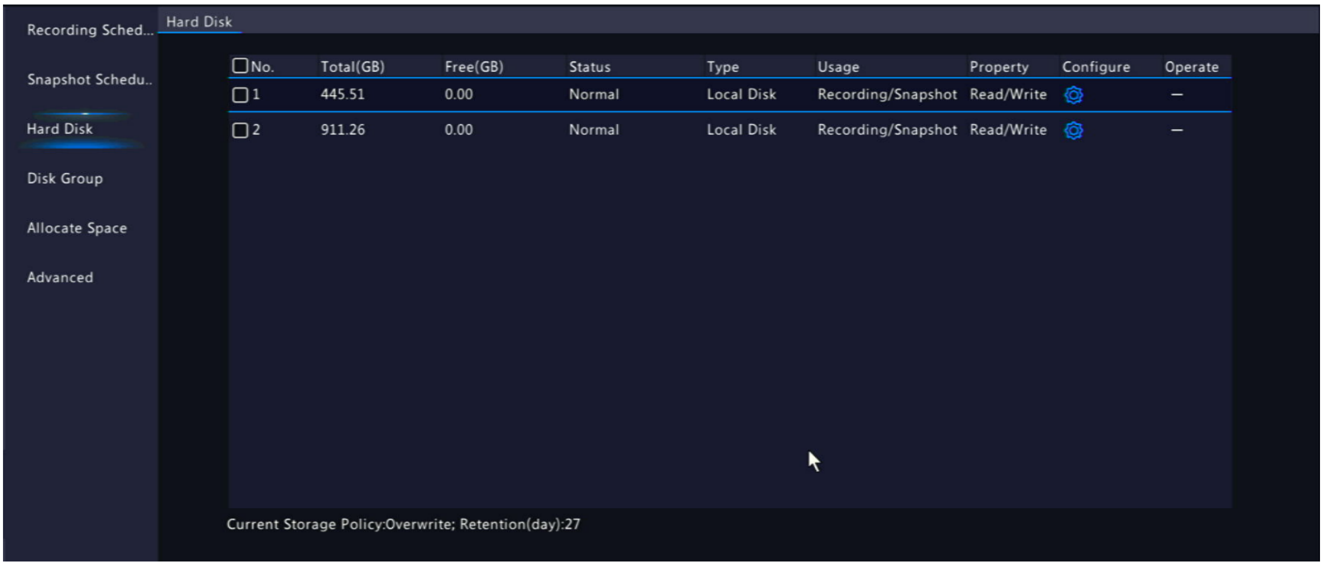
9.3 Disk Management

Configure disk usage and property, add external disks, and format disks.

Note:

- Before you start, make sure all disks are installed properly.
- Only admin can format disks and configure the disk property.

Go to **Menu** > **Storage** > **Hard Disk**.

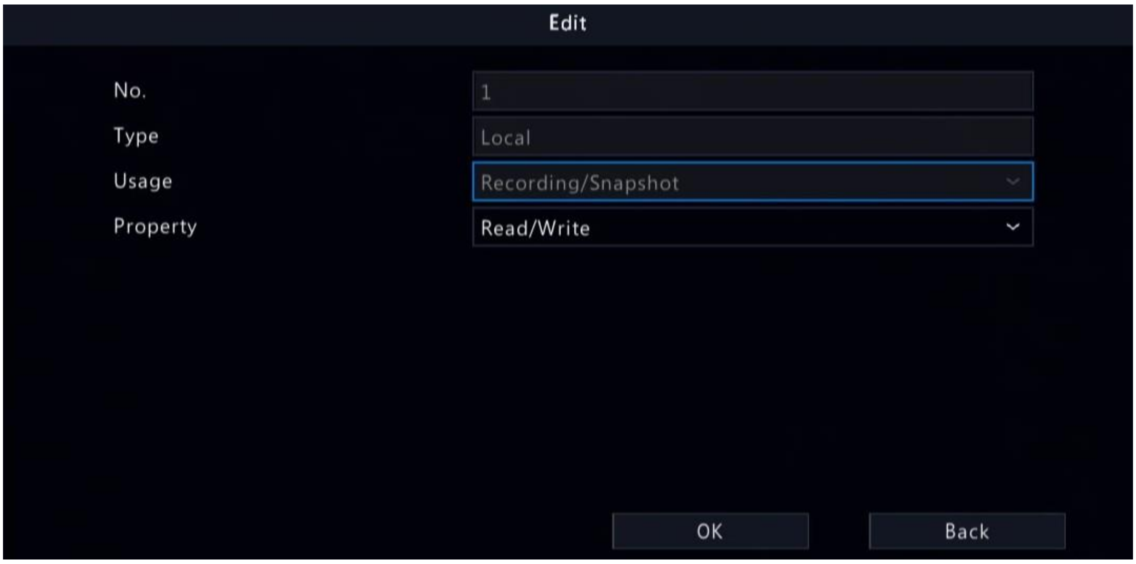


☐No.	Total(GB)	Free(GB)	Status	Type	Usage	Property	Configure	Operate
☐1	445.51	0.00	Normal	Local Disk	Recording/Snapshot	Read/Write	⚙	–
☐2	911.26	0.00	Normal	Local Disk	Recording/Snapshot	Read/Write	⚙	–

Current Storage Policy:Overwrite; Retention(day):27

Configure the Disk Usage and Property

1. Click ⚙ for the disk to edit.



No.	1
Type	Local
Usage	Recording/Snapshot
Property	Read/Write

2. Select the usage and property. You can only configure the usage of NAS and eSATA.

Usage	Description
Recording/Snapshot	Used to automatically store recordings or snapshots.

Usage	Description
Backup	Used to manually back up device related files, such as recordings/snapshots, logs, configuration information, etc.

Property	Description
Read/Write	The disk supports recording/snapshot storage, recording playback and snapshot retrieval.
Read Only	The disk only supports recording playback and snapshot retrieval, and does not support recording/snapshot storage.
Redundant	Recordings and snapshots are saved to read/write disks and redundant disks simultaneously. **Note:** To view recordings and snapshots on a redundant disk, you need to change the disk property to **Read Only**.

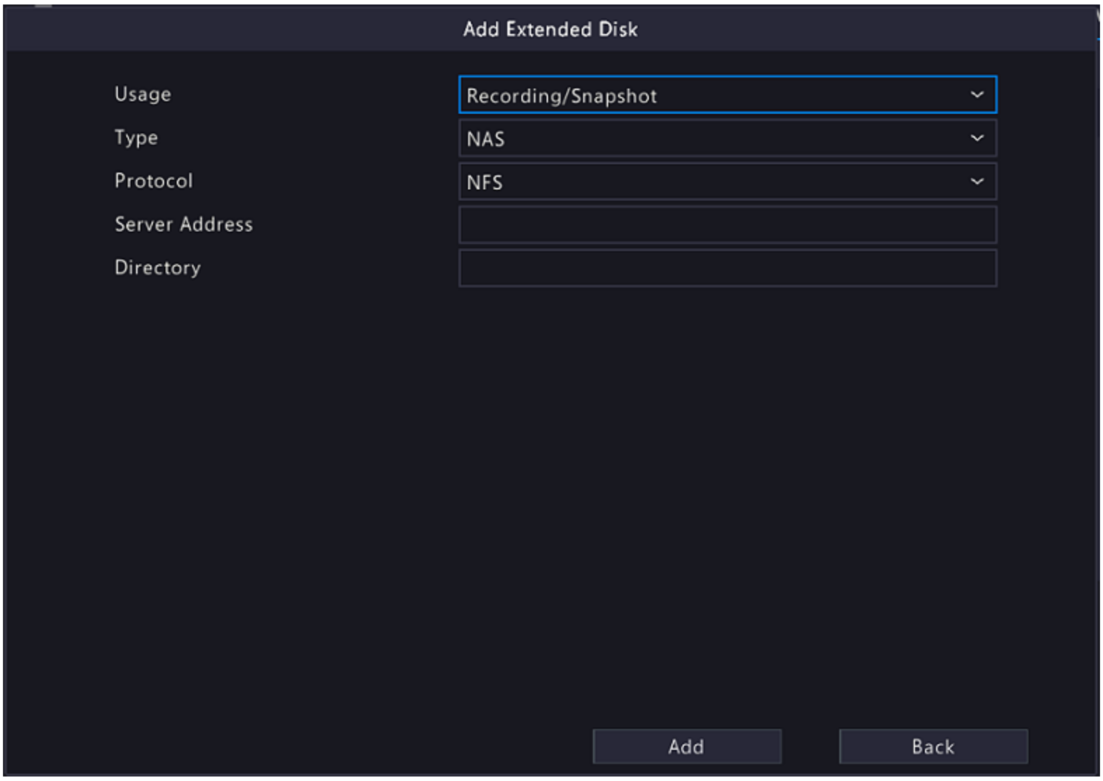
3. Click **OK**.

Add an External Disk

You can add external disks to the device, including NAS, eSATA, and disk enclosure. eSATA disks and disk enclosures are automatically added when connected to the device. The following describes how to add a NAS.

1. Click **Add**. The **Add Extended Disk** page appears.
2. Select a protocol, and configure parameters.
   - NFS: Used to add NAS servers to the LAN.

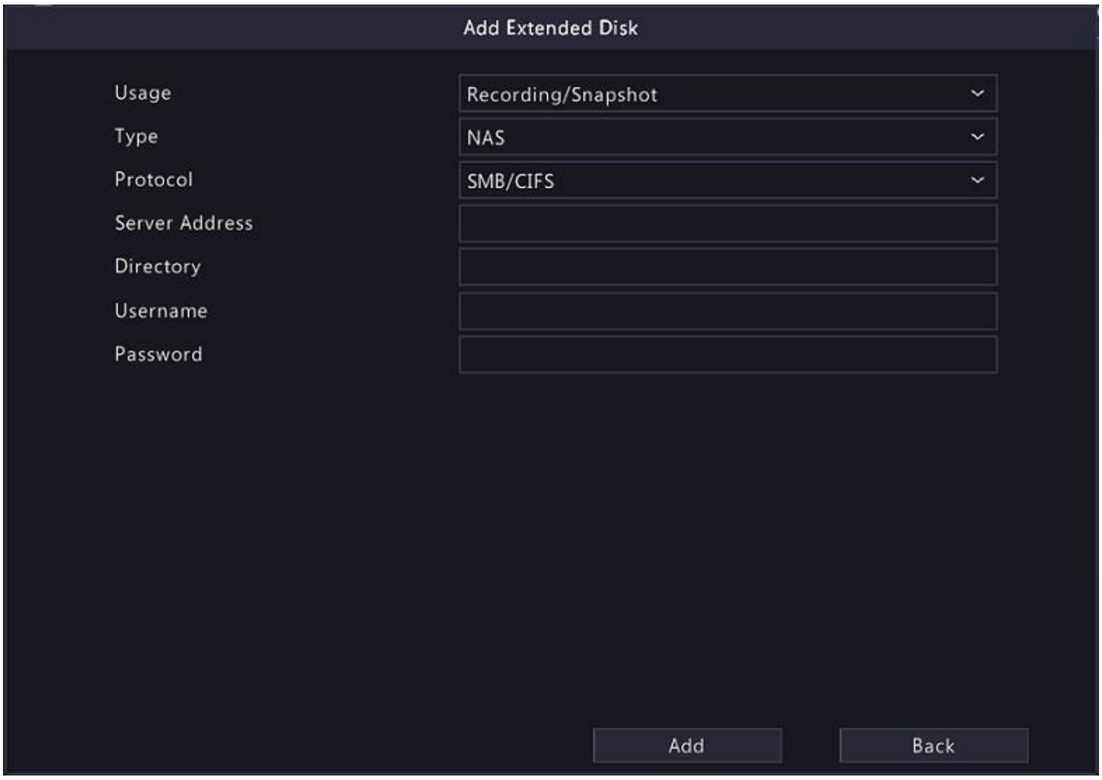
     Enter the NAS server address and directory (a folder path where the NAS server store videos and images).



Usage: Recording/Snapshot
Type: NAS
Protocol: NFS
Server Address:
Directory:

   - SMB/CIFS: Used to add NAS servers to the public network for security.

     Enter the NAS server address, directory, username, and password.



Add Extended Disk

Usage: Recording/Snapshot

Type: NAS

Protocol: SMB/CIFS

Server Address

Directory

Username

Password

Note:

- Before use, make sure that the NAS server supports SMB/CIFS protocol and has enabled UPnP, or the ports 445 and 139 have been mapped manually on the router.
- A domain name is allowed for the server address if the NAS domain name resolution is available.

3. Click **Add**.

Format a Disk

Formatting a disk will erase all data stored on it. Please handle with caution.

1. Select the disk you want to format.
2. Click **Format**.
3. A confirmation message appears.
    - Local disk: Click **Yes**.
    - External disk: Select the files you want to format.

Other Operations

Click ⊖/⊕ to unmount/mount an eSATA disk.

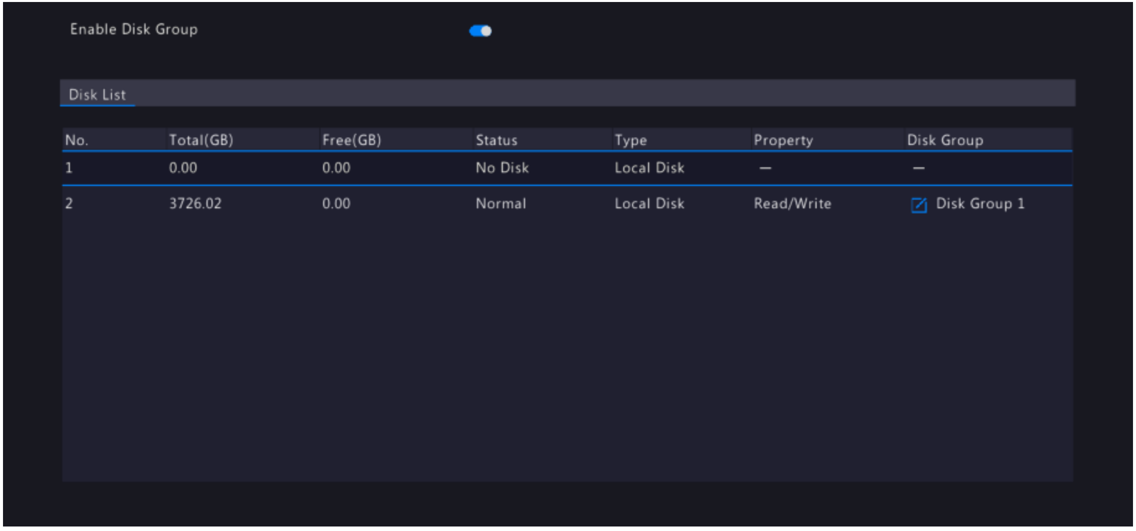
9.4 Disk Group

You can group disks and allocate a disk group for videos and images from a specified camera to meet the different storage duration requirements of cameras. Different arrays can be assigned to different disk groups. See Space Allocation for details.

Note:

- Redundant disks cannot be assigned to any disk group.
- Disk group information will be initialized if any disk in the group is formatted.

1. Go to **Menu** > **Storage** > **Disk Group**.
2. Enable disk group.

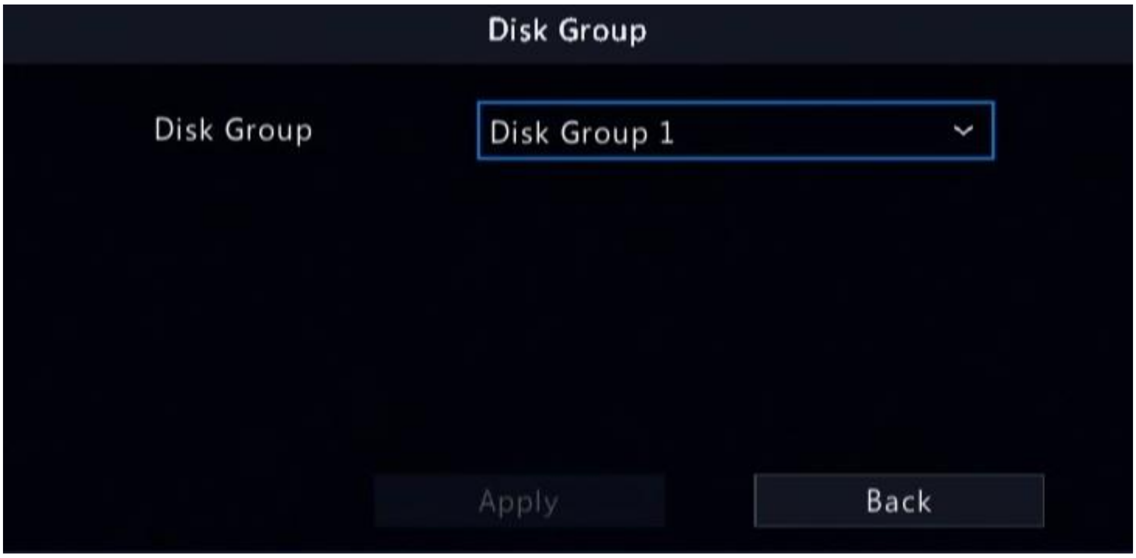


Enable Disk Group ●

Disk List

No.	Total(GB)	Free(GB)	Status	Type	Property	Disk Group
1	0.00	0.00	No Disk	Local Disk	—	—
2	3726.02	0.00	Normal	Local Disk	Read/Write	✎ Disk Group 1

3. Click ✎.



Disk Group

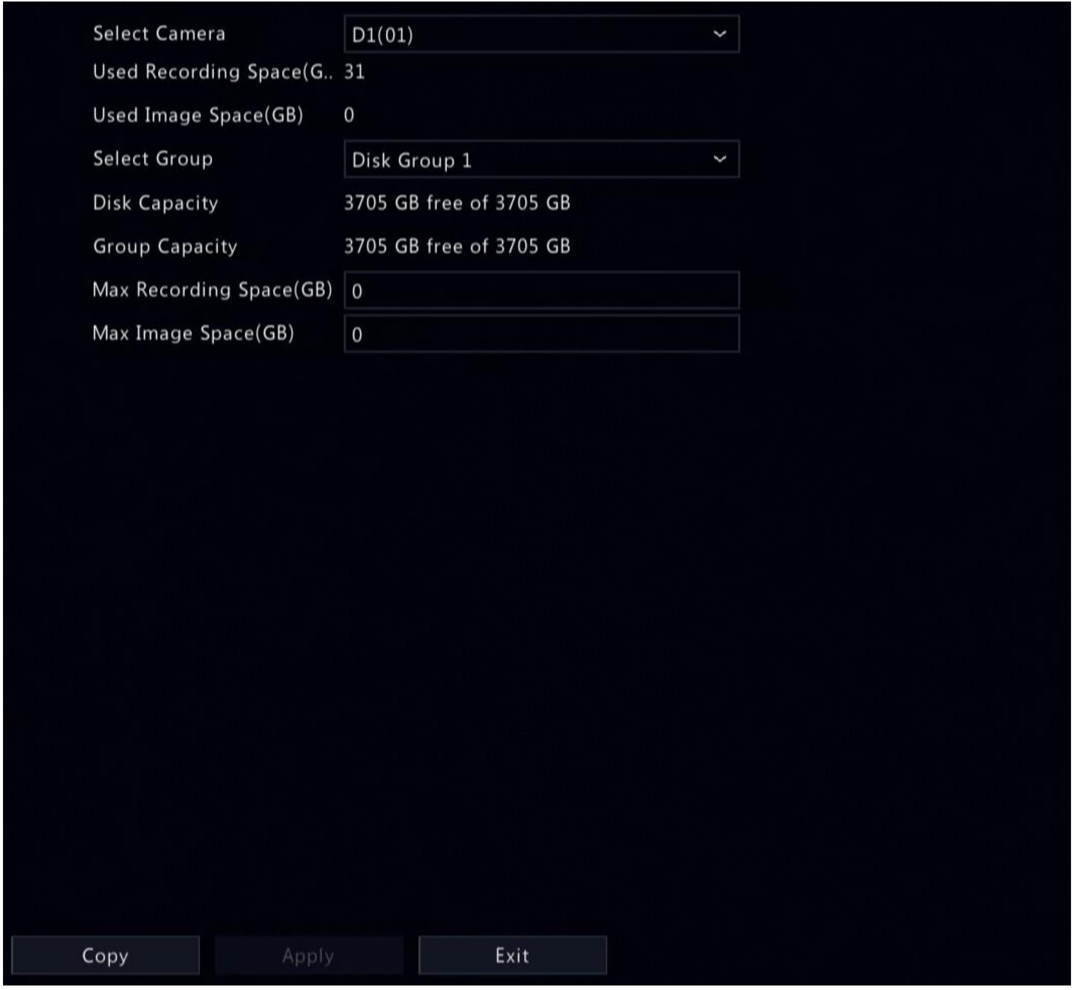
Disk Group: Disk Group 1

4. Select a disk group for the disk.
5. Click **Apply**.

9.5 Space Allocation

Allocate storage space for videos and images from a specified camera.

1. Go to **Menu** > **Storage** > **Allocate Space**.



Select Camera: D1(01)
Used Recording Space(G.. 31
Used Image Space(GB) 0
Select Group: Disk Group 1
Disk Capacity: 3705 GB free of 3705 GB
Group Capacity: 3705 GB free of 3705 GB
Max Recording Space(GB): 0
Max Image Space(GB): 0

2. Select a camera, select a disk group for storage by the camera, and allocate storage space for videos and images from this camera on the disk group.

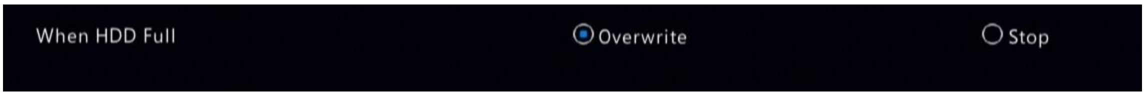
Space Type	**Description**
Recording Space	Used to store first stream videos, smart snapshots, POS data, people flow data, and heat map images. **Note:** First stream video: • If the **Storage Mode** is set to **Main and Sub Stream** or **Main and Third Stream**, the first stream is the main stream. • If the **Storage Mode** is set to **Sub and Third Stream**, the first stream is the sub stream.
Image Space	Used to store common snapshots, such as snapshots captured by schedule or manually.

3. Click **Apply**.
4. (Optional) Click **Copy** to apply the same settings to other camera(s).

9.6 Advanced Settings

Configure the storage policy when the storage is full.

1. Go to **Menu** > **Storage** > **Advanced**.



When HDD Full ● Overwrite ○ Stop

2. Select whether to overwrite the existing data or stop storage when the storage is full.

hen HDD Full	**Description**
Overwrite	The disk space is divided into allocated space and remaining space according to whether the disk is used for storage by cameras. • If a camera is not allocated storage space, it will use the remaining disk space, and its oldest data will be overwritten when the remaining space is used up. **Note:** As the remaining disk space is variable and older recordings may be overwritten due to insufficient storage space, please allocate storage space with caution. For example, on a device with 20G disk capacity and two cameras, if camera 1 is allocated 10G, camera 2 will use the remaining 10G if it is not allocated storage space. In this case, you can view the last 5 days of recordings from camera 2. However, if you add a new camera to the device, there will be less storage space available to camera 2, and fewer days of recordings can be viewed. • If a camera is allocated storage space, its oldest data will be overwritten when the allocated space is used up.
Stop	This option is only effective to cameras that have been allocated storage space. When enabled, if the allocated space of a camera is used up, new recordings/ snapshots will not be saved.

10 Alarm Configuration

Set alarm rules and alarm-triggered actions so as to alert users when an alarm occurs.

10.1 Motion Detection

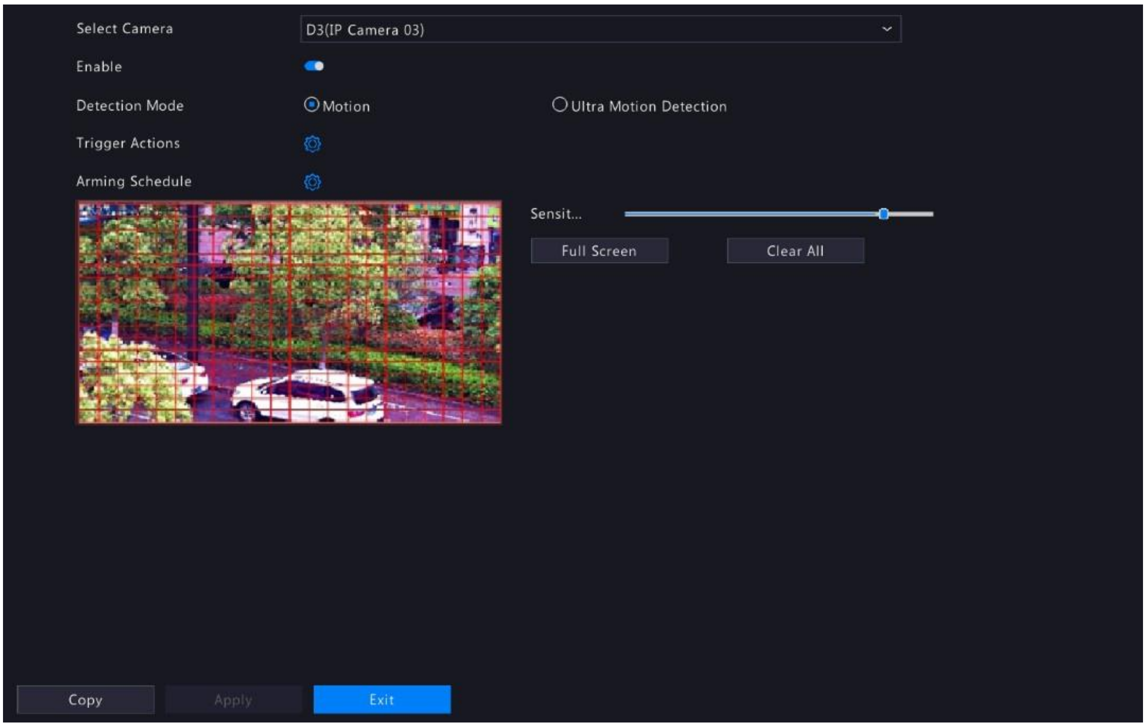
Motion detection detects motions in specified grids on the image. An alarm is reported when detection rules are triggered.

1. Go to **Menu** > **Alarm** > **Motion** > **Motion Detection**.
2. Select the desired camera, and enable motion detection.
3. Select the detection mode: **Motion** or **Ultra Motion Detection**.

Motion Alarm

Motion detection detects motions in specified grids on the image. An alarm is reported when detection rules are triggered.

1. Select the detection mode as **Motion**.



Select Camera: D3(IP Camera 03)

Enable

Detection Mode: ● Motion ○ Ultra Motion Detection

Trigger Actions

Arming Schedule

2. Set the detection area. The default is the full screen. You can adjust grid detection areas as needed.
   - To erase grids, click or drag on grid areas.
   - To redraw grids, click **Clear All**, and then click or drag on blank areas to draw grids.
   - To detect the full screen, click **Full Screen**.

   Note: When a moving object is detected, the grids where the object appears on the left-side image are filled by 🟥.

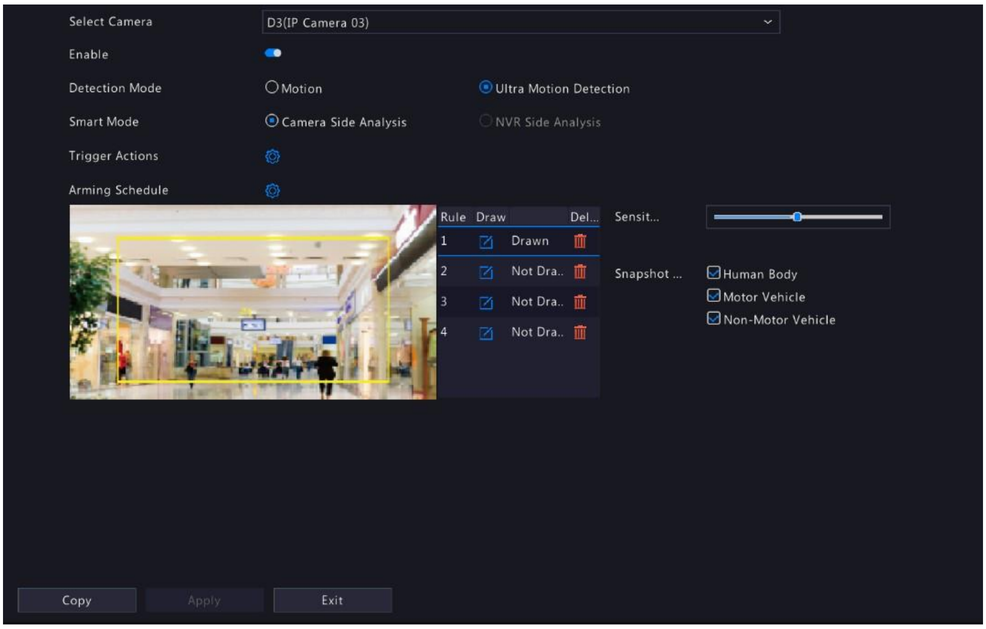
3. Drag the slider to adjust detection sensitivity. The higher the sensitivity, the more likely small motions will be detected, and the more likely false alarms will occur. Set based on the scene and your actual needs.
4. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
5. (Optional) To apply the same settings to other cameras, click **Copy** and select the desired parameter(s) and camera(s).
6. Click **Apply**.

Ultra Motion Detection

Ultra motion detection detects motions in specified grids on the image, and judges that the motion object is human body, motor vehicle or non-motor vehicle. An alarm is reported when detection rules are triggered.

Note: To use Ultra Motion Detection, you must first enable the **Ultra Motion Detection** in Analyzer (VCA > Analyzer Config).

1. Select the detection mode as **Ultra Motion Detection**.



Select Camera: D3(IP Camera 03)

Enable: ●

Detection Mode: ○ Motion ● Ultra Motion Detection

Smart Mode: ● Camera Side Analysis ○ NVR Side Analysis

Trigger Actions ⚙

Arming Schedule ⚙

Rule	Draw		Del...
1	✎	Drawn	🗑
2	✎	Not Dra..	🗑
3	✎	Not Dra..	🗑
4	✎	Not Dra..	🗑

Sensit...

Snapshot ... ☑ Human Body ☑ Motor Vehicle ☑ Non-Motor Vehicle

2. Select the smart mode, and choose whether to implement this function on the camera side or the NVR side.
3. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

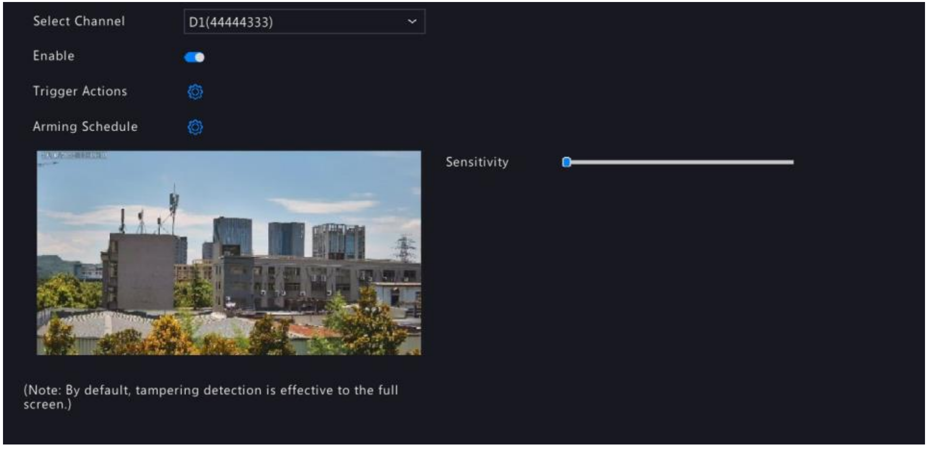
Parameter	**Description**
Detection Area	Select Rule 1, click ✎, and the full screen is displayed, then draw a detection area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed. Right-click to exit the full screen. **Note:** For a rule in **Drawn** state, you can click ✎ to redraw a detection area. To delete a detection area, click 🗑.
Sensitivity	Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely motion behaviors will be detected, but the false alarm rate will increase.
Min. Alarm Interval(s)	Set the minimum alarm intervals by dragging the slider.
Snapshot Type	Select the object(s) to be detected, including **Human Body**, **Motor Vehicle** and **Non-Motor Vehicle**.

4. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
5. (Optional) To apply the same settings to other cameras, click **Copy** and select the desired parameter(s) and camera(s).
6. Click **Apply**.

10.2 Tampering Detection

Tampering detection detects live video tampering. An alarm is reported when detection rules are triggered.

1. Go to **Menu** > **Alarm** > **Tampering**.



Select Channel: D1(44444333)
Enable
Trigger Actions
Arming Schedule
Sensitivity

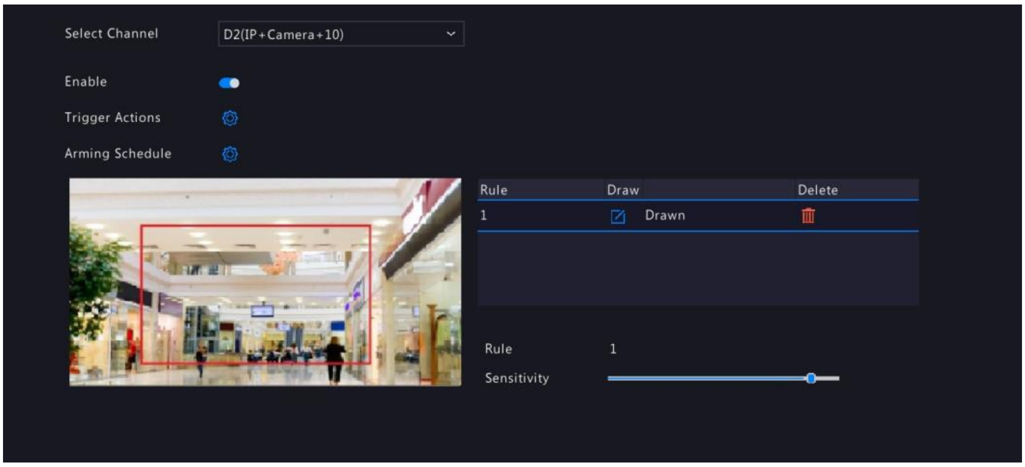
(Note: By default, tampering detection is effective to the full screen.)

2. Select the desired channel, and enable tampering detection. The tampering detection area is the full screen by default and cannot be edited.
3. Drag the slider to adjust detection sensitivity. The higher the sensitivity, the higher the detection rate, and the higher the false alarm rate. Set based on the scene and your actual needs.
4. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
5. (Optional) To apply the same settings to other cameras, click **Copy** and select the desired parameter(s) and camera(s).
6. Click **Apply**.

10.3 Human Body Detection

Human body detection detects humans in a specified area. An alarm is reported when the detection rule is triggered.

1. Go to **Menu** > **Alarm** > **Human Body Detection**.



Select Channel: D2(IP+Camera+10)
Enable
Trigger Actions
Arming Schedule

Rule	Draw	Delete
1	Drawn	

Rule: 1
Sensitivity

2. Select the desired channel, and enable human body detection.
3. Set the detection rule. Only 1 detection rule is allowed.

   Click ✎, and the full screen is displayed. Drag in the preview window to draw a rectangular detection area. Only 1 detection area is allowed. Right-click to exit the full screen.

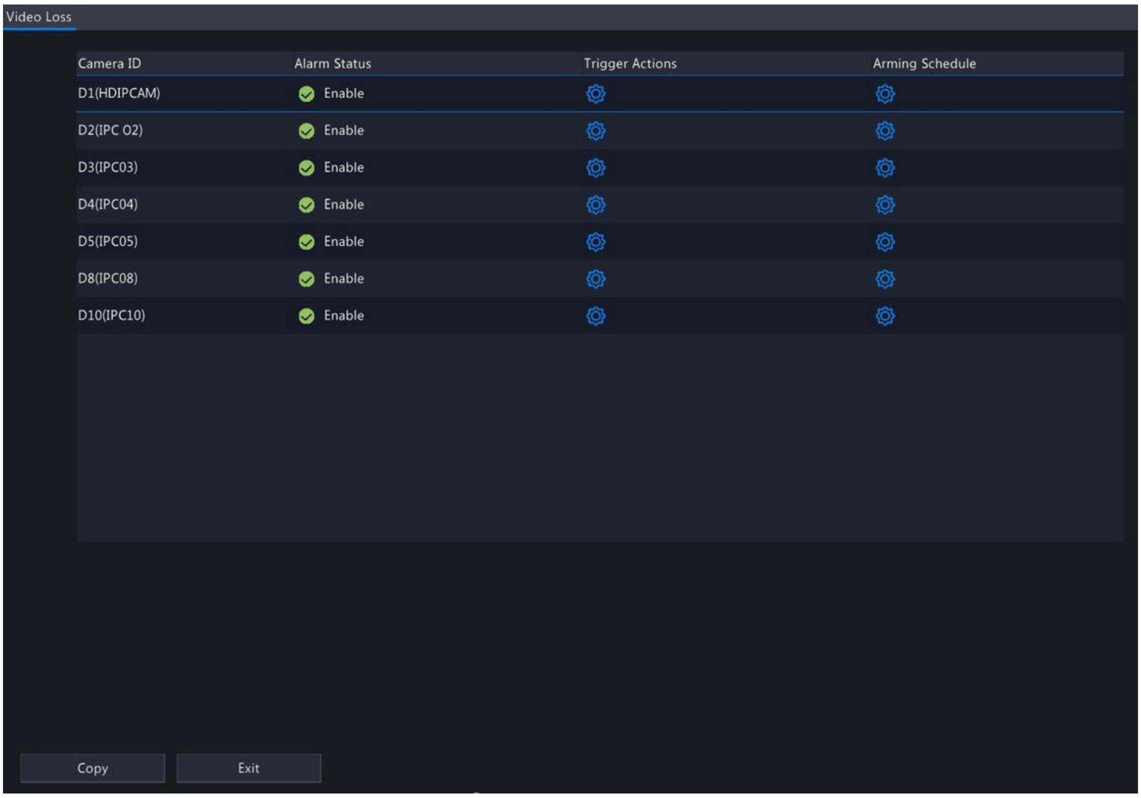
Note: To redraw the detection area, select the set rule, and click ✎. To delete the detection area, click 🗑.

4. Drag the slider to adjust detection sensitivity. The higher the sensitivity, the more likely humans will be detected, and the more likely false alarms will occur. Set based on the scene and your actual needs.
5. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
6. (Optional) To apply the same settings to other cameras, click **Copy** and select the desired parameter(s) and camera(s).
7. Click **Apply**.

10.4 Video Loss

A video loss alarm is reported when the NVR loses video signals from a camera.

1. Go to **Menu** > **Alarm** > **Video Loss**.



Camera ID	Alarm Status	Trigger Actions	Arming Schedule
D1(HDIPCAM)	✓ Enable	⚙	⚙
D2(IPC 02)	✓ Enable	⚙	⚙
D3(IPC03)	✓ Enable	⚙	⚙
D4(IPC04)	✓ Enable	⚙	⚙
D5(IPC05)	✓ Enable	⚙	⚙
D8(IPC08)	✓ Enable	⚙	⚙
D10(IPC10)	✓ Enable	⚙	⚙

2. Video loss alarm is enabled by default. To disable video loss alarm for a channel, click ✓, which then changes to ○.
3. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
4. (Optional) To apply the same settings to other cameras, click **Copy** and select the desired parameter(s) and camera(s), and then click **OK**.

10.5 Alarm Input and Output

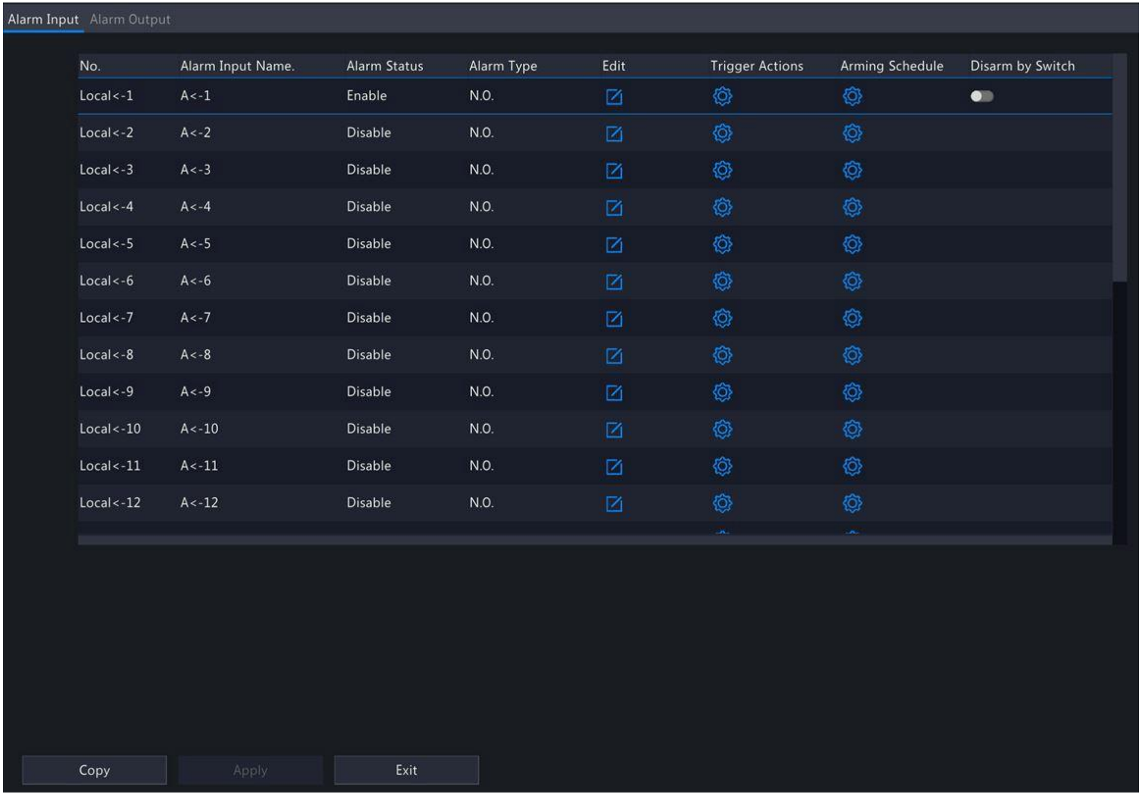
Configure alarm input and alarm output.

10.5.1 Alarm Input

Configure the alarm mode, arming schedule, and alarm-triggered actions for external alarm input devices.

The external alarm input devices include devices connected to the ALARM IN interfaces on the NVR and the ALARM IN interfaces on the cameras. For example, access control devices.

1. Go to **Menu** > **Alarm** > **Input/Output** > **Alarm Input**.

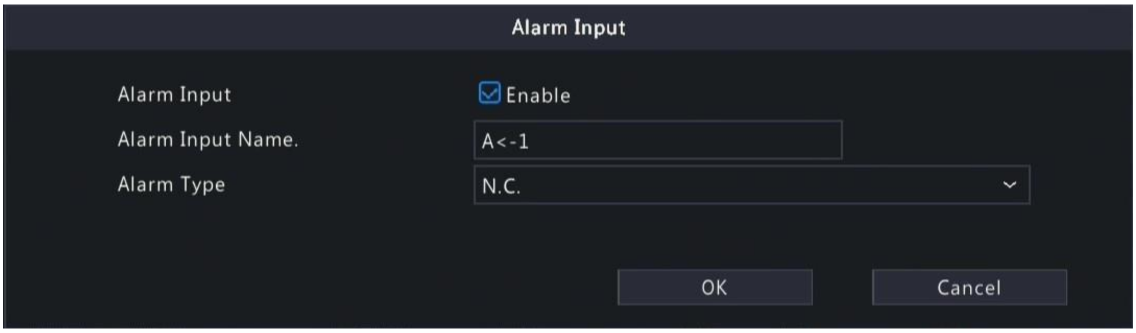


No.	Alarm Input Name.	Alarm Status	Alarm Type	Edit	Trigger Actions	Arming Schedule	Disarm by Switch
Local<-1	A<-1	Enable	N.O.	✎	⚙	⚙	○
Local<-2	A<-2	Disable	N.O.	✎	⚙	⚙	
Local<-3	A<-3	Disable	N.O.	✎	⚙	⚙	
Local<-4	A<-4	Disable	N.O.	✎	⚙	⚙	
Local<-5	A<-5	Disable	N.O.	✎	⚙	⚙	
Local<-6	A<-6	Disable	N.O.	✎	⚙	⚙	
Local<-7	A<-7	Disable	N.O.	✎	⚙	⚙	
Local<-8	A<-8	Disable	N.O.	✎	⚙	⚙	
Local<-9	A<-9	Disable	N.O.	✎	⚙	⚙	
Local<-10	A<-10	Disable	N.O.	✎	⚙	⚙	
Local<-11	A<-11	Disable	N.O.	✎	⚙	⚙	
Local<-12	A<-12	Disable	N.O.	✎	⚙	⚙	

2. Select the alarm input channel to be set.

   - Local < -1: **Local** refers to the ALARM IN interfaces on the NVR, **1** means the first ALARM IN interface. Likewise, **Local <-2** means the second ALARM IN interface on the NVR. The number of ALARM IN interfaces may vary with NVR model. See the device datasheet for specifications.
   - D < -1: **D** refers to channels, the number means channel ID. **D< -1** means the alarm input device is connected to the ALARM IN interface of the camera whose channel ID is 1. Likewise, **D < -2** means the alarm input device is connected to the ALARM IN interface of the camera whose channel ID is 2. The number is not displayed if the camera has no ALARM IN interface.

3. Click ✎ to configure alarm input parameters. After configuration, click **OK**.



Alarm Input ☑ Enable

Alarm Input Name. A<-1

Alarm Type N.C.

Item	**Description**
Alarm Input	Select **Enable** to enable the alarm input.
Alarm Input Name	The default name is the alarm input number. You may rename it as needed.
Alarm Type	This item is applicable when **Alarm Input** is enabled. The default is **N.O.**. • N.O.: Choose this option if the alarm input device is normally closed. The device opens the circuit to input an alarm, triggers the NVR to open the alarm circuit and report an alarm. • N.C.: Choose this option if the alarm input device is normally opened. The device closes the circuit to input an alarm, triggers the NVR to close the alarm circuit and report an alarm.

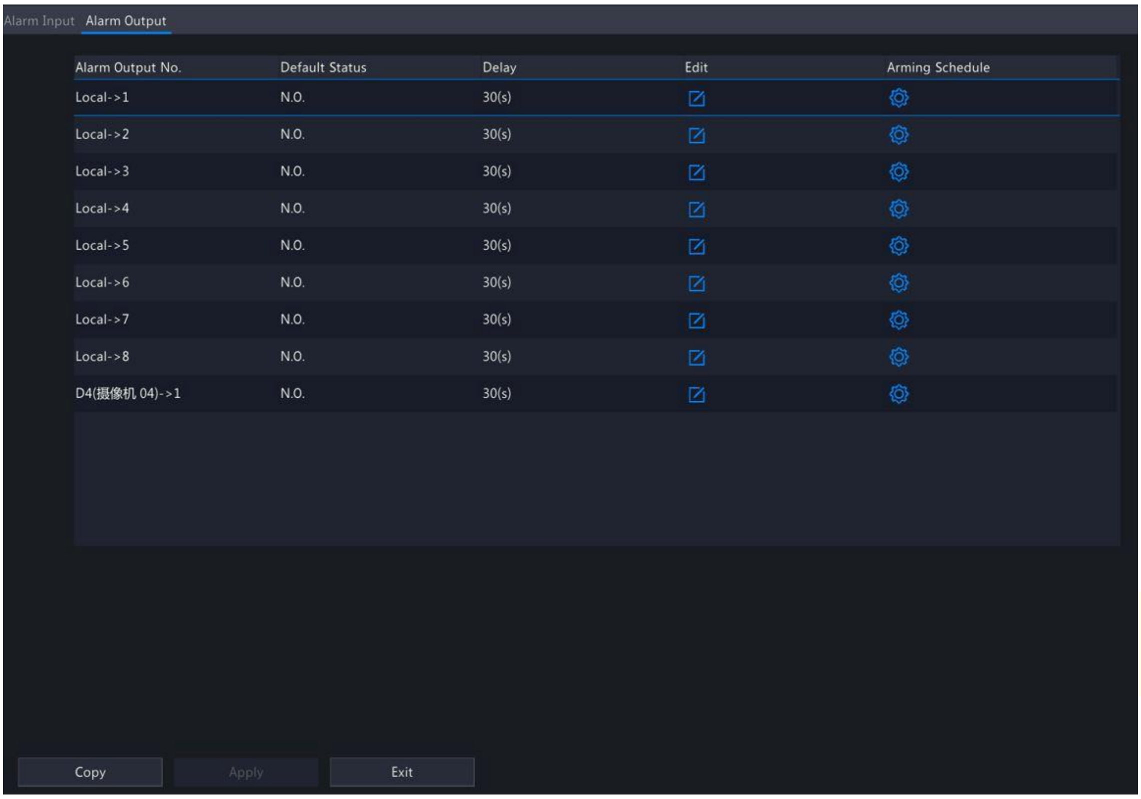
4. (Optional) Set one-key disarming.
   (1) To enable one-key disarm, select ○ in the **Disarm by Switch** column. When enabled, the configured actions will not be triggered when Local < -1 reports alarms.
   (2) To apply one-key disarming to other channel(s), click ⚙ in the **Linked Channel** column, select the desired channel(s) or **All**, and then click **Apply**.
5. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
6. (Optional) To apply the alarm input parameters to other cameras, click **Copy**, and select the desired channel(s) or **Copy To**, and then click **OK**.
7. Click **Apply**.

10.5.2 Alarm Output

Configure the alarm mode and arming schedule for external alarm output devices.

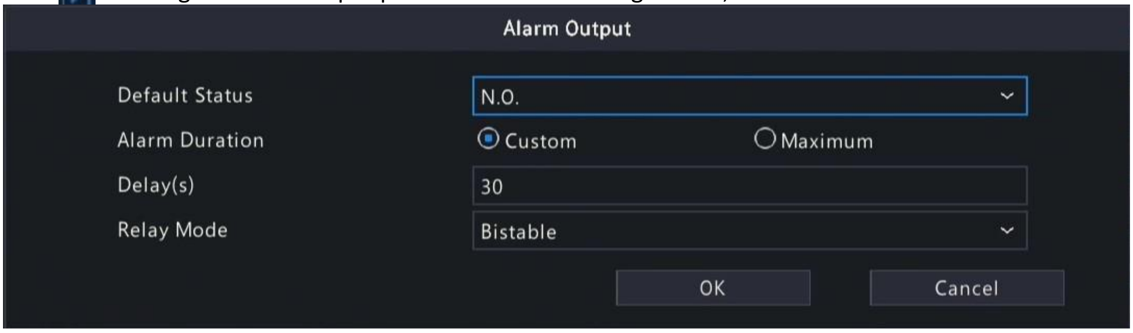
The external alarm output devices include devices connected to the ALARM OUT interfaces on the NVR and the ALARM OUT interfaces on the cameras, such as alarm light and alarm bell.

1. Go to **Menu** > **Alarm** > **Input/Output** > **Alarm Output**.



Alarm Output No.	Default Status	Delay	Edit	Arming Schedule
Local->1	N.O.	30(s)	✎	⚙
Local->2	N.O.	30(s)	✎	⚙
Local->3	N.O.	30(s)	✎	⚙
Local->4	N.O.	30(s)	✎	⚙
Local->5	N.O.	30(s)	✎	⚙
Local->6	N.O.	30(s)	✎	⚙
Local->7	N.O.	30(s)	✎	⚙
Local->8	N.O.	30(s)	✎	⚙
D4(摄像机 04)->1	N.O.	30(s)	✎	⚙

2. Select the alarm output channel to be set.
   - Local- >1: **A** refers to the ALARM OUT interfaces on the NVR, **1** means the first ALARM OUT interface. **Local->2** means the second ALARM OUT interface on the NVR, and so on. The number of ALARM OUT interfaces may vary with NVR model. See the device datasheet for specifications.
   - D- >1: **D** refers to channels, the number means channel ID. **D- >1** means the alarm output device is connected to the ALARM OUT interface of the camera whose channel ID is 1. Likewise, **D- >2** means the alarm output device is connected to the ALARM OUT interface of the camera whose channel ID is 2. The number is not displayed if the camera has no ALARM OUT interface.
3. Click ✎ to configure alarm output parameters. After configuration, Click **OK**.



Alarm Output

Default Status: N.O.

Alarm Duration: ● Custom ○ Maximum

Delay(s): 30

Relay Mode: Bistable

Item	Description
Default Status	Select the default status from the drop-down list. The default is **N.O.**. • N.O.: Choose this option if the external device is normally open. • N.C.: Choose this option if the external device is normally closed.

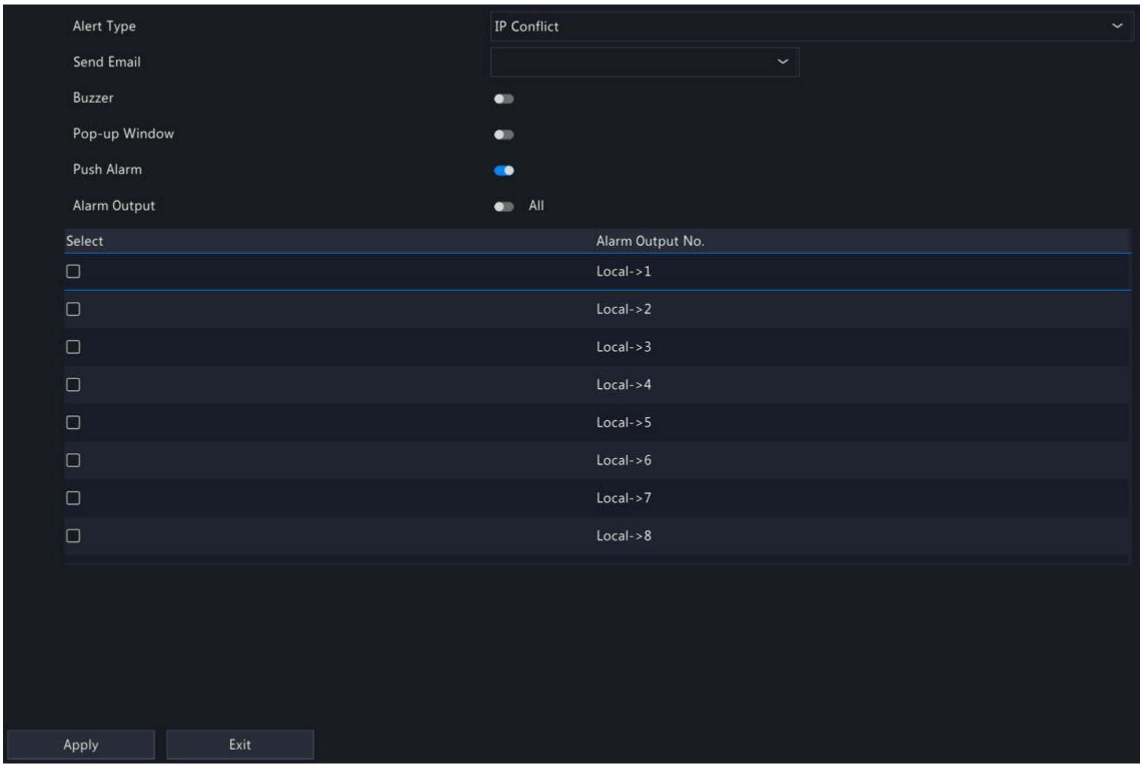
Alarm Duration/Delay(s)	Set the alarm duration, that is, the length of time that an output alarm lasts after the alarm is ended. • Custom: When enabled, you can set the length of time as needed. After an alarm is cleared on the NVR, the third-party alarm device continues alarm till the end of the set duration. • Maximum: When enabled, you cannot set the delay period. The third-party alarm device continues alarm until you clear it manually.
Relay Mode	Set the relay mode, including monostable and bistable. The default is bistable. **Note:** Set relay mode to better adapt to third-party alarm devices such as alarm lights. Please set the relay mode according to the trigger mode of the third-party alarm device. • Monostable: The circuit can only remain in one stable state. When a trigger pulse is applied, the circuit switches to another state, and then automatically switches back to the original stable state. The circuit will repeat the same actions when the next trigger pulse arrives. • Bistable: The circuit can remain in two stable states. When a trigger pulse is applied, the circuit switches to another state, and remains in this state after the trigger pulse is removed. When the next trigger pulse is applied, the circuit switches back to the other stable state and remains in that state.

4. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
5. (Optional) To apply the alarm output parameters to other cameras, click **Copy**, and select the desired channel(s) or **Copy To**, and then click **OK**.
6. Click **Apply**.

10.6 Alert

Configure alert actions for device abnormal events. The NVR reports an alarm when an event occurs.

1. Go to **Menu** > **Alarm** > **Alert**.



Alert Type	IP Conflict
Send Email	
Buzzer	○
Pop-up Window	○
Push Alarm	●
Alarm Output	○ All

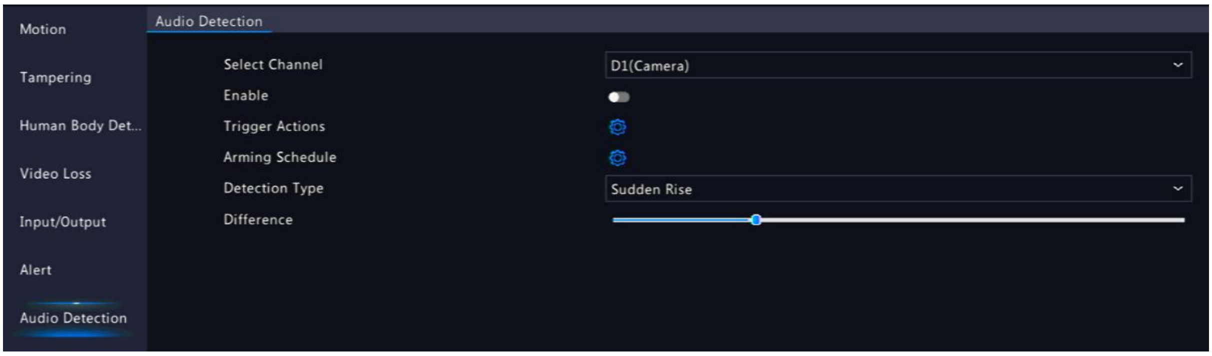
Select	Alarm Output No.
☐	Local->1
☐	Local->2
☐	Local->3
☐	Local->4
☐	Local->5
☐	Local->6
☐	Local->7
☐	Local->8

2. Select an alert type from the drop-down list.
   - IP Conflict: IP cameras use the same IP address on the network.
   - Network Disconnected: The NVR is disconnected from the network.
   - Disk Offline: No disk or a disk is not properly connected.
   - Disk Abnormal: A disk is in position but cannot work normally.
   - Illegal Access: Incorrect username/password.
   - Hard Disk Space Low: The disk space is about to use up.
   - Hard Disk Full: The disk space has been used up.
   - Recording/Snapshot Abnormal: Videos/snapshots cannot be stored normally because the disk is offline or abnormal.
3. Set the alert actions, including buzzer, sending email, and pop-up window. See Alarm-triggered Actions for details.
4. Set the alarm output channel(s). You may enable **All**, or select specified alarm output channel(s).
5. Click **Apply**.
6. Repeat the above operations to configure alert actions for other events.

10.7 Audio Detection

Audio detection detects input audio signals. An alarm is reported when an exception is detected. Make sure an audio collection device (e.g. sound pickup) is connected, and audio detection is enabled. See Audio Configuration for details.

1. Go to **Menu** > **Alarm** > **Audio Detection**.



Select Channel: D1(Camera)
Enable
Detection Type: Sudden Rise
Difference

2. Select the desired channel, and enable audio detection.
3. Set the alarm-triggered actions and arming schedule. Click the corresponding ⚙ to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See Alarm-triggered Actions and Arming Schedule for details.
4. Set audio detection rules.

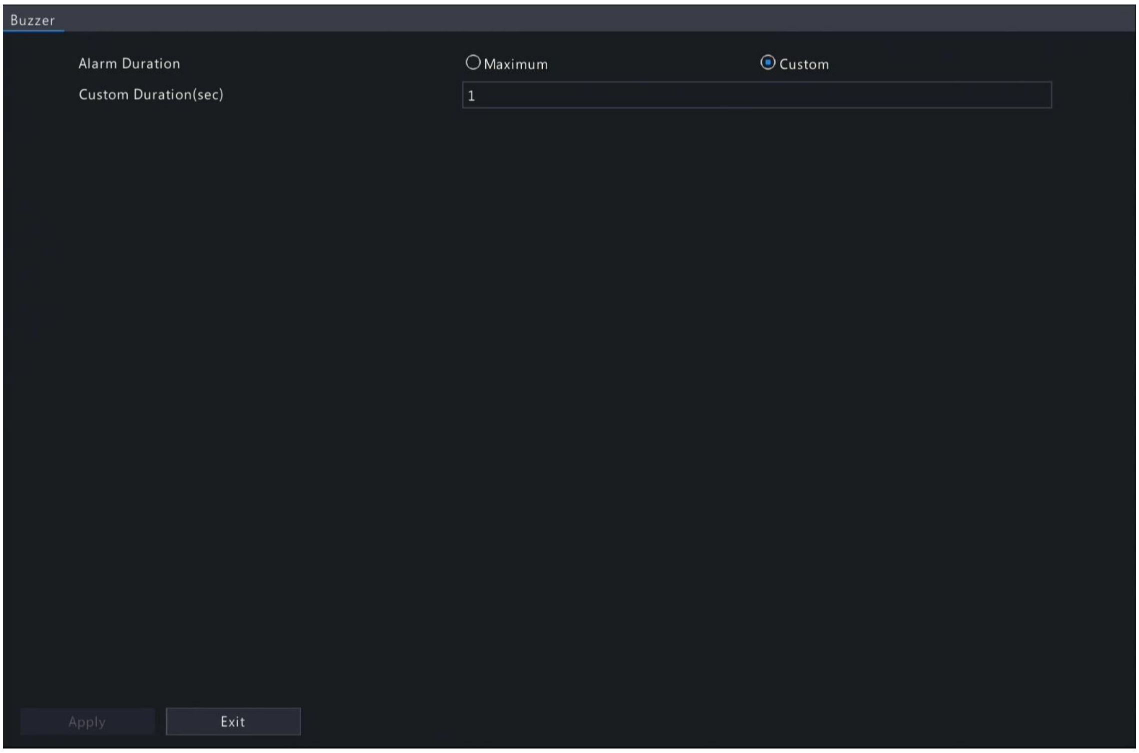
Item	**Description**
Detection Type	Select an audio detection type from the drop-down list. • Sudden Rise: An alarm occurs when the rise of volume exceeds the set value. • Sudden Fall: An alarm occurs when the fall of volume exceeds the set value. • Sudden Change: An alarm occurs when the rise or fall of volume exceeds the set value. • Threshold: An alarm occurs when the volume exceeds the set threshold.
Difference/Threshold	Drag the slider to adjust the difference and threshold. • The difference between two sound volumes. An alarm occurs when the rise or fall of volume exceeds the difference (range: 0-400). This item is applicable when the detection type is **Sudden Rise**, **Sudden Fall**, or **Sudden Change**. • Threshold: The limit value of volume. An alarm occurs when the detected volume exceeds the set value (range: 0-400). This item is applicable when the detection type is **Threshold**.

5. Click **Apply**.

10.8 Buzzer

Configure the alarm duration of the buzzer on the NVR.

1. Go to **Menu** > **Alarm** > **Buzzer**.



Buzzer

Alarm Duration ○ Maximum ● Custom

Custom Duration(sec) 1

2. Set the alarm duration. The default is 30s.
   - Maximum: When enabled, you cannot set the alarm duration. When an alarm occurs, the buzzer will alarm continuously until the alarm ends.
   - Custom: When enabled, you can set how long the buzzer will alarm after it is triggered. The valid range is from 1 to 600(s). When an alarm occurs, the buzzer will alarm continuously within the alarm duration, and stop automatically if the alarm ends first within the duration.

   Note: To stop a buzzer alarm manually, right-click in the preview window, select **Manual** > **Buzzer**. See Buzzer for details.

3. Click **Apply**.

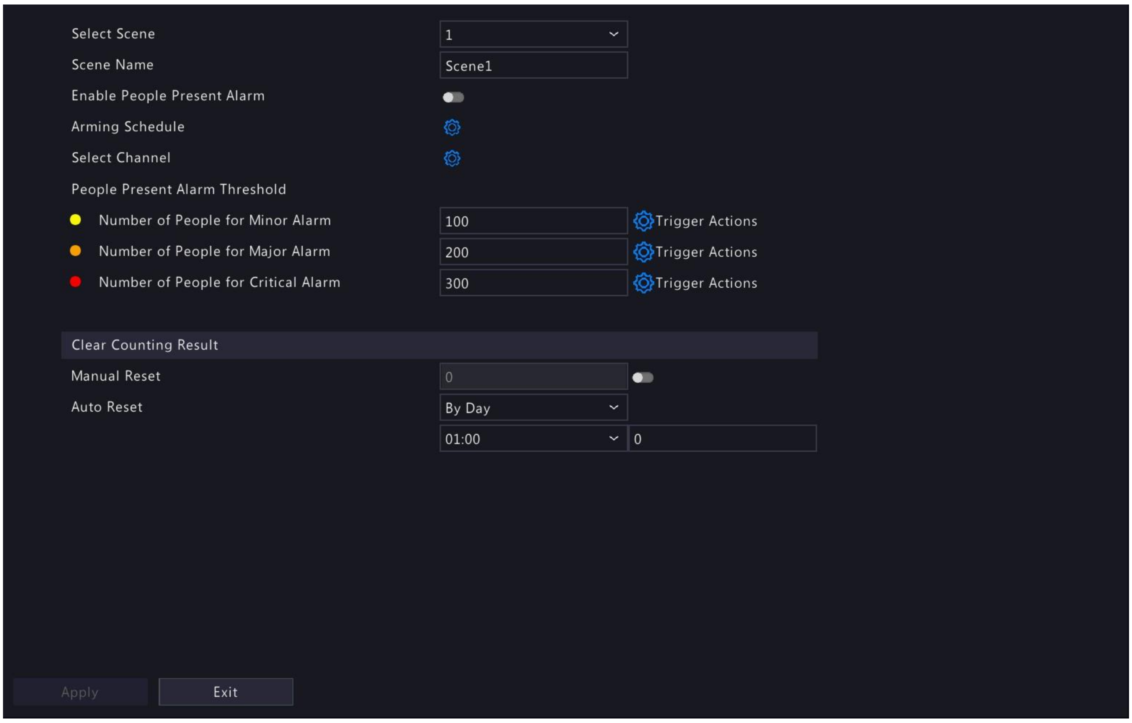
10.9 People Present Alarm

An alarm occurs when the number of people present in a specified area exceeds the set threshold.

Note: To use this function, make sure that people flow counting is supported by the camera and is enabled on the **VCA** page. See People Flow Counting for details.

Configure People Present Alarm

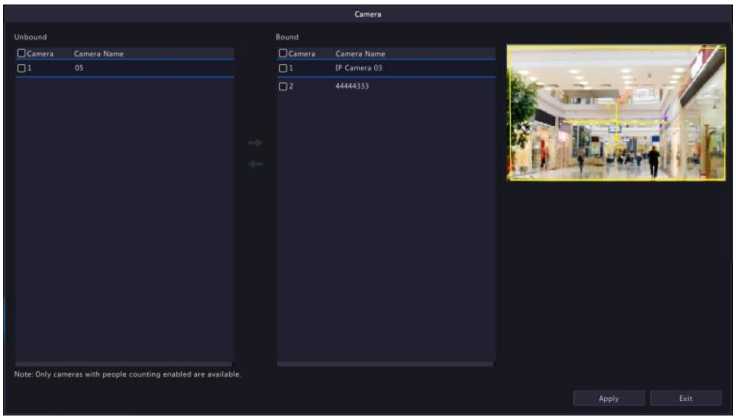
1. Go to **Menu** > **Alarm** > **People Present Alarm**.



Select Scene: 1
Scene Name: Scene1
Enable People Present Alarm
Arming Schedule
Select Channel
People Present Alarm Threshold
● Number of People for Minor Alarm: 100 ⚙Trigger Actions
● Number of People for Major Alarm: 200 ⚙Trigger Actions
● Number of People for Critical Alarm: 300 ⚙Trigger Actions

Clear Counting Result
Manual Reset: 0
Auto Reset: By Day
01:00 0

2. Configure parameters.

Parameter	Description
Select Scene	Select a scene and set scene information respectively. Up to 4 scenes are allowed.
Scene Name	The 4 scenes are named as Scene 1, Scene 2, Scene 3, and Scene 4 by default. You can also customize scene name.
Enable People Present Alarm	Enable people present alarm.
Arming Schedule	Click ⚙ right to **Arming Schedule** and configure it as needed. See Arming Schedule for details.
Select Channel	Click ⚙ to select desired channel(s) to bind to the scene. The number of people present is calculated from the number of people entering and leaving the bound channels. It is recommended to bind all the channels to ensure the accuracy of the alarm.  Camera Unbound ☐Camera Camera Name ☐1 05 Bound ☐Camera Camera Name ☐1 IP Camera 03 ☐2 44444333 Note: Only cameras with people counting enabled are available.
People Present Alarm Threshold	The maximum number of people allowed in the monitored area. An alarm occurs when the number of people present exceeds the threshold. The valid range is from 1 to 100,000. • Number of People for Minor Alarm: Set the number, and click ⚙ to set Alarm-triggered Actions.

Parameter	Description
	• Number of People for Major Alarm: Set the number, which must be greater than the number of people for minor alarm, and then click ⚙ to set Alarm-triggered Actions. • Number of People for Critical Alarm: Set the number, which must be greater than the number of people for major alarm, and then click ⚙ to set Alarm-triggered Actions.

3. Set the time to clear people counting data. The NVR will clear people counting statistics on the OSD at the set time. This operation does not affect statistics and data reporting.

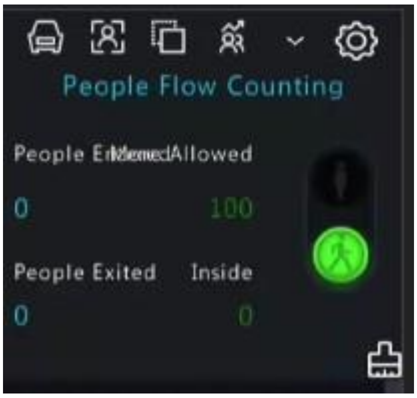
   (1) The initial number of people in scene is 0 by default. You can enable **Manual Reset**, and set the number as needed.

   (2) When **Manual Reset** is disabled, you can set the auto reset strategy. It can be set by day, week, and month.

4. Click **Apply**.

View Data

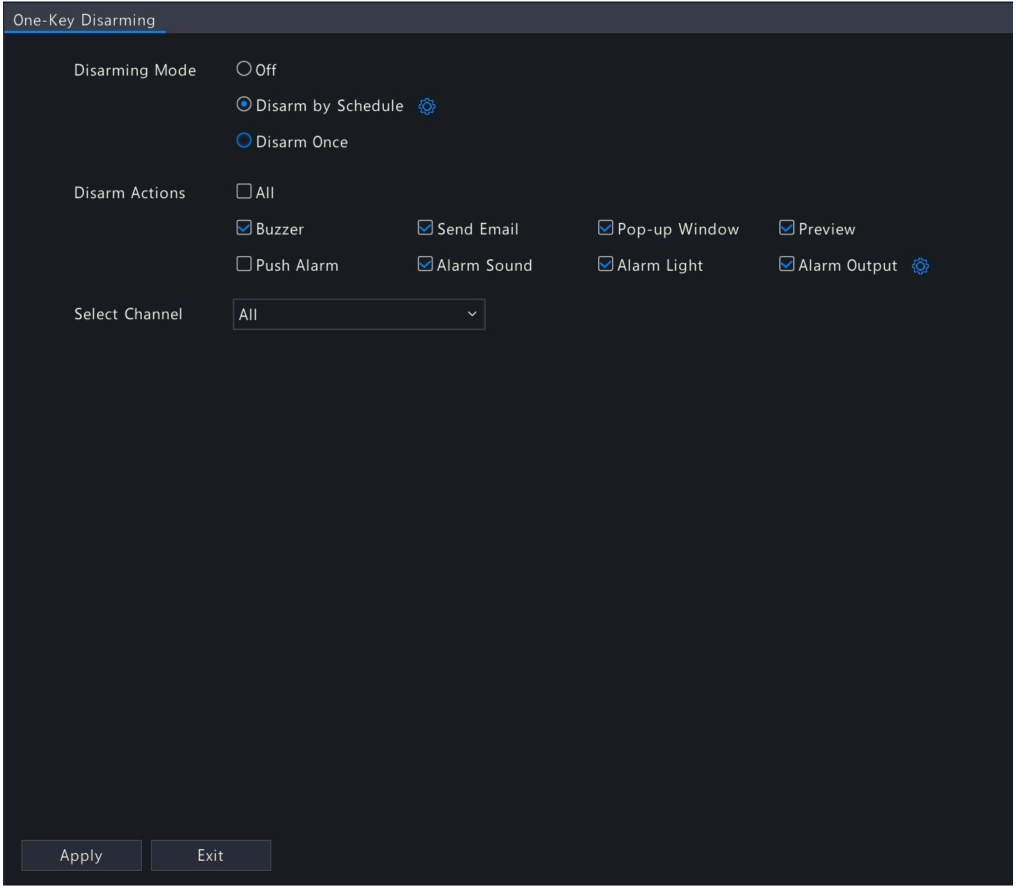
On the preview page, select **People Flow Counting** from the drop-down list in the upper right corner, then you can view the number of people entered, exited, and present.



10.10 One-Key Disarming

Cancel alarm-triggered actions of NVRs or IPCs with one click.

1. Go to **Menu** > **Alarm** > **One-Key Disarming**.



One-Key Disarming

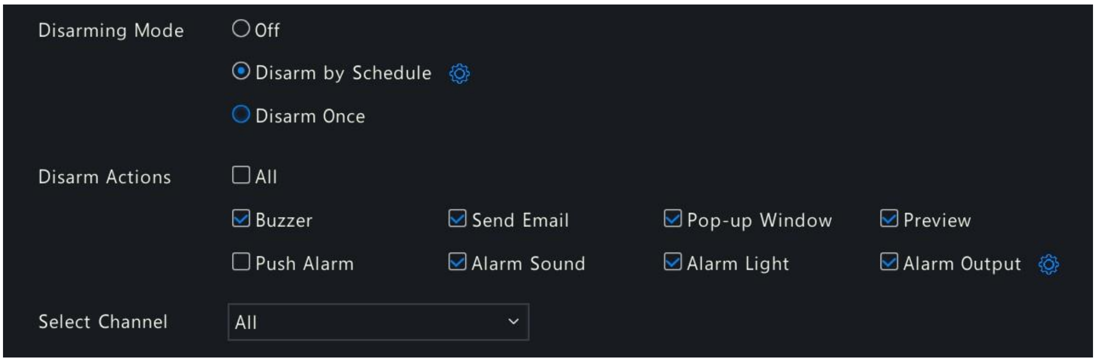
Disarming Mode ○ Off
● Disarm by Schedule
○ Disarm Once

Disarm Actions ☐ All
☑ Buzzer ☑ Send Email ☑ Pop-up Window ☑ Preview
☐ Push Alarm ☑ Alarm Sound ☑ Alarm Light ☑ Alarm Output

Select Channel: All

2. Select a disarming mode and configure parameters.

- Off: Disarming is disabled.
- Disarm by Schedule: The device is disarmed during specific time periods per week.

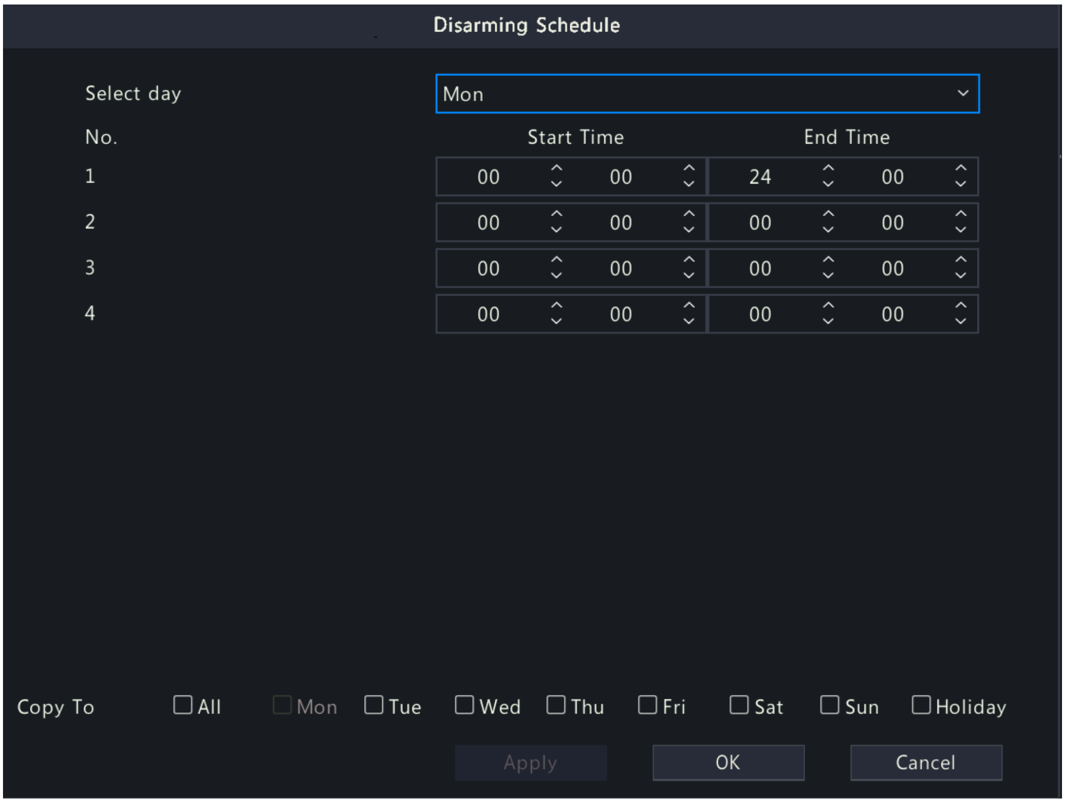


Disarming Mode ○ Off
● Disarm by Schedule
○ Disarm Once

Disarm Actions ☐ All
☑ Buzzer ☑ Send Email ☑ Pop-up Window ☑ Preview
☐ Push Alarm ☑ Alarm Sound ☑ Alarm Light ☑ Alarm Output

Select Channel: All

(1) Click ⚙ right to **Disarm by Schedule**, and set the disarming periods. Click **OK** to return to the **One-Key Disarming** page.



Disarming Schedule

Select day: Mon

No.	Start Time		End Time	
1	00	00	24	00
2	00	00	00	00
3	00	00	00	00
4	00	00	00	00

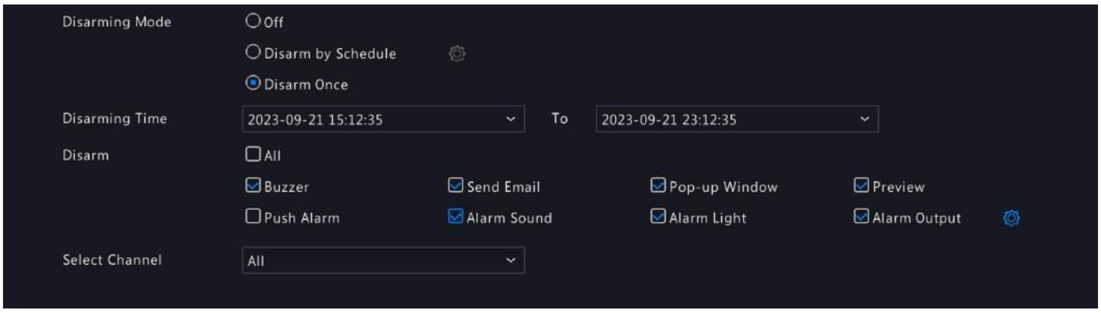
Copy To ☐ All ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun ☐ Holiday

Note:

- Up to 4 disarming periods during one day are allowed.
- To apply the same disarming schedule to other days, select **All** or the intended day(s), and click **OK**.

(2) Select actions to be disarmed. The default is all actions. See Alarm-triggered Actions for details.

- Disarm Once: The device is disarmed during a specified time period.



Disarming Mode: ○ Off ○ Disarm by Schedule ● Disarm Once

Disarming Time: 2023-09-21 15:12:35 To 2023-09-21 23:12:35

Disarm: ☐ All
☑ Buzzer ☑ Send Email ☑ Pop-up Window ☑ Preview
☐ Push Alarm ☑ Alarm Sound ☑ Alarm Light ☑ Alarm Output

Select Channel: All

(1) Select **Disarm Once**, and set the disarming start time and end time.

(2) Select actions to be disarmed. The default is all actions. See Alarm-triggered Actions for details.

3. Click **Apply**.

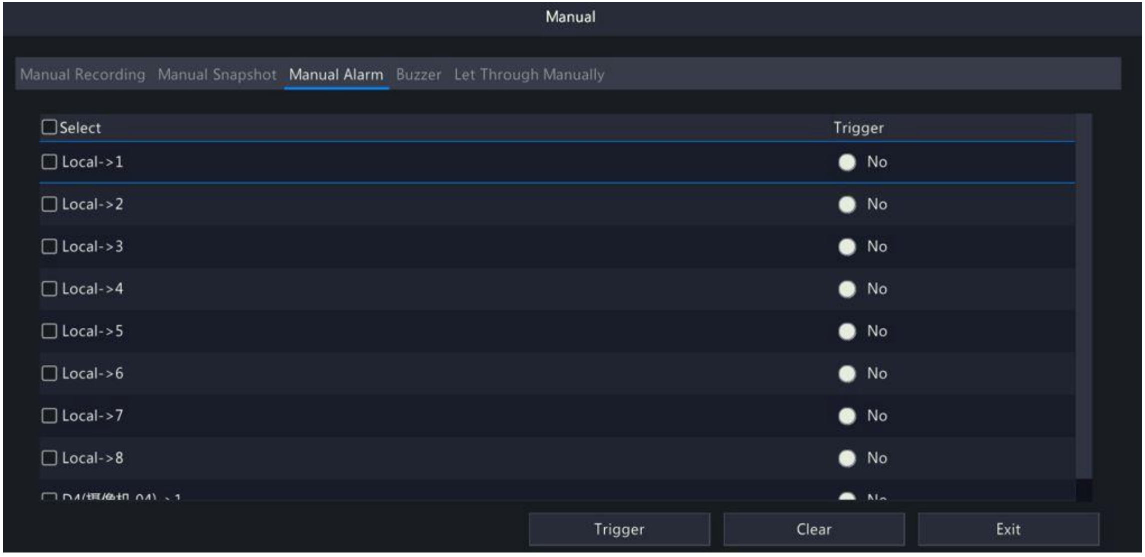
10.11 Manual Alarm

Trigger or clear an alarm output manually.

Note: Manual alarm has the highest priority.

Manual Alarm

1. Right-click and select **Manual** > **Manual Alarm**.

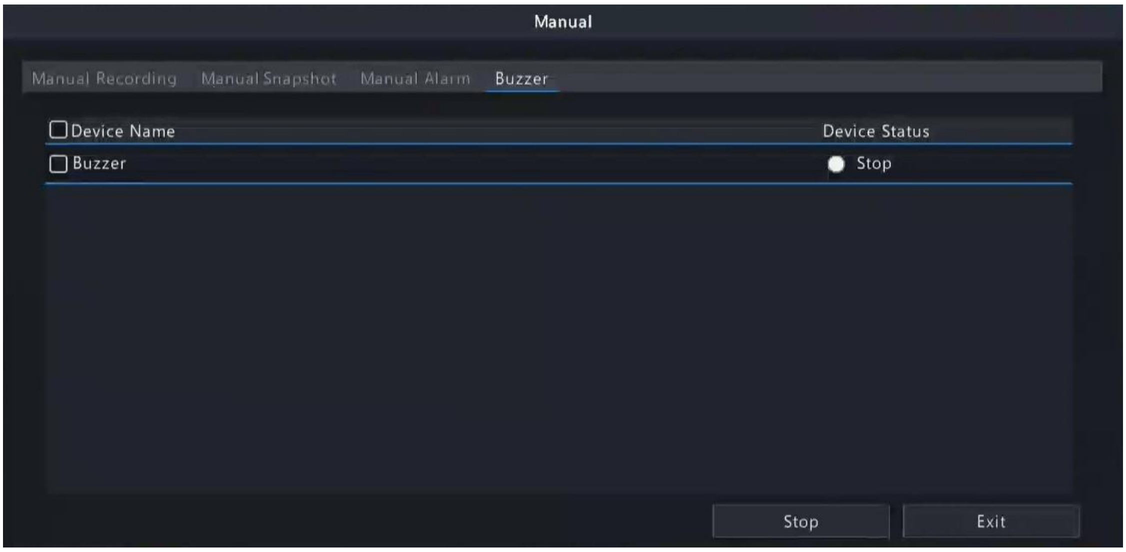


☐ Select	Trigger
☐ Local->1	● No
☐ Local->2	● No
☐ Local->3	● No
☐ Local->4	● No
☐ Local->5	● No
☐ Local->6	● No
☐ Local->7	● No
☐ Local->8	● No

2. Trigger or clear alarm(s) manually.
   - Trigger: Select the channel(s) to be triggered and click **Trigger**, and then ● changes to ✓.
   - Clear: Select the channel(s) to be cleared and click **Clear**, and then ✓ changes to ●.

Buzzer

1. Right-click and select **Manual** > **Buzzer**.



☐ Device Name	Device Status
☐ Buzzer	● Stop

2. To stop the buzzer, select the buzzer (in Started status) and then click **Stop**.

11 System Maintenance

View system operation status to ensure stable system operation.

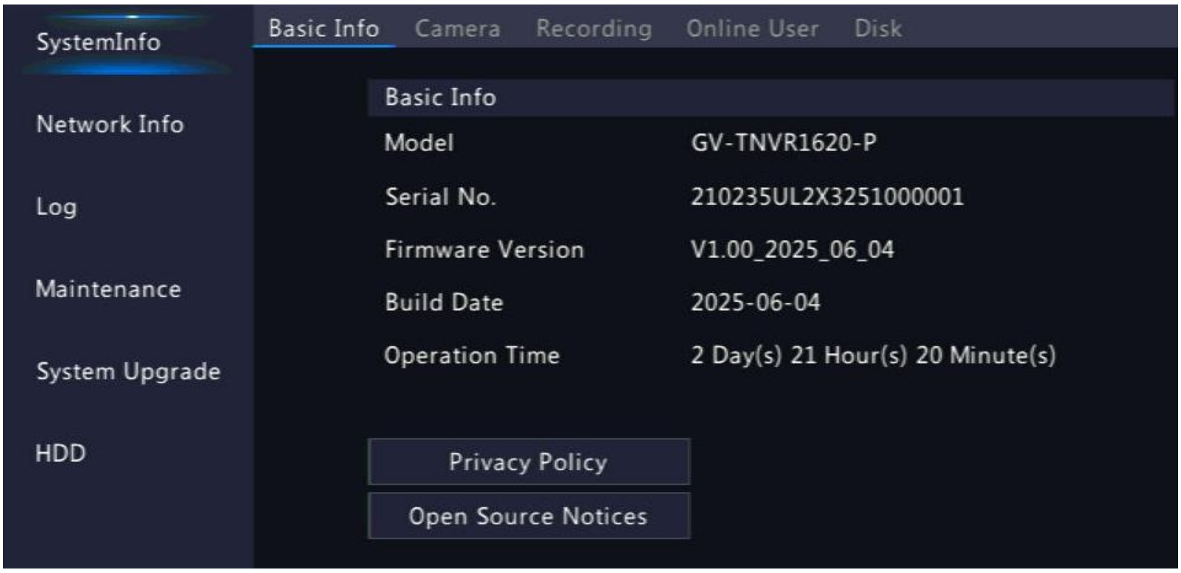
11.1 System Info

View the basic information and operation status of the device.

11.1.1 Basic Info

View the basic information of the device, including NVR model, firmware version, build date, etc.

1. Go to **Menu** > **Maintenance** > **System Info** > **Basic Info**. View the basic information of the device.



Model GV-TNVR1620-P

Serial No. 210235UL2X3251000001

Firmware Version V1.00_2025_06_04

Build Date 2025-06-04

Operation Time 2 Day(s) 21 Hour(s) 20 Minute(s)

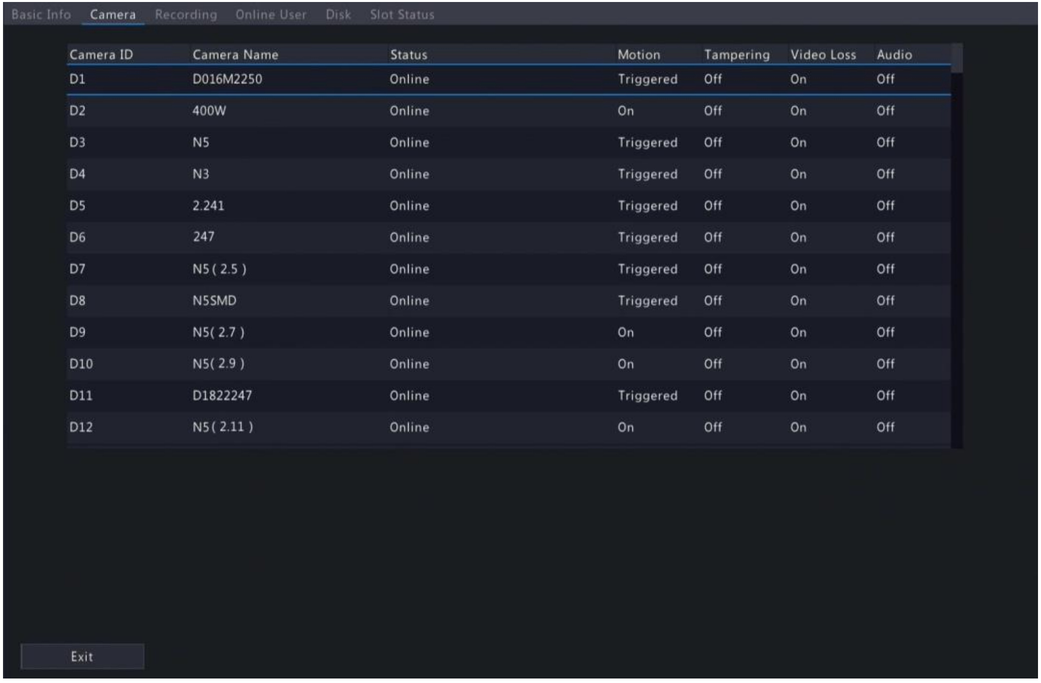
Parameter	**Description**
Model	NVR model.
Serial No.	Serial number.
Firmware Version	Firmware version of the NVR.
Build Date	Release date of the current firmware version.
Operation Time	Length of time the NVR has been operating since the latest startup.

2. Click **Privacy Policy** to view our privacy policy as needed.
3. Click **Open Source Notices** to view our open source notices as needed.

11.1.2 Camera Status

View camera status information.

Go to **Menu** > **Maintenance** > **System Info** > **Camera**. View camera information including name, online/offline status, event type and status.

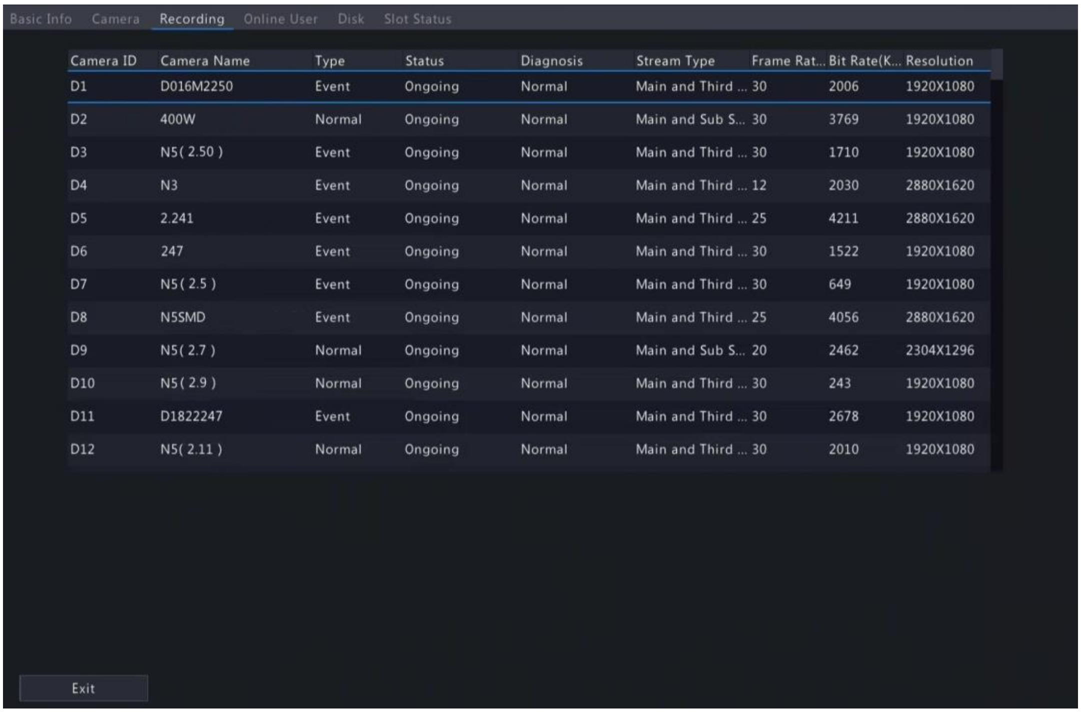


Camera ID	Camera Name	Status	Motion	Tampering	Video Loss	Audio
D1	D016M2250	Online	Triggered	Off	On	Off
D2	400W	Online	On	Off	On	Off
D3	N5	Online	Triggered	Off	On	Off
D4	N3	Online	Triggered	Off	On	Off
D5	2.241	Online	Triggered	Off	On	Off
D6	247	Online	Triggered	Off	On	Off
D7	N5 (2.5)	Online	Triggered	Off	On	Off
D8	N5SMD	Online	Triggered	Off	On	Off
D9	N5(2.7)	Online	On	Off	On	Off
D10	N5(2.9)	Online	On	Off	On	Off
D11	D1822247	Online	Triggered	Off	On	Off
D12	N5 (2.11)	Online	On	Off	On	Off

11.1.3 Recording Status

View the recording status and encoding parameters of the connected cameras.

Go to **Menu** > **Maintenance** > **System Info** > **Recording**. View recording information including recording type, recording status, diagnosis, and encoding parameters.

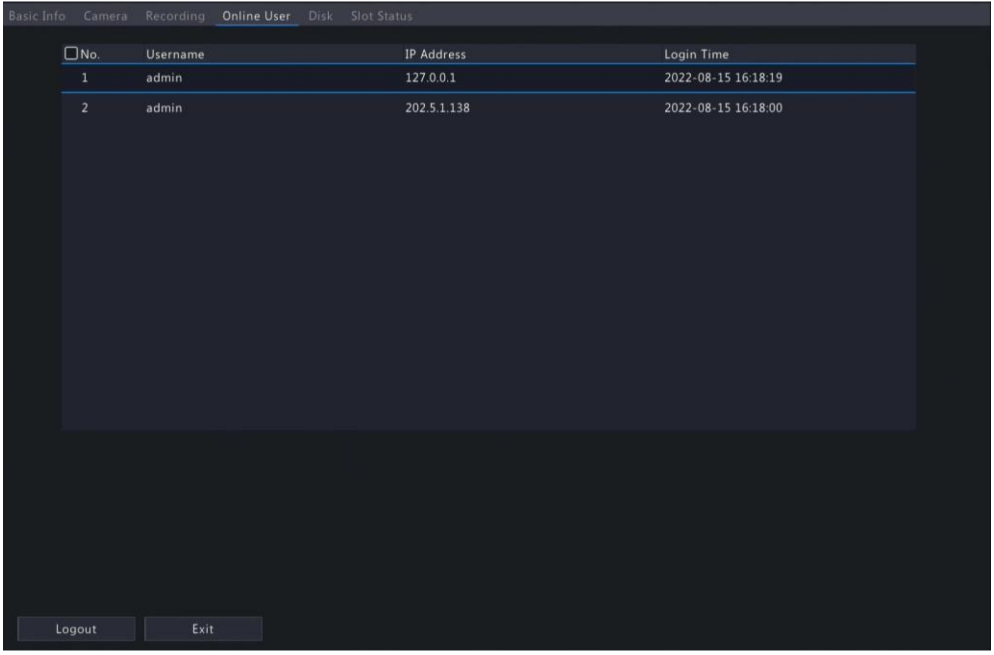


Camera ID	Camera Name	Type	Status	Diagnosis	Stream Type	Frame Rat...	Bit Rate(K...	Resolution
D1	D016M2250	Event	Ongoing	Normal	Main and Third ...	30	2006	1920X1080
D2	400W	Normal	Ongoing	Normal	Main and Sub S...	30	3769	1920X1080
D3	N5(2.50)	Event	Ongoing	Normal	Main and Third ...	30	1710	1920X1080
D4	N3	Event	Ongoing	Normal	Main and Third ...	12	2030	2880X1620
D5	2.241	Event	Ongoing	Normal	Main and Third ...	25	4211	2880X1620
D6	247	Event	Ongoing	Normal	Main and Third ...	30	1522	1920X1080
D7	N5 (2.5)	Event	Ongoing	Normal	Main and Third ...	30	649	1920X1080
D8	N5SMD	Event	Ongoing	Normal	Main and Third ...	25	4056	2880X1620
D9	N5(2.7)	Normal	Ongoing	Normal	Main and Sub S...	20	2462	2304X1296
D10	N5(2.9)	Normal	Ongoing	Normal	Main and Third ...	30	243	1920X1080
D11	D1822247	Event	Ongoing	Normal	Main and Third ...	30	2678	1920X1080
D12	N5(2.11)	Normal	Ongoing	Normal	Main and Third ...	30	2010	1920X1080

11.1.4 Online User

View the logged-in users, and force non-admin users to log out of the NVR when necessary.

1. Go to **Menu** > **Maintenance** > **System Info** > **Online User**.



☐ No.	Username	IP Address	Login Time
1	admin	127.0.0.1	2022-08-15 16:18:19
2	admin	202.5.1.138	2022-08-15 16:18:00

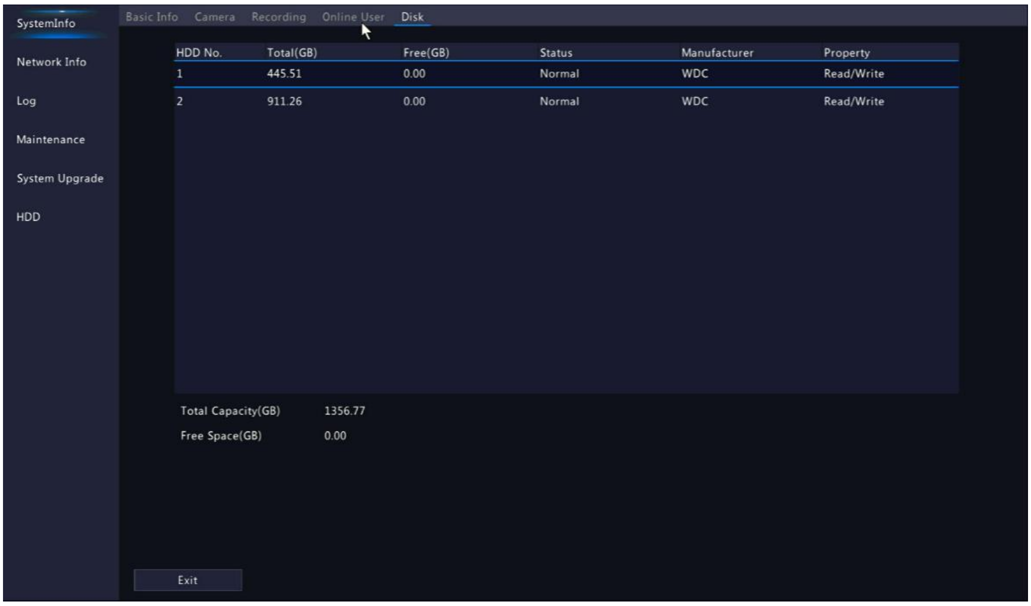
2. Choose a non-admin user and then click **Logout**.

Note: Only admin can manage user permissions.

11.1.5 HDD Status

View the status and property of HDDs on the NVR.

Go to **Menu** > **Maintenance** > **System Info** > **Disk**. View hard disk information including the total capacity, free space, status, manufacturer, and property.



HDD No.	Total(GB)	Free(GB)	Status	Manufacturer	Property
1	445.51	0.00	Normal	WDC	Read/Write
2	911.26	0.00	Normal	WDC	Read/Write

Total Capacity(GB) 1356.77

Free Space(GB) 0.00

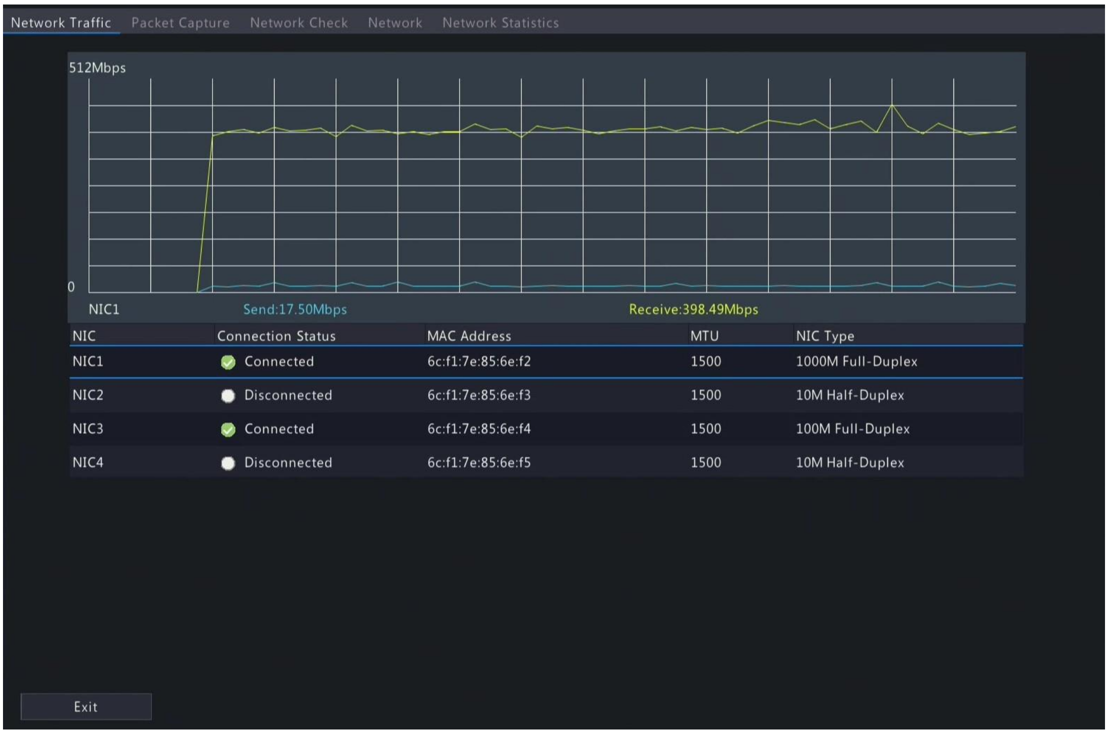
11.2 Network Information

View network information including network traffic, network latency, packet loss rate, and network status.

11.2.1 Network Traffic

View network interface card (NIC) information including connection status, physical address, MTU, NIC type, and real-time traffic.

1. Go to **Menu** > **Maintenance** > **Network Info** > **Network Traffic**.



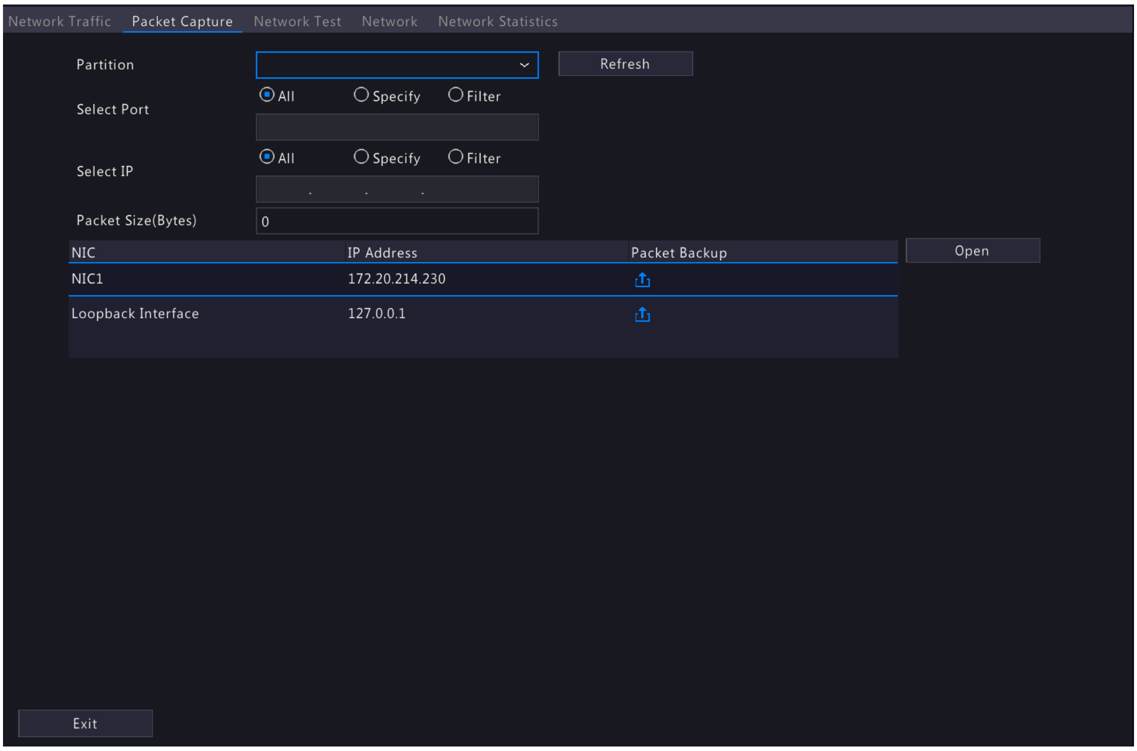
NIC	Connection Status	MAC Address	MTU	NIC Type
NIC1	✓ Connected	6c:f1:7e:85:6e:f2	1500	1000M Full-Duplex
NIC2	○ Disconnected	6c:f1:7e:85:6e:f3	1500	10M Half-Duplex
NIC3	✓ Connected	6c:f1:7e:85:6e:f4	1500	100M Full-Duplex
NIC4	○ Disconnected	6c:f1:7e:85:6e:f5	1500	10M Half-Duplex

2. Choose an NIC to view the real-time network traffic.

11.2.2 Packet Capture

Capture, view, and save network packets for network security and troubleshooting.

1. Go to **Menu** > **Maintenance** > **Network Info** > **Packet Capture**.



Partition

Select Port ● All ○ Specify ○ Filter

Select IP ● All ○ Specify ○ Filter

Packet Size(Bytes) 0

NIC	IP Address	Packet Backup
NIC1	172.20.214.230	⇪
Loopback Interface	127.0.0.1	⇪

2. Choose a partition to save the captured packets.
3. Specify ports and IPs.
   - All: Capture packets of all the ports and IPs connected to the device.
   - Specify: Capture packets of the specified ports and IPs.
   - Filter: Capture packets except that of the specified ports and IPs.

4. Set the packet size.

   Note:

   - The packet size is 0 by default, which indicates that there is no size limit for the captured packet data. The larger the size, the lower the risk of data loss, and the more complete the information.
   - Too large packet size may occupy too much storage space.

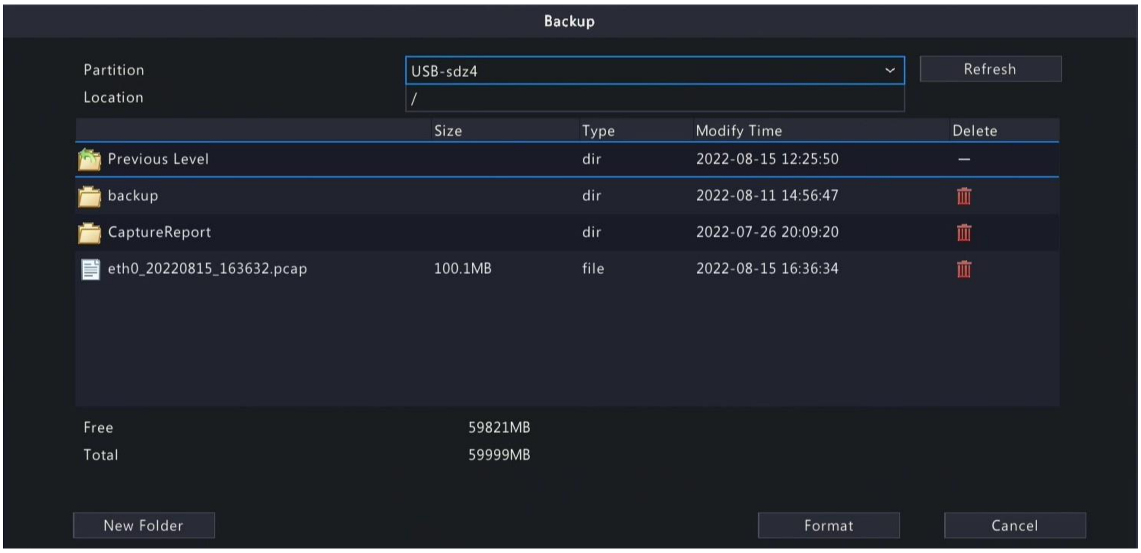
5. Click ⬆ for the NIC or loopback interface to start capturing packets.

   - NIC 1/2/3...: Capture transmission packets of the NIC.
   - Loopback interface: Capture operation packets of the NVR.

   Note: A progress bar appears. To cancel the task, click **Cancel**.

6. View the captured data.

   When the task is completed, the captured data are saved to the root directory of the USB storage device, and the **Backup** page appears, showing the file containing the captured packets. You may also click **Open** to open the **Backup** page.



Backup

Partition: USB-sdz4

Location: /

	Size	Type	Modify Time	Delete
Previous Level		dir	2022-08-15 12:25:50	—
backup		dir	2022-08-11 14:56:47	🗑
CaptureReport		dir	2022-07-26 20:09:20	🗑
eth0_20220815_163632.pcap	100.1MB	file	2022-08-15 16:36:34	🗑

Free 59821MB

Total 59999MB

Note:

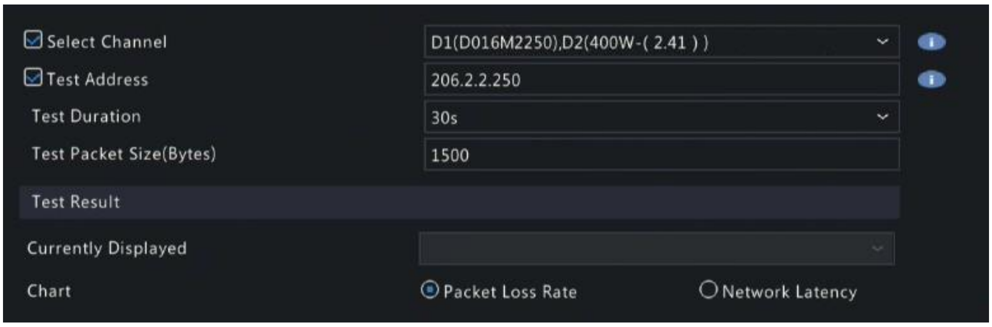
- The device cannot capture packets if a capturing task is already started on the Web client.
- The file containing the captured packets is named in this format: *NIC_YYYYMMDD_hhmmss*.pcap, for example, eth0_20220815_163632.pcap.
- When PPPoE dial-up succeeded, a virtual NIC appears in the NIC list. You can also capture packets of the NIC.

11.2.3 Network Check

Monitor the network traffic, network latency, packet loss rate, etc.

Configure Network Check

1. Go to **Menu** > **Maintenance** > **Network Info** > **Network Check**.
2. Select the **Select Channel** checkbox, select the channel(s) you want to monitor. Up to 5 channels are allowed.
3. Select the **Test Address** checkbox, and then enter the address you want to test. You may enter an IP address or a domain name. Up to 2 IP addresses (separated with a semicolon) are allowed.
4. Choose the test duration. The system will test the network status during this time. Options are 30s (default), 1 min, 5 min, 10 min, 30 min, and 1 hour.
5. Set the size of test packets. The default is 1500 Bytes. The range is [64-4000]. Set according to the actual network condition.



☑ Select Channel: D1(D016M2250),D2(400W-(2.41))

☑ Test Address: 206.2.2.250

Test Duration: 30s

Test Packet Size(Bytes): 1500

Test Result

Currently Displayed:

Chart: ● Packet Loss Rate ○ Network Latency

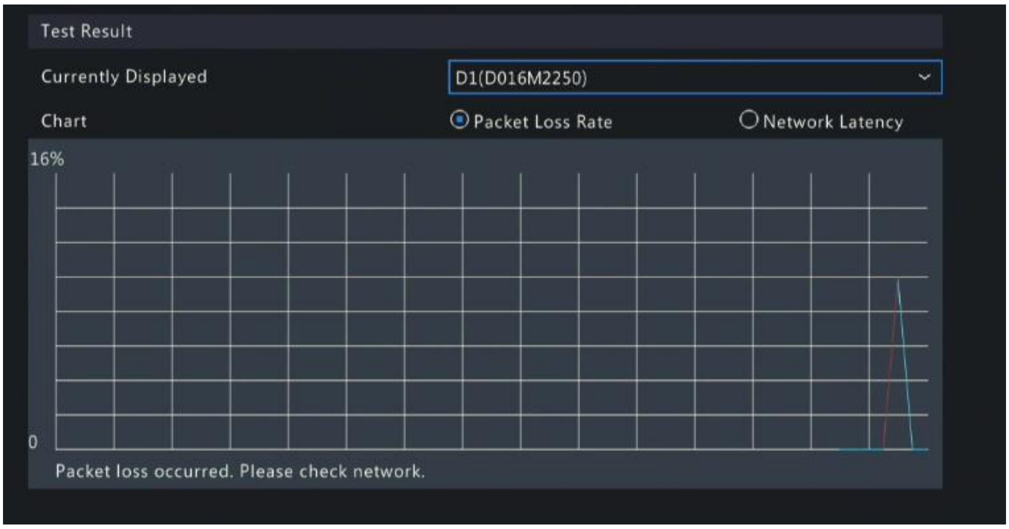
6. Click **Test** to test the packet loss rate and network latency.

View Test Results

If the test is successful, the system saves test data and shows the packet loss rate and network latency. If the test failed, the test result shows “The destination is unreachable”.

Note: If you click **Stop Test** before the test is completed, the system will save the existing test data and show the test result.

1. You can click the **Currently Displayed** drop-down list to choose the channel or address to be tested.
2. Click **Packet Loss Rate** or **Network Latency** to view the test result.
   - Packet loss rate



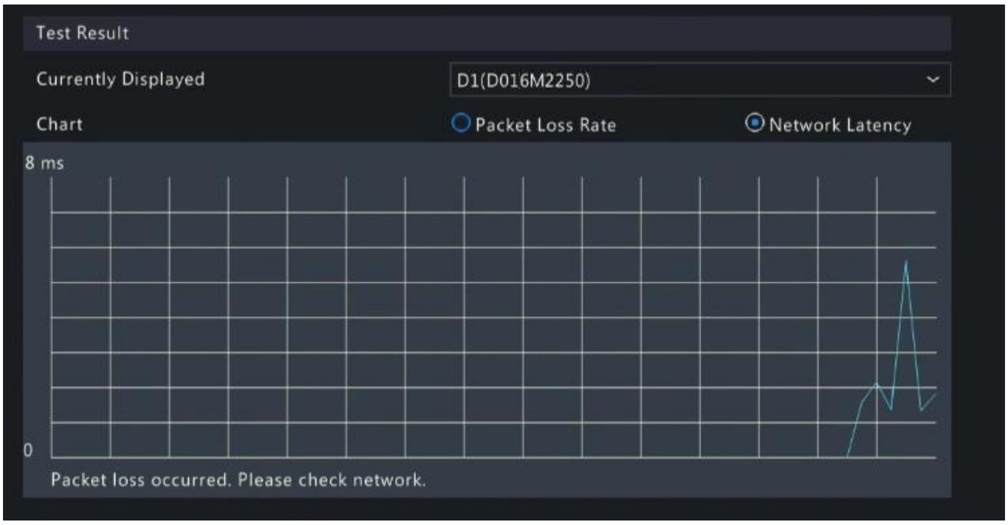
Test Result

Currently Displayed: D1(D016M2250)

Chart: ● Packet Loss Rate ○ Network Latency

Packet loss occurred. Please check network.

   - Network latency



Test Result

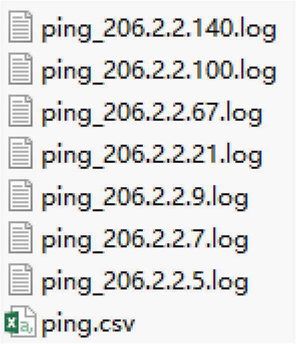
Currently Displayed: D1(D016M2250)

Chart: ○ Packet Loss Rate ● Network Latency

Packet loss occurred. Please check network.

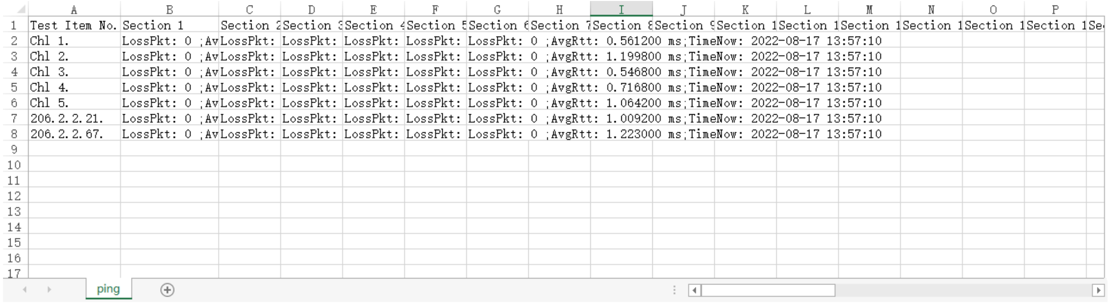
Export Test Results

1. Click **Export**. The **Backup** page appears.
2. Choose the destination path, click **Backup** to export test results to the external storage device.
3. The exported file is a **.tgz** package, including ping logs of all the test objects and one summary file. See the examples below.
    - Exported files



ping_206.2.2.140.log
ping_206.2.2.100.log
ping_206.2.2.67.log
ping_206.2.2.21.log
ping_206.2.2.9.log
ping_206.2.2.7.log
ping_206.2.2.5.log
ping.csv

    - Exported report

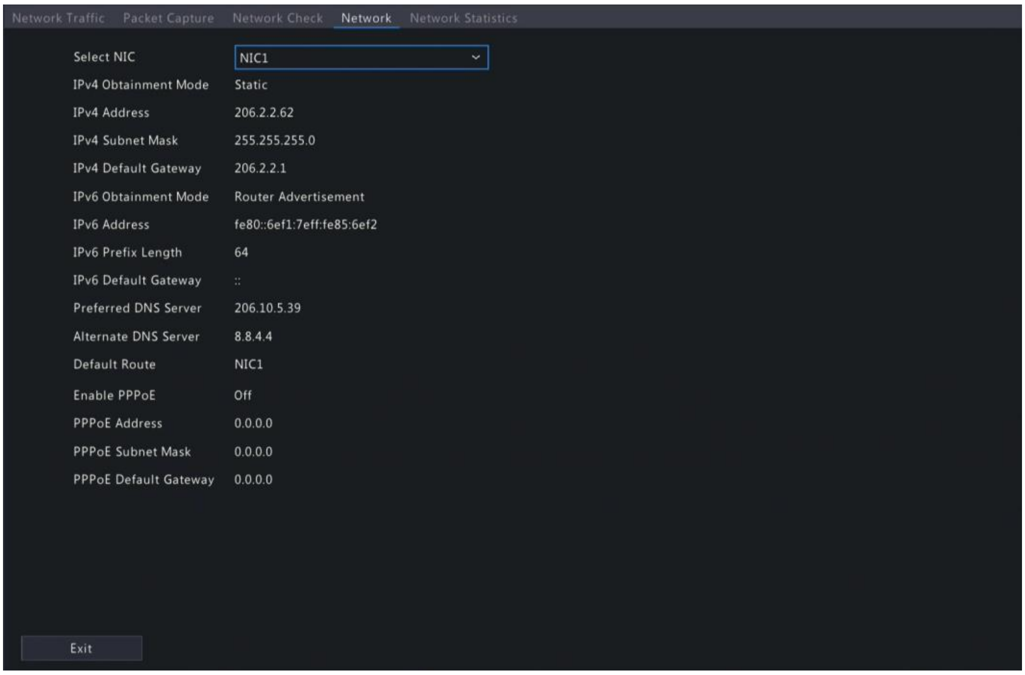


	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Test Item No.	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9	Section 1	Section 1	Section 1	Section 1	Section 1	Section 1
2	Chl 1.	LossPkt: 0 ;Av	LossPkt:	LossPkt:	LossPkt:	LossPkt:	LossPkt: 0 ;AvgRtt: 0.561200 ms;TimeNow: 2022-08-17 13:57:10									
3	Chl 2.	LossPkt: 0 ;Av	LossPkt:	LossPkt:	LossPkt:	LossPkt:	LossPkt: 0 ;AvgRtt: 1.199800 ms;TimeNow: 2022-08-17 13:57:10									
4	Chl 3.	LossPkt: 0 ;Av	LossPkt:	LossPkt:	LossPkt:	LossPkt:	LossPkt: 0 ;AvgRtt: 0.546800 ms;TimeNow: 2022-08-17 13:57:10									
5	Chl 4.	LossPkt: 0 ;Av	LossPkt:	LossPkt:	LossPkt:	LossPkt:	LossPkt: 0 ;AvgRtt: 0.716800 ms;TimeNow: 2022-08-17 13:57:10									
6	Chl 5.	LossPkt: 0 ;Av	LossPkt:	LossPkt:	LossPkt:	LossPkt:	LossPkt: 0 ;AvgRtt: 1.064200 ms;TimeNow: 2022-08-17 13:57:10									
7	206.2.2.21.	LossPkt: 0 ;Av	LossPkt:	LossPkt:	LossPkt:	LossPkt:	LossPkt: 0 ;AvgRtt: 1.009200 ms;TimeNow: 2022-08-17 13:57:10									
8	206.2.2.67.	LossPkt: 0 ;Av	LossPkt:	LossPkt:	LossPkt:	LossPkt:	LossPkt: 0 ;AvgRtt: 1.223000 ms;TimeNow: 2022-08-17 13:57:10									

11.2.4 Network Status

View network parameters of an NIC.

Go to **Menu** > **Maintenance** > **Network Info** > **Network**. Choose an NIC to view its network parameters.

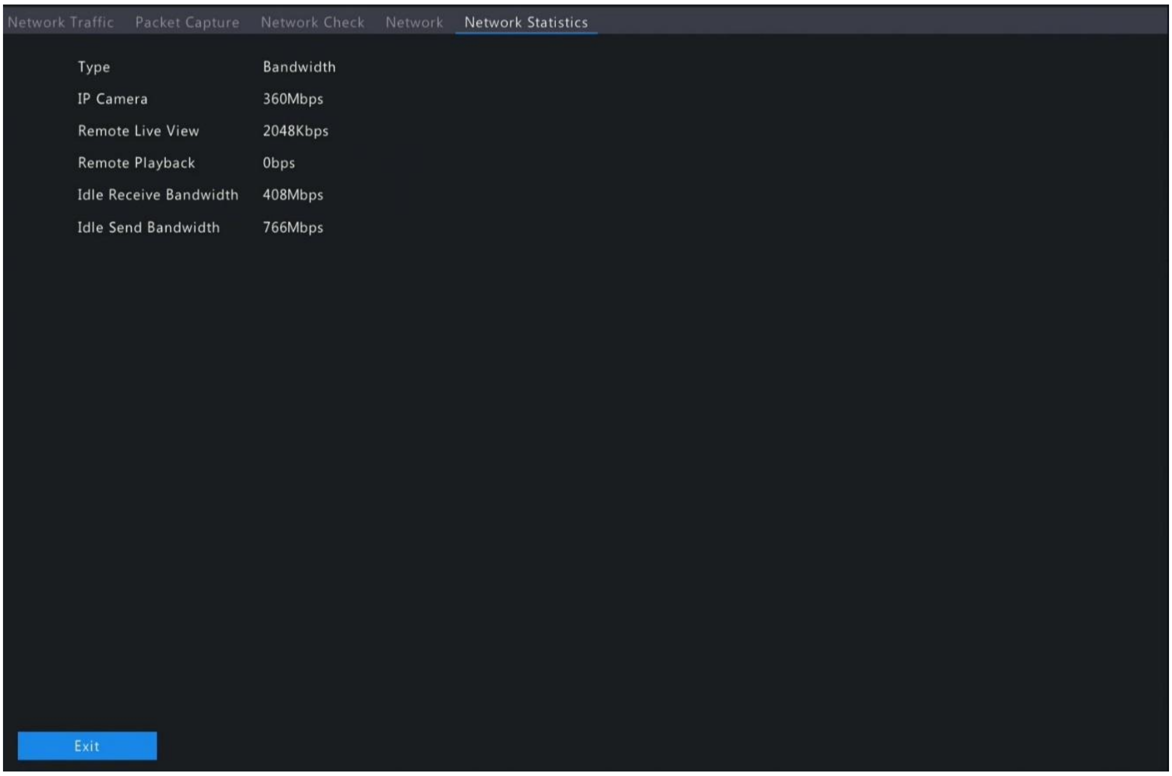


Select NIC: NIC1
IPv4 Obtainment Mode: Static
IPv4 Address: 206.2.2.62
IPv4 Subnet Mask: 255.255.255.0
IPv4 Default Gateway: 206.2.2.1
IPv6 Obtainment Mode: Router Advertisement
IPv6 Address: fe80::6ef1:7eff:fe85:6ef2
IPv6 Prefix Length: 64
IPv6 Default Gateway: ::
Preferred DNS Server: 206.10.5.39
Alternate DNS Server: 8.8.4.4
Default Route: NIC1
Enable PPPoE: Off
PPPoE Address: 0.0.0.0
PPPoE Subnet Mask: 0.0.0.0
PPPoE Default Gateway: 0.0.0.0

11.2.5 Network Resource Statistics

View bandwidth usage.

Go to **Menu** > **Maintenance** > **Network Info** > **Network Statistics**. Bandwidth usage is displayed.



Type	Bandwidth
IP Camera	360Mbps
Remote Live View	2048Kbps
Remote Playback	0bps
Idle Receive Bandwidth	408Mbps
Idle Send Bandwidth	766Mbps

Note:

- When idle receive bandwidth is low, cameras cannot get online.
- When idle send bandwidth is low, live view, playback, and recording download will fail.

11.2.6 PoE and Network Port Status

View connection status of PoE ports or network ports. This function is applicable to NVRs with PoE ports or network ports.

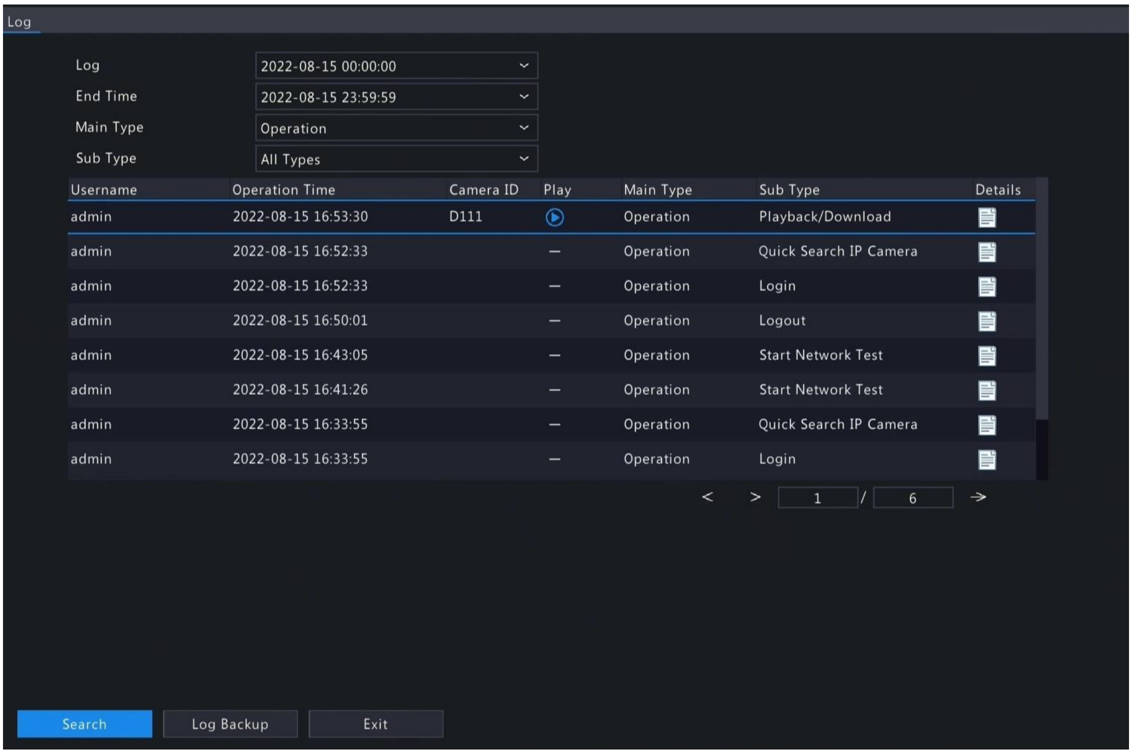
Go to **Menu** > **Maintenance** > **Network Info** > **PoE Port Status** or **Network Port Status**. The port connection status is displayed. Blue means the port is in use. For PoE device, you may also view power information.

11.3 Log Search

Logs contain information about user operation and device status. You can use logs to keep track of device operation status and view detailed alarm information.

Log Search

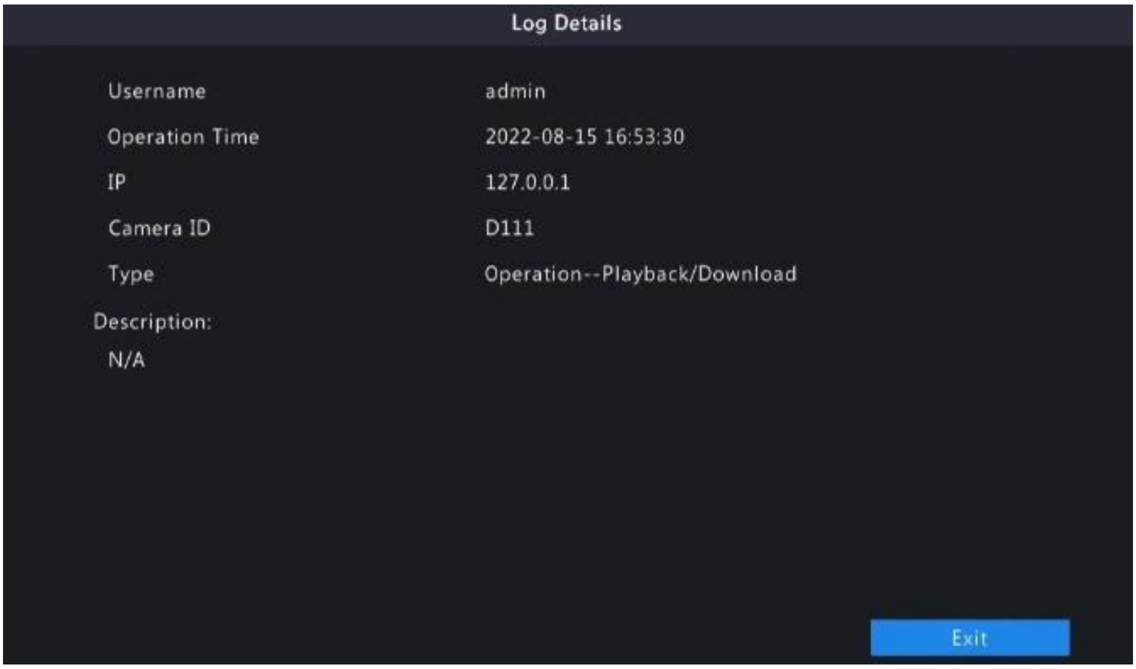
1. Go to **Menu** > **Maintenance** > **Log**.



Log: 2022-08-15 00:00:00
End Time: 2022-08-15 23:59:59
Main Type: Operation
Sub Type: All Types

Username	Operation Time	Camera ID	Play	Main Type	Sub Type	Details
admin	2022-08-15 16:53:30	D111	▶	Operation	Playback/Download	📄
admin	2022-08-15 16:52:33		–	Operation	Quick Search IP Camera	📄
admin	2022-08-15 16:52:33		–	Operation	Login	📄
admin	2022-08-15 16:50:01		–	Operation	Logout	📄
admin	2022-08-15 16:43:05		–	Operation	Start Network Test	📄
admin	2022-08-15 16:41:26		–	Operation	Start Network Test	📄
admin	2022-08-15 16:33:55		–	Operation	Quick Search IP Camera	📄
admin	2022-08-15 16:33:55		–	Operation	Login	📄

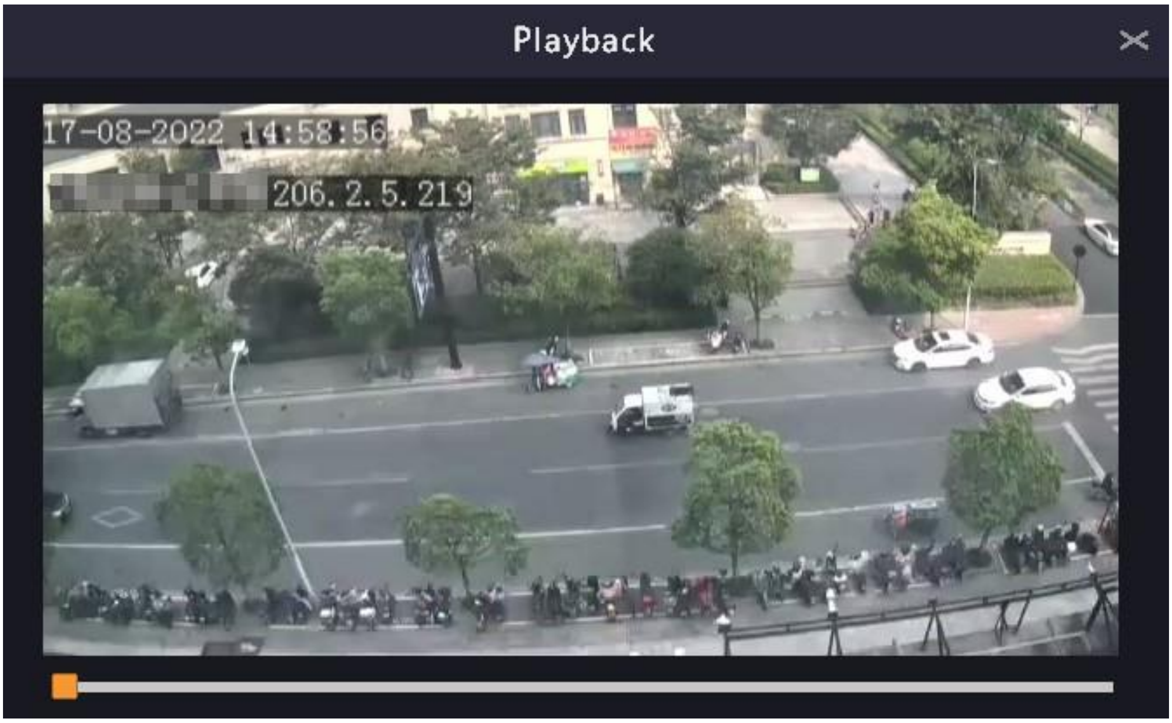
2. Set the start time, end time, main type and sub type.
3. Click **Search**.
4. Click 📄 to view log details.



Username: admin
Operation Time: 2022-08-15 16:53:30
IP: 127.0.0.1
Camera ID: D111
Type: Operation--Playback/Download
Description:
N/A

Playback

Click ⊙ to view the video recorded at the current log time.



Note:

- This feature is not available to certain log types.
- The video is 11 minutes long (1m before and 10m after alarm).

Log Backup

Click **Backup**. The **Backup** page appears. Choose the destination path, click **Backup** to save the logs to the external storage device.

11.4 Maintenance

11.4.1 Maintenance

Maintenance includes restore system, system backup, and auto-function.

Go to **Menu** > **Maintenance** > **Maintenance** > **Maintenance**.

Restore System

Restore default system settings.

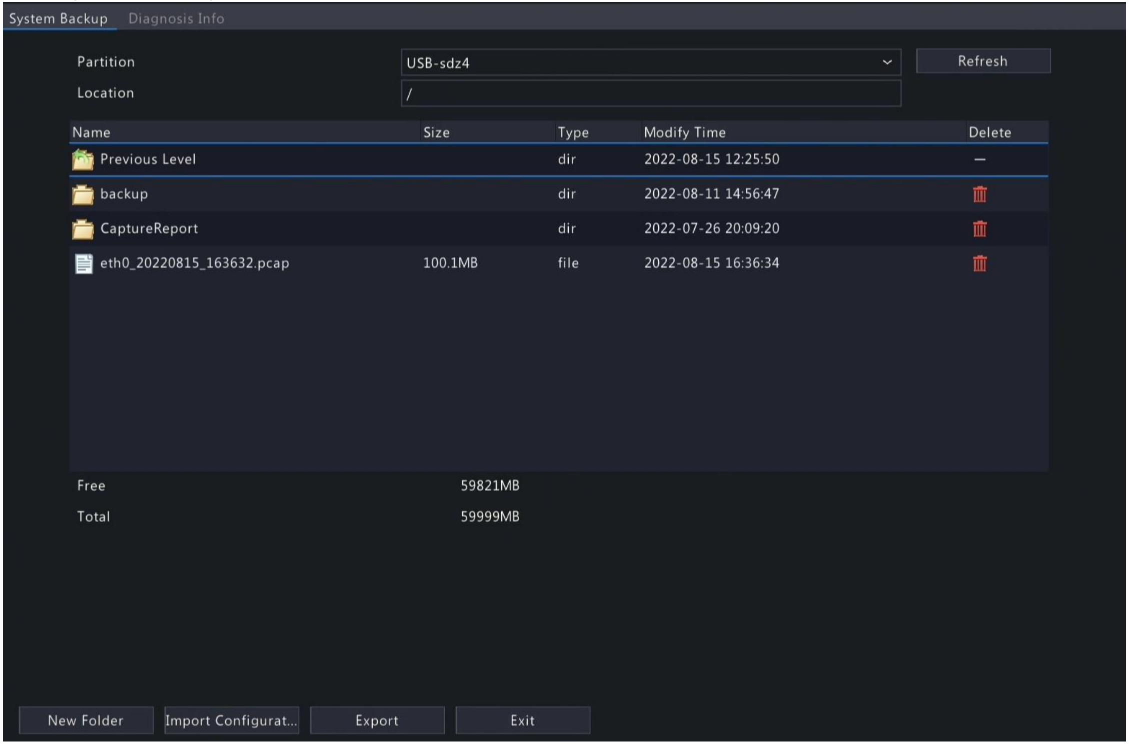
1. Choose **Default** or **Factory Default** as needed. A message appears. The NVR will restart and restore the default settings after you confirm. Choose a method according to your actual needs:
    - Restore: Restore default settings except network settings, user settings, and time settings.
    - Factory Default: Restore all default settings.
2. Click **Apply**.

Note: Either option will not delete the recorded videos and operation logs.

System Backup

Import, export, and delete system configurations.

1. Click **System Backup**.



Partition: USB-sdz4

Location: /

Name	Size	Type	Modify Time	Delete
Previous Level		dir	2022-08-15 12:25:50	—
backup		dir	2022-08-11 14:56:47	🗑
CaptureReport		dir	2022-07-26 20:09:20	🗑
eth0_20220815_163632.pcap	100.1MB	file	2022-08-15 16:36:34	🗑

Free: 59821MB

Total: 59999MB

2. Perform the following operations as needed:
    - Import configurations: Choose the *.xml file in the directory list, click **Import Configuration**, and then confirm to import the configuration file.
    - Export configurations: Choose the destination in the directory list, click **Export Configuration**. Then a *.xml file containing the exported configurations is generated in the specified folder later.

    Note:

    - Caution: The device will restart after you import configurations. If power is disconnected during the process, the system will be unusable.
    - Only admin can import or export configurations.

- Delete: Choose the folder or file to be deleted, click 🗑. ⊟ means the folder or file cannot be deleted.

  Note: Caution: Deleted files cannot be recovered.

- Create folder: Choose the destination path in the directory list, click **New Folder**, enter a folder name to create the folder.
- Refresh: Click the **Refresh** button to refresh the list.

3. Click **Apply**.

Auto-Function

The device can restart or delete files automatically at the present time. Only admin can perform this operation.

1. Find the **Maintenance** area.
2. Configure the parameters.
   - Auto-Restart System: The system restarts automatically at the set time.
   - Auto-Delete File(s): The system automatically deletes videos and images saved on the hard disk. Range: 1-240.
3. Click **Apply**.

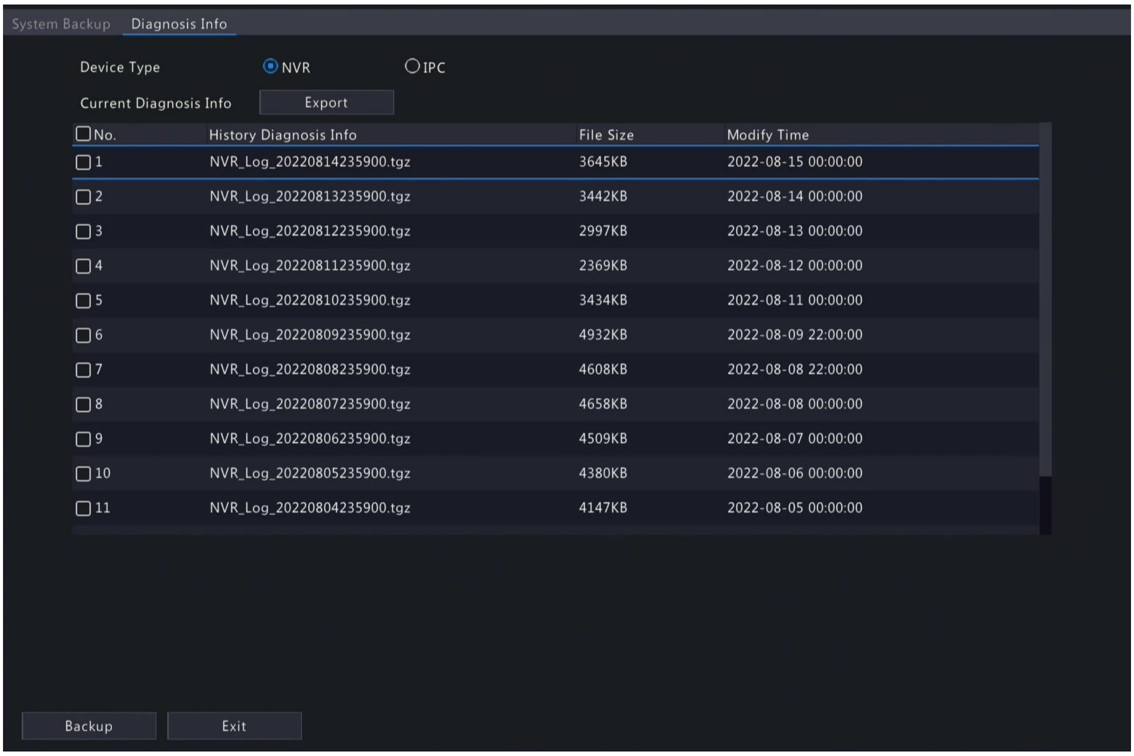
11.4.2 Diagnosis Info

View and back up diagnosis information of the NVR and the connected cameras. The NVR keeps 14 days of diagnosis information and overwrites the earliest when the storage is full.

Go to **Menu** > **Maintenance** > **Maintenance** > **Diagnosis Info**.

NVR Diagnosis Info

1. Choose **NVR** as the device type.



Device Type ● NVR ○ IPC

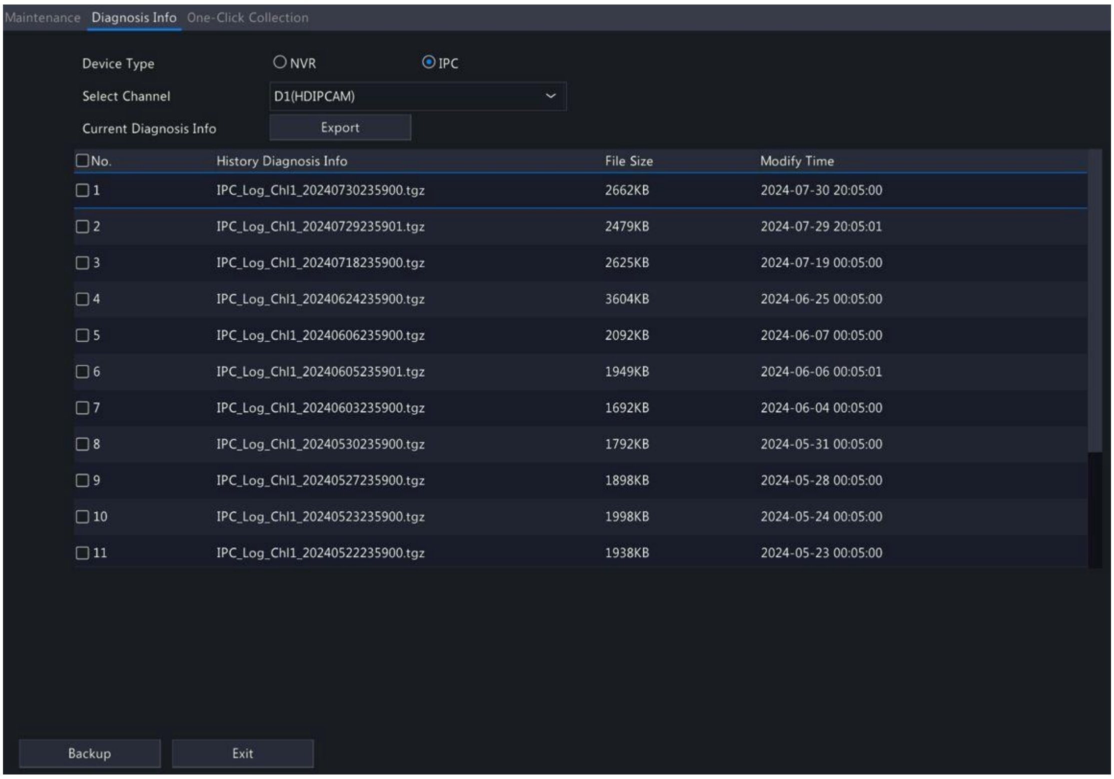
Current Diagnosis Info

☐ No.	History Diagnosis Info	File Size	Modify Time
☐ 1	NVR_Log_20220814235900.tgz	3645KB	2022-08-15 00:00:00
☐ 2	NVR_Log_20220813235900.tgz	3442KB	2022-08-14 00:00:00
☐ 3	NVR_Log_20220812235900.tgz	2997KB	2022-08-13 00:00:00
☐ 4	NVR_Log_20220811235900.tgz	2369KB	2022-08-12 00:00:00
☐ 5	NVR_Log_20220810235900.tgz	3434KB	2022-08-11 00:00:00
☐ 6	NVR_Log_20220809235900.tgz	4932KB	2022-08-09 22:00:00
☐ 7	NVR_Log_20220808235900.tgz	4608KB	2022-08-08 22:00:00
☐ 8	NVR_Log_20220807235900.tgz	4658KB	2022-08-08 00:00:00
☐ 9	NVR_Log_20220806235900.tgz	4509KB	2022-08-07 00:00:00
☐ 10	NVR_Log_20220805235900.tgz	4380KB	2022-08-06 00:00:00
☐ 11	NVR_Log_20220804235900.tgz	4147KB	2022-08-05 00:00:00

2. Export NVR diagnosis information.
   - Current Diagnosis Info: Diagnosis information since the latest startup. Click **Export** to export diagnosis information to the external storage device.
   - History Diagnosis Info: All the history diagnosis information in the list. Select the desired item(s), click **Backup**. On the **Backup** page, choose the destination path, click **Backup**.

Camera Diagnosis Info

1. Choose **IPC** as the device type.



Device Type ○ NVR ● IPC

Select Channel D1(HDIPCAM)

Current Diagnosis Info Export

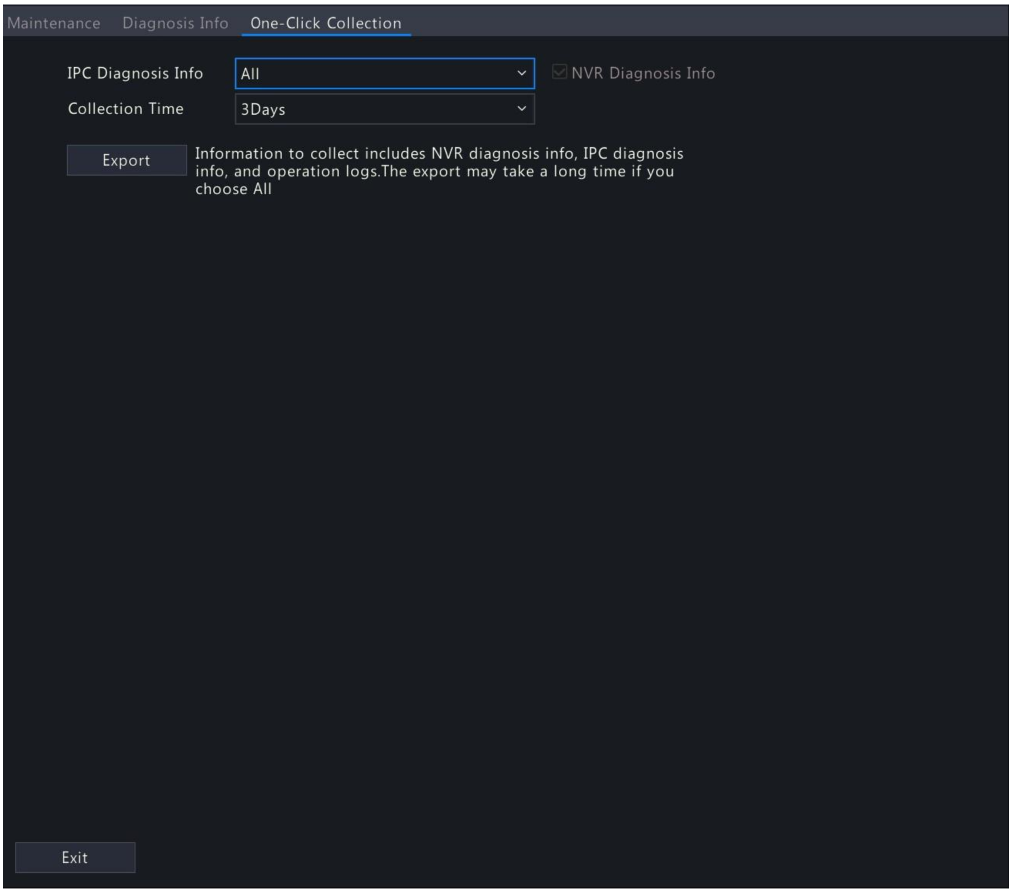
☐No.	History Diagnosis Info	File Size	Modify Time
☐ 1	IPC_Log_Chl1_20240730235900.tgz	2662KB	2024-07-30 20:05:00
☐ 2	IPC_Log_Chl1_20240729235901.tgz	2479KB	2024-07-29 20:05:01
☐ 3	IPC_Log_Chl1_20240718235900.tgz	2625KB	2024-07-19 00:05:00
☐ 4	IPC_Log_Chl1_20240624235900.tgz	3604KB	2024-06-25 00:05:00
☐ 5	IPC_Log_Chl1_20240606235900.tgz	2092KB	2024-06-07 00:05:00
☐ 6	IPC_Log_Chl1_20240605235901.tgz	1949KB	2024-06-06 00:05:01
☐ 7	IPC_Log_Chl1_20240603235900.tgz	1692KB	2024-06-04 00:05:00
☐ 8	IPC_Log_Chl1_20240530235900.tgz	1792KB	2024-05-31 00:05:00
☐ 9	IPC_Log_Chl1_20240527235900.tgz	1898KB	2024-05-28 00:05:00
☐ 10	IPC_Log_Chl1_20240523235900.tgz	1998KB	2024-05-24 00:05:00
☐ 11	IPC_Log_Chl1_20240522235900.tgz	1938KB	2024-05-23 00:05:00

2. Choose the desired camera from the list.
3. Export diagnosis information of the selected camera.
    - Current Diagnosis Info: Diagnosis information since the latest startup. Click **Export** to export diagnosis information to the external storage device.
    - History Diagnosis Info: All the history diagnosis information in the list. Select the desired item(s), click **Backup**. On the **Backup** page, choose the destination path, click **Backup**.

11.4.3 One-Click Collection

Collect NVR and camera diagnosis information.

1. Go to **Menu** > **Maintenance** > **Maintenance** > **One-Click Collection**.



IPC Diagnosis Info: All

Collection Time: 3Days

☑ NVR Diagnosis Info

Information to collect includes NVR diagnosis info, IPC diagnosis info, and operation logs.The export may take a long time if you choose All

2. Choose the camera and select a number of days of diagnosis information to be collected. NVR diagnosis information is always collected.
3. Click **Export** to collect camera diagnosis information, NVR diagnosis info, and operation logs.

   Note: Choose the days according to the actual requirements. The export process may take a long time if you choose **All**.

11.5 System Upgrade

Upgrade the firmware of the NVR and the connected cameras.

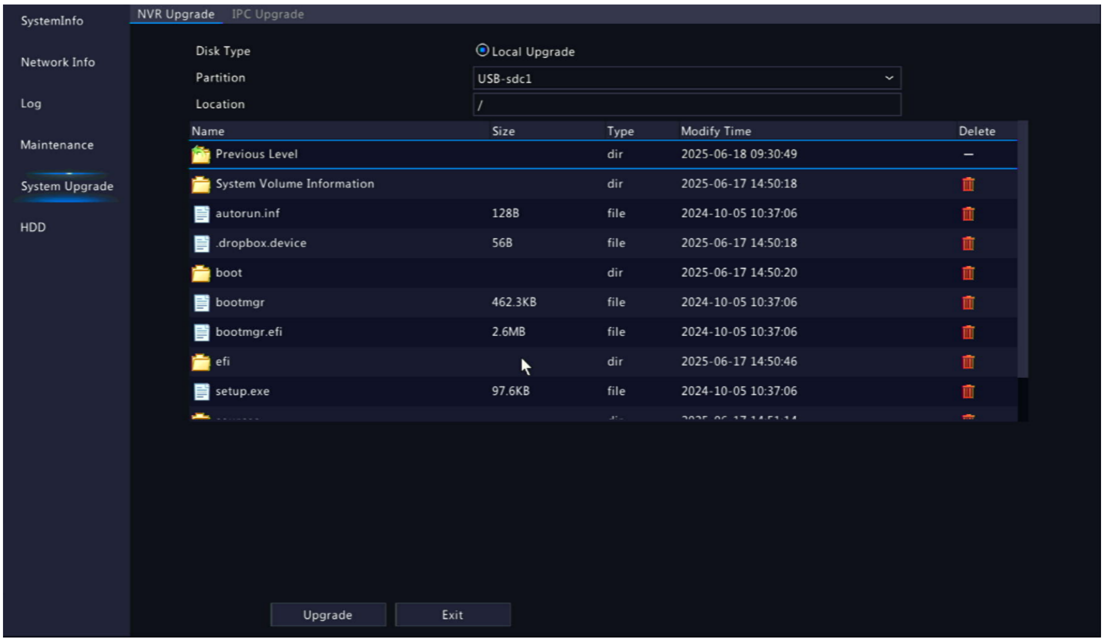
- Local upgrade: Upgrade using the upgrade files saved in a USB storage device.

Note: Make sure the device is always connected to power and network during the upgrade. Use an Uninterrupted Power Supplies (UPS) if necessary.

11.5.1 NVR Upgrade

Upgrade the firmware of the NVR.

1. Go to **Menu** > **Maintenance** > **System Upgrade** > **NVR Upgrade**.
2. Choose **Local Upgrade**. Select the upgrade file in the USB storage device, click **Upgrade** to start.



Disk Type ● Local Upgrade
Partition USB-sdc1
Location /

Name	Size	Type	Modify Time	Delete
Previous Level		dir	2025-06-18 09:30:49	–
System Volume Information		dir	2025-06-17 14:50:18	🗑
autorun.inf	128B	file	2024-10-05 10:37:06	🗑
.dropbox.device	56B	file	2025-06-17 14:50:18	🗑
boot		dir	2025-06-17 14:50:20	🗑
bootmgr	462.3KB	file	2024-10-05 10:37:06	🗑
bootmgr.efi	2.6MB	file	2024-10-05 10:37:06	🗑
efi		dir	2025-06-17 14:50:46	🗑
setup.exe	97.6KB	file	2024-10-05 10:37:06	🗑

Note: The NVR firmware can be upgraded via its Web interface or GV-IP Device Utility. See *5.2 Upgrading Firmware Using GV-IP Device Utility*, GV-TNVR1620-P Quick Start Guide, to upgrade firmware.

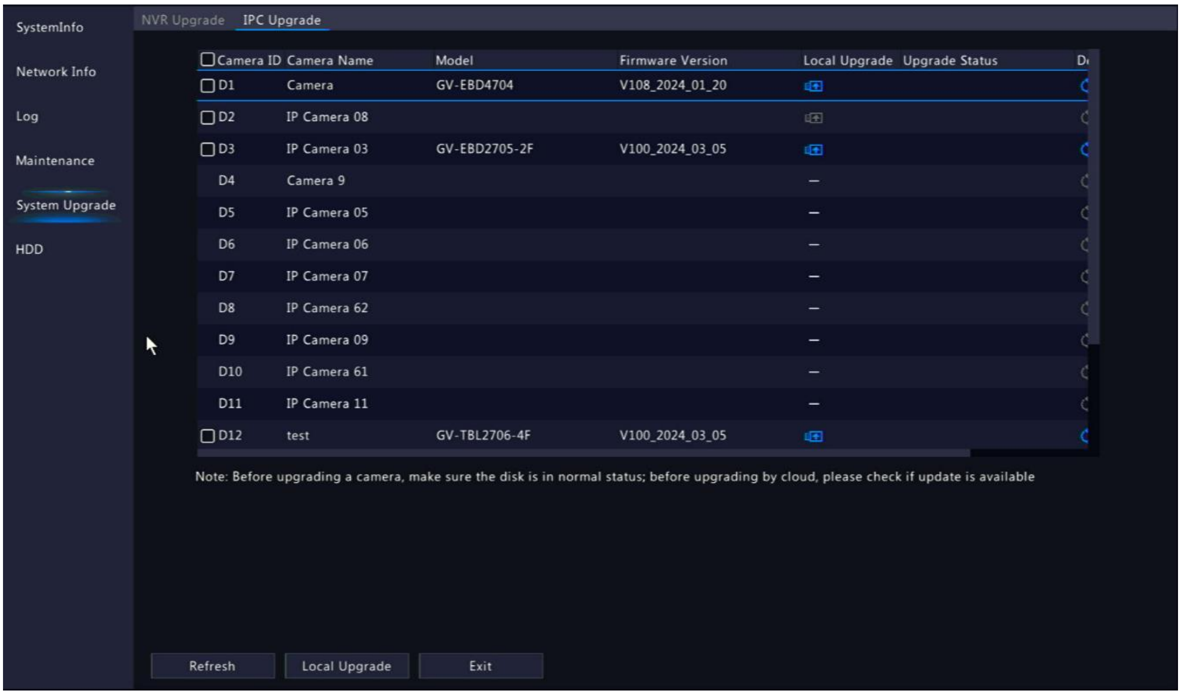
Note: If the upgrade failed, the failure cause will be displayed, and the device will restart automatically. Fix the problem and then try again.

11.5.2 IPC Upgrade

Upgrade the firmware of the IPC.

Note: The IPC Upgrade only works with compatible AI GV-IP Cameras (see the datasheet for compatible AI cameras).

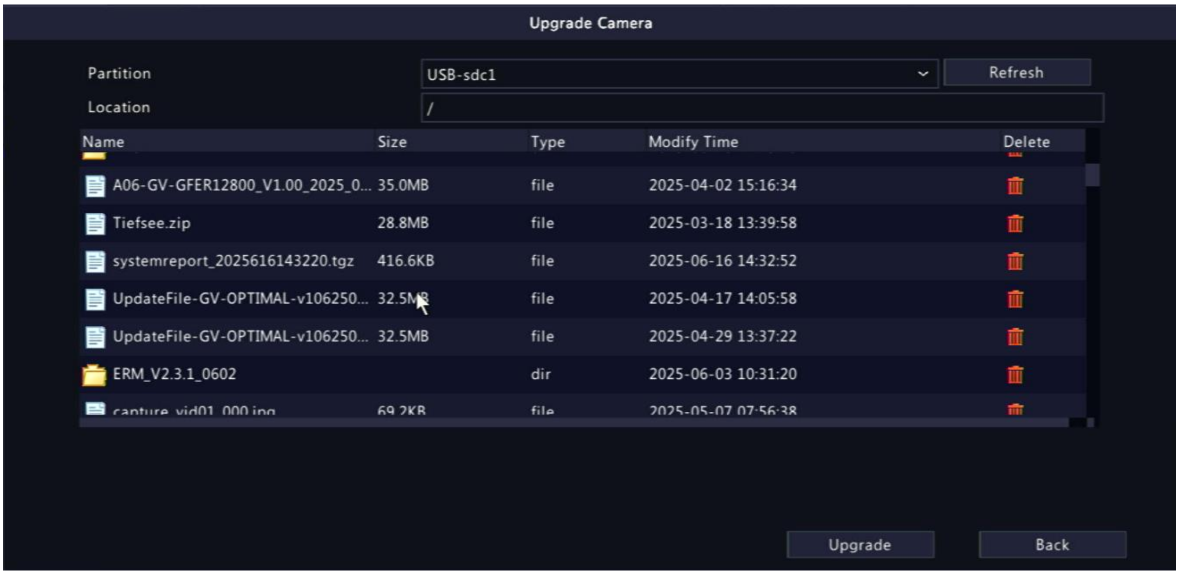
1. Go to **Menu** > **Maintenance** > **System Upgrade** > **IPC Upgrade**.



☐ Camera ID	Camera Name	Model	Firmware Version	Local Upgrade	Upgrade Status
☐ D1	Camera	GV-EBD4704	V108_2024_01_20	⬆	
☐ D2	IP Camera 08			⬆	
☐ D3	IP Camera 03	GV-EBD2705-2F	V100_2024_03_05	⬆	
D4	Camera 9			–	
D5	IP Camera 05			–	
D6	IP Camera 06			–	
D7	IP Camera 07			–	
D8	IP Camera 62			–	
D9	IP Camera 09			–	
D10	IP Camera 61			–	
D11	IP Camera 11			–	
☐ D12	test	GV-TBL2706-4F	V100_2024_03_05	⬆	

Note: Before upgrading a camera, make sure the disk is in normal status; before upgrading by cloud, please check if update is available

2. Click ⬆ to upgrade a camera, or select multiple cameras and then click **Local Upgrade**.
3. On the **Upgrade Camera** page, select the upgrade file in the USB storage device, and then click **Upgrade**.



Partition: USB-sdc1

Location: /

Name	Size	Type	Modify Time	Delete
A06-GV-GFER12800_V1.00_2025_0...	35.0MB	file	2025-04-02 15:16:34	🗑
Tiefsee.zip	28.8MB	file	2025-03-18 13:39:58	🗑
systemreport_2025616143220.tgz	416.6KB	file	2025-06-16 14:32:52	🗑
UpdateFile-GV-OPTIMAL-v106250...	32.5MB	file	2025-04-17 14:05:58	🗑
UpdateFile-GV-OPTIMAL-v106250...	32.5MB	file	2025-04-29 13:37:22	🗑
ERM_V2.3.1_0602		dir	2025-06-03 10:31:20	🗑
capture_vid01_000.jpg	69.2KB	file	2025-05-07 07:56:38	🗑

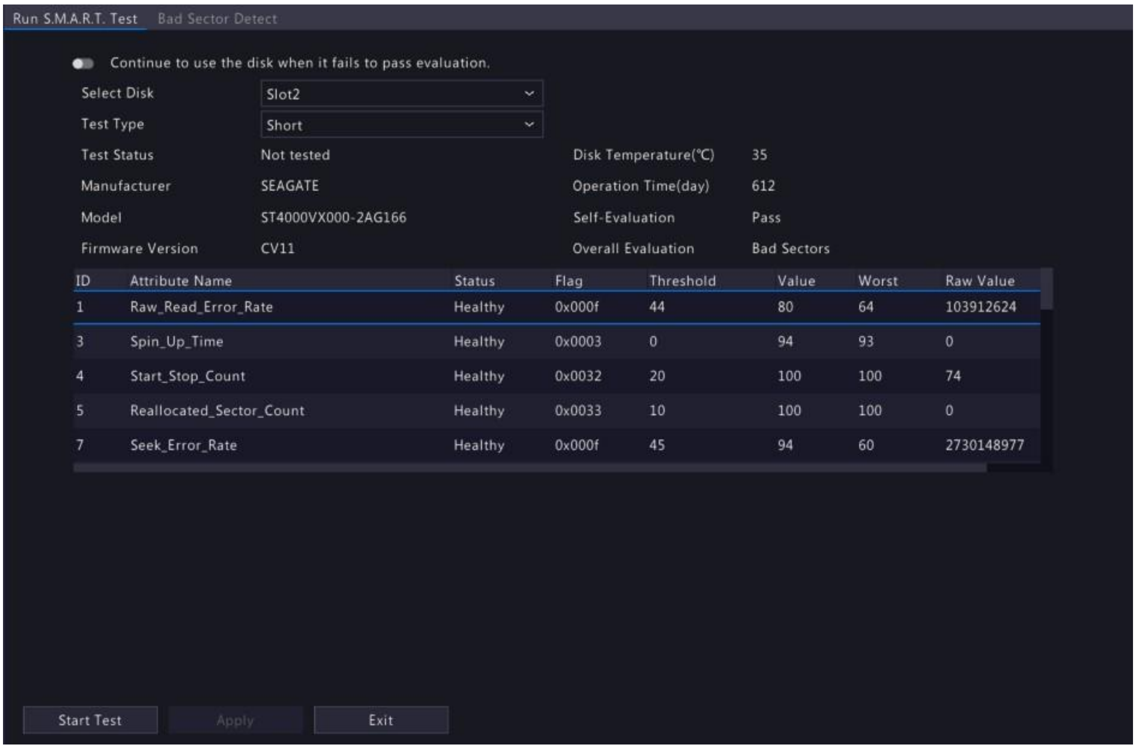
11.6 HDD Check

Perform S.M.A.R.T. test and bad sector detection. The actual functions available may vary with device.

11.6.1 Run S.M.A.R.T. Test

S.M.A.R.T. tests the hard disk including its head, platter, motor, circuit, etc. and evaluates the disk health status.

1. Go to **Menu** > **Maintenance** > **HDD** > **Run S.M.A.R.T. Test**.



○ Continue to use the disk when it fails to pass evaluation.

Select Disk: Slot2
Test Type: Short
Test Status: Not tested
Manufacturer: SEAGATE
Model: ST4000VX000-2AG166
Firmware Version: CV11
Disk Temperature(℃): 35
Operation Time(day): 612
Self-Evaluation: Pass
Overall Evaluation: Bad Sectors

ID	Attribute Name	Status	Flag	Threshold	Value	Worst	Raw Value
1	Raw_Read_Error_Rate	Healthy	0x000f	44	80	64	103912624
3	Spin_Up_Time	Healthy	0x0003	0	94	93	0
4	Start_Stop_Count	Healthy	0x0032	20	100	100	74
5	Reallocated_Sector_Count	Healthy	0x0033	10	100	100	0
7	Seek_Error_Rate	Healthy	0x000f	45	94	60	2730148977

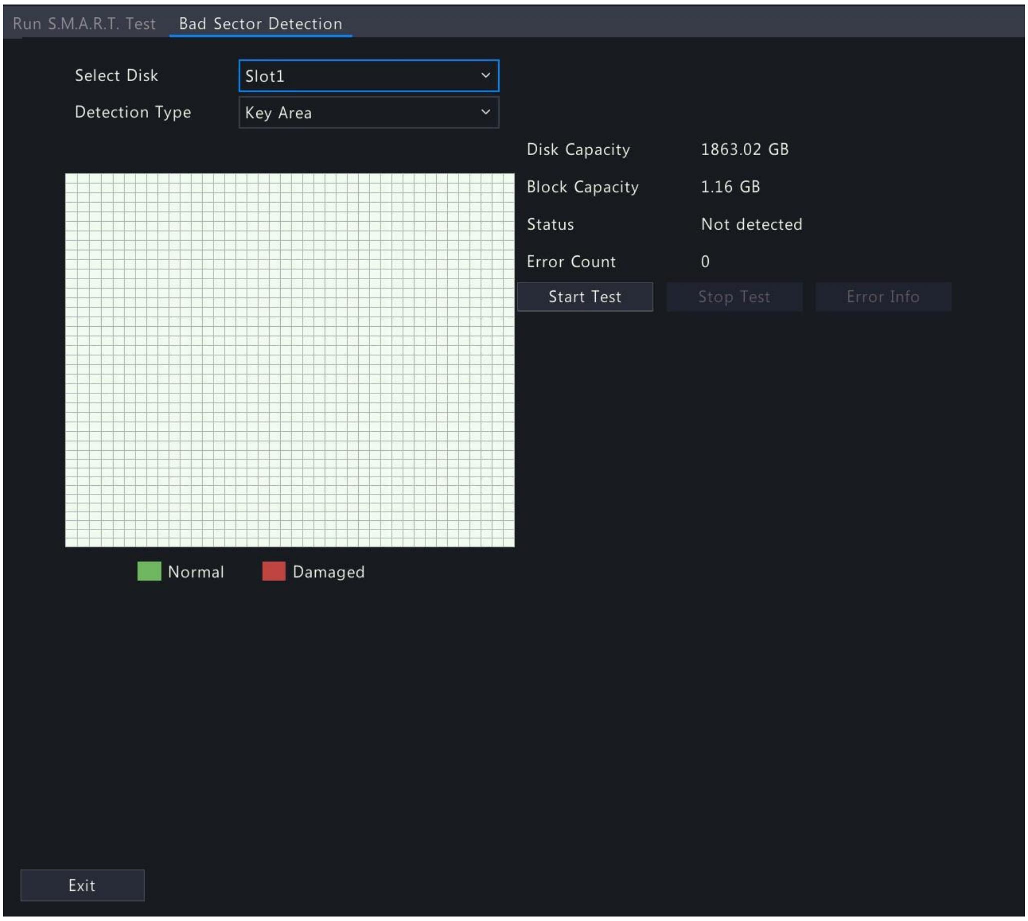
2. (Optional) Enable **Continue to use the disk when it fails to pass evaluation**, so the device can continue using the hard disk even if the disk fails in the self-assessment. However, this may incur great risks. Please choose carefully.
3. Choose the disk slot and test type.
   - Short: Less test contents, faster speed.
   - Extended: More comprehensive and thorough, longer time.
   - Conveyance: Detects problems in data transmission.
4. Click **Start Test**. The **Status** column shows the real-time progress, for example, Testing: 10%. View test results after the test is completed.

   The overall evaluation provides three kind of status: Healthy, Failure, Bad Sectors. It is recommended to replace faulty disks immediately. Contact our technical support for more information.

11.6.2 Bad Sector Detection

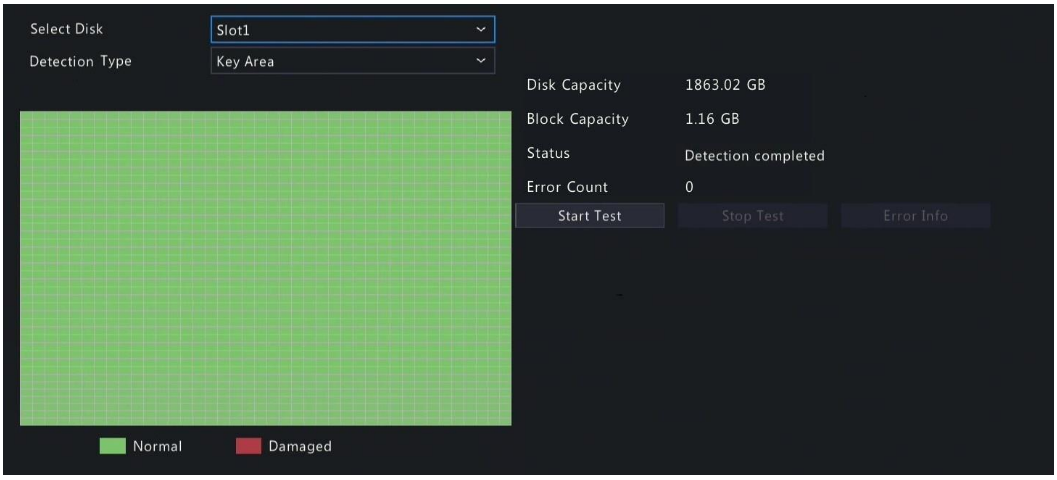
The device system detects bad sectors in hard disks in a read-only manner.

1. Go to **Menu** > **Maintenance** > **HDD** > **Bad Sector Detection**.



Select Disk: Slot1
Detection Type: Key Area
Disk Capacity: 1863.02 GB
Block Capacity: 1.16 GB
Status: Not detected
Error Count: 0

2. Choose the disk slot and detection type.
3. Click **Start Test**. To stop the detection, click **Stop Test**.



Select Disk: Slot1
Detection Type: Key Area
Disk Capacity: 1863.02 GB
Block Capacity: 1.16 GB
Status: Detection completed
Error Count: 0

- 🟩 means the detected area is in good condition.
- 🟥 means the detected area is damaged. The detection stops automatically when the error count reaches 100.

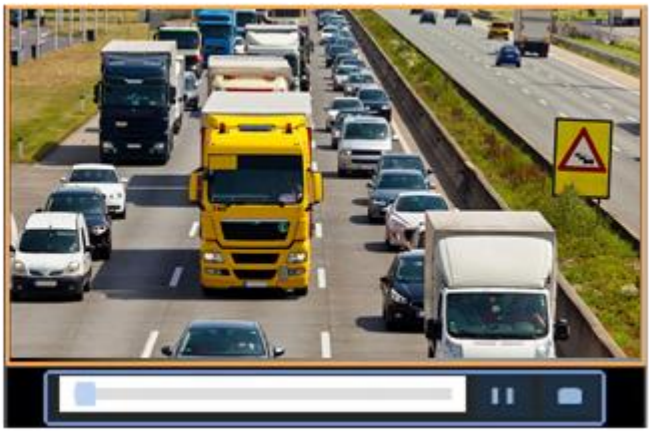
12 Playback

12.1 Instant Playback

Instant playback plays the video recorded during the last 5 minutes.

Make sure that the video is recorded during the last 5 minutes. Instant playback does not work if there's no recording during this time.

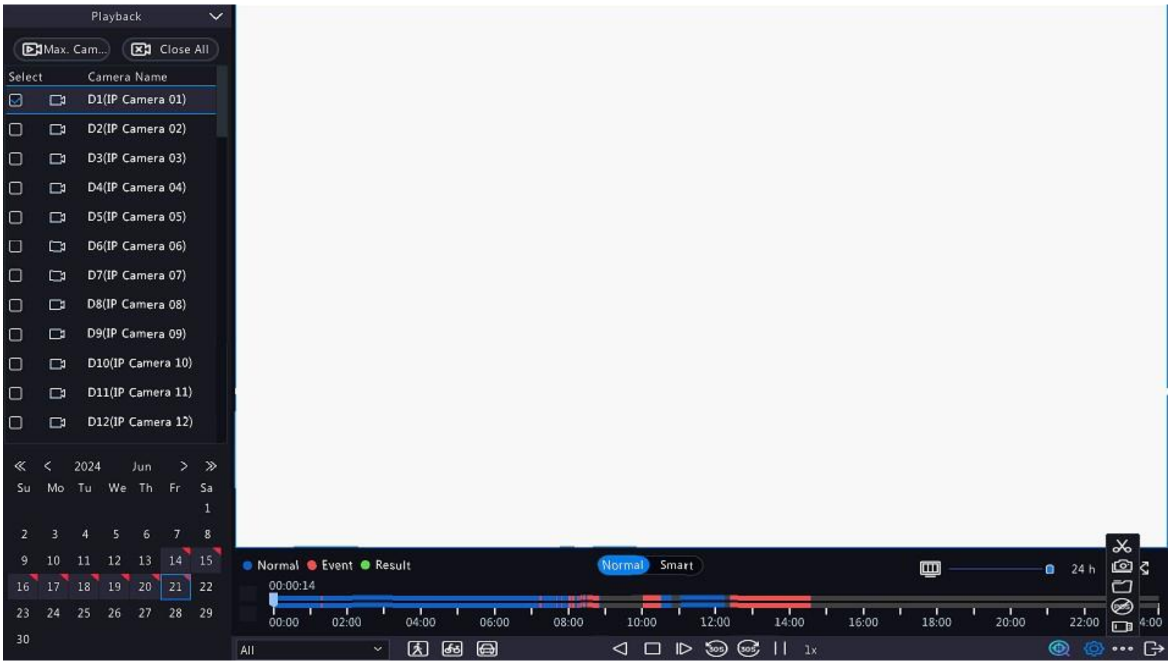
1. On the preview page, select the target window, and click ▷ on the window toolbar.



2. Drag the slider on the progress bar to fast forward. Click ⏸ to pause.
3. Click ■ to exit the playback.

12.2 Recording Playback

On the preview page, right-click the desired window and select **Playback**.



Playback Interface Introduction

Table 12-1: Playback Toolbar

Icon	Description
00:09:36 00:00 02:00 04:00	Show playback progress. **Note:** • ⊞ indicates 4 cameras are selected. ⊞ indicates the playback progress in the first window, ⊞ indicates the playback progress in the second window, and so on. • Different colors on the progress bar mean different recording types: blue for normal recording, red for event-triggered recording, green for smart event recording.
00:00 02:00 04:00	Normal playback timeline. Blue for normal recording, and red for event-triggered recording. Hover over the timeline to view a thumbnail image to quickly pinpoint an event.
12:00 14:00	Smart playback timeline. Green for recording of smart search; red for event-triggered recording; blue for normal recording,
All	Select an event playback type.
24 h	Zoom in or out on the timeline. Alternatively, click on the timeline and use the scroll wheel to zoom in or out.
🚶 🚲 🚗	Normal playback: Show the progress bar including event recordings triggered by human/motor vehicle/non-motor vehicle. Smart playback: Show the progress bar including recordings of human/motor vehicle/non-motor vehicle. **Note:** • The smart playback recordings of targets are larger than the normal playback recordings of targets. • The target recording search is only available to the single-channel playback, and the corresponding recordings will be shown green on the progress bar. Click ⚙ to enable/diable **Skip Normal Recordings** and set the playback speed as needed.
30S 30S	Rewind/forward 30s, or click ⚙ and choose from the **Interval** drop-down list.
◁	Reverse.
☐	Stop playback and return to the start point.
▷/	Play/pause.
1x	Set the playback speed.
|▷	Forward by frame.

<table>
<tr><th>Icon</th><th colspan="2">Description</th></tr>
<tr><td>⌖</td><td>Search images or recordings of targets by AcuSearch or AcuTrack.
AcuSearch: Search for images of the motor vehicle, non-motor vehicle, or human body.
AcuTrack: Search for recordings of the motor vehicle, non-motor vehicle, or human body during a specified period of a day and display the search results on the timeline.
<b>Note:</b>
• Before use, go to <b>Menu</b> > <b>VCA</b> > <b>Analyzer Config</b>, and set the analyzer mode to <b>AcuSearch/AcuTrack</b>.
• By default, the NVR searches for images/ recordings of all cameras of the current day and with the similarity of 60%. You can reset the search conditions as needed, and the set similarity will be the default value the next time you perform the accurate search or tracking.</td><td>Click ⌖, drag to select the target, and choose <b>AcuSearch</b> or <b>AcuTrack</b> to view the accurate search results.
<b>Note:</b>
• ⇦: Last Recording.
• ⇨: Next Recording.
• ⇧: Back up the current recording to the storage device.</td></tr>
<tr><td>Clarity ◉HD ○SD</td><td colspan="2">Click ⚙ to set the video clarity, including HD or SD.
<b>Note:</b>
• If no images are displayed on the preview page in SD mode, it indicates SD videos are not stored.
• If SD video is available in SD playback mode, SD video is played by default; it switches to HD video automatically when you double-click the window to maximize it in a multi-window layout.</td></tr>
<tr><td rowspan="4">•••</td><td colspan="2">Choose POS to enable/disable POS; choose ▭ to play recordings stored in an external storage device.
When POS is enabled, POS OSD appears on the playback screen, and some toolbar buttons are deactivated.
<b>Note:</b>
• This function is available for certain NVRs.
• The button only appears in normal playback mode and POS playback mode. In normal playback mode, POS OSD is displayed for 5s. In POS playback mode, the time is configurable.</td></tr>
<tr><td colspan="2">/✂: Start/stop clipping video. The video clips will be temporarily saved to new, and will be deleted if you exit the playback page.</td></tr>
<tr><td colspan="2">📷: Take a snapshot. The window borders will flash white. The snapshots will be temporarily saved to new, and will be deleted if you exit the playback page.</td></tr>
<tr><td colspan="2">🗀 / new: File management, including files of clips, snapshots, locked files, tags; new indicates there is a newly saved file.
• Video Clip: The video clips can be saved to an external storage device.
• Playback Snapshot: The playback snapshots can be saved to an external storage device.
• Lock File: The locked recordings can be saved to an external storage device.
• Tag: Tag management.</td></tr>
</table>

Icon	Description
⤢	Full screen.
⇥	Exit the playback screen.
📷 🏷 🔍 🔇 🔒	Click a playback window to show the window toolbar.
📷	Take a snapshot.
🏷	Add a tag at the current time point to record the current video. The added tags can be viewed in new. User can search for recordings based on the tag keywords. For tag search, see Others.
🔍 🔊	Digital zoom. See Digital Zoom for details.
/	Turn on/off audio.
━━●	Adjust the sound volume.
🔒	Lock the playback recording. Locking a recording file will prevent all the files stored in the same disk partition (254.4MB in size) from being overwritten.

Playback Operations

Type	Description	Step 1	(Optional) Step 2
Normal playback	Play all recordings of the selected camera(s)	Select camera(s) in normal/corridor playback mode or select a camera in smart playback mode, double-click the desired date; or select the date and then click ▶ to start playback. **Note:** • In normal playback mode, click **Max. Cameras** to select the maximum number of cameras allowed. The performance may vary with NVR model. • In normal playback mode, click **Close All** to stop playback for all cameras. • The calendar uses different flags to indicate different recording types: blue for normal recording, red for event-triggered recording, and no flag for none. • The NVR plays HD videos by default. You can switch to SD mode if SD videos are stored. For SD video storage, see Encoding Settings.	Click 🚶, 🚲, or 🚗 to specify the target type(s), and then the corresponding event recordings triggered by human body, non-motor vehicle, or motor vehicle will be displayed. Click All ⌄ and choose an event type to play the corresponding recordings.
Corridor playback ▥	Play recordings in corridor mode in multiple windows. Up to 3 cameras can be selected.		/
Smart playback	search for recordings triggered by motion detection or targets including motor vehicle/ non-motor vehicle/human body		Click ◎ to play the event recordings triggered by motion detection. Click 🚶, 🚲, or 🚗 to specify the target type(s), and then the corresponding recordings including human body, non-motor vehicle, or motor vehicle will be displayed. The default smart search area is the full screen. To specify a smart search area, click ✎, and choose ⌫ to clear the existing areas. Then, click and drag on the image to specify an area, and click 🔍 to start search smart playback of the specified area. **Note:** • ⤢: Full screen. • ⇨: Exit the smart search page. • Sensitivity ━━●━━: Adjust the smart search sensitivity.

13 Startup and Shutdown

This chapter describes device startup, shutdown, logout, and restart.

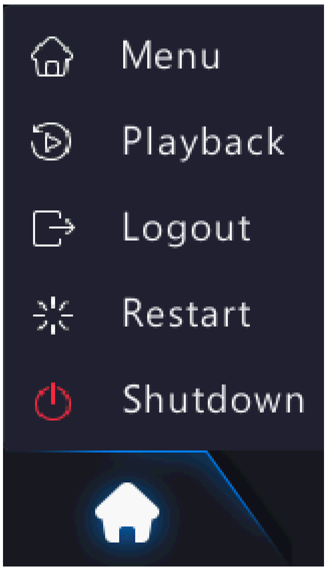
Startup

Start up the device. Use the Power switch at the back panel.

Shutdown

Shutdown refers to turn off the operating system of the device with power supply connected. Please disconnect the power supply if the device will be shut down for a long time.

- Local interface: Hover the mouse at the bottom of the preview page to display the screen toolbar, click ⌂, and then select shutdown, logout, or restart as needed.



- Front panel: Press and hold the power button on the front panel (if available) for 3 seconds until you hear a beep, then hold for 2 seconds until an on-screen message appears, and then click **Yes** to shut down the device.

Note: Unsaved settings will be lost if the NVR is shut down unexpectedly, for example, due to a power failure. A shutdown during a system upgrade may cause startup failures. Please handle with caution.

14 Web-Based Operations

You may access and manage the NVR remotely using a web browser on your PC (through the Web interface).

14.1 Preparation

Check the following before you begin:

- Access will be authenticated during login, and operation permissions will be required.
- The NVR is operating properly and has a network connection to the PC.
- A Web browser is installed on the PC. Chrome 60 or later is recommended. Firefox 60 or later, Microsoft Internet Explorer 10.0 or later, Edge 79 or later are also supported.
- The PC uses an operating system of Windows 7 or later.
- A 32-bit or 64-bit Web browser is required if you are using a 64-bit operating system.

Note:

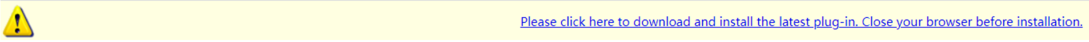
- The parameters that are grayed out on the Web interface cannot be edited. The parameters and values displayed may vary with NVR model.
- The figures below are for illustration purpose only and may vary with NVR model.

14.2 Login

Follow these steps to log in to the Web interface (The login page may vary with browser type).

1. Open a Web browser on your PC, enter the IP address of the NVR in the address bar (**192.168.0.100** by default), and then press **Enter**.

2. Install the plug-in.
   - You need to install the plug-in as prompted at your first login, which is mainly used for processing media streams. Close all the Web browsers when the installation starts. Follow the on-screen instructions to complete the installation and then open the browser again to log in.



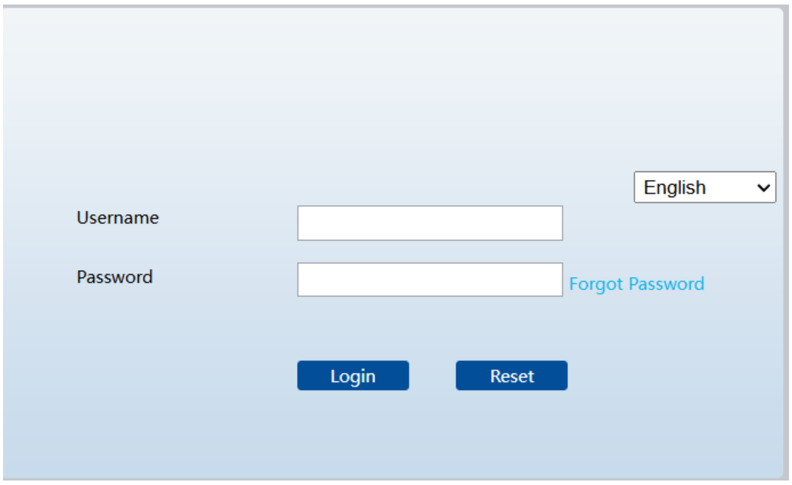
Please click here to download and install the latest plug-in. Close your browser before installation.

   - You may also find the plug-in manually by entering http://IP address/ActiveX/WebPlayer.exe in the address bar, and press Enter.

Note:

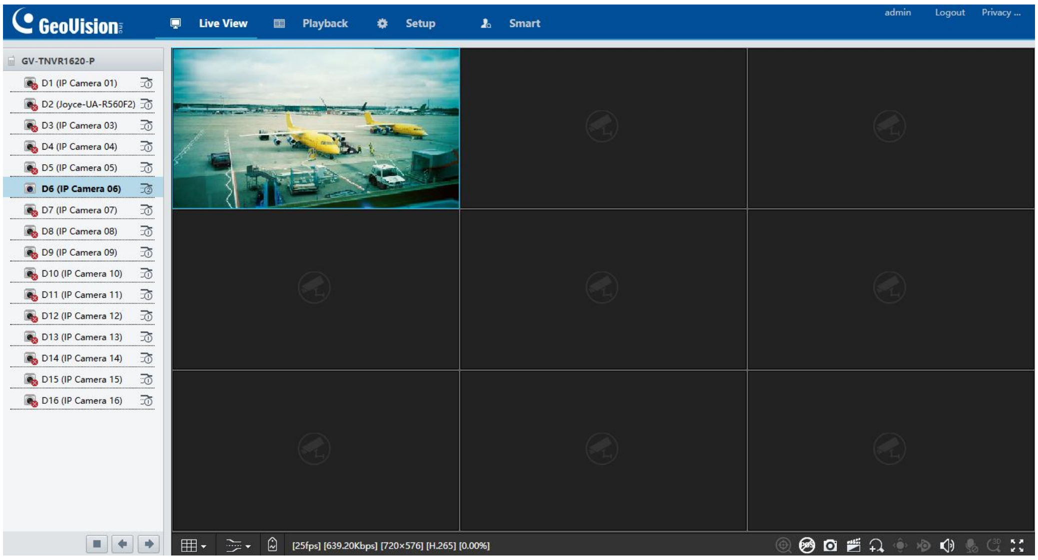
For non-IE browsers, you can log in to the Web interface without installing the plug-in, but some functions on the live view, playback, and setup pages are unavailable.

3. On the login page, enter the username and password, and then click **Login**.



14.3 Live View

The **Live View** page is displayed when you are logged in. Select the desired channel on the left, and view the live video.



The operations may vary with NVR model.

Table 14-1: Live View Window Control Buttons

Button	Description	Button	Description
	Two-way audio	① / ② / ③	Main/sub/third stream
▶ / ■	Start/stop live video in all windows	← / →	Previous/next screen
▦ ▾	Switch screen layout	▾	Select stream type
/	Enable/disable intelligent mark	[25fps] [2.56Mbps] [1920×1088] [H.264] [0.59%]	Frame rate/bit rate/ resolution/packet loss
	Open/close the control panel	📷	Take a snapshot
	Local recording		Digital zoom
🔊 /	Turn on/off audio	🎤 /	Start/stop two-way audio
3D	3D positioning	⛶	Full screen
	Fisheye mode		

Note:

- ☎ right to device name means two-way audio with the NVR. ☎ right to channel name means two-way audio with the camera.
- Only the main stream is displayed when the camera is offline or it supports only one stream.
- Snapshots are saved in a snapshot file folder named with the IP address, and snapshot files are named in *Camera ID_ time* format and saved in this directory: \Snap\IP\Camera ID_time. The time is in YYYYMMDDHHMMSSMS format.
- Local recordings are saved in a recording file folder named with the IP address, and recording files are named in *Camera ID_S recording start time_E recording end time* format and saved in this directory: \Record\IP\Camera ID_S recording start time_E recording end time. The recording start and end times are in YYYYMMDDHHMMSSMS format.

14.4 Playback

Click **Playback** to go to the **Playback** page. You can select the playback type, clarity, and camera to view recorded videos.

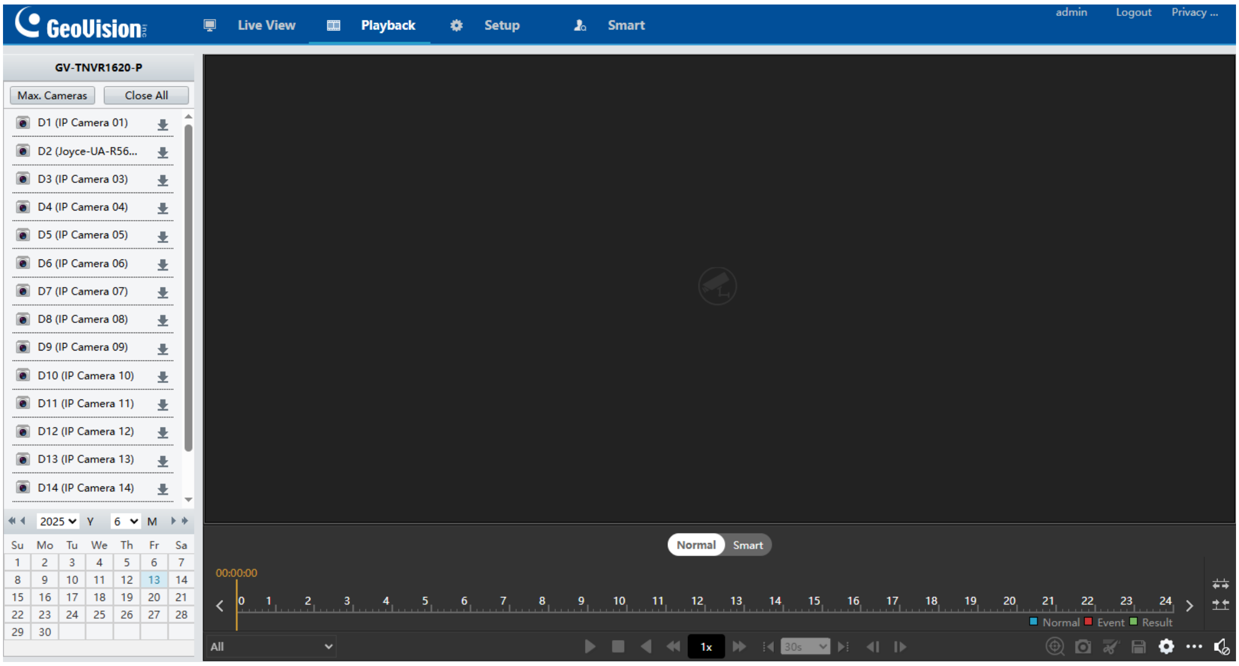
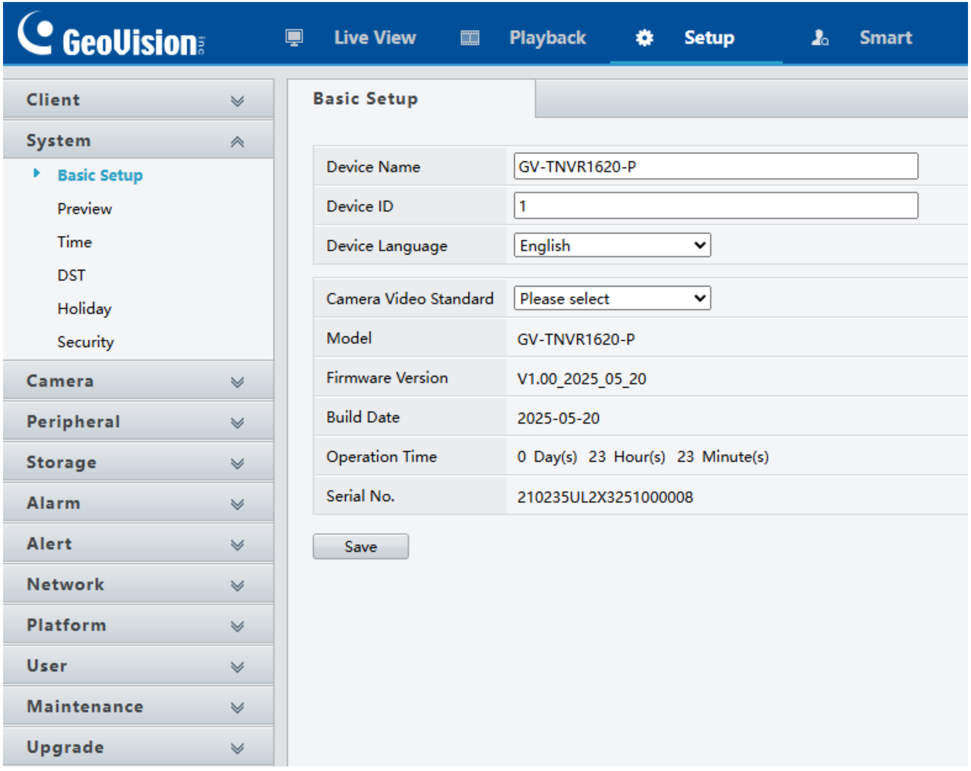


Table 14-2: Playback Control Buttons

Button	Description	Button	Description
▶ /	Play/pause	■	Stop
◀	Reverse	⏪ / ⏩	Slow down/speed up
◀30 / ▶30	Rewind/forward 30s. You can change the time as needed.	◀❙ / ❙▶	Rewind/forward by frame
▭ ▾	Set the display ratio, including full or original	📷	Take a snapshot
✂ / ✂	Start/stop clipping video	💾	Save video clip
🔍 / 🔍	Enable/disable digital zoom	🏷	Add a custom tag
⇹ / ⇹	Zoom in/out on the timeline	🔊 ━━●	Adjust sound volume; turn on/ off sound
< /	Previous/next period		

14.5 Configuration

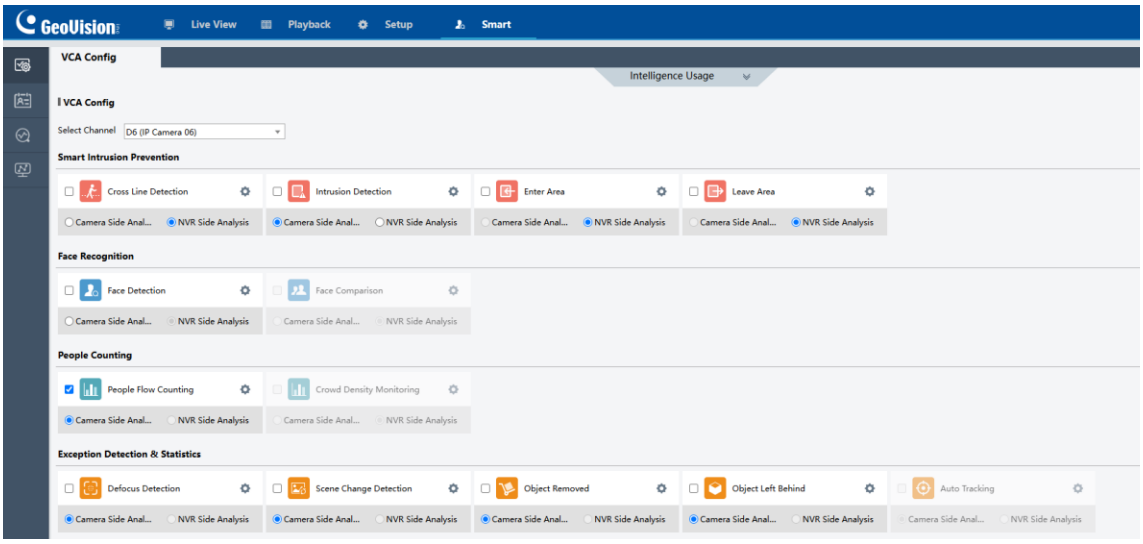
Click **Setup** on the top, and set the relevant parameters.



Device Name: GV-TNVR1620-P
Device ID: 1
Device Language: English
Camera Video Standard: Please select
Model: GV-TNVR1620-P
Firmware Version: V1.00_2025_05_20
Build Date: 2025-05-20
Operation Time: 0 Day(s) 23 Hour(s) 23 Minute(s)
Serial No.: 210235UL2X3251000008

14.6 Smart

Click **Smart** on the top, and configure the relevant parameters. See VCA Configuration for details.



VCA Config

Select Channel: D6 (IP Camera 06)

Smart Intrusion Prevention

☐ Cross Line Detection — ○ Camera Side Anal... ● NVR Side Analysis
☐ Intrusion Detection — ● Camera Side Anal... ○ NVR Side Analysis
☐ Enter Area — ○ Camera Side Anal... ● NVR Side Analysis
☐ Leave Area — ○ Camera Side Anal... ● NVR Side Analysis

Face Recognition

☐ Face Detection — ○ Camera Side Anal... ○ NVR Side Analysis
☐ Face Comparison — ○ Camera Side Anal... ○ NVR Side Analysis

People Counting

☑ People Flow Counting — ● Camera Side Anal... ○ NVR Side Analysis
☐ Crowd Density Monitoring — ○ Camera Side Anal... ○ NVR Side Analysis

Exception Detection & Statistics

☐ Defocus Detection — ● Camera Side Anal... ○ NVR Side Analysis
☐ Scene Change Detection — ● Camera Side Anal... ○ NVR Side Analysis
☐ Object Removed — ● Camera Side Anal... ○ NVR Side Analysis
☐ Object Left Behind — ● Camera Side Anal... ○ NVR Side Analysis
☐ Auto Tracking — ○ Camera Side Anal... ○ NVR Side Analysis

15 Appendix FAQ

Problem	**Possible Cause and Solution**
Forgot the login password.	Click **Forgot Password** on the login page as admin, then follow the on-screen instructions to retrieve password.
Cannot load the Web plugin.	• Close your web browsers when the installation starts. • Disable the firewall and close the anti-virus program on your PC. • Enable your Internet Explorer (IE) to check for newer versions of the stored pages every time you visit the webpage (**Tools** > **Internet Options** > **General** > **Settings**). • Add your NVR's IP address to the trusted sites in your IE (**Tools** > **Internet Options** > **Security**). • Add your NVR's IP address to the Compatibility View list in your IE (**Tools** > **Compatibility View Settings**). • Clear your IE's cache.
No images are displayed in live view on the Web interface.	Check if the bit rate is 0Mbps in the live view window. • If yes, check if the firewall/anti-virus program is disabled on your PC. • If not, check if the graphics card driver on your PC is working properly. Try installing the driver again.
A camera is offline, and **No Link** is displayed.	Click **Menu** > **Maintenance** > **System Info** > **Camera**. The cause is displayed under **Status**. Common causes include disconnected network, incorrect username or password, weak password, and insufficient bandwidth. • Check network connection and other configuration. • If it indicates incorrect username or password, check that the camera password set in the NVR is the one used to access the camera's Web interface. • If it indicates denied access for weak password, log in to the camera's Web interface and set a strong password. • If it indicates insufficient bandwidth, delete other online IP devices on the NVR.
The NVR displays live video for some cameras and **No Resource** for others.	• Click ✎ to Encoding Settings, set the camera to encode the sub stream and decrease its resolution to D1. • Set the NVR to use the sub stream first for live view.
A camera goes online and offline repeatedly.	• Check if network connection is stable. • Upgrade the software version of the camera and NVR. Contact your dealer for the latest versions.
Live view is normal, but the recording cannot be found.	• Check if a recording schedule is properly configured. • Check if the time and time zone configured in the NVR are correct. • Check if the hard disk storing the recording is damaged. • Check if the desired recording has been overwritten.

Motion detection is not effective.	• Check that motion detection is enabled, and the motion detection area is properly configured. • Check that detection sensitivity is properly set. • Check that the arming schedule is properly configured.
A hard disk cannot be identified by the NVR.	• Use the power adapter delivered with the NVR. • Disconnect the power supply of the NVR, and then mount the hard disk again. • Try another disk slot. • The disk is not compatible with your NVR. Contact your dealer for a list of compatible disk models.
The mouse does not work.	• Use the mouse delivered with your NVR. • Make sure no cable is extended.