

# Digital Video Recorders

## User Manual

V1.00

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# About this Manual

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## Copyright Statement

Thank you for purchasing our product. Contact your local dealer if you have any questions or feedback. No part of this manual may be copied, reproduced, translated, or distributed in any form or by any means without prior consent in writing from our company.

## 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.

## Safety Symbols

The symbols in the following table may be found in this manual. Carefully follow the instructions indicated by the symbols to avoid hazardous situations and use the product properly.

Symbol	Description
 <b>NOTE!</b>	Indicates useful or supplemental information about the use of product.
 <b>CAUTION!</b>	Indicates a situation which, if not avoided, could result in damage, data loss or malfunction to product.
 <b>WARNING!</b>	Indicates a hazardous situation which, if not avoided, could result in bodily injury or death.




# 1 Local Operations

---

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

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.

## Before You Begin

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


# 2 Initial Configuration

---

This chapter describes the initial configuration of the DVR.

## 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 DVR, otherwise, you cannot view the local interface.

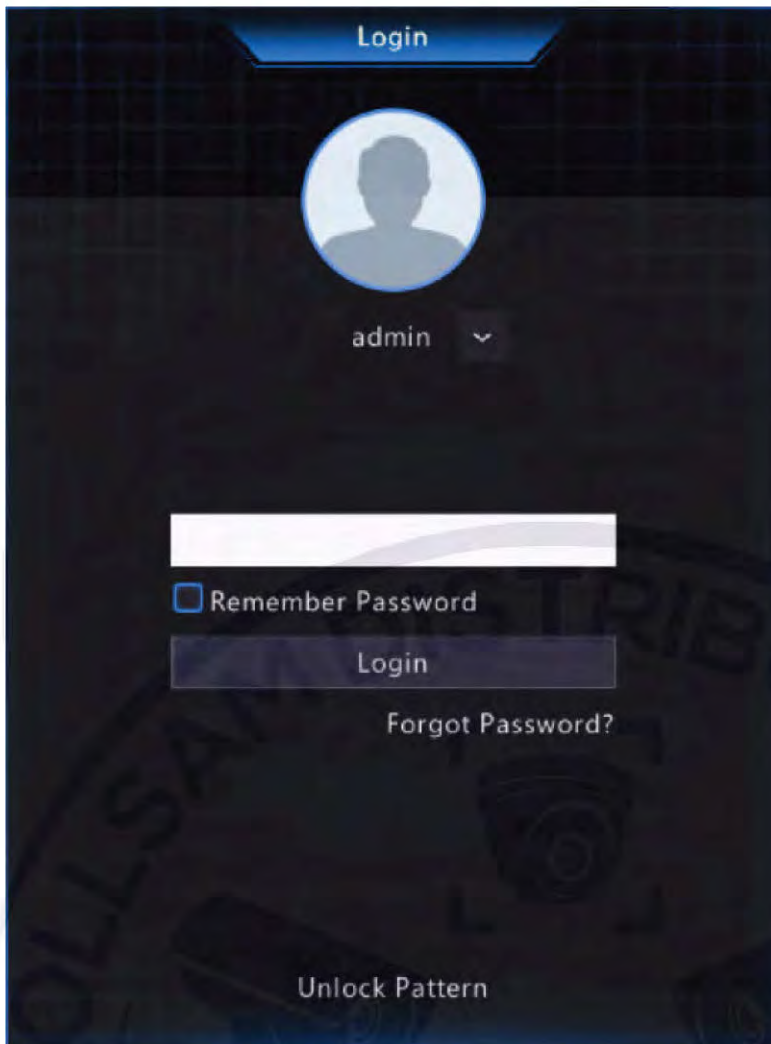
 **Note:** If no images are displayed after the DVR is powered on, it may be because the monitor does not support the current output resolution of the DVR. Please press and hold the scroll wheel of the mouse to restore to the lowest resolution.


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

## 2.2 Login

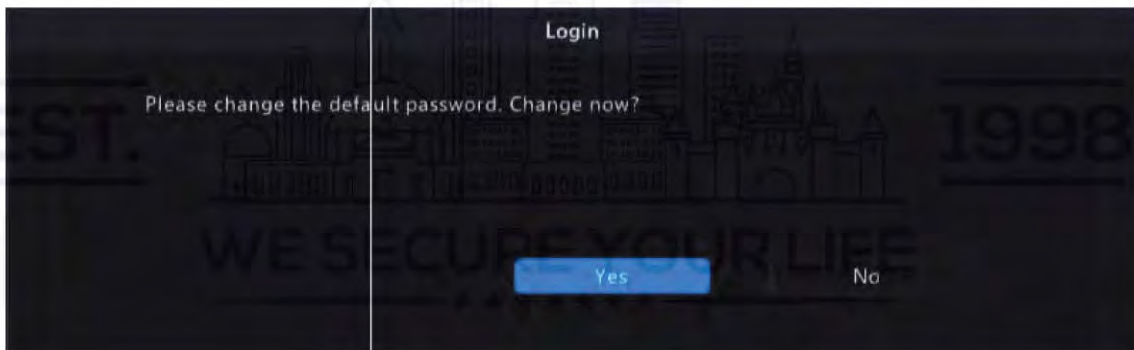
### Device Login

1. The login page appears after the DVR starts up. Select the default username and enter the password (admin/123456), and then click **Login**.



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

2. Click **Yes** in the pop-up window to change the password into a strong one.



3. In the **Change Password** page, enter the old password, new password, and confirm the new password. You may check **Email** to enter your email address, and then click **OK**.



**Change Password**

Username

Old Password

Password  Weak

Confirm

Email

**Note:**

- Use the default username and password (admin/123456) to log in for the first time. After login, you have to 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.
- It is recommended to enter your email address in case you need to reset the password. You may also enter it when you need to retrieve the password. See [Reset Password](#) for details.

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

**Set Pattern**

Please draw unlock pattern.

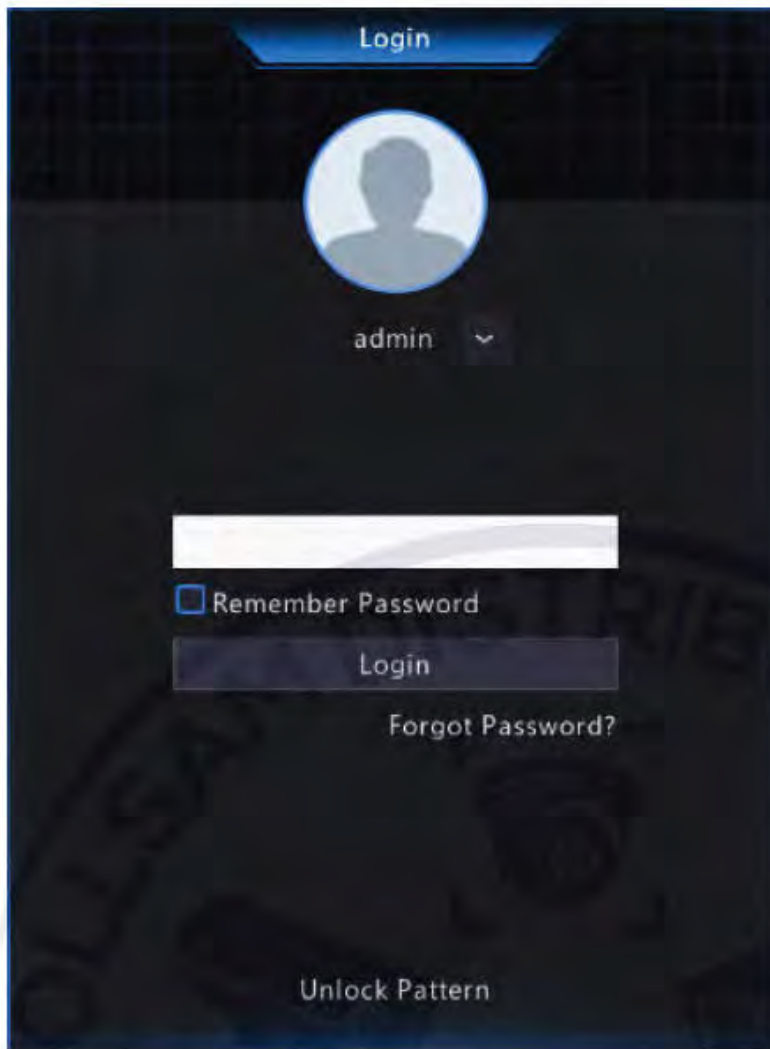
Don't show again     

**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** in the login page.




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

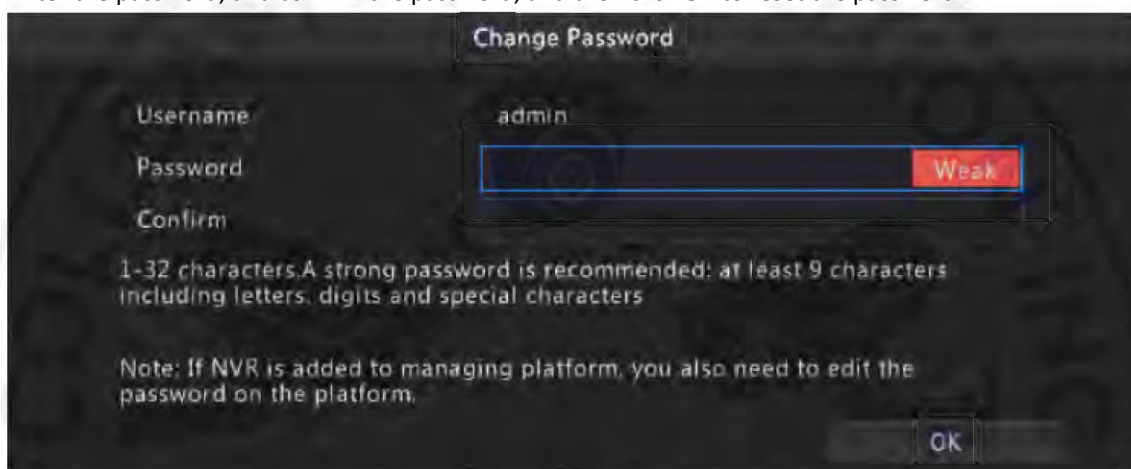


3. Follow the instructions on the screen to obtain the security code.



 **Note:** The app may vary with DVR model.

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



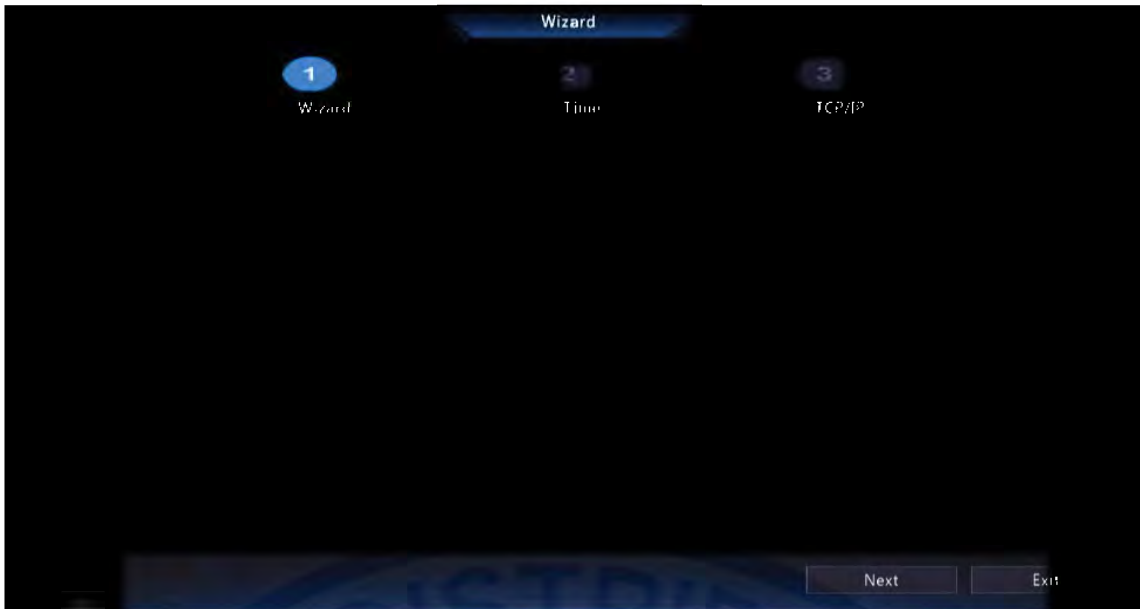
6. Use the new password to log in again.

## 2.3 Wizard

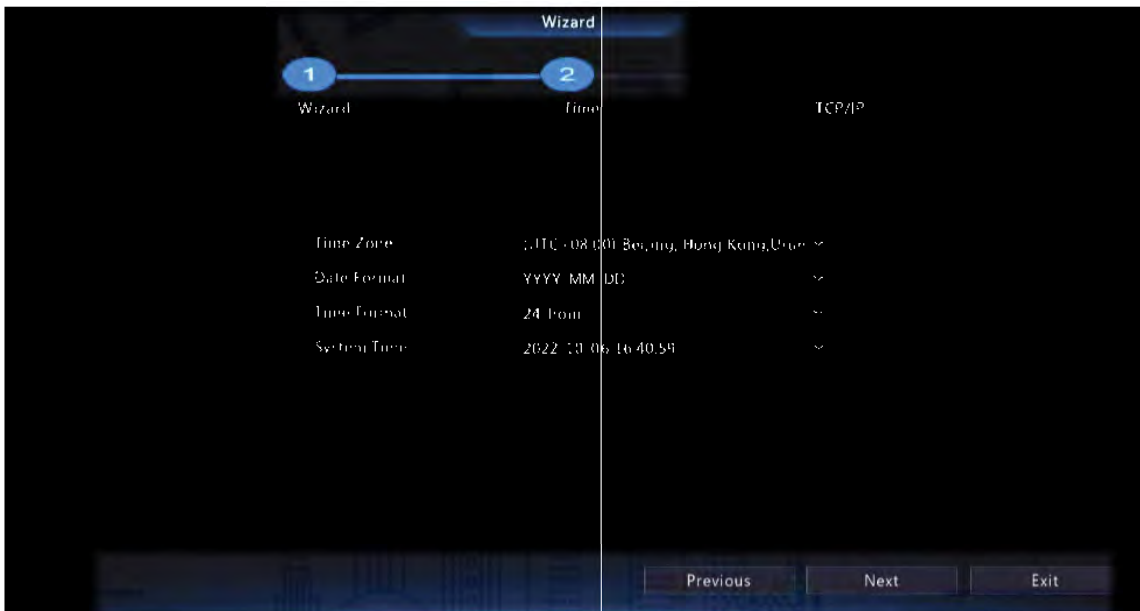
The wizard page appears after you login. Follow the wizard to complete the most basic setup, or click **Exit** to skip this step.

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

1. Enable or disable the wizard as needed and then click **Next** or click **2**.



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




3. Configure TCP/IP. Select the working mode and NIC. Check **Enable DHCP** to automatically obtain the IP address, subnet mask and IP default gateway. You can also enter the information manually.



4. Click **OK**.

## 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 DVR 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	Icon	Description
	Tampering alarm		Recording
	Motion detection alarm		Two-way audio

### 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	<ul style="list-style-type: none"> <li>Available for PTZ cameras only. Click to display the PTZ control window.</li> <li>You can also configure PTZ under <b>Menu &gt; Camera &gt; PTZ</b>. See <a href="#">PTZ Configuration</a> for details.</li> </ul>
	Fisheye Mode	Set 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.  <b>Note:</b> Similar to manual recording, local recording is a scheduled recording and has a 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 <a href="#">Digital zoom</a> for details.
	Image Settings	<ul style="list-style-type: none"> <li>Click to set the image mode and parameters so as to get optimal images in the window.</li> <li>You can also edit image settings under <b>Menu &gt; Camera &gt; Image &gt; Image Settings</b>. See <a href="#">Image Settings</a> for details.</li> </ul>
	Take Snapshot	Click to take a snapshot. The window borders will flash white. You may view and back up snapshots under <b>Menu &gt; Backup &gt; Image</b> .
	OSD	<ul style="list-style-type: none"> <li>Click to set OSD.</li> <li>You can also set OSD under <b>Menu &gt; Camera &gt; OSD</b>. See <a href="#">OSD Configuration</a> for details.</li> </ul>
	Two-way Audio	Start two-way audio with the camera. The sound volume is adjustable. Click  to stop.  <b>Note:</b> Correct audio input and output (AUDIO IN/OUT) connections between DVR and IPC are required.

Button	Name	Description
	Turn Audio On	Click to turn on audio. The sound volume is adjustable. Click  to turn off audio. <b>Note:</b> When you turn on audio in the current window, audio of the previous window is turned off.
	Camera Info	Hover over the button to view the bit rate of the current window; click the button to modify the camera information.

### Digital zoom

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

1. In 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 windows.
	Previous or next screen.
	Start or stop sequence. See <a href="#">Sequence</a> for details.
	Click to go to the <b>Playback</b> page.
	Switch to multi-sensor preview mode.  <b>Note:</b> This function is only available for dual-channel cameras.
	Click to view camera information, including camera status and alarm status.
	Click to view DVR alarm and camera alarm.
	Hover over the button to view the NIC information; Click to edit network settings.
	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.

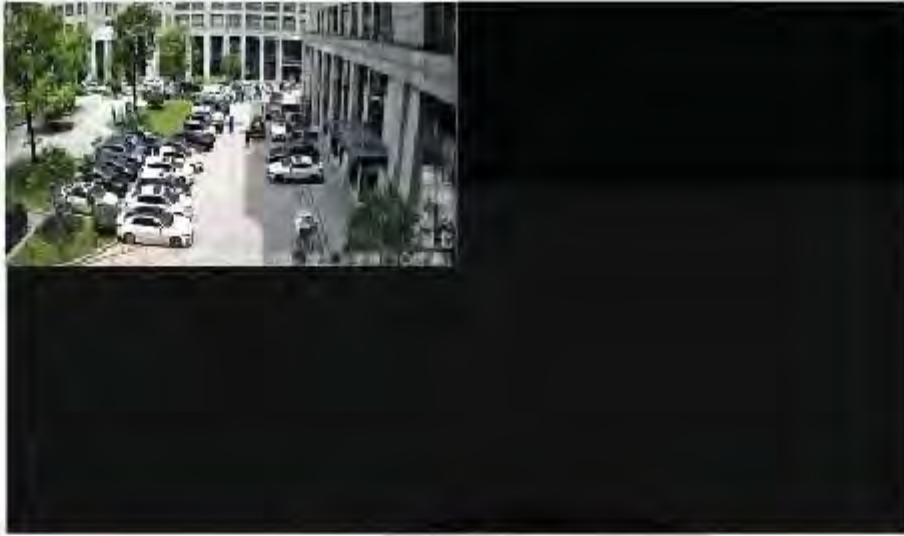
1. In the preview page, right-click and select **Multi-Window > 4 Windows**.





 **Note:** The number of windows that can be displayed may vary with DVR 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' image on the second screen after the set interval.

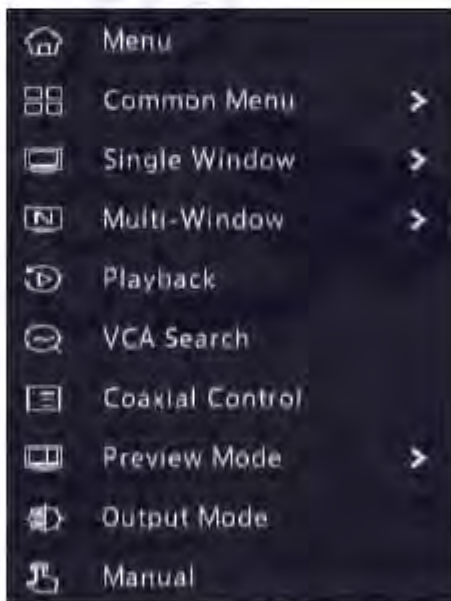


 **Note:** The default sequence interval is 8 seconds. You can set it under **Menu > System > Preview**. See [Preview Configuration](#) for details.

3. Click  to stop sequence.

### 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 <b>Camera, Network, and Recording</b> page.
Single Window	Switch to single window.
Multi-Window	Select the screen layout, including 4/6/8/9 windows.
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 <b>Normal Mode</b> and <b>Smart</b> . The default is <b>Normal</b> mode.
VCA Search	Search the VCA snapshots and recordings in the <b>Behavior Search</b> page. See <a href="#">Behavior Search</a> for details.





Item	Description
Coaxial Control	Go to the <b>OSD Menu Control</b> Page.
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, and manual alarm, buzzer, let through manually. See <a href="#">Manual Operations</a> for details.

## Manual Operations

Manual operations include manual recording, manual alarm and buzzer.

### 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**.



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 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.


## 4 Channel Configuration

Configure IPC, encoding, audio, OSD, image and PTZ parameters.

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

### 4.1 Channel Management

Add and manage IP cameras.

 **Note:**

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

### 4.1.1 Camera Type

You can change the channel type to analog or digital. This function is only available for DVRs.

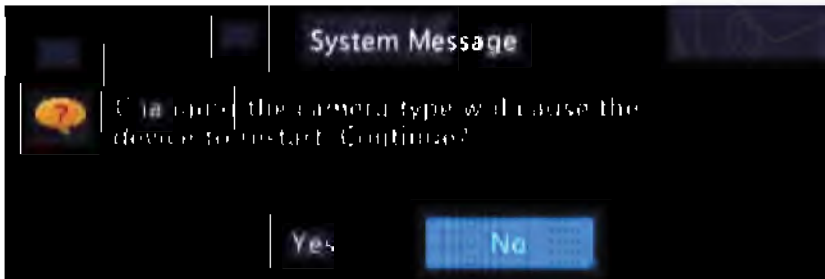
#### Change Channel Type

Change channel type to analog or digital.

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



2. Select the channel you want to change and choose the desired type.
3. Click **Apply**, then a message indicating device restart appears.



4. Click **Yes**. The channel type will be changed after the DVR restarts.

#### Add Analog Camera

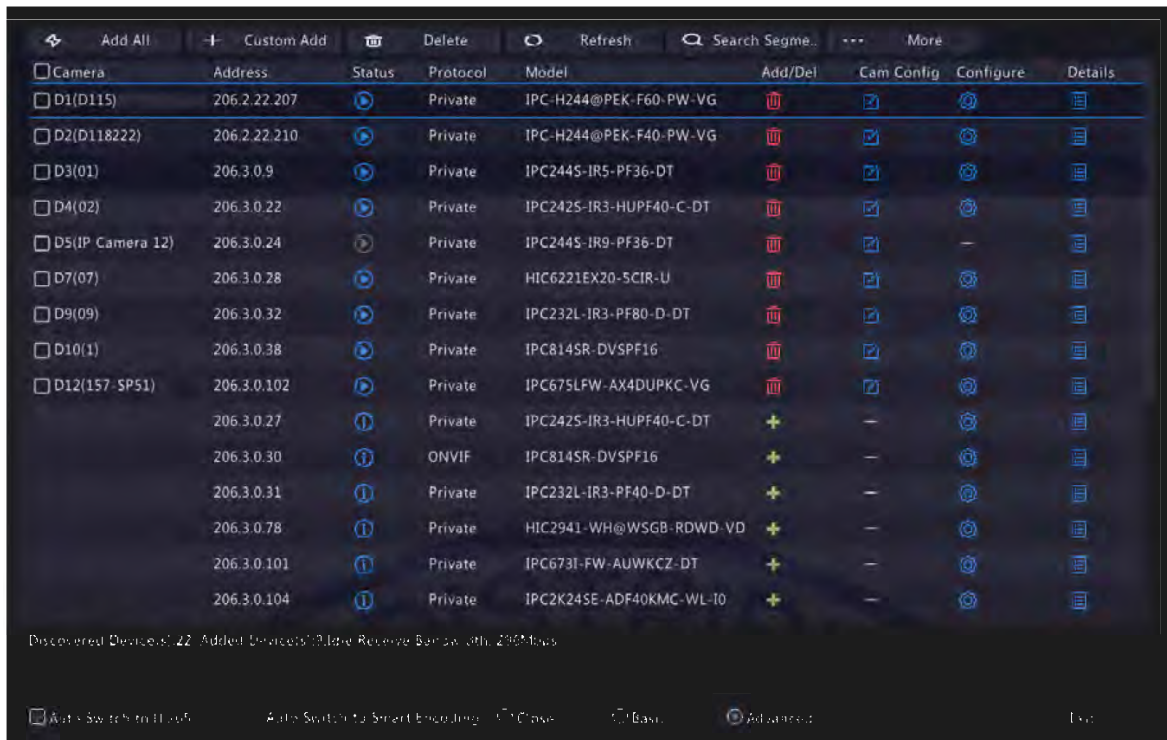
Analog cameras can be added to DVRs only.

1. Connect the camera to the video output interface of the DVR via a coaxial cable, and connect the camera to power. The camera will be added to the DVR.
2. Check the camera status in the preview page.

### 4.1.2 IPC Configuration

Add and manage IP cameras.

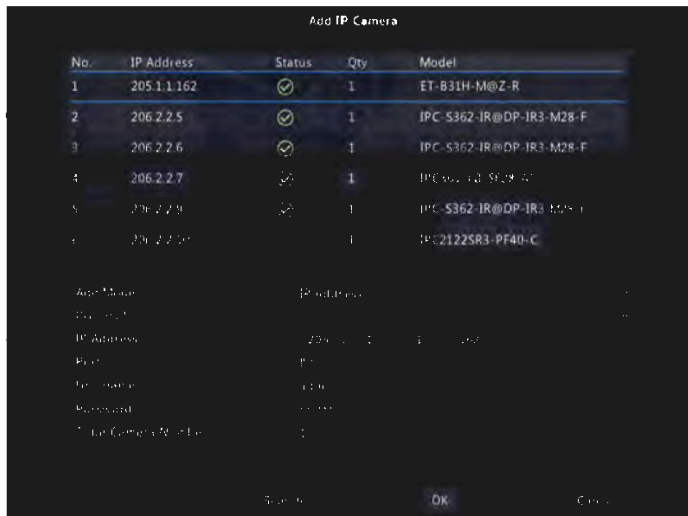
Go to **Menu > Camera > Camera > Camera**.



## 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
  - Click **Custom Add**.



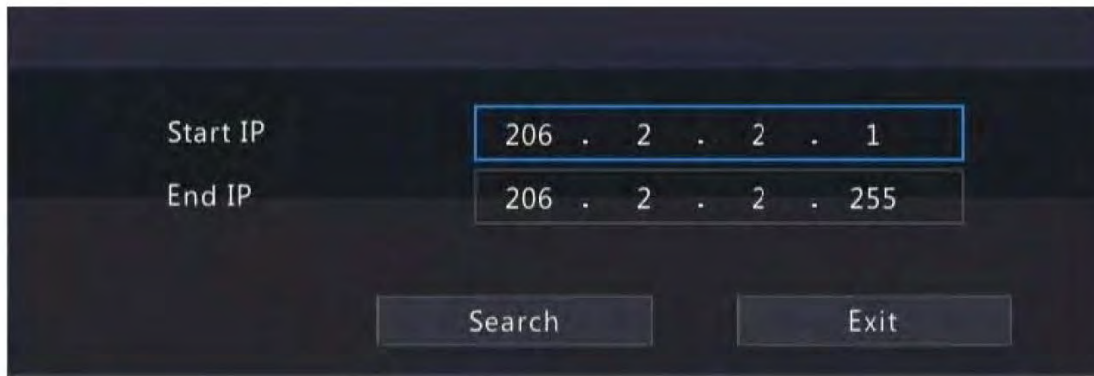
- In the window displayed, enter the IPC's IP address and complete other settings, then click **OK**. You may check the camera's status.

- : Camera online.
- : Camera offline. Point to the icon to view the failure information.
- : The camera is added to another DVR.

- Repeat the above steps to add other IPCs.

- Option 2: Search Segment

- Click **Search Segment**. Enter the start and end IP addresses, click **Search**. The discovered IP devices are listed.



2. Select the desired camera, click  to add it to the DVR.
- Option 3: Add All  
Click **Add All** to add all the discovered IPCs (if not exceeding the upper limit).
  - Option 4: Click   
Click  to add the camera directly.
  - Option 5: Add from the Preview Window  
 **Note:** This option is not applicable to DVRs with PoE ports. Some DVRs have PoE ports and non-PoE ports, and some have PoE ports only. All these DVRs do not support this option.
    1. In the preview page, click  in a window to go to the **Add IP Camera** page.
    2. Select the desired IP camera and then click **OK**.
  - Option 6: Connect via Cable
    1. Connect an IP camera to a PoE port or a switching port of the DVR with a network cable. The connected camera will be added to the DVR automatically.
    2. Check the camera status under **Menu > Camera > Camera > Camera**. **Note:**
    - This option is only applicable to DVRs with PoE ports, and the added camera cannot be deleted.
    - If you want to add an IPC that is not connected to the DVR's with a network cable, click , change **Plug-and-Play** to **Manual**, and complete other parameters.
    - For DVR 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.
  - Option 7: Add From Another Network  
Use this option when the DVR and the IP camera are connected to different router. Make sure the DVR can access the camera via the camera's public IP address and mapped port number.  
 **Note:** First you need to enable port mapping under **Setup > Port > Port Mapping** on the IP camera's Web interface.
  - Option 8: 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.

**Add IP Camera**

No.	IP Address	Status	Qty	Model
1	205.1.1.162	✓	1	ET-B31H-M@Z-R
2	206.2.2.5	✓	1	IPC-S362-IR@DP-IR3-M28-F
3	206.2.2.6	✓	1	IPC-S362-IR@DP-IR3-M28-F
4	206.2.2.7	✓	1	IPC3613LB-SF28-A1
5	206.2.2.9	✓	1	IPC-S362-IR@DP-IR3-M28-F
6	206.2.2.10		1	IPC2122SR3-PF40-C

Add Mode: IP Address

Protocol: Custom Custom1

IP Address: 205 . 1 . 1 . 162

Port:

Username: admin

Password: \*\*\*\*\*

Total Camera Number: 1

Protocol      Search      OK      Cancel

3. Click **Protocol**.

**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


OK      Cancel

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.

### Edit IP Camera

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

Modify IP Camera

No.	IP Address	Status	Qty	Model
1	206.3.0.9	✓	1	IPC244S-IR5-PF36-DT
2	206.3.0.22	✓	1	IPC242S-IR3-HUPF40-C-DT
3	206.3.0.24	i	1	IPC244S-IR9-PF36-DT
4	206.3.0.27	i	1	IPC242S-IR3-HUPF40-C-DT
5	206.3.0.28	✓	1	HIC6221EX20-5CIR-U
6	206.3.0.30	i	1	IPC814SR-DVSPF16

Add Mode	IP Address	▼
Protocol	Private	▼
IP Address	206 . 2 . 22 . 207	
Port	80	
Username	admin	
Password	*****	
Total Camera Number	1	

Protocol    Search    OK    Cancel


**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.

**Delete IP Camera**

You can delete IP camera(s) one by one or in batches.

**Note:** Channels corresponding to PoE ports or switching ports cannot be deleted.

- Select a camera to be deleted, click , and click **OK** in the pop-up window.
- Select cameras to be deleted, click **Delete**, and click **OK** in the pop-up window.

**Change Window Position**

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


- In the multi-window preview page, drag a window to another window to swap their positions.
- In the **Preview Configuration** page under **Menu > System > Preview**, change window positions in the preview page. See [Screen Configuration](#) for details.

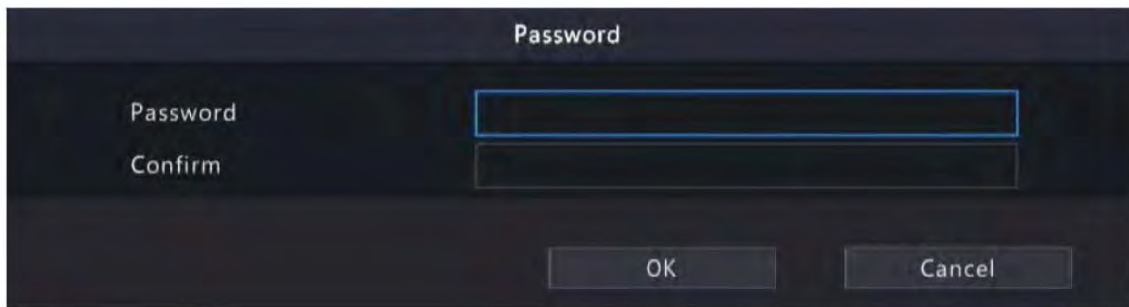
**Batch Change Password**

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 , and select **Batch Edit Password**.





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


### Network Configuration

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




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



### More Info

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




### Other Operations

Item	Description
Auto Switch to H.265	<p>When enabled, the DVR automatically chooses H.265 for a newly added camera.</p> <p> <b>Note:</b></p> <ul style="list-style-type: none"> <li>• Every time a camera is added to the DVR, 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.</li> <li>• This function is enabled by default on some DVR models.</li> </ul>
Auto Switch to Smart Encoding	Select <b>Basic Mode</b> or <b>Advanced Mode</b> , then the DVR automatically chooses basic Smart Encoding or advanced Smart Encoding mode for a newly added camera.

Item	Description
	 <b>Note:</b> <ul style="list-style-type: none"> <li>• Every time a camera is added to the DVR, 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.</li> <li>• This function is enabled by default on some DVR models.</li> </ul>
Refresh	Click <b>Refresh</b> to check the camera status.
Live View	Click  to play live video of the camera.

### 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 private protocol.

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



#### 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**.

**Password**


Password   
 Confirm   
 Use Administrator 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 DVR, 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.



#### 4.1.4 Fisheye Configuration

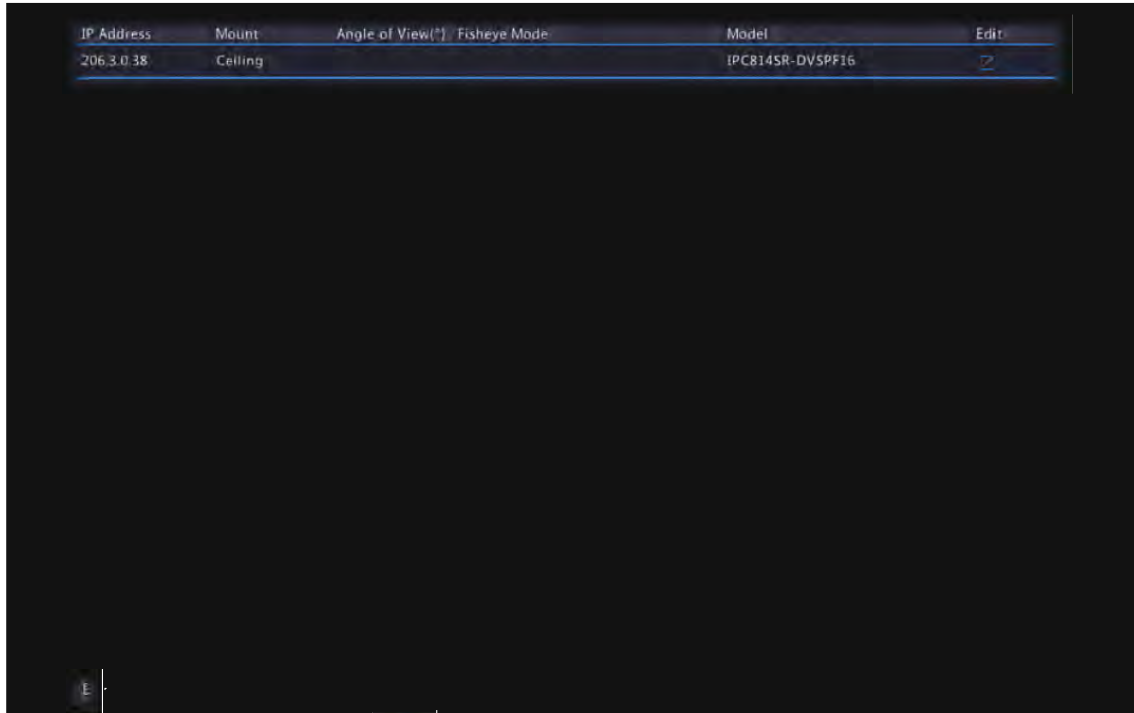
Set the mounting mode and display mode for fisheye cameras. Fisheye configuration is supported only by certain fisheye cameras.


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

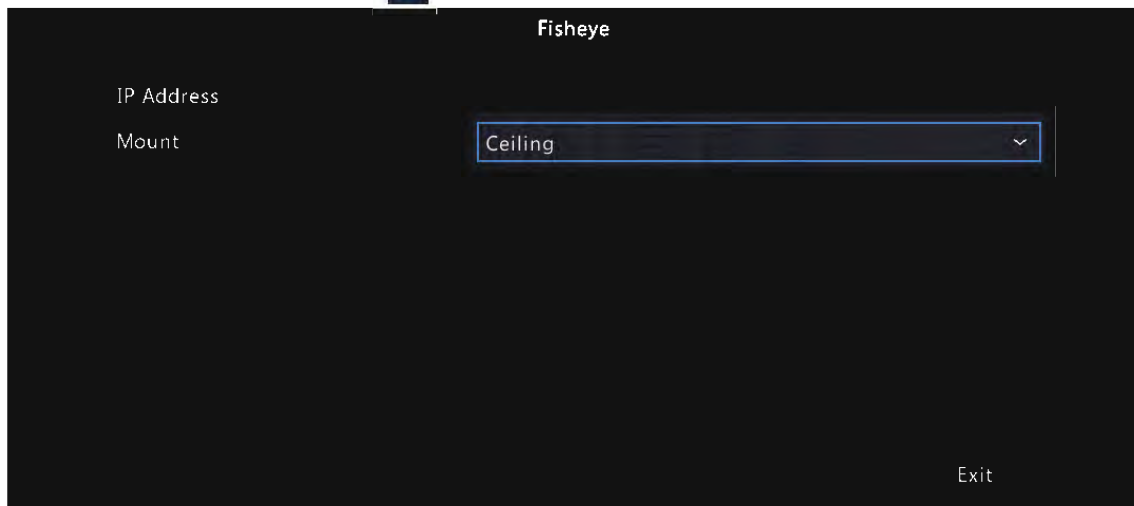
##### Configuration

Configure the following parameters after the fisheye camera is installed.

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



2. Select the fisheye camera and click .




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. In 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 		360° panoramic original image	
	Desktop Mount 		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

Mount	Display Mode	Description
		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.

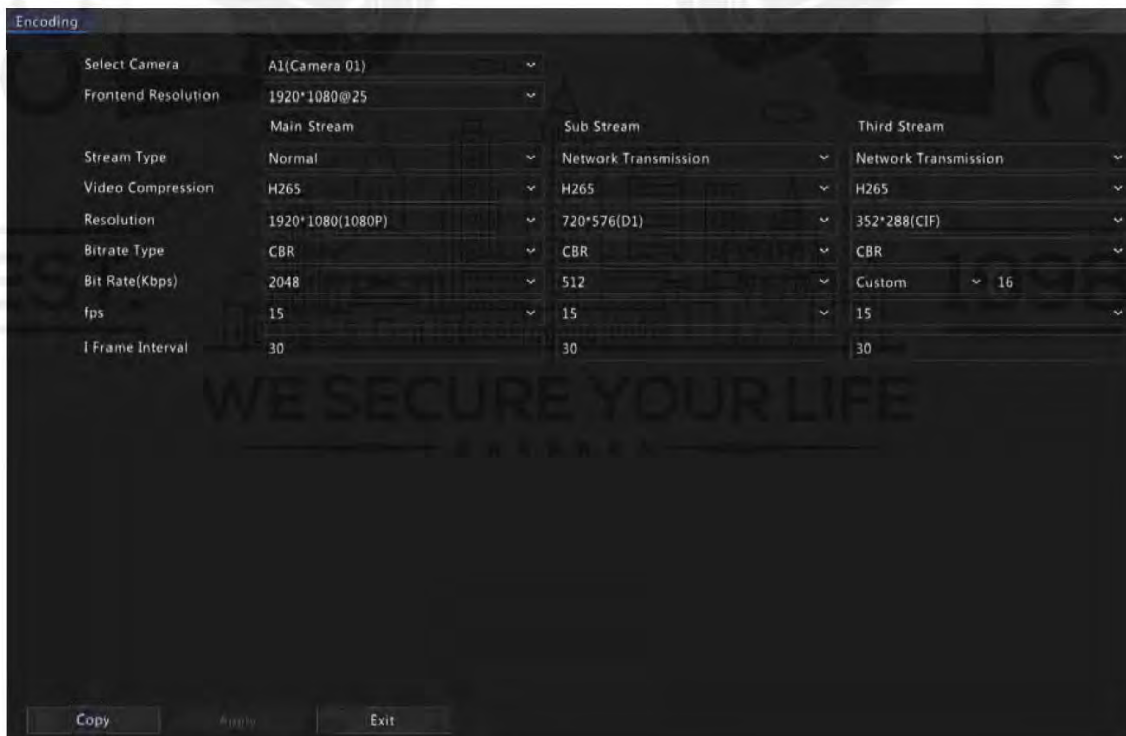
## 4.2 Encoding Settings

Configure stream type, resolution, 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.

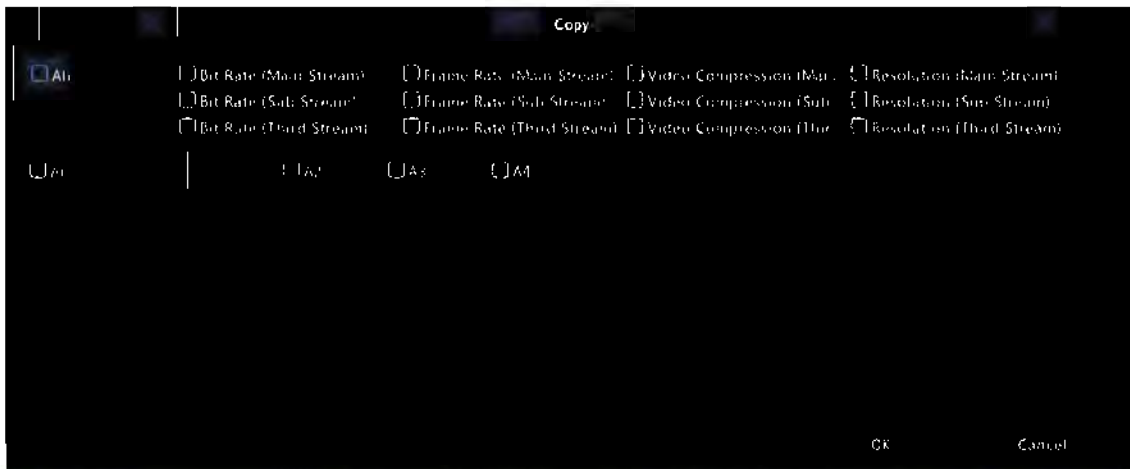
1. Go to **Menu > Camera > Encoding**.




2. Select the camera from the drop-down list.
3. Set the frontend resolution, that is, combinations of resolution and frame rate. This parameter is configurable only when the camera is connected to the DVR via the private protocol.
4. Set the encoding parameters for different streams.

Item	Description
Stream Type	<ul style="list-style-type: none"> <li>• Main stream: Set encoding parameters for normal recordings.</li> <li>• Sub stream: Set encoding parameters for low resolution video intended for network transmission.</li> </ul>
Video Compression	Choose H264 or H265. The supported video compression may vary with IPC models.
Resolution	The number of pixels in a frame.
Bitrate Type	<ul style="list-style-type: none"> <li>• VBR: Variable Bit Rate (VBR) is used to keep the quality of video streams as constant as possible by varying the bit rate.</li> <li>• CBR: Constant Bit Rate (CBR) is used to keep a specific bit rate by varying the quality of video streams.</li> </ul>
Bit Rate(Kbps)	The number of bits transferred per second. Select a value from the drop-down list, or select <b>Custom</b> to set a value as needed.
I Frame Interval	The number of frames between two adjacent I frames.
Smart Encoding	Select the Smart Encoding mode, including basic mode and advanced mode. You can also close the Smart Encoding. The advanced mode achieves higher compression ratios.

5. (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 **Video Compression** to other camera(s), **Bit Rate** will be selected automatically because video compression adjusts bit rate automatically.

6. Click **Apply**.

## 4.3 Audio Configuration

Configure audio input and audio output of the IPCs.

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

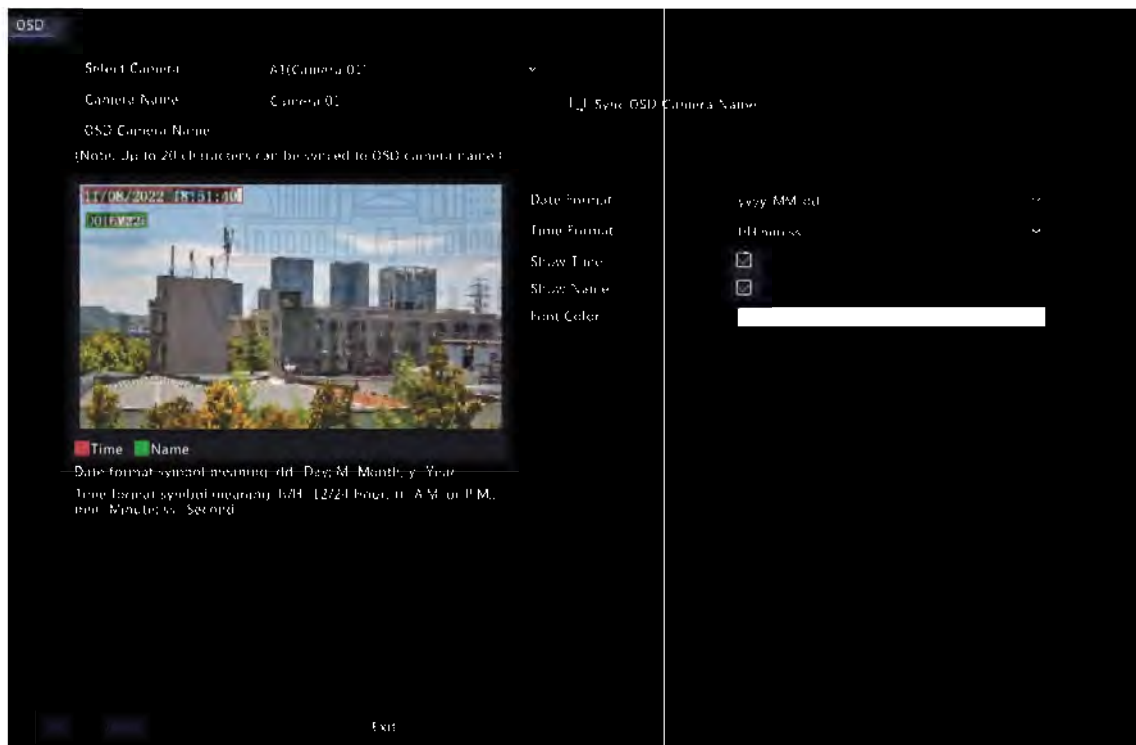


2. Select the desired camera from the drop-down list.
3. Select the access mode according to the IPC's audio interface, including **Coaxial** and **RCA**.
4. (Optional) To apply the audio settings to other camera(s), click **Copy** and select the desired parameter(s) and camera(s), and then click **OK**.
5. Click **Apply**.


## 4.4 OSD Configuration

Configure the characters overlaid on the preview (live view) window. On Screen Display (OSD) are characters displayed with video images, for example, channel/camera name, date and time, and people counting statistics.

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



2. Select the desired camera 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	<p><b>Sync OSD Camera Name</b> is enabled by default, thus the OSD camera name is synchronized with the camera name automatically.</p> <p> <b>Note:</b></p> <ul style="list-style-type: none"> <li>Up to 20 characters can be synced to OSD camera name. If camera name exceeds 20 characters, only the first 20 characters will be displayed.</li> <li>If <b>Sync OSD Camera Name</b> is disabled, after the camera name is changed, the new name will not be synced to OSD camera name.</li> </ul>
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 <b>Sync OSD Camera Name</b> . 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.
Font Color	Select the front color from the drop-down list. <div data-bbox="571 875 1150 1203" data-label="Image"> </div>

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

## 4.5 Image Settings

Adjust image settings to get optimal images.

- Go to **Menu > Camera > Image > Image**.



2. Select the desired camera.
3. Configure the parameters under the **Image Enhancement** tabs in this page.

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.
Offset	Adjust the image to the left or right.



**Note:**

- The default settings are scene-adaptive. Use default settings unless modification is necessary. To restore default settings, click **Default** in the lower left corner.
- Image settings apply to both live and recorded videos.

## 4.6 PTZ Configuration

Configure and control PTZ cameras.



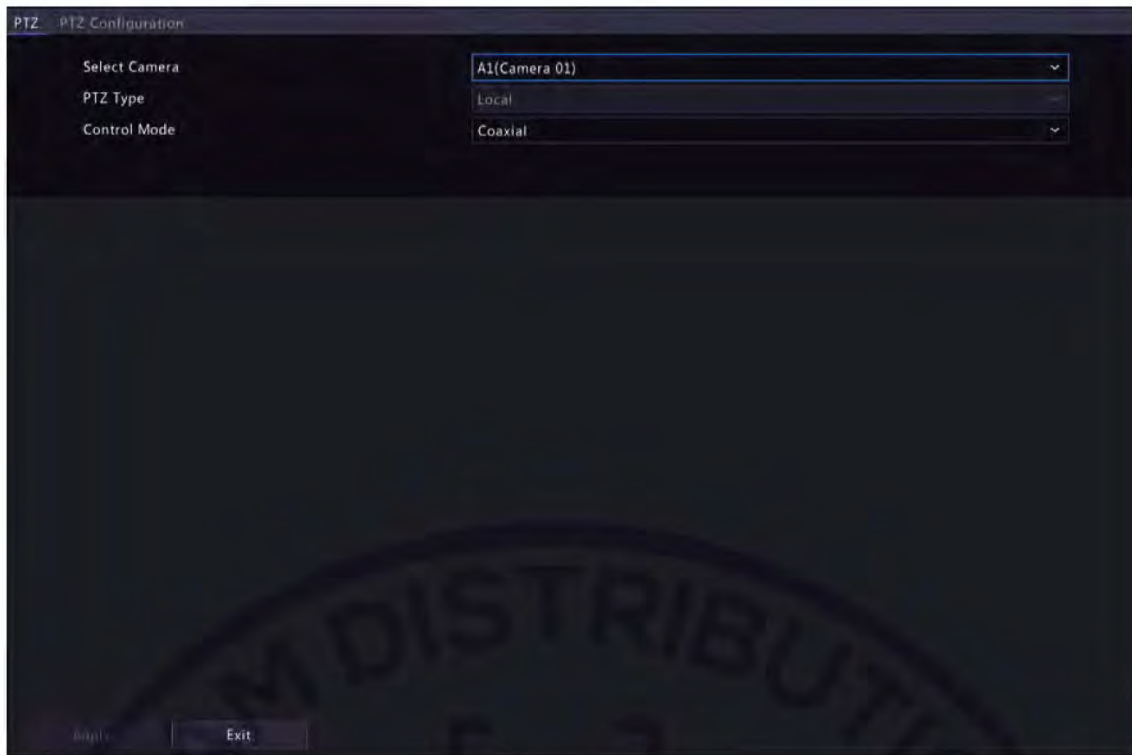
**Note:**

- This function is only available for PTZ cameras or cameras installed on PT mounts.
- 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 > PTZ**.

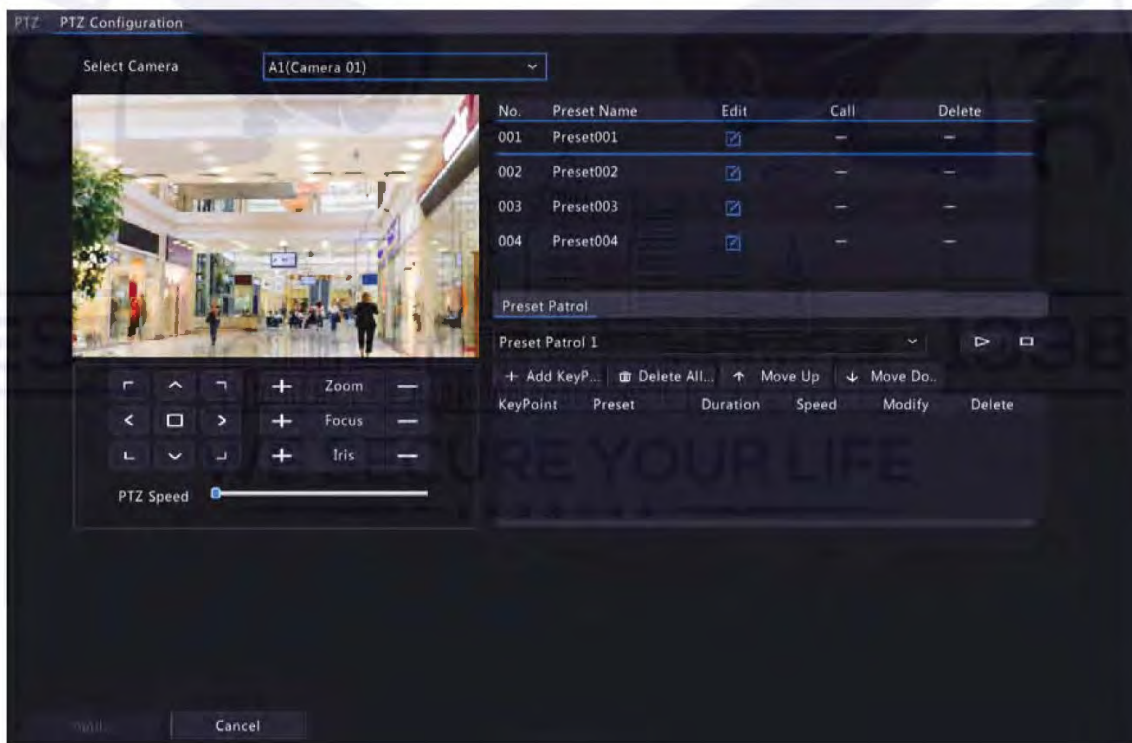


2. Choose a control mode according to camera connection method, and complete other settings.

### Configure PTZ


Option 1: Enter Menu

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



3. Set the parameters. See below for details.

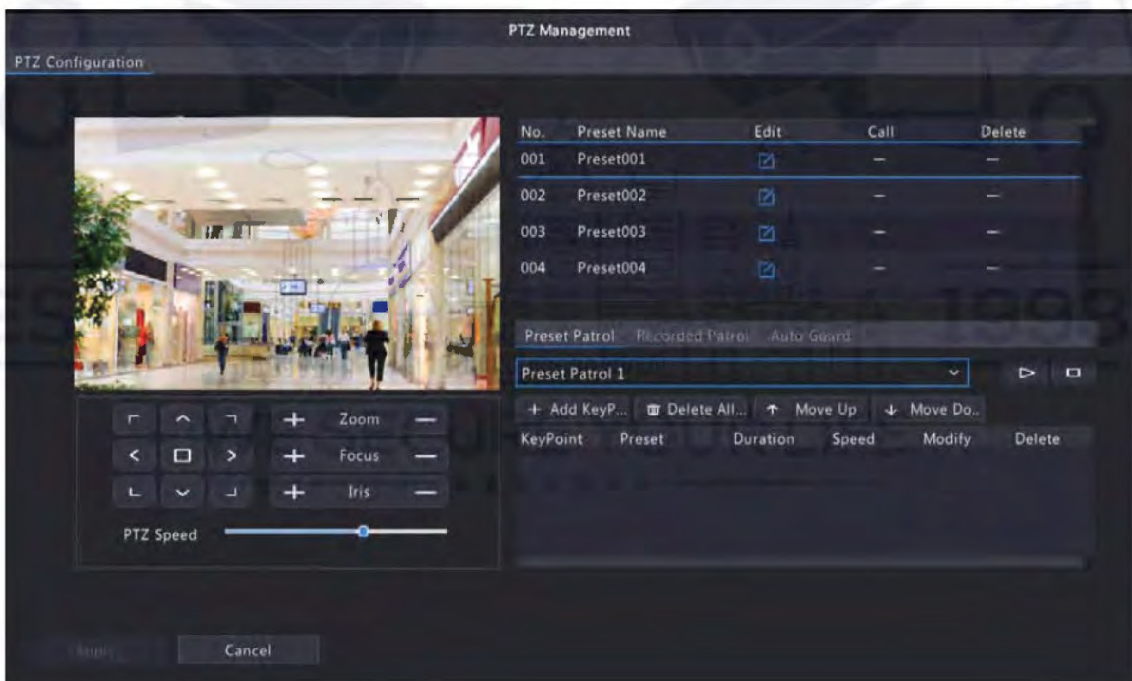
Option 2: Use PTZ Toolbar

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




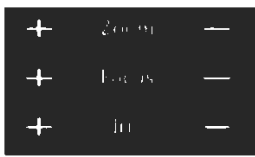














2. The PTZ control window appears. You can control the PTZ camera as needed.
3. Click **PTZ Configuration**, and set the parameters.







**Table 4-1: PTZ Control Window Buttons**

Button	Description
	Control the rotation direction of the PTZ camera; release PTZ control.

Button	Description
	<ul style="list-style-type: none"> <li>Zoom in or out on images. <ul style="list-style-type: none"> <li> <b>Note:</b> You can also zoom in or out using the scroll wheel on your mouse.</li> </ul> </li> <li>Focus far or near for clear images.</li> <li>Increase or reduce the amount of light that enters the lens of the camera.</li> </ul>
	Control the rotation speed of the camera. 1-9 are available. 1 means the slowest, and 9 means the fastest.
	Click to display the <b>PTZ Configuration</b> page.
	<ul style="list-style-type: none"> <li>Turn on/off the light.</li> <li>Turn on/off the wiper.</li> <li>Turn on 3D positioning.</li> <li>Turn on/off the heater.</li> <li>Turn on/off the snow removal.</li> <li>Turn on/off PTZ shortcut operations.</li> </ul> <p> <b>Note:</b></p> <ul style="list-style-type: none"> <li>Make sure that the 3D positioning, heater and snow removal functions are supported by the camera before using.</li> <li>Use 3D positioning to zoom in or out. Dragging from top down zooms in. Dragging the other way zooms out.</li> </ul>
Preset/ Preset Patrol/Recorded Patrol/ Auto Guard	<ul style="list-style-type: none"> <li>For detailed information, see <a href="#">Preset</a>, <a href="#">Preset Patrol</a>, <a href="#">Recorded Patrol</a> and <a href="#">Auto Guard</a> respectively.</li> </ul>
	<ul style="list-style-type: none"> <li>Call a preset: Click , the PTZ camera goes to the preset position.</li> <li>Delete a preset: Click  to delete the preset.</li> </ul> <p> <b>Note:</b>  and  are displayed for saved presets only.</p>
	Start or stop preset patrol.


### OSD Menu

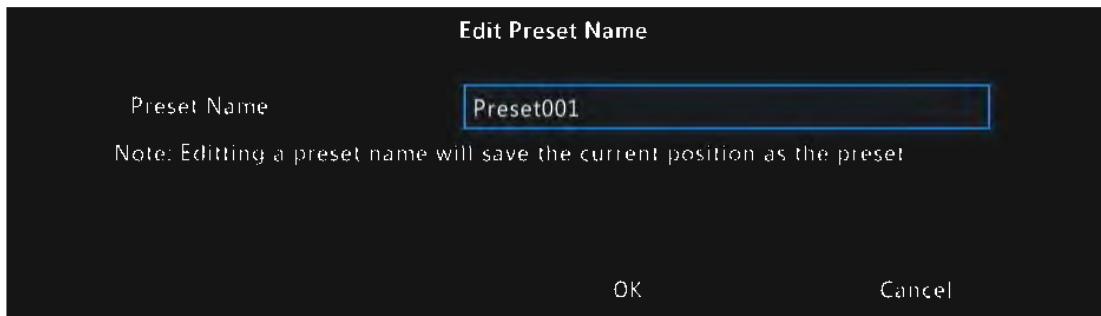
Configure analog cameras on DVRs. This function is only available for DVRs.

- In the preview window of an analog camera, click  on the window toolbar.
- Click **OSD Menu Control**.
- Click  or  to open camera settings window, and set the parameters.
- 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
  - Use the PTZ direction buttons to steer the PTZ camera to the desired position.
  - Select a preset number not in use, and click  to edit the preset name.



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

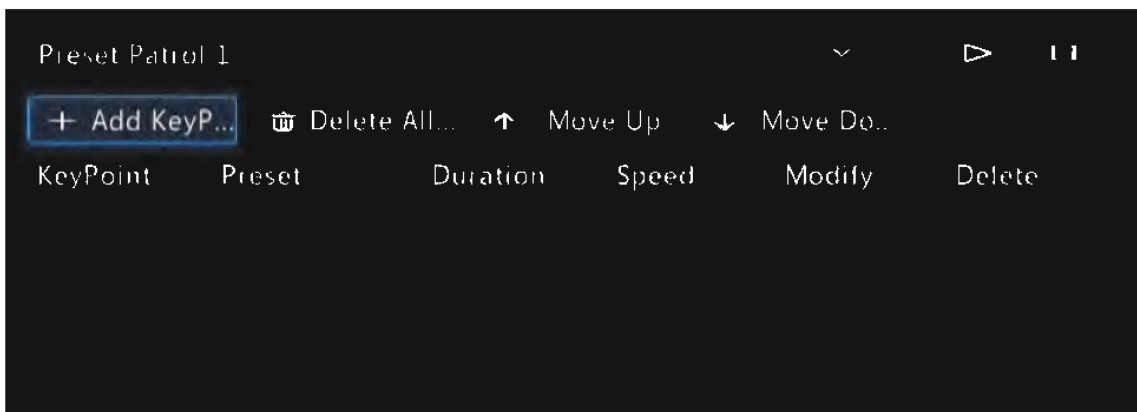
No.	Preset Name	Edit	Call	Delete
001	Preset001			
002	Preset002		—	—
003	Preset003		—	—
004	Preset004		—	—

- 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 to delete, and then click .

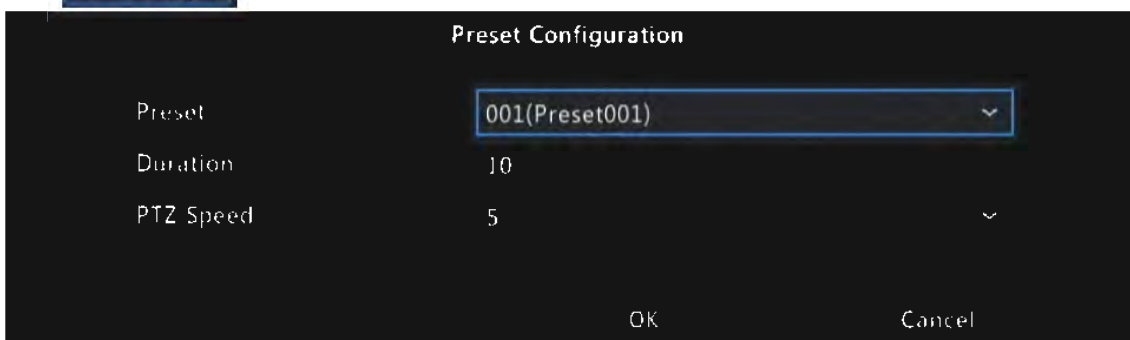
### Preset Patrol

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

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




2. Click . The figure as shown below appears.



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 <a href="#">Preset</a> 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 .



- Other Operations

- Edit: Click  to edit the preset patrol parameters.

- Delete: Click  to delete a keypoint; Click  to delete all keypoints.


- Move Up/Move Down: Click  /  to adjust the sequence of these presets.

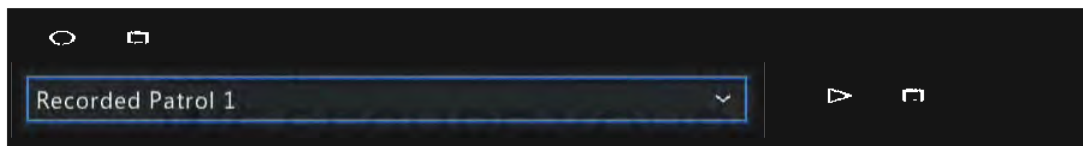
## Recorded Patrol


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

- Add a Recorded Patrol

1. In the **Recorded Patrol** tab, select a patrol route.



2. Click  to start recording. Steer the camera to the desired directions, adjust the zoom, focus, iris as needed during the process.



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. In 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.


- Click **Apply**.

## 5 VCA

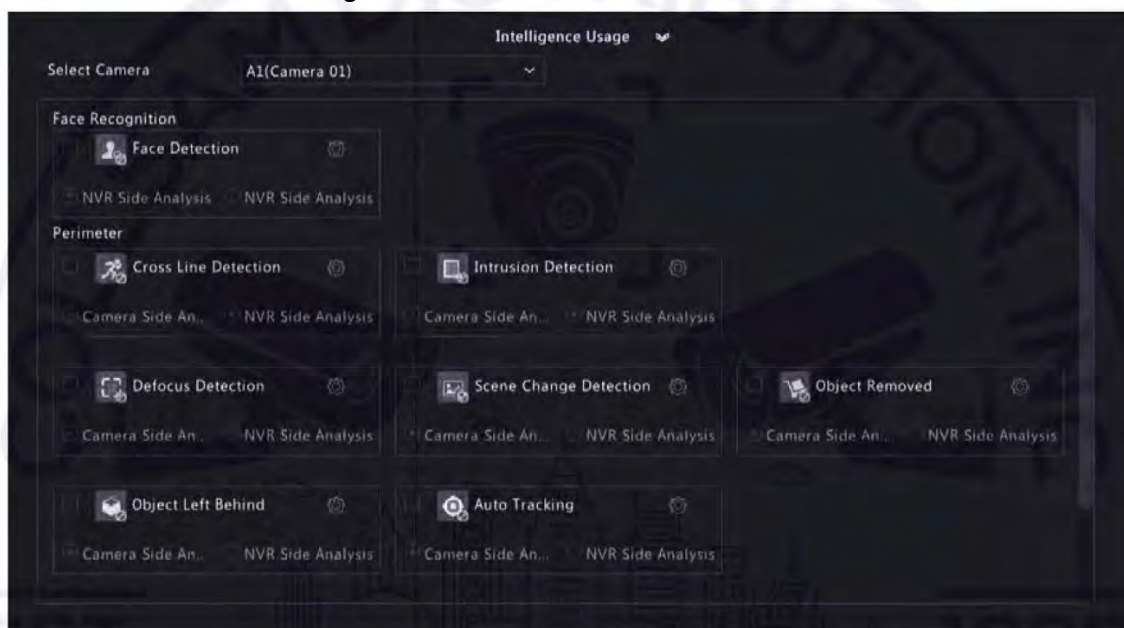
Configure VCA (Video Content Analysis), and VCA search.

### 5.1 VCA Configuration


VCA includes face recognition, perimeter protection, and people counting. You can monitor people flow, roads and moving objects by configuring VCA. The VCA functions and parameters may vary with DVR model.

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

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



- Select a camera.
- Select the check box of the VCA function to be enabled, and choose whether 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:**


- The parameters of some VCA functions supported on the camera side are more than that supported on the NVR side.
- Before you enable camera side analysis, make sure the camera is connected via private protocol.
- VCA functions that are not supported by the camera or NVR are grayed out.

- Click  to configure the function.

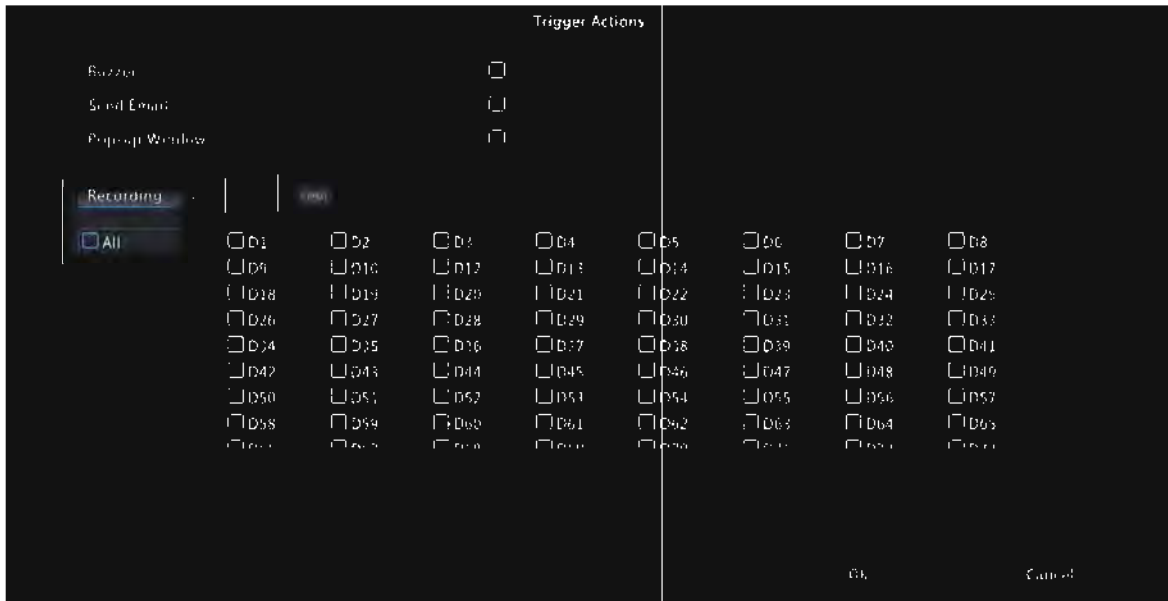
#### 5.1.1 Alarm-triggered Actions

Configure actions to be triggered when an alarm occurs to alert you to deal with it in time.

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

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

Some actions are detailed below.



**Buzzer**

The DVR makes a buzzing sound when an alarm occurs.

**Send Email**

The DVR sends an email with alarm information to the specified email address(es) when an alarm occurs.

**Pop-up Window**

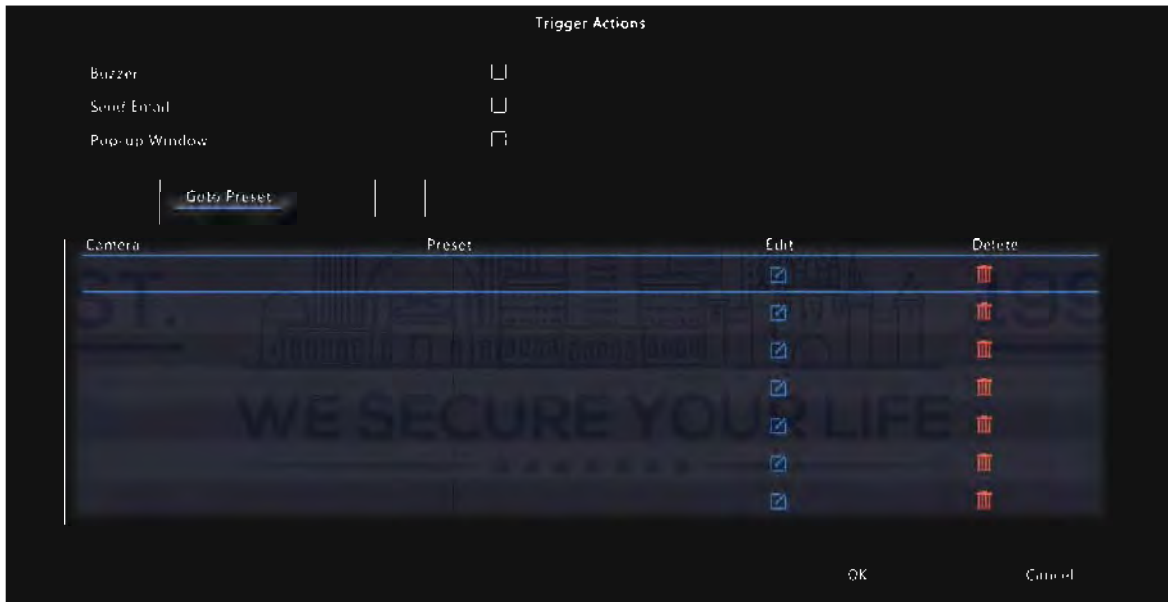
An alarm message pops up when an alarm occurs.

**Recording**

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

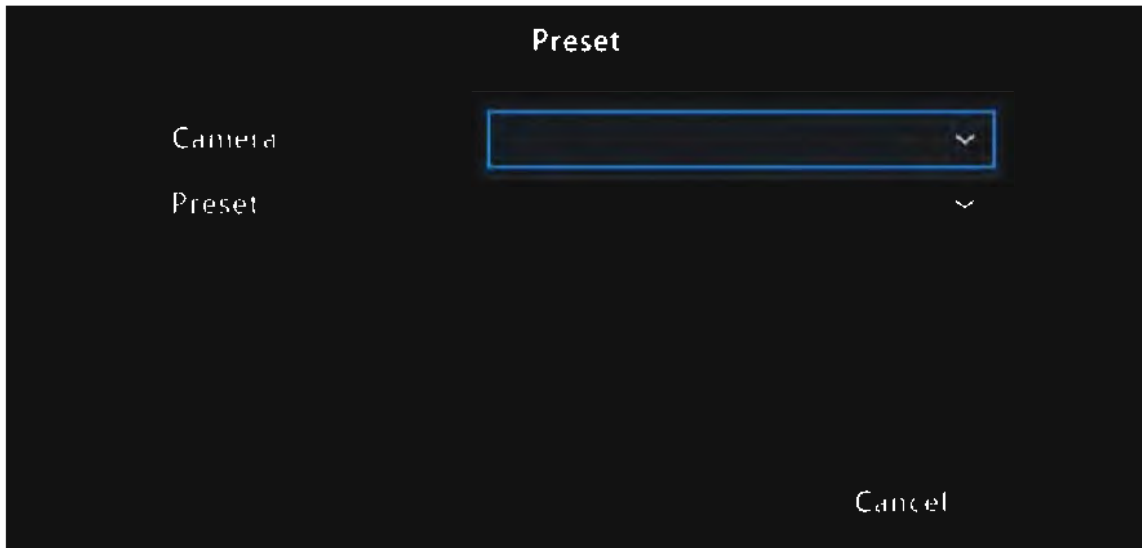
**Goto Preset**

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




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.

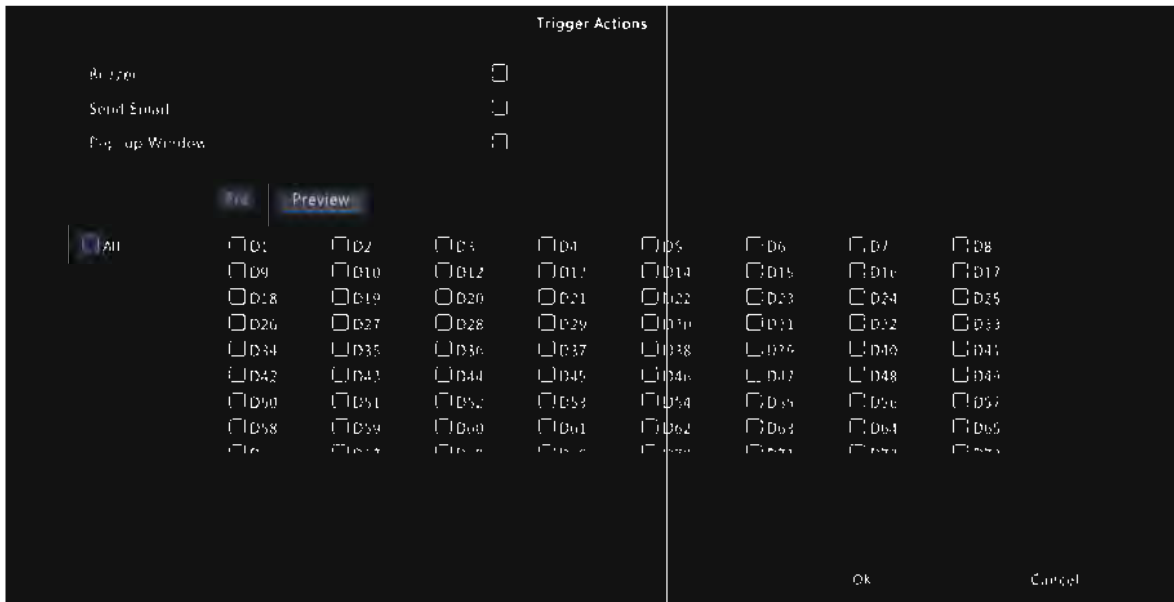
 **Note:** Before use, you need to configure presets on the PTZ camera. See *Network Camera User Manual* for details.

3. Click **OK**.

 **Note:** To delete or unlink a preset, click .

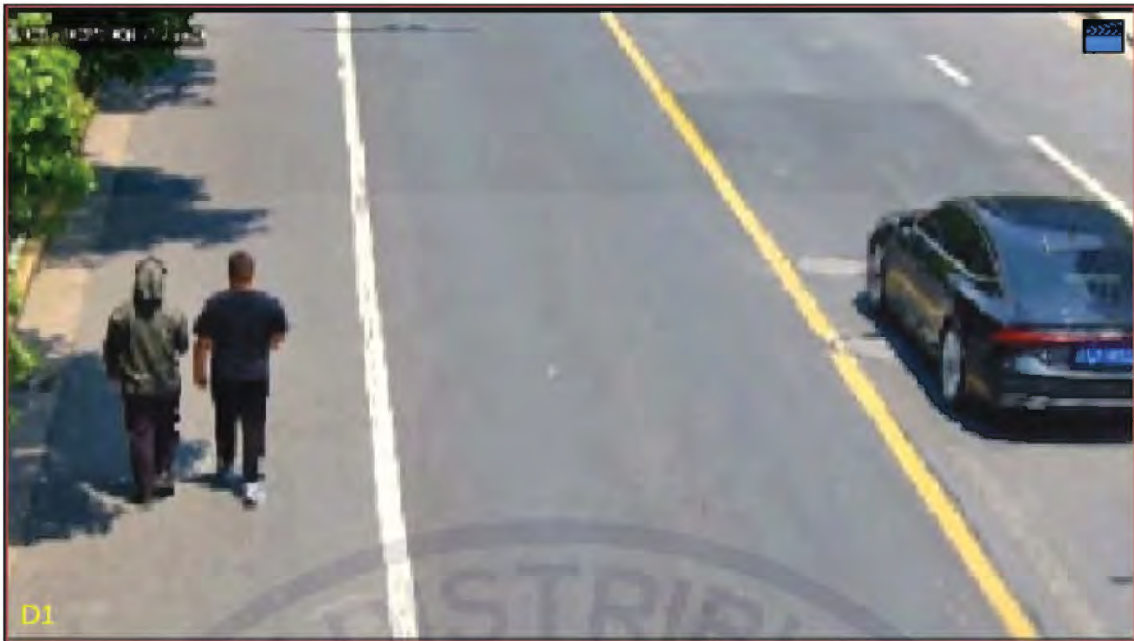
### Preview

The DVR 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**.



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.



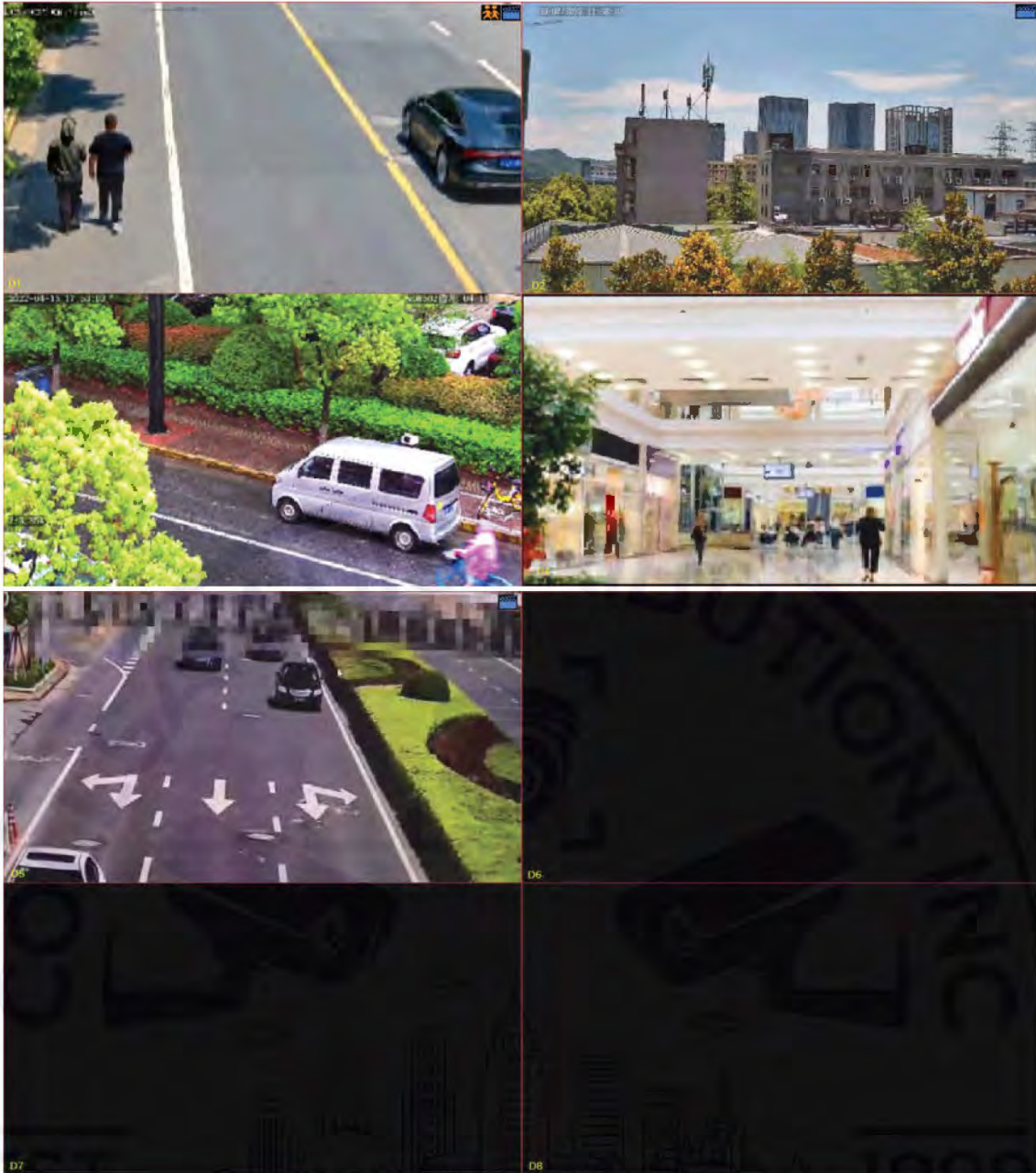
- When **Max. Alarm-Triggered Live View Windows** is set to **4 Windows**, the live view page plays the live video of each camera in 4-split mode. If more than 4 cameras are linked, the live video switches at 5s.

Live view page with 3 cameras linked:



Live view page with 5 cameras linked:

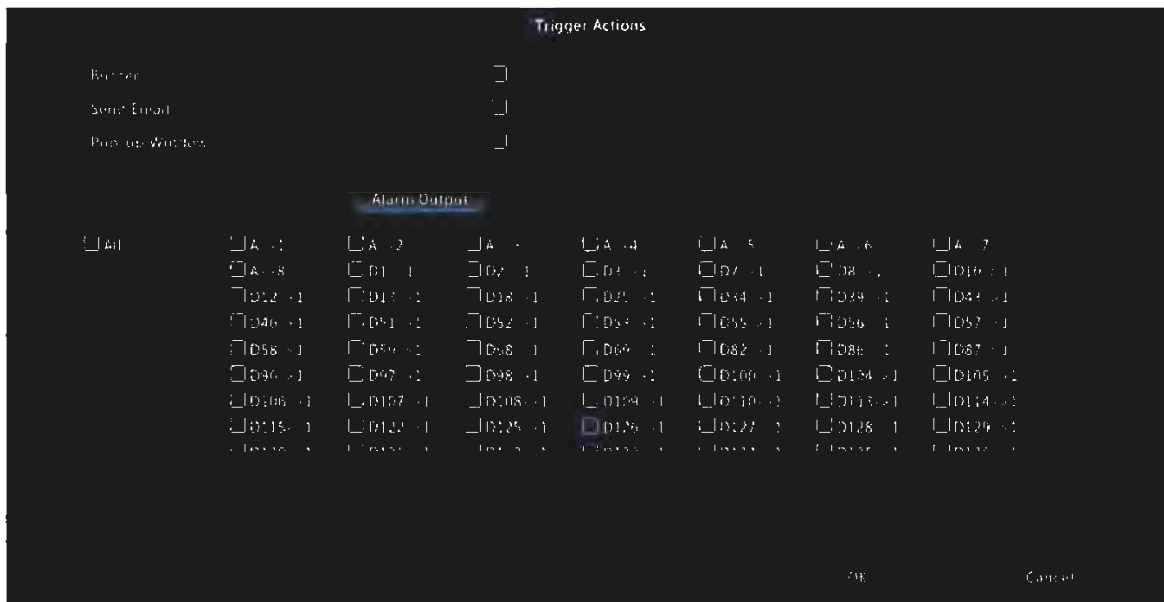




- When **Max. Alarm-Triggered Live View Windows** is set to **9 Windows**, the live view page plays the live video of each camera in 9-split mode. If more than 9 cameras are linked, the live video switches at 5s.

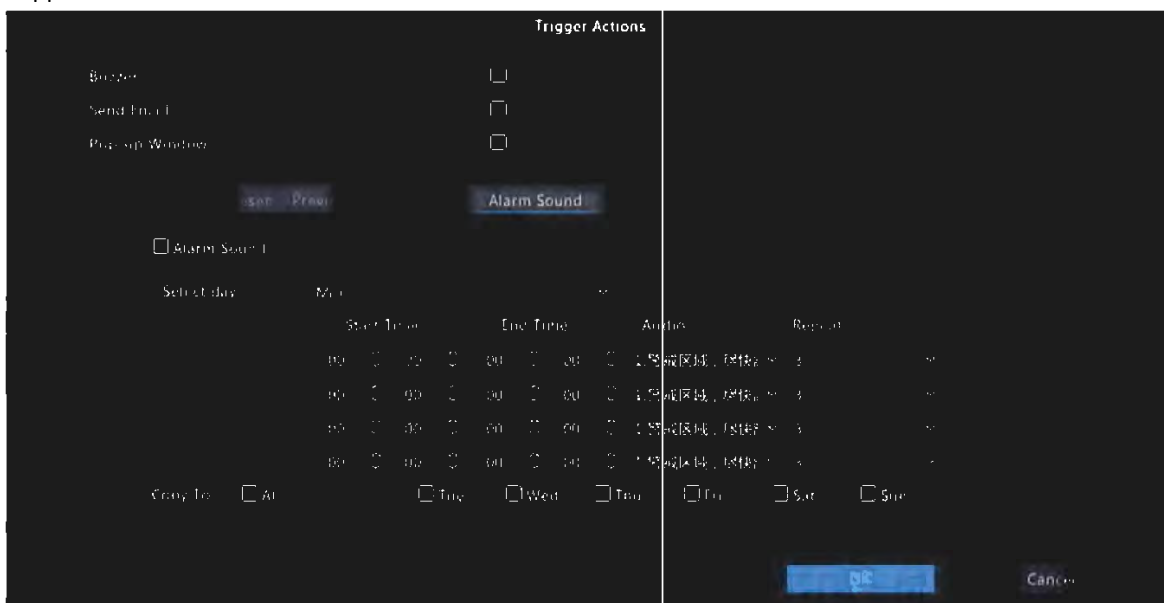
#### **Alarm Output**

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






## Alarm Sound

The selected camera plays an audio alarm when an alarm occurs. This action is only available to cameras that support alarm sound.



Configure this action as follows:

1. Select the **Alarm Sound** check box, select the alarm mode, and configure other parameters as needed.

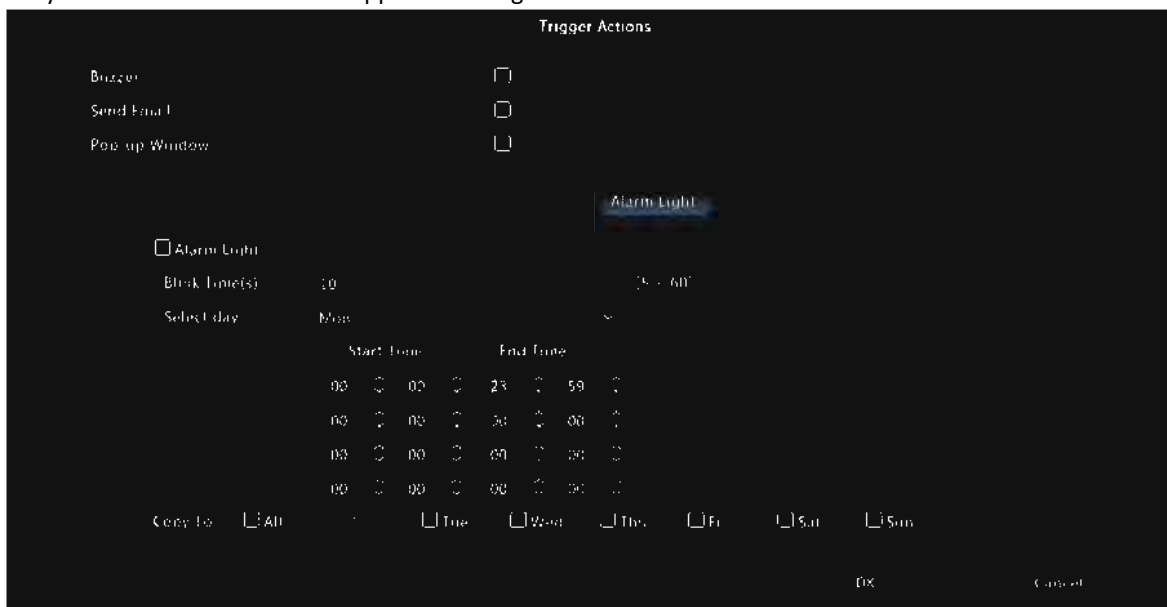
Mode	Description
Day/Night Mode	Select the day and time (day/night) in which alarm sound is enabled.  <b>Note:</b> The camera automatically switches to day or night mode according to the ambient brightness. See <i>Network Camera User Manual</i> for details.
Custom Mode	Select the day and time (start/end time) in which alarm sound is enabled.  <b>Note:</b> Up to 4 time periods are allowed per day, and the time periods cannot overlap.
Audio	Select the audio file to be played by the camera when an alarm occurs. By default, 13 audio files are available. You can configure the audio files on the camera's Web interface.  <b>Note:</b> The number of built-in audio files varies depending on the camera model, and up to 5 audio files are allowed on certain models.

Mode	Description
Repeat	Set the number of times the audio file to be played when an alarm occurs. Range: 1 to 50.

- (Optional) To apply the same settings to other days, select the desired day(s) after **Copy To**.
- Click **OK**.



### Alarm Light

The illuminator of the selected camera flashes for a certain period of time when an alarm occurs. This action is only available to cameras that support alarm light.



Configure this action as follows:

- Select the **Alarm Light** check box, select the alarm mode, and configure other parameters as needed.


Mode	Description
Day/Night Mode	Select the day and time (day/night) in which alarm light is enabled.  <b>Note:</b> The camera automatically switches to day or night mode according to the ambient brightness. See <i>Network Camera User Manual</i> for details.
Custom Mode	Select the day and time (start/end time) in which alarm light is enabled.  <b>Note:</b> Up to 4 time periods are allowed per day, and the time periods cannot overlap.
Blink Time(s)	Set the duration that the illuminator flashes when an alarm occurs.

- (Optional) To apply the same settings to other days, select the desired day(s) after **Copy To**.
- Click **OK**.

### Snapshot


The DVR takes a snapshot from a specified camera when an alarm occurs.

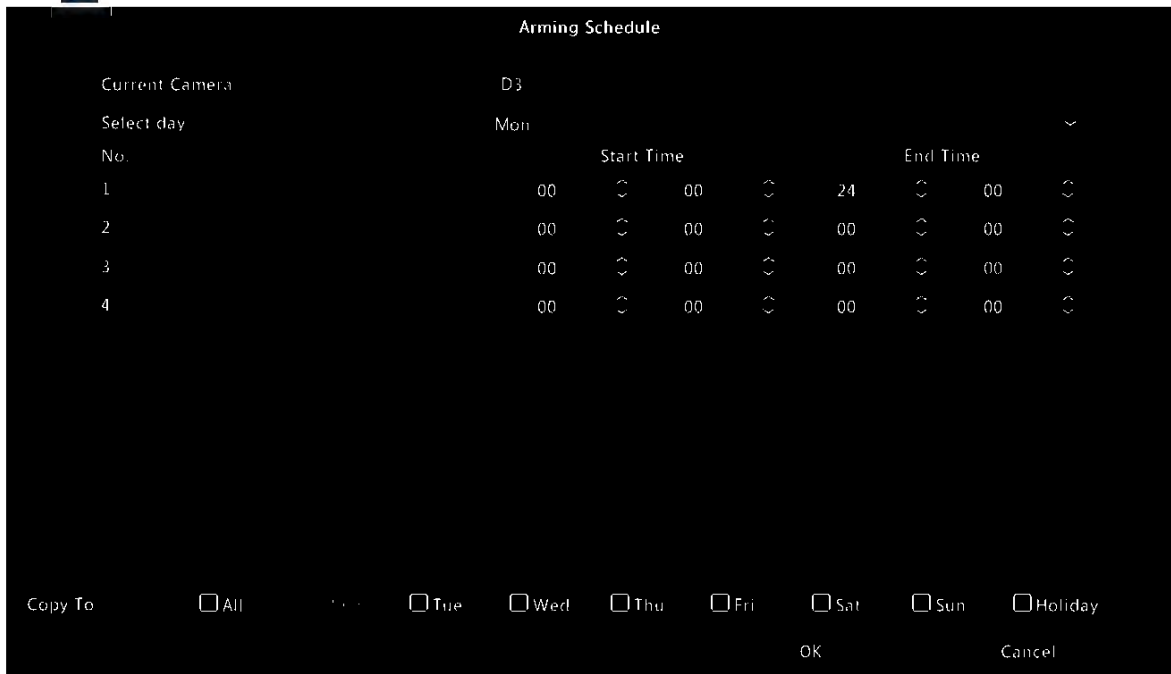


 **Note:** This action is only available to certain alarm functions such as motion detection and human body detection, and is not available to VCA functions.

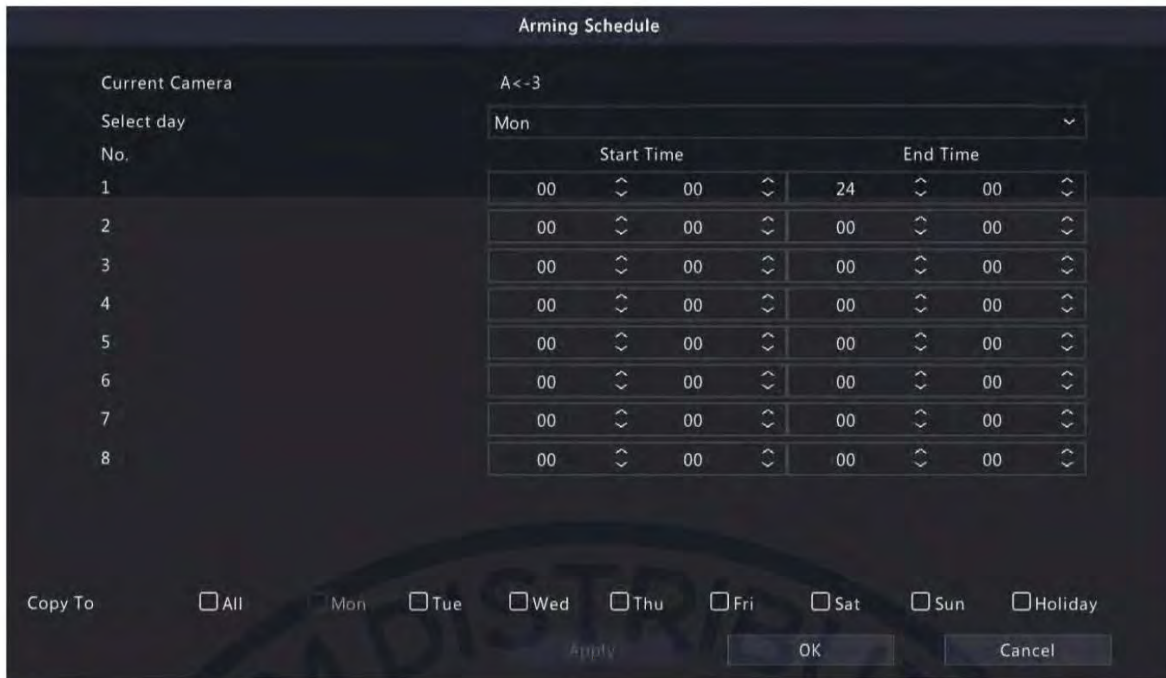
### 5.1.2 Arming Schedule

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

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



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




**Note:**

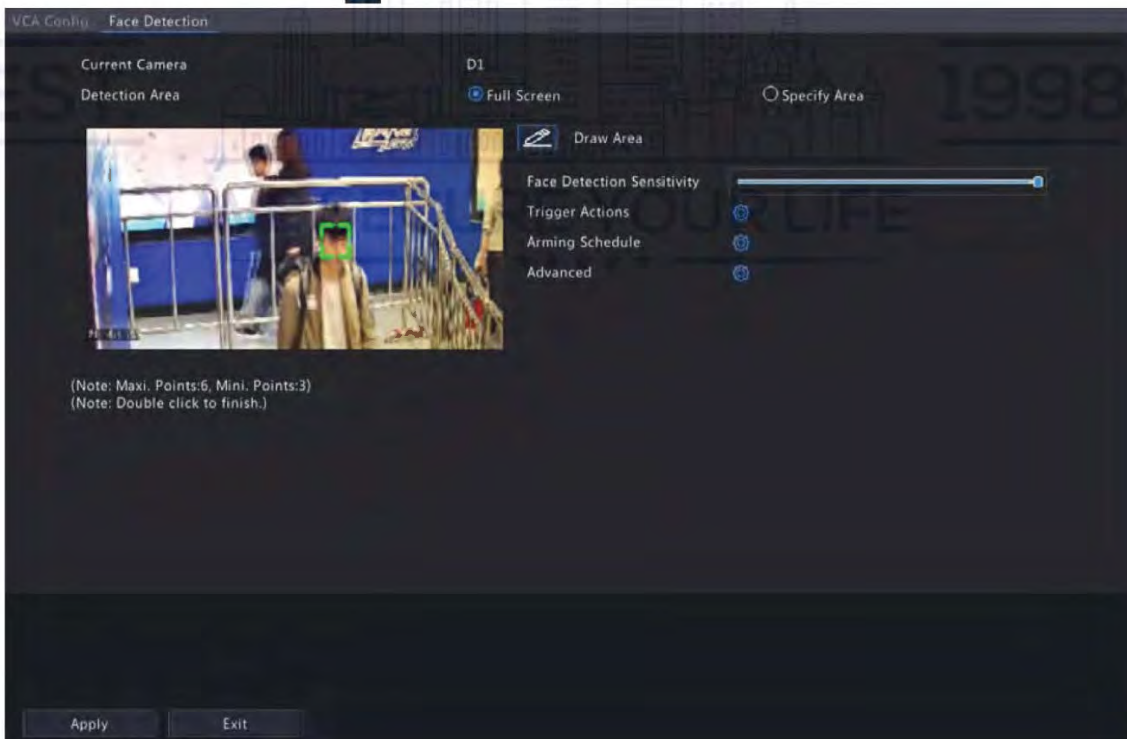
- Up to 4 or 8 time periods are allowed per day, and the time periods cannot overlap.
- (Optional) To apply the same schedule to other days, select the desired day(s) after **Copy To**.
- The number of arming time periods available varies by function.
- If a SIP camera is connected to the DVR and configured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


### 5.1.3 Face Detection

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


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

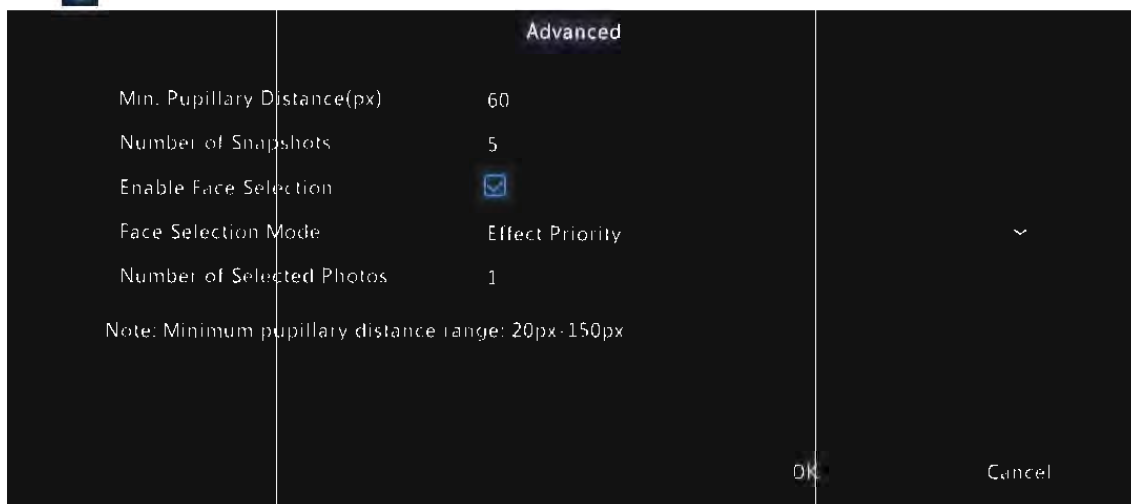
1. Go to **Menu > VCA > VCA Config**.
2. Select a camera.
3. Select **Face Detection** and click  to configure it.



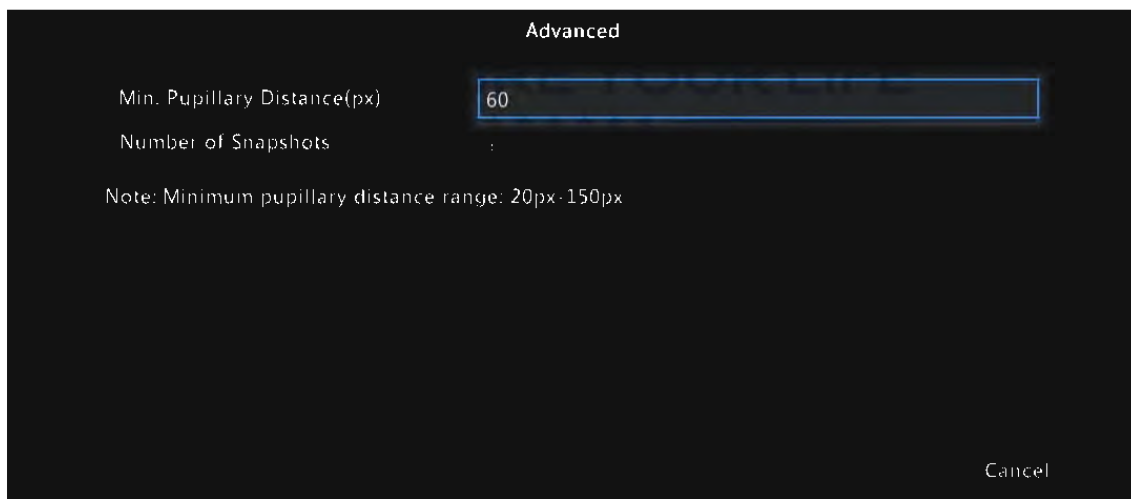
- Set the detection area. Only 1 detection area is allowed.
  - Full Screen: Detects all faces in the live video.
  - Specify Area: Detects faces in a specified area of the live video. Select **Specify Area** and click , then a detection box appears in the left preview window. You can adjust the position of the area or draw an area as needed.


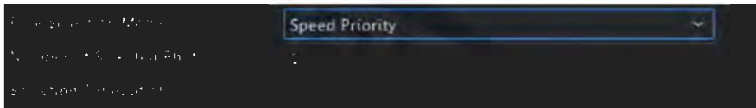



- Adjust the position of the area. Point to a border of the area and drag it to the desired position.
  - Draw an area. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed.
- Set the face detection sensitivity 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.
  - Set the alarm-triggered actions and arming schedule. See [Alarm-triggered Actions](#) and [Arming Schedule](#) for details.
  - Click  right to **Advanced**, configure the parameters as needed, and then click **OK**.



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



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.  <b>Note:</b> The default value varies by image resolution, and the valid range varies by DVR 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	<ul style="list-style-type: none"> <li>Effect Priority: Set the <b>Number of Selected Photos</b>, then the DVR selects the specified number of snapshots with the best quality from all the snapshots captured when a face is detected to report.</li> <li>Speed Priority: Set the <b>Number of Selected Photos</b> and <b>Selection Timeout</b>, then the DVR selects the specified number of snapshots from the moment that a face is detected till <b>Selection Timeout</b> is up to report. Range: 1 to 1800. </li> <li>Periodic Selection: Set the <b>Selection Timeout</b>, for example, 600ms, then the DVR selects a face snapshot every 600ms to report. </li> </ul>
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 DVR only captures faces within <b>Min. Face Width</b> and <b>Max Face Width</b> . Range: 20 to 500.

8. Click **Apply**.

#### 5.1.4 Cross Line Detection


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

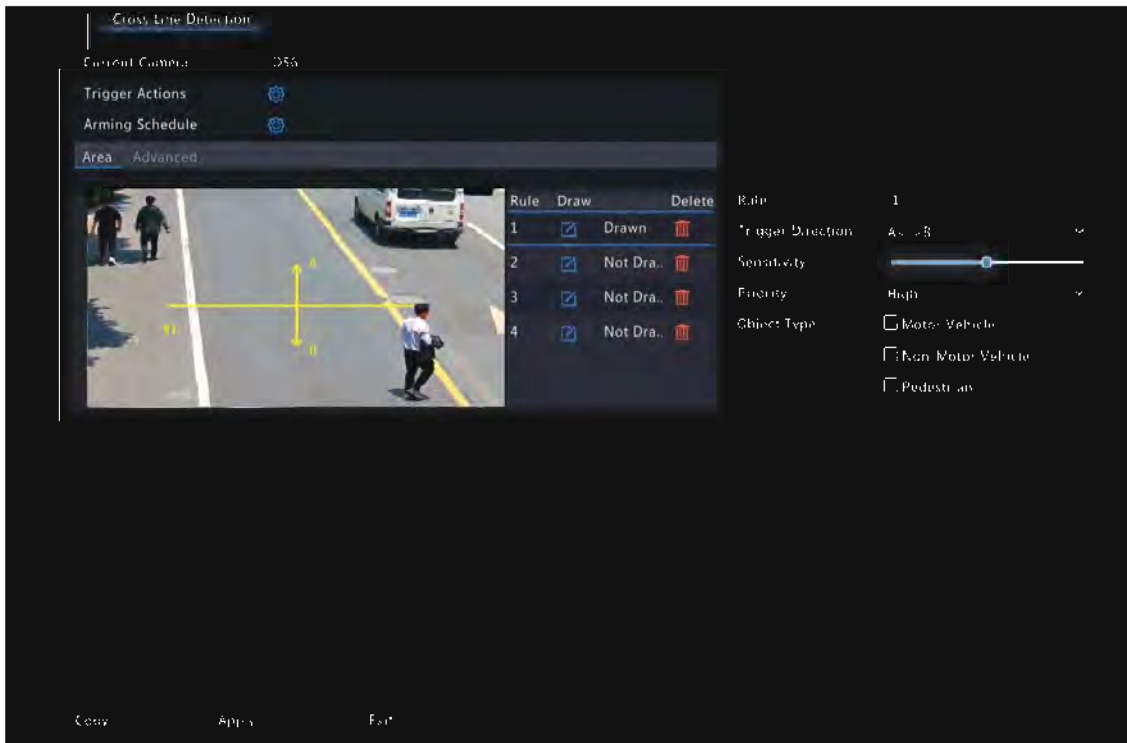


**Note:**

- Before you use camera side analysis, make sure an intelligent server with **Platform Communication Type** set to **LAPI** is enabled on the camera.
- The functions and parameters supported by camera side analysis and DVR side analysis are different.
- To perform this function on the camera side, enable **Intelligent Mark** under **Menu > System > Basic**.

#### 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.

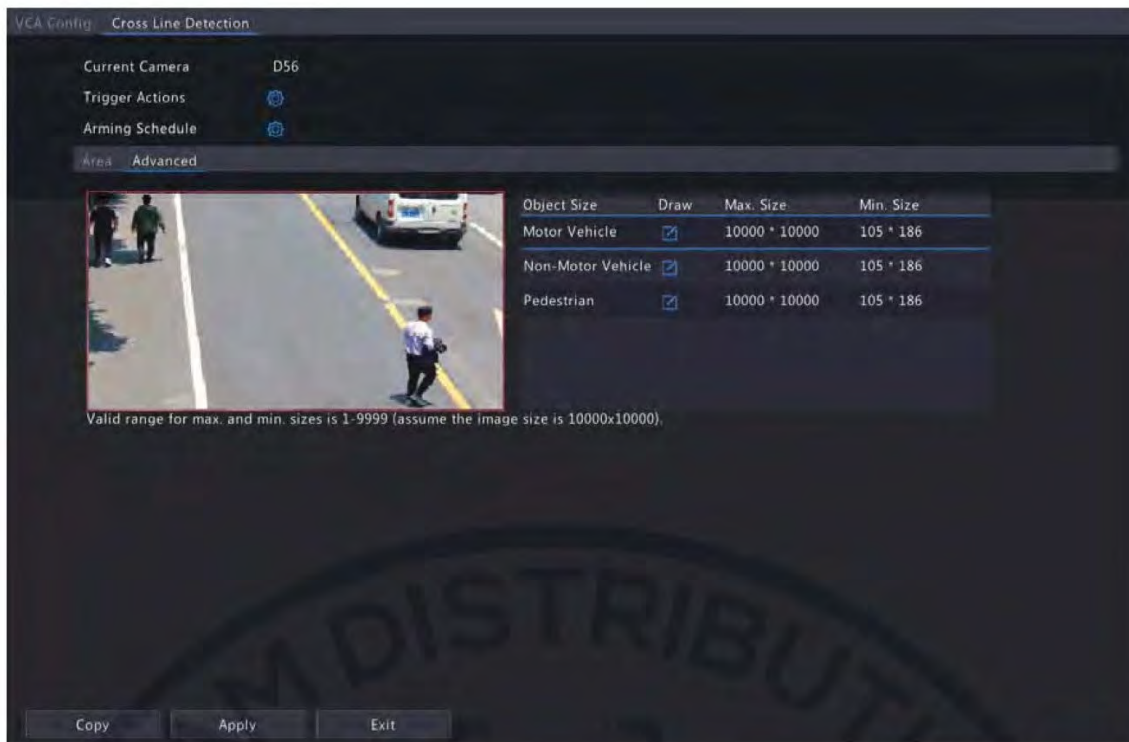


4. Set detection rules. The 4 detection rules shall be set separately. The following takes Rule 1 as an example.

Parameter	Description
Detection Line	Select Rule 1, click <input checked="" type="checkbox"/> , then click on the left image and drag to draw a detection line. The line defaults to A->B direction. You can modify it as needed.
Trigger Direction	Select the direction from which the object crosses the line to trigger an alarm. <ul style="list-style-type: none"> <li>A-&gt;B: A cross line alarm occurs when an object crossing the line from A to B is detected.</li> <li>B-&gt;A: A cross line alarm occurs when an object crossing the line from B to A is detected.</li> <li>A&lt;-&gt;B (default): A cross line alarm occurs when an object crossing the line from A to B or from B to A is detected.</li> </ul>
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 <b>High</b> , <b>Medium</b> , and <b>Low</b> . The DVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the DVR detects the rule with higher priority.
Object Type	Select the object(s) to be detected, including <b>Motor Vehicle</b> , <b>Non-Motor Vehicle</b> , and <b>Pedestrian</b> .

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.





- (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 [Perimeter](#) for details.

## 5.1.5 Intrusion Detection

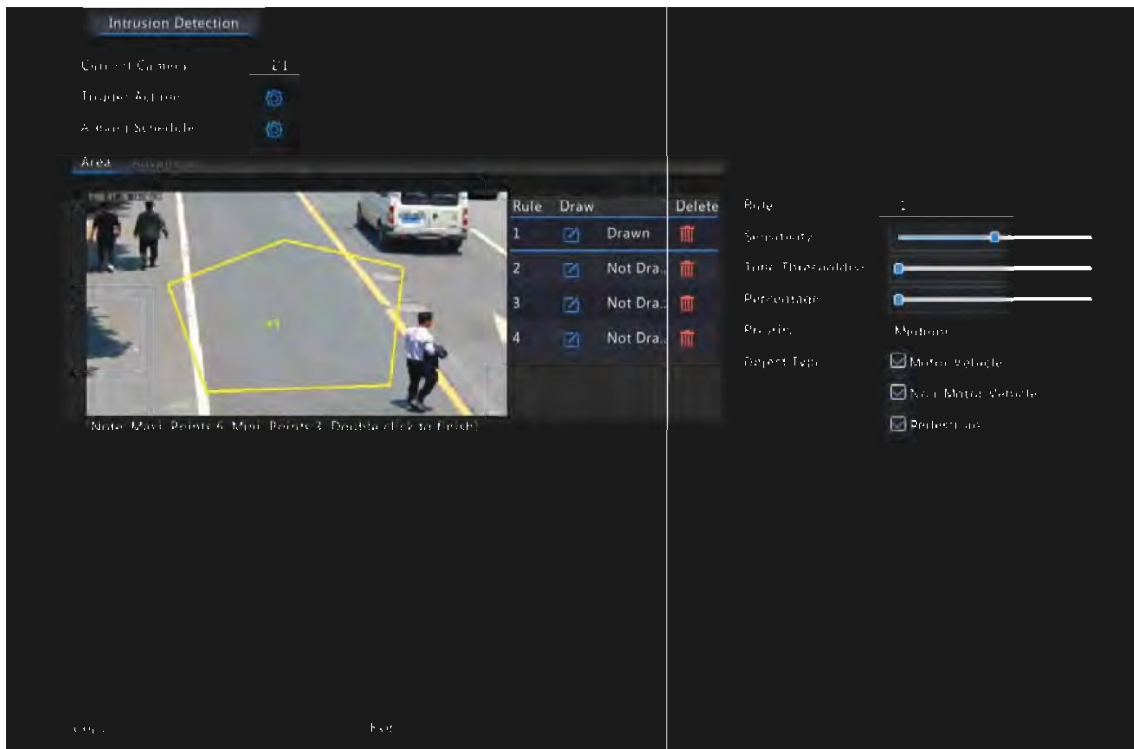
Intrusion detection detects objects entering a user-specified area and staying for a preset time. The DVR takes snapshots and reports an alarm when the detection rule is triggered.

**Note:**





- Before you use camera side analysis, make sure an intelligent server with **Platform Communication Type** set to **LAPI** is enabled on the camera.
- The functions and parameters supported by camera side analysis and DVR side analysis are different.
- To perform this function on the camera side, enable **Intelligent Mark** under **Menu > System > Basic**.

### Configure Intrusion Detection

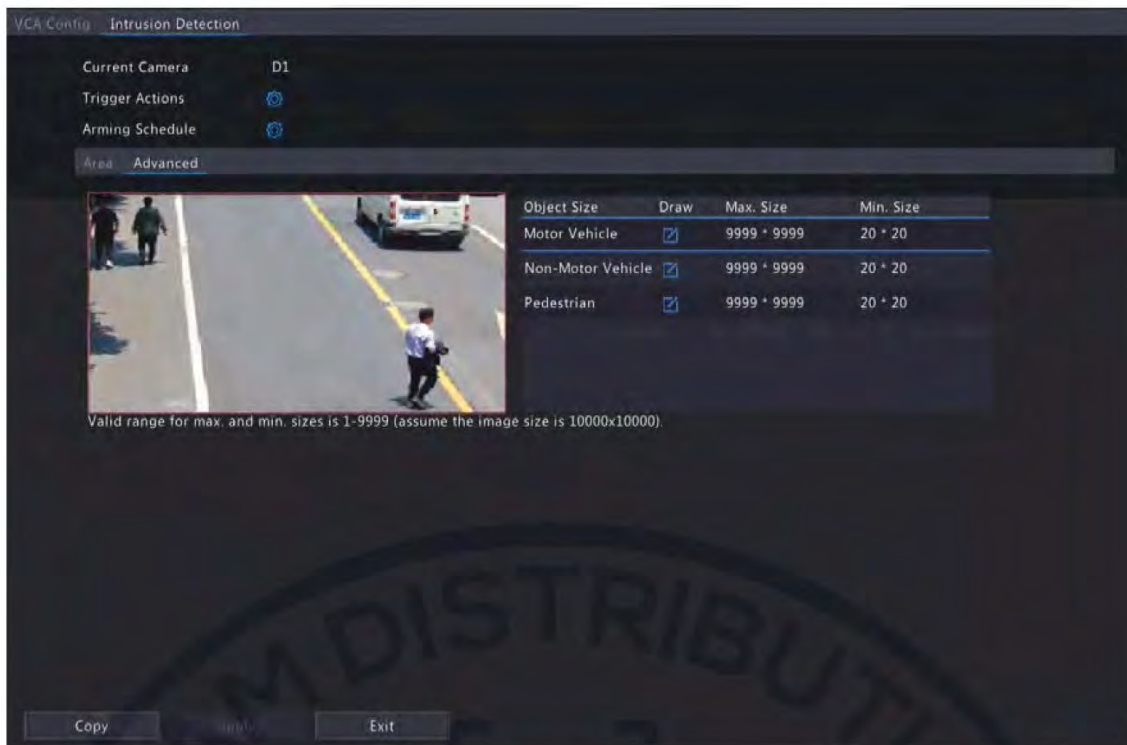
1. Go to **Menu > VCA > VCA Config**.
2. Select a camera.
3. Select **Intrusion Detection** and click to configure it.



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

Parameter	Description
Detection Area	<p>Select Rule 1, click , and then draw a detection area in the left preview window. 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.</p> <p> <b>Note:</b> For a rule in <b>Drawn</b> state, you can click  to redraw a detection area. To delete a detection area, click .</p>
Sensitivity	<p>Set the sensitivity by dragging the slider.</p> <p>The higher the sensitivity, the more likely intrusion behaviors will be detected, but the false alarm rate will increase.</p>
Time Threshold(s)	<p>Set the time threshold by dragging the slider.</p> <p>If an object stays in the detection area for the set time, an intrusion alarm will be triggered.</p>
Percentage	<p>Set the percentage by dragging the slider.</p> <p>If the proportion of the object size to the detection area size reaches the set value, an intrusion alarm will be triggered.</p>
Priority	<p>Select the priority of the detection rule, including <b>High</b>, <b>Medium</b>, and <b>Low</b>.</p> <p>The DVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the DVR detects the rule with higher priority.</p>
Object Type	<p>Select the object(s) to be detected, including <b>Motor Vehicle</b>, <b>Non-Motor Vehicle</b>, and <b>Pedestrian</b>.</p>

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.



- (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 [Perimeter](#) for details.

### 5.1.6 Enter Area Detection

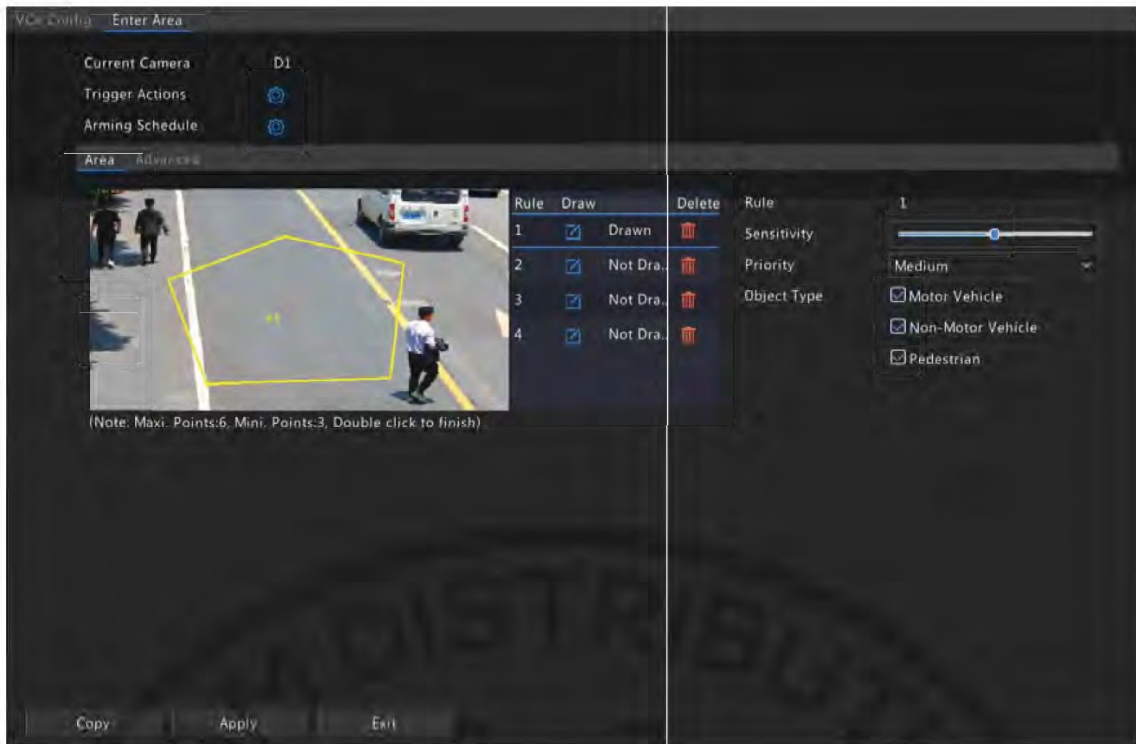
Enter area detection detects objects entering a user-specified area. The DVR takes snapshots and reports an alarm when the detection rule is triggered.

**Note:**





- Before you use camera side analysis, make sure an intelligent server with **Platform Communication Type** set to **LAPI** is enabled on the camera.
- The functions and parameters supported by camera side analysis and NVR side analysis are different.
- To perform this function on the camera side, enable **Intelligent Mark** under **Menu > System > Basic**.

### Configure Enter Area Detection

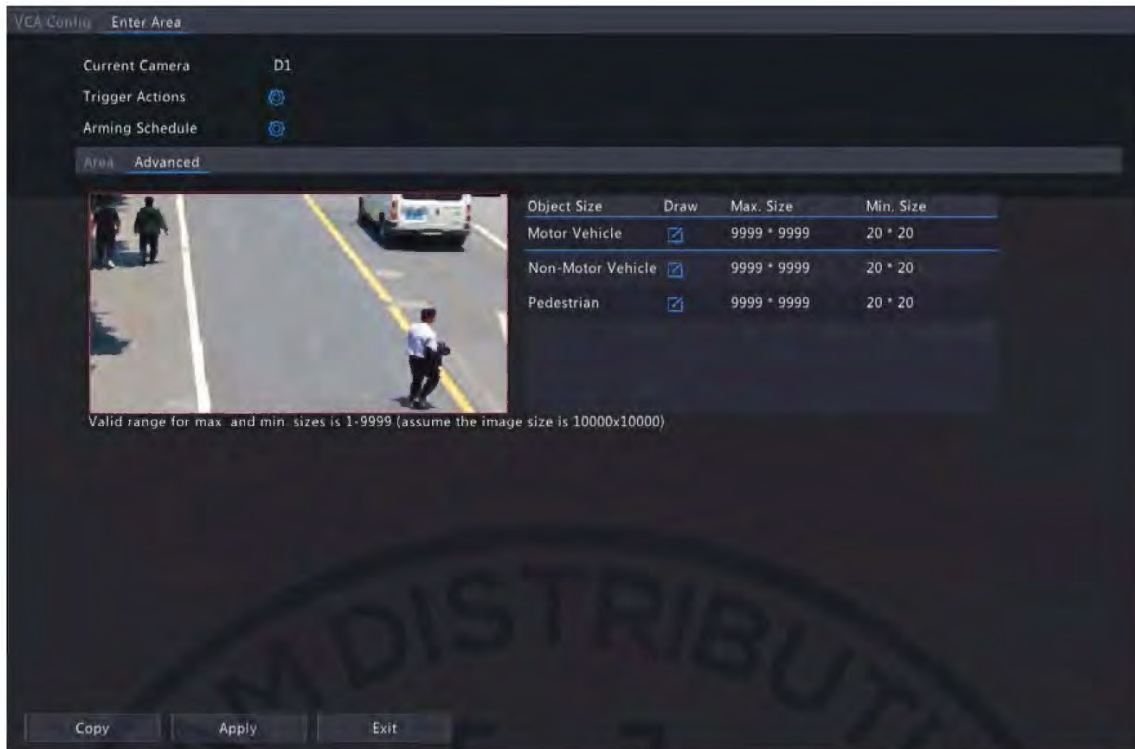
1. Go to **Menu > VCA > VCA Config**.
2. Select a camera.
3. Select **Enter Area** and click to configure it.



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 then draw a detection area in the left preview window. 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.  <b>Note:</b> For a rule in <b>Drawn</b> 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 <b>High</b> , <b>Medium</b> , and <b>Low</b> . The DVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the DVR detects the rule with higher priority.
Object Type	Select the object(s) to be detected, including <b>Motor Vehicle</b> , <b>Non-Motor Vehicle</b> , and <b>Pedestrian</b> .

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.



- (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 [Perimeter](#) for details.

### 5.1.7 Leave Area Detection

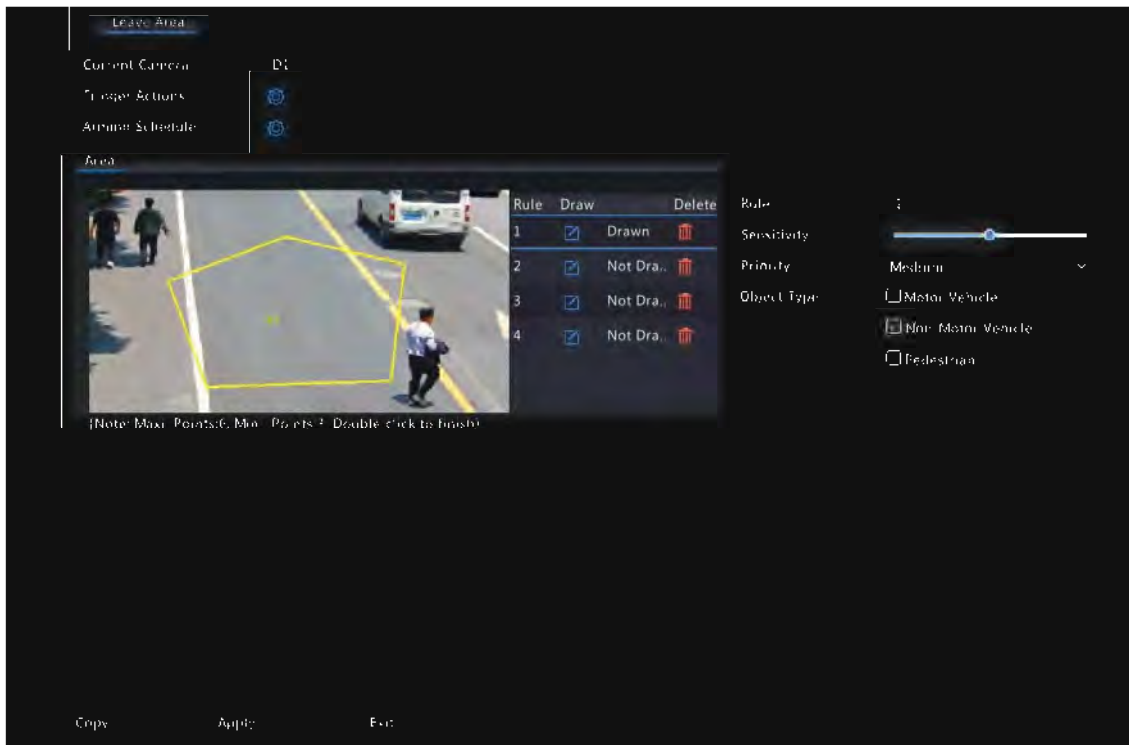
Leave area detection detects objects leaving a user-specified area. The DVR takes snapshots and reports an alarm when the detection rule is triggered.

**Note:**





- Before you use camera side analysis, make sure an intelligent server with **Platform Communication Type** set to **LAPI** is enabled on the camera.
- The functions and parameters supported by camera side analysis and NVR side analysis are different.
- To perform this function on the camera side, enable **Intelligent Mark** under **Menu > System > Basic**.

### Configure Leave Area Detection

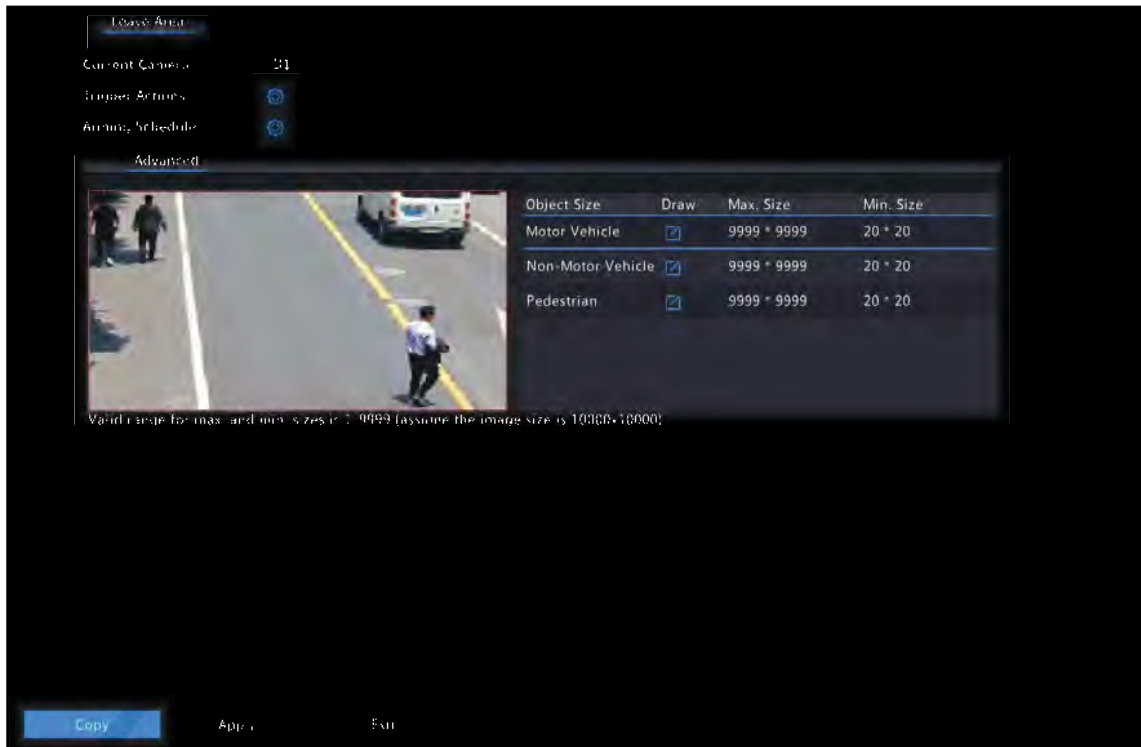
1. Go to **Menu > VCA > VCA Config**.
2. Select a camera.
3. Select **Leave Area** and click to configure it.



- 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 then draw a detection area in the left preview window. 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.  <b>Note:</b> For a rule in <b>Drawn</b> 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 <b>High</b> , <b>Medium</b> , and <b>Low</b> . The DVR detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the DVR detects the rule with higher priority.
Object Type	Select the object(s) to be detected, including <b>Motor Vehicle</b> , <b>Non-Motor Vehicle</b> , and <b>Pedestrian</b> .

- 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.



- (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**.

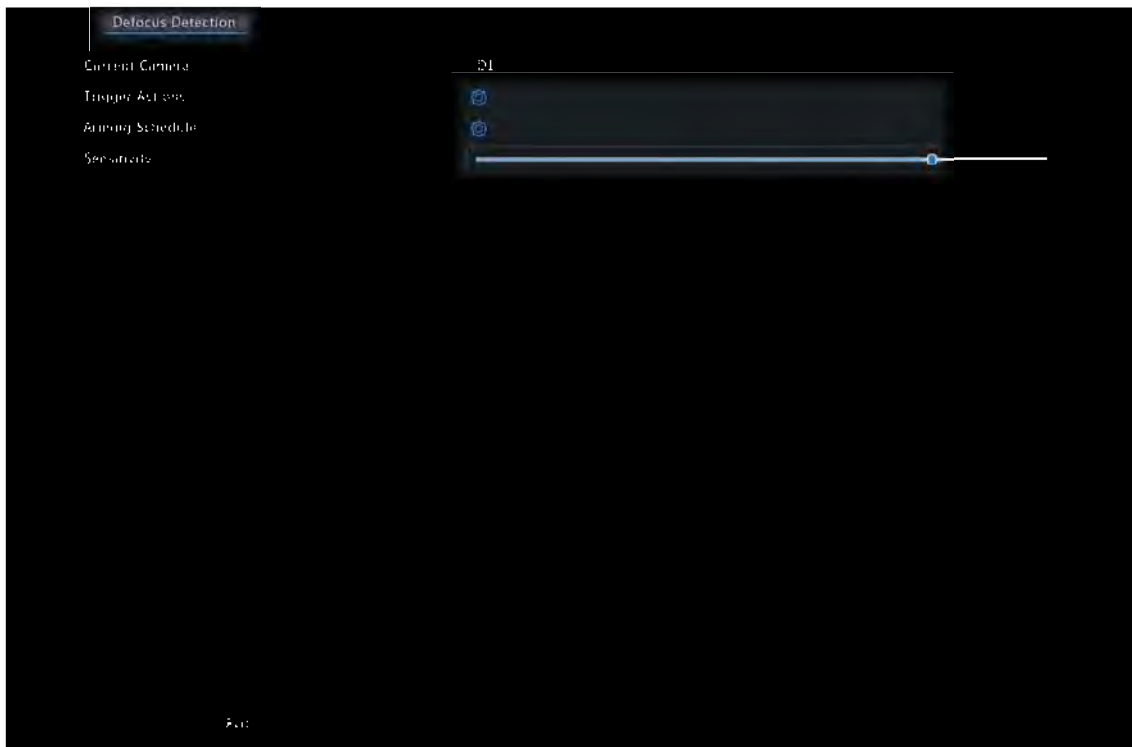
### View Real-time Snapshots

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 [Perimeter](#) for details.

### 5.1.8 Defocus Detection

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


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



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**.

### 5.1.9 Scene Change Detection

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

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




4. Set the alarm-triggered actions and arming schedule. See [Alarm-triggered Actions](#) and [Arming Schedule](#) for details.

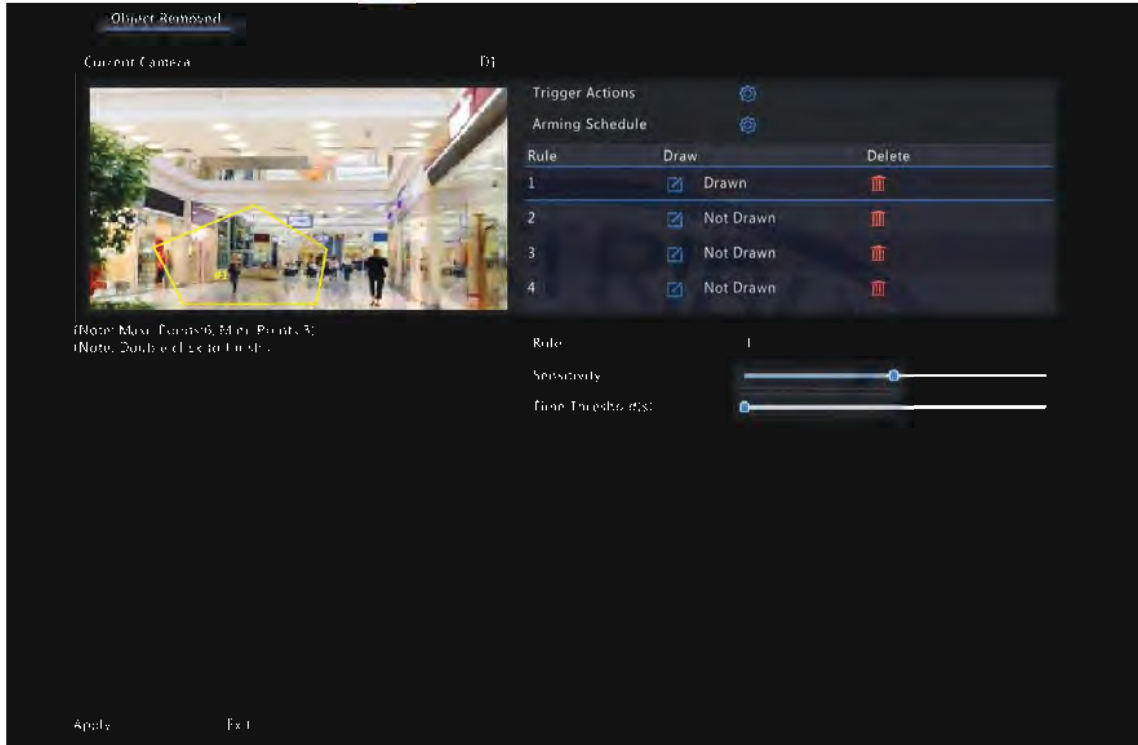


- Set the sensitivity by dragging the slider. The higher the sensitivity, the more likely scene change behaviors will be detected, but the false alarm rate will increase.
- Click **Apply**.




### 5.1.10 Object Removed Detection

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

- Go to **Menu > VCA > VCA Config**.
- Select a camera.
- Select **Object Removed** and click  to configure it.



- 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 then draw a detection area in the left preview window. 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. <b>Note:</b> For a rule in <b>Drawn</b> 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.

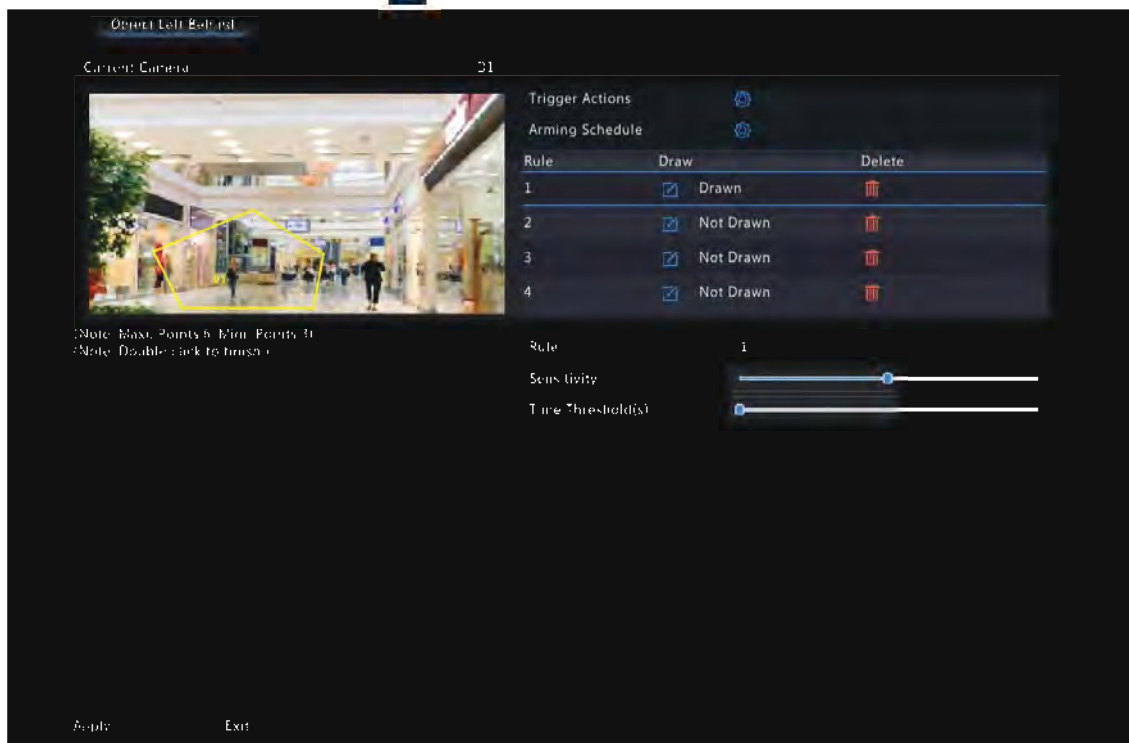
- Set the alarm-triggered actions and arming schedule. See [Alarm-triggered Actions](#) and [Arming Schedule](#) for details.
- Click **Apply**.

### 5.1.11 Object Left Behind Detection





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

- Go to **Menu > VCA > VCA Config**.
- Select a camera.

3. Select **Object Left Behind** and click  to configure it.




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

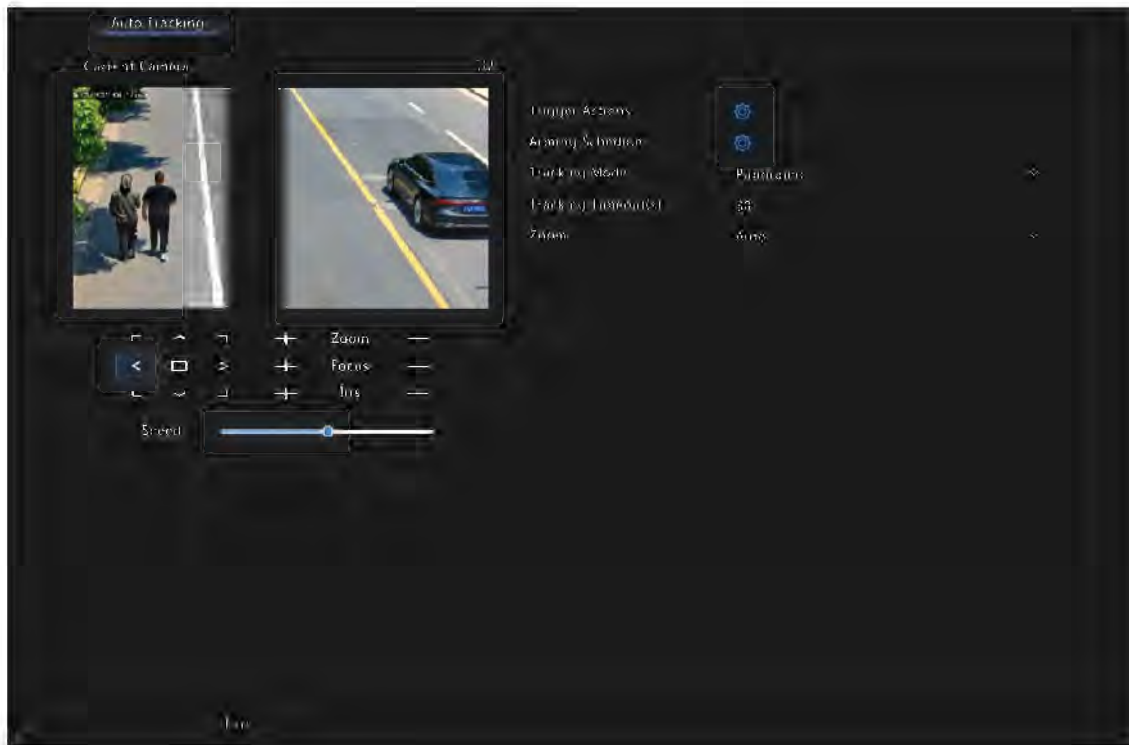
Parameter	Description
Detection Area	Select Rule 1, click  , and then draw a detection area in the left preview window. Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 6 lines are allowed.   <b>Note:</b> For a rule in <b>Drawn</b> 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**.


### 5.1.12 Auto Tracking

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

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



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: <b>Auto</b> or <b>Current Zoom</b> . The default is <b>Auto</b> . <ul style="list-style-type: none"> <li>• Auto: Automatically adjusts the zoom ratio according to the tracking distance, focusing more on the object behavior.</li> <li>• Current Zoom: Keeps the zoom ratio when the object is tracked, focusing more on the whole monitoring scene.</li> </ul>

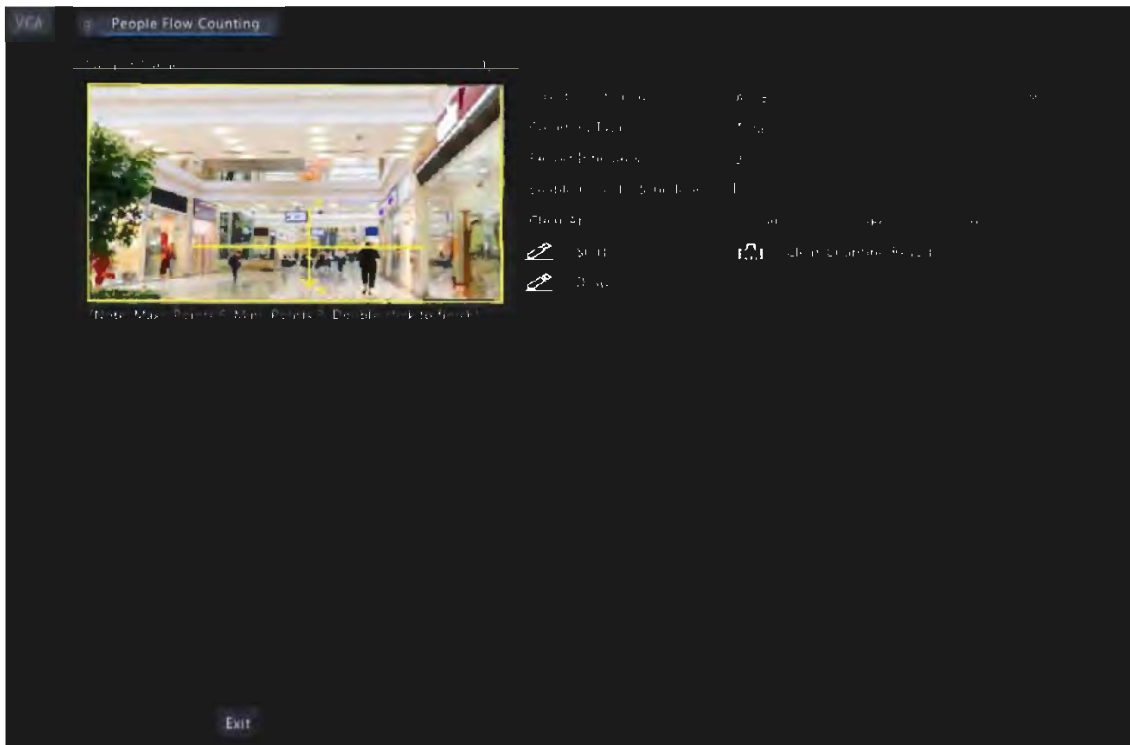
5. Set the alarm-triggered actions and arming schedule. See [Alarm-triggered Actions](#) and [Arming Schedule](#) for details.
6. Click **Apply**.

### 5.1.13 People Flow Counting




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


#### 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.



4. Set the people flow counting rule.

Parameter	Description
Draw Area	Click  and draw a detection area in the left preview window. 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.
Draw Tripwire	Click  and draw a tripwire in the left preview window. Only 1 tripwire is allowed.
Direction of arrow	Set the entry direction. <ul style="list-style-type: none"> <li>A- &gt;B: A to B is entry, B to A is exit.</li> <li>B- &gt;A: B to A is entry, A to B is exit.</li> </ul>
Counting Type	Select the counting type: <b>Total</b> , <b>People Entered</b> , or <b>People Exited</b> . <b>Total</b> is the default counting type. <ul style="list-style-type: none"> <li><b>Total</b>: Displays the number of people entering and leaving the detection area.</li> <li><b>People Entered</b>: 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.</li> <li><b>People Exited</b>: 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.</li> </ul> <p> <b>Note:</b></p> <ul style="list-style-type: none"> <li>Before use, you need to enable people counting OSD under <b>Menu &gt; Camera &gt; OSD</b>.</li> <li>People that loiter in the detection area, cross the tripwire only, or cross the detection area only are not counted.</li> </ul>
Report Interval(s)	Set the time interval for reporting people flow statistics. Default: 60. Range: 1 to 60. The DVR 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 <b>Enable Clear by Schedule</b> check box and set the time to clear people counting statistics.

Parameter	Description
Clear At	The clearing time defaults to 00:00:00. You can modify it as needed. The DVR 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.

- 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.
- 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.

## 5.2 VCA Search

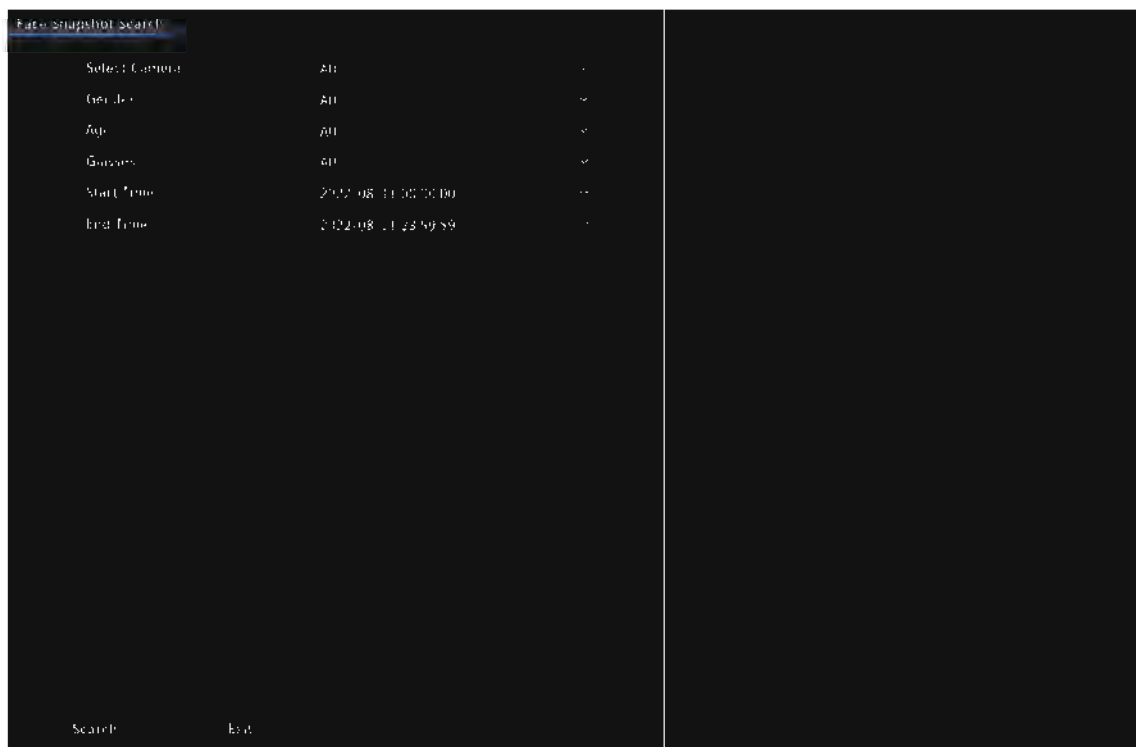
Search for face snapshots, VCA event snapshots and people counting statistics.

### 5.2.1 Face Snapshot Search

Search for face snapshots.


#### Search Face Snapshots


- Go to **Menu > VCA > VCA Search > Face Snapshot Search**.




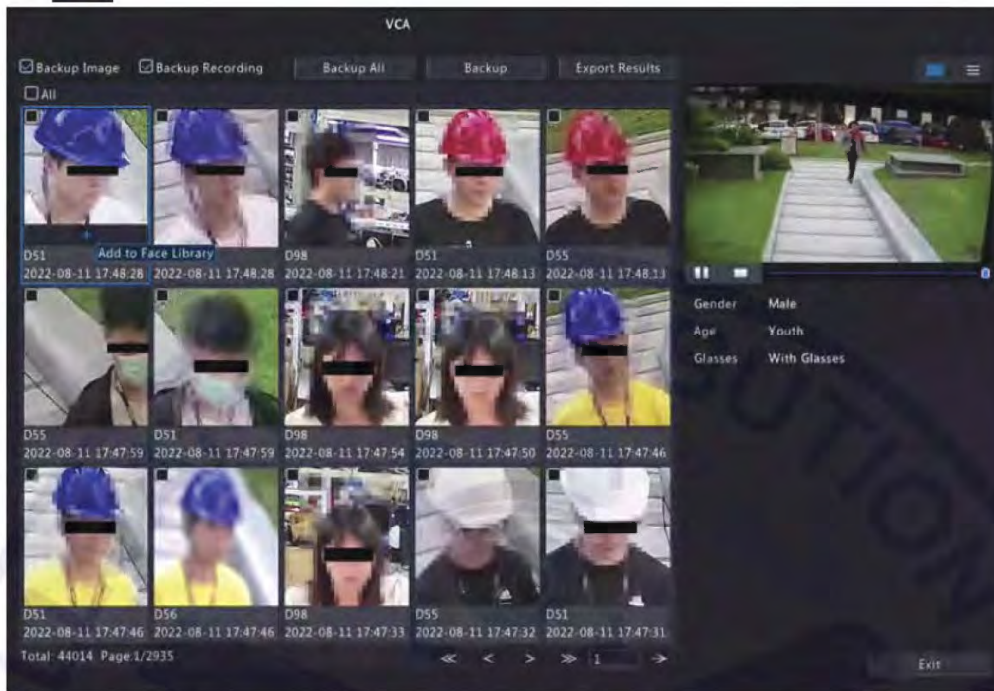
- Set search conditions.


Parameter	Description
Select Camera	Select the camera(s) to search.
Gender	Select the gender: <b>All</b> , <b>Male</b> or <b>Female</b> .
Age	Select the age: <b>All</b> , <b>Childhood</b> , <b>Teenager</b> , <b>Youth</b> , <b>Middle Age</b> , or <b>Senior</b> .
Glasses	Select the glasses status: <b>All</b> , <b>No Glasses</b> , or <b>With Glasses</b> .
Start/End Time	Specify the time period to search for face snapshots.

Parameter	Description
	 <b>Note:</b> 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.

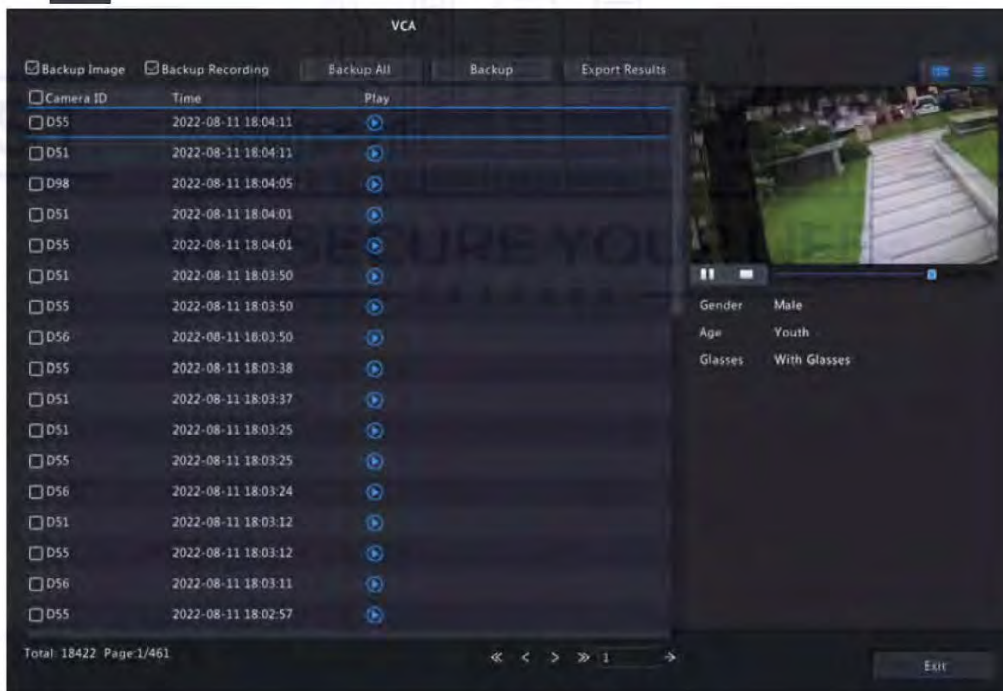
• Tile :





 **Note:**

- By default, a 10s video (5s before and 5s after the first image) and the detailed information about the first image are displayed on the right.
- You can click any image to view the 10s video and detailed information about it.

• List :



- By default, a 10s video (5s before and 5s after the first item) and the detailed information about the first item are displayed on the right.
- You can click any item and click  or  to view the 10s video and detailed information about it.

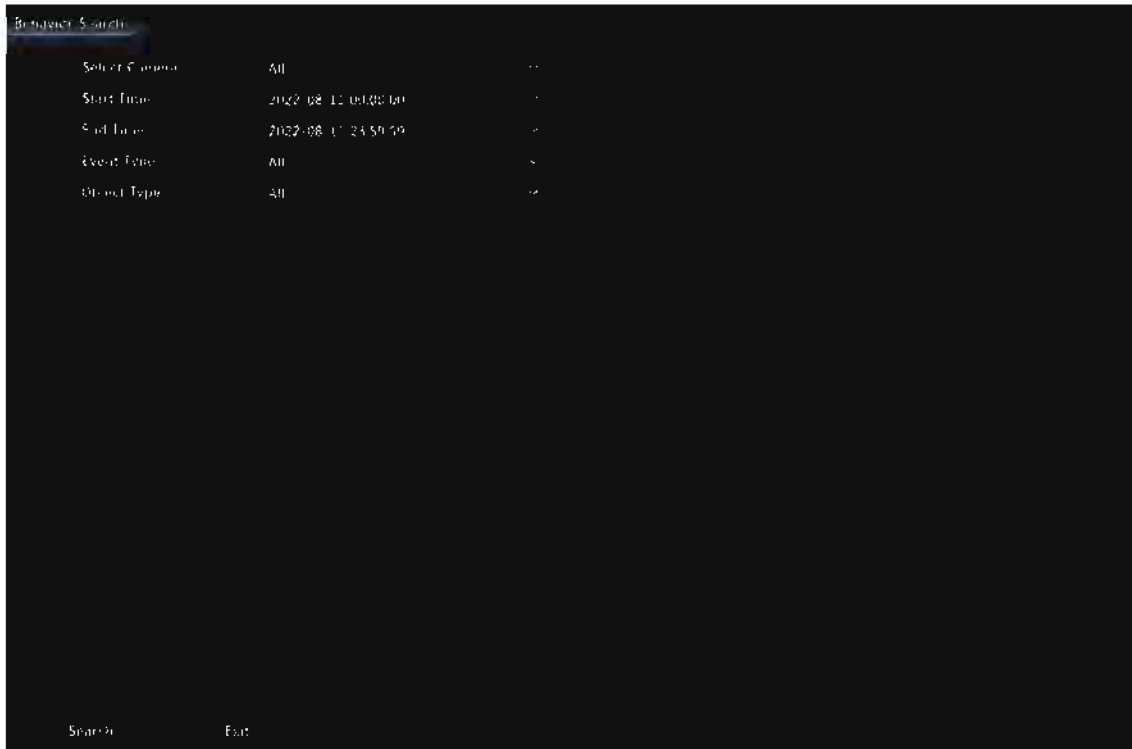
## Other Operations

Operation	Description
Backup/Backup All	<ol style="list-style-type: none"> <li>1. Enable <b>Backup Image</b> or/and <b>Backup Recording</b> as needed. By default, they are both enabled. <ul style="list-style-type: none"> <li>• Backup Image: Back up the selected image(s) to an external device.</li> <li>• Backup Recording: Back up the 10s video of the selected image(s) to an external device.</li> </ul> </li> <li>2. Select <b>Backup</b> or <b>Backup All</b>. <ul style="list-style-type: none"> <li>• Backup: Back up specified search results. Select the search result(s) you want to back up and click <b>Backup</b>.</li> <li>• Backup All: Back up all search results. Click <b>Backup All</b>.</li> </ul> </li> </ol>
Export Results	<ol style="list-style-type: none"> <li>1. Enable <b>Backup Image</b> or/and <b>Backup Recording</b> as needed, and click <b>Export Results</b>.</li> <li>2. Select the export partition and click <b>Export Results</b> to export the search results to an external storage device.</li> </ol>


### 5.2.2 Behavior Search


Search for images based on VCA behaviors including cross line detection, enter area detection, leave area detection, smart motion detection, etc. Behaviors supported for search may vary with DVR model.

1. Go to **Menu > VCA > VCA Search > Behavior Search**.




2. Set search conditions.

Parameter	Description
Select Camera	Select the camera(s) to search.
Start/End Time	Specify the time period to search.  <b>Note:</b> 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 the event type to search.
Object Type	Select the object type to search: <b>All, Pedestrian, Non-Motor Vehicle, or Motor Vehicle.</b>


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

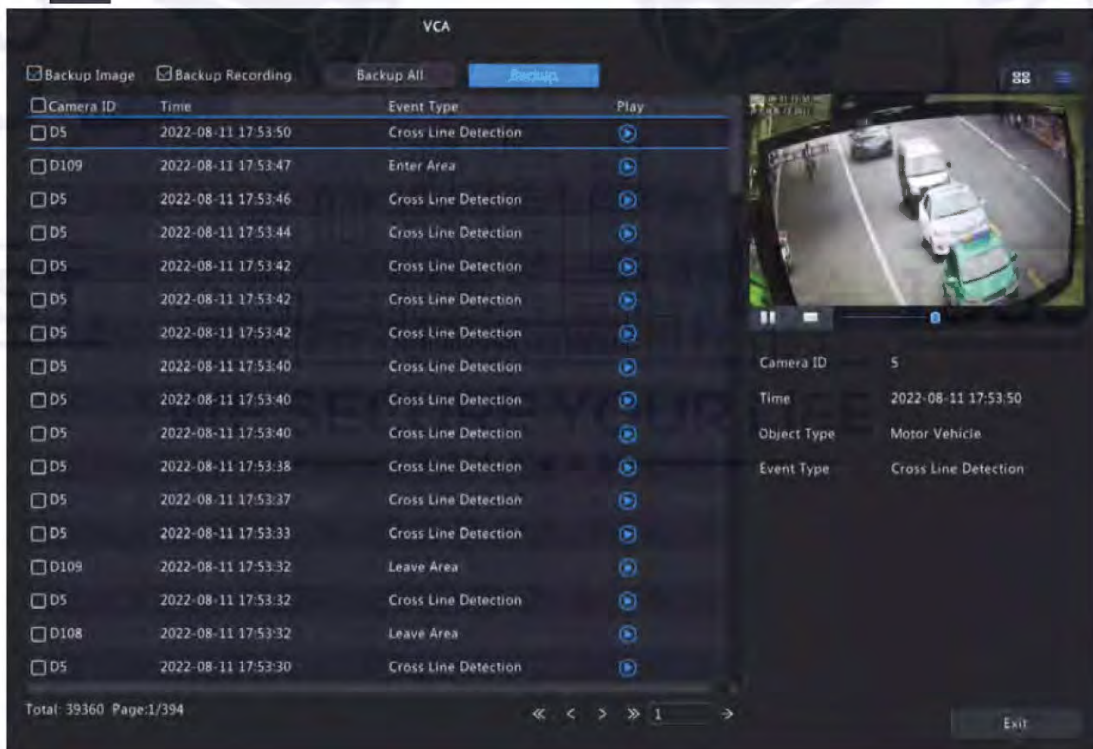
- Tile  :






 **Note:**

- By default, a 10s video (5s before and 5s after the first image) and the detailed information about the first image are displayed on the right.
- You can click any image to view the 10s video and detailed information about it.

- List  :



 **Note:**

- By default, a 10s video (5s before and 5s after the first item) and the detailed information about the first item are displayed on the right.
- You can click any item and click  or  to view the 10s video and detailed information about it.

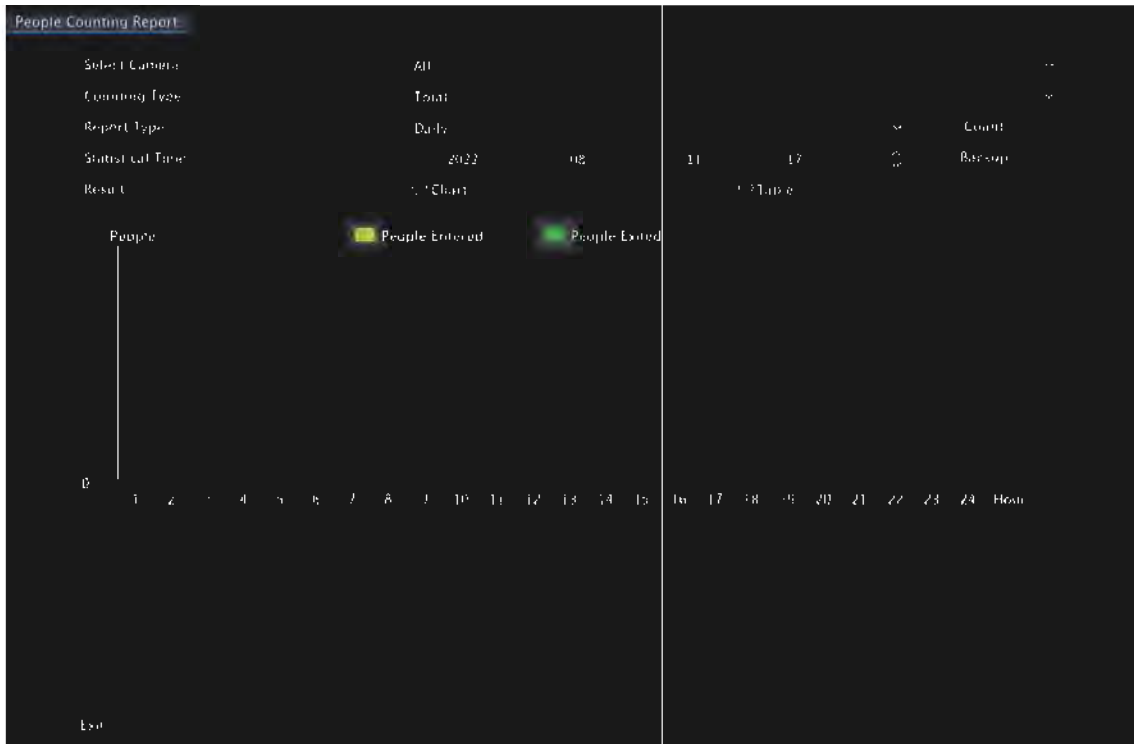
4. Back up search results. See [Back up search results](#) for details.



### 5.2.3 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 during a specified time period.

- Go to **Menu > VCA > VCA Search > People Counting Report**.

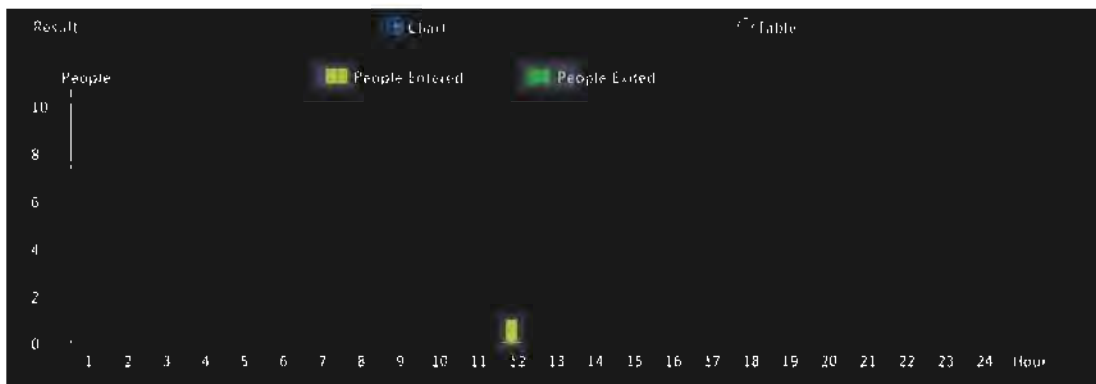


- Set search conditions.

Parameter	Description
Select Camera	Select the camera(s) to search.
Counting Type	Select the counting type to search: <b>Total, People Entered, or People Exited.</b>
Report Type	Select the report type to view: <b>Hourly, Daily, Weekly, Monthly, or Yearly.</b>
Statistical Time	Select the time to count.

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

- Chart



- Table

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







- 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.


### 5.3 Smart Preview

View real-time snapshots and statistics of four major categories of VCA functions on the live view page, including vehicle, face, perimeter and people counting.

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


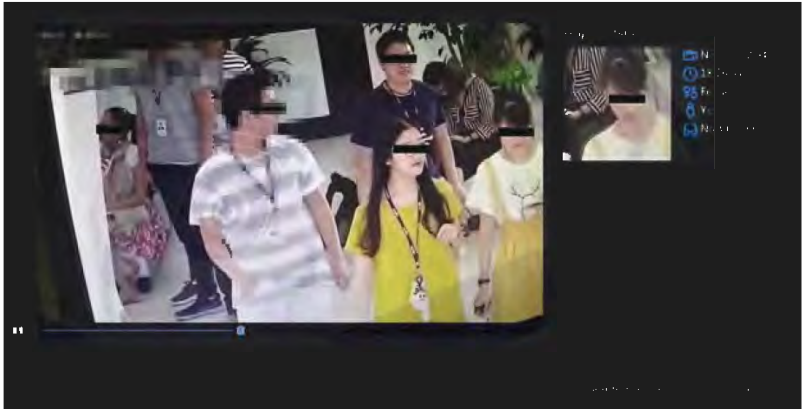
#### Main Interface

Icon	Description
	Select the event type(s) for which you want to view real-time snapshots. 
	Set the display mode of snapshot information for face recognition, vehicle recognition and perimeter protection. 
	Open the <b>Behavior Search</b> page.
	Open the <b>VCA Config</b> page.



Icon	Description
	Clear real-time snapshots displayed on the live view page. Search records and statistics are not affected.

## Face

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

Type	Description
Not Match Face Info	<ol style="list-style-type: none"> <li>1. Select a mismatched face snapshot.</li> </ol>  <ol style="list-style-type: none"> <li>2. Click on the snapshot to view more details.</li> </ol> 
Face Snapshot Info	<ol style="list-style-type: none"> <li>1. Select a face snapshot.</li> <li>2. Click on the snapshot to view more details.</li> </ol>
Match Face Info	<ol style="list-style-type: none"> <li>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.</li> <li>2. Click on the snapshot to view more details.</li> </ol>

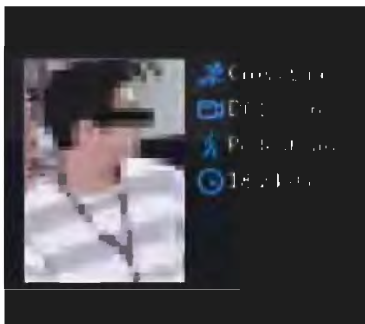
### Note:

- In the **View Details** dialog box, a 10s video (5s before and 5s after the snapshot) 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.

## Perimeter

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

1. Select a snapshot.



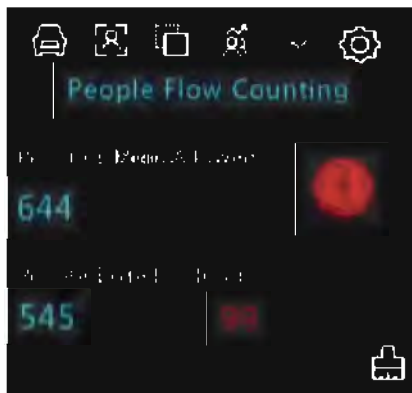
- Click on the snapshot to view more details.




In the **View Details** dialog box, a 10s video (5s before and 5s after the snapshot) 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.



### People Flow Counting


View real-time people flow statistics including the number of people entering/leaving/currently allowed/present.



- : The number of people present in the detection area does not exceed the set threshold. : The number of people present in the detection area exceeds the set threshold.
- : Clear the people counting statistics on the current page. This operation does not affect statistics and data reporting.

## 6 Network Configuration

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

 **Note:** The default IP address of network interface 1 is 192.168.1.30, and that of network interface 2 is 192.168.2.30.

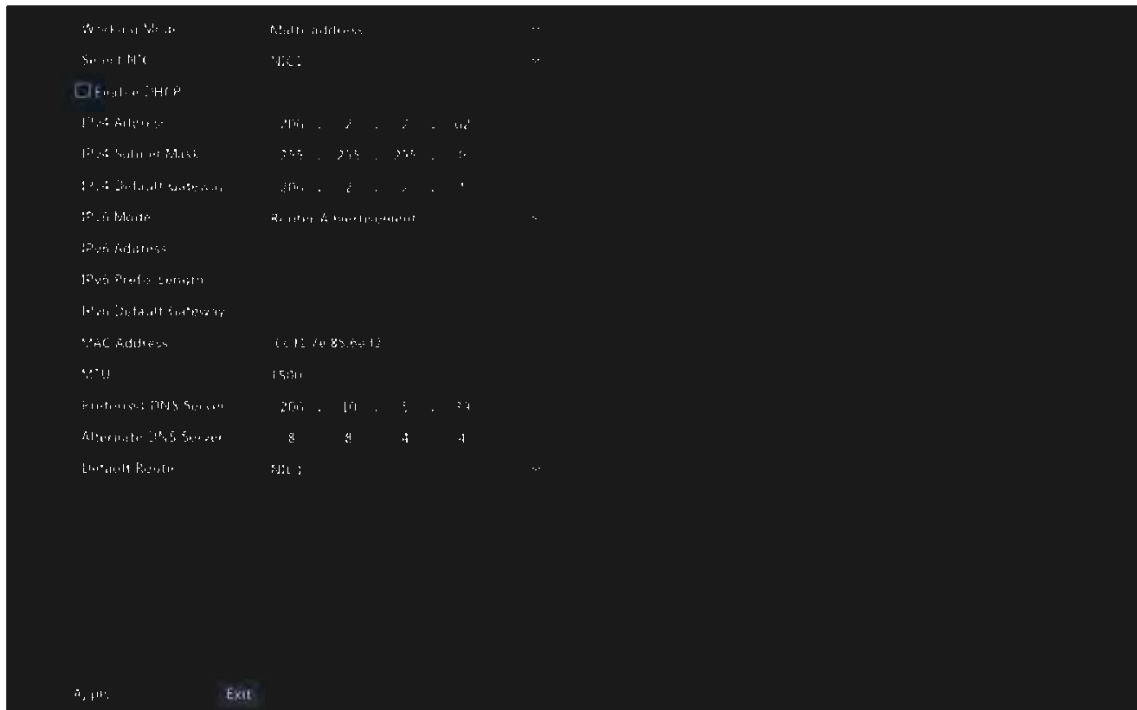
### 6.1 Basic Configuration

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

#### 6.1.1 Network Configuration

Configure IP address and other network parameters of the DVR.

- Go to **Menu > Network > Basic > Network**.



2. Choose a working mode. Only multi-NIC DVRs support these three working modes.

Working Mode	Description
Multi-address	Two NICs work independently. You need to configure the NICs separately.
Load Balance	Two NICs use the same IP address and work together to share the sending and receiving bandwidth.
Net Fault-tolerance	Two NICs use the same IP address, and if the primary NIC fails, the standby NIC takes over seamlessly to ensure uninterrupted network connection.

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



**Note:**

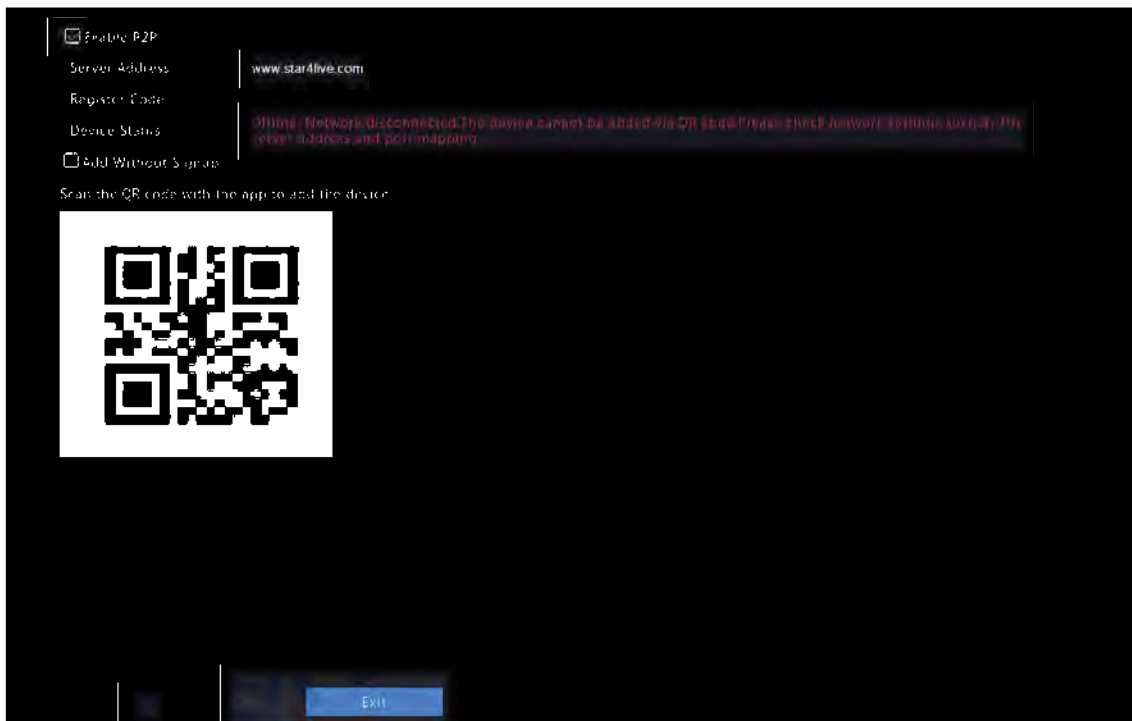
- For a multi-NIC DVR, you can choose an NIC as the default route. When the DVR connects to an external network, data will be forwarded via the default route.
- For a DVR with PoE ports, you can configure an IPv4 address for the internal NIC.
- The MTU must be in the range of [576-1500]. To use IPv6, you must set MTU within [1280-1500], and make sure the IPv6 addresses of the DVR and PC are connected. To use functions such as live view, playback, make sure IPv4 addresses of the DVR and PC are also connected.


4. Click **Apply**.

### 6.1.2 P2P

With P2P you can manage and operate the DVR remotely on a mobile phone.


1. Go to **Menu > Network > Basic > P2P**. P2P is enabled by default.



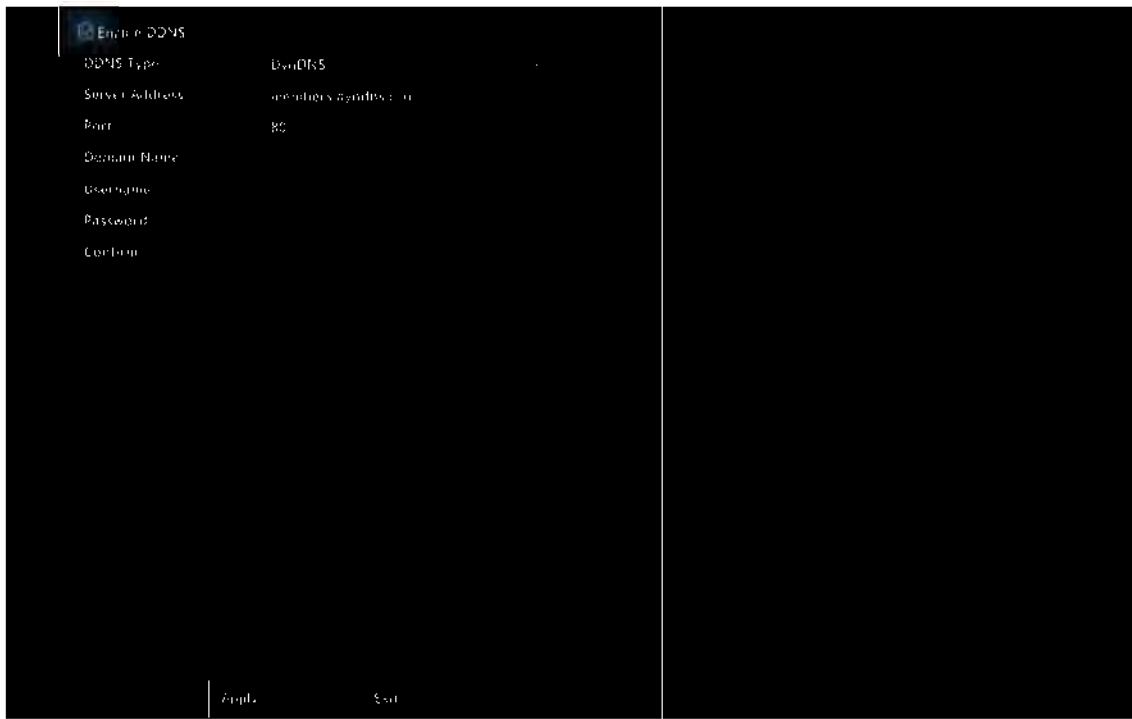
2. Choose a way to add the DVR to cloud:
  - App: Download and install the Guard Viewer app, and then scan the QR code using the app to add the DVR.
  - Website: Go to [star4live.com](http://star4live.com) and follow instructions to add the DVR.
3. Click **Apply**.
4. Check the device status. If online, the current username will be displayed. If offline, the common cause will be displayed, and troubleshoot accordingly.  
 **Note:** You may also check the device status on the cloud website ([star4live.com](http://star4live.com)).
5. (Optional) To delete the DVR from cloud, click **Delete**.

### 6.1.3 DDNS

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

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

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



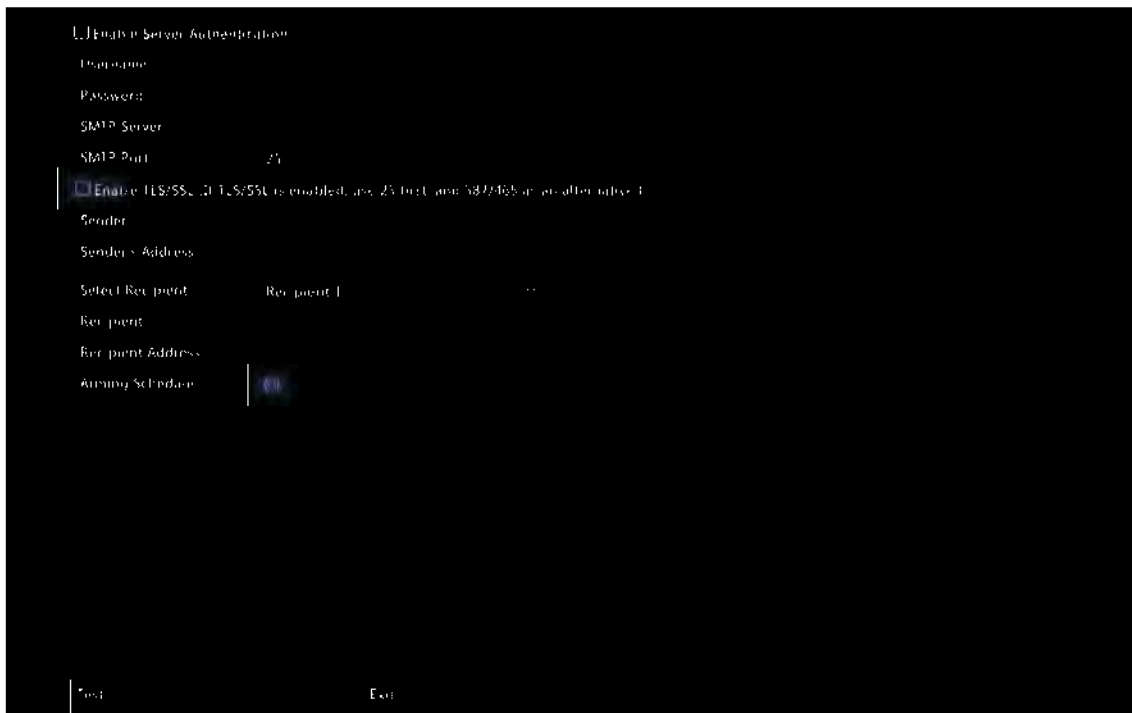
2. Select **Enable DDNS**, choose a DDNS type, and configure the parameters.
  - DynDNS/No-IP: Third-party DDNS service provider. Enter the domain name and username/password that you acquired from your DDNS service provider.
    - Domain name: Domain name assigned by your DDNS service provider.
    - Username and password: The corresponding username/password for your DDNS account.
  - MyDDNS: Enter a domain name, and then click **Test** to check its validity.
3. Click **Apply**.

#### 6.1.4 Email



Configure email so the DVR 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.

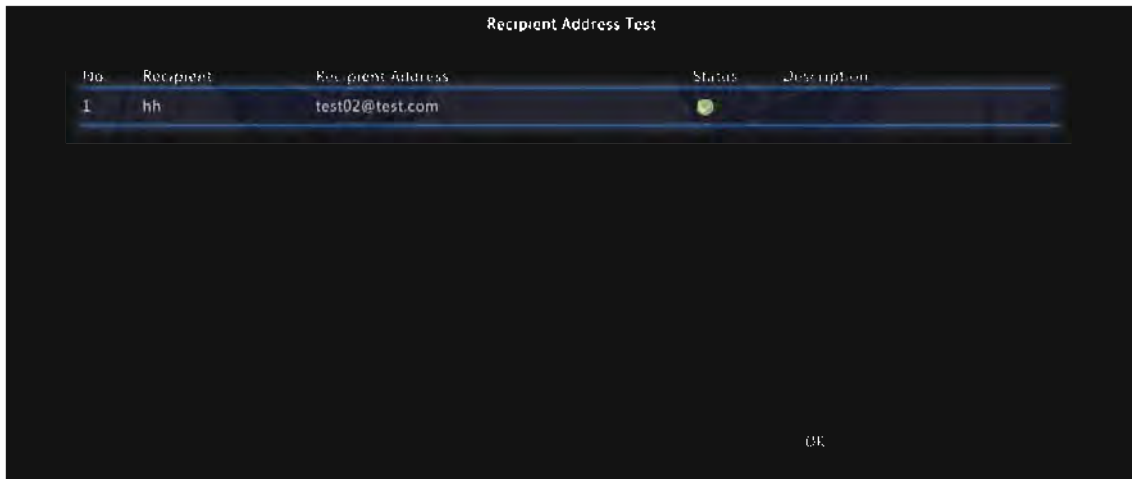
1. Go to **Menu > Network > Basic > Email**.



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.  <b>Note:</b> 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 be 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.
Recipient	Recipient's name.
Recipient Address	Recipient's email address.
Arming Schedule	Click  to configure an arming schedule. See <a href="#">Arming Schedule</a> .

- 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.



- Click **Apply**.

## 6.2 Platform Configuration

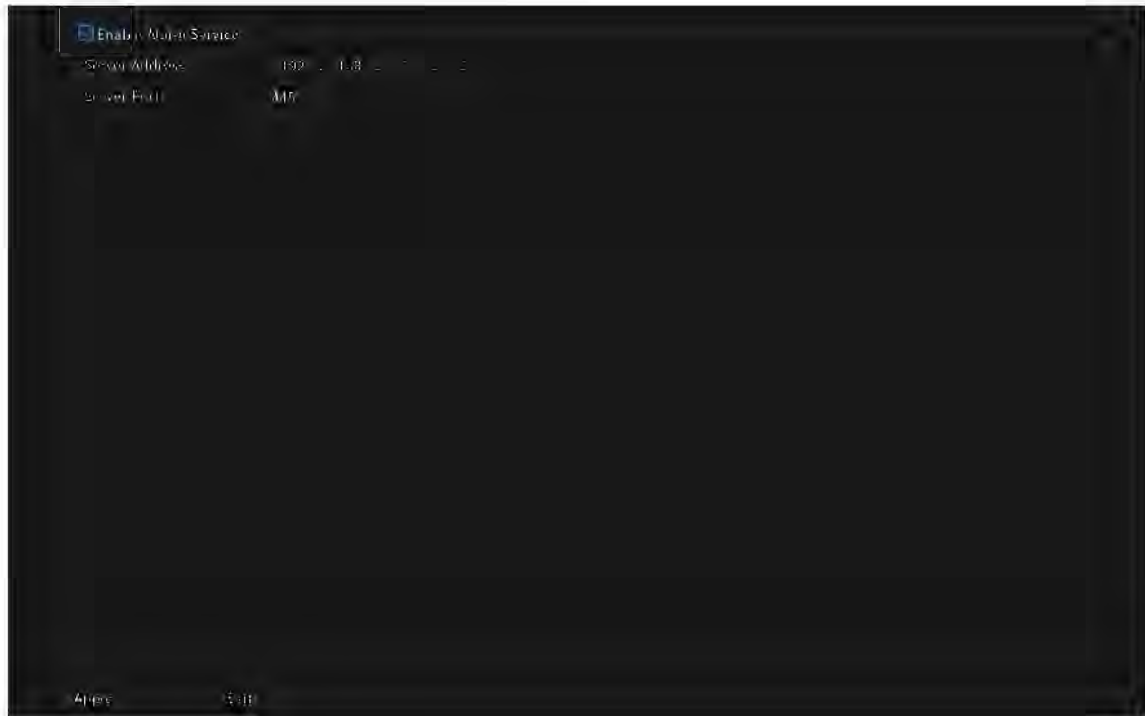
Configure an upper platform for the DVR.

### 6.2.1 Alarm Service

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


- Go to **Menu > Network > Platform > Alarm Service**.





2. Select **Enable Alarm Service**.
3. Configure the parameters.

Parameter	Description
Server Address	Upper server's IP address.
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**.

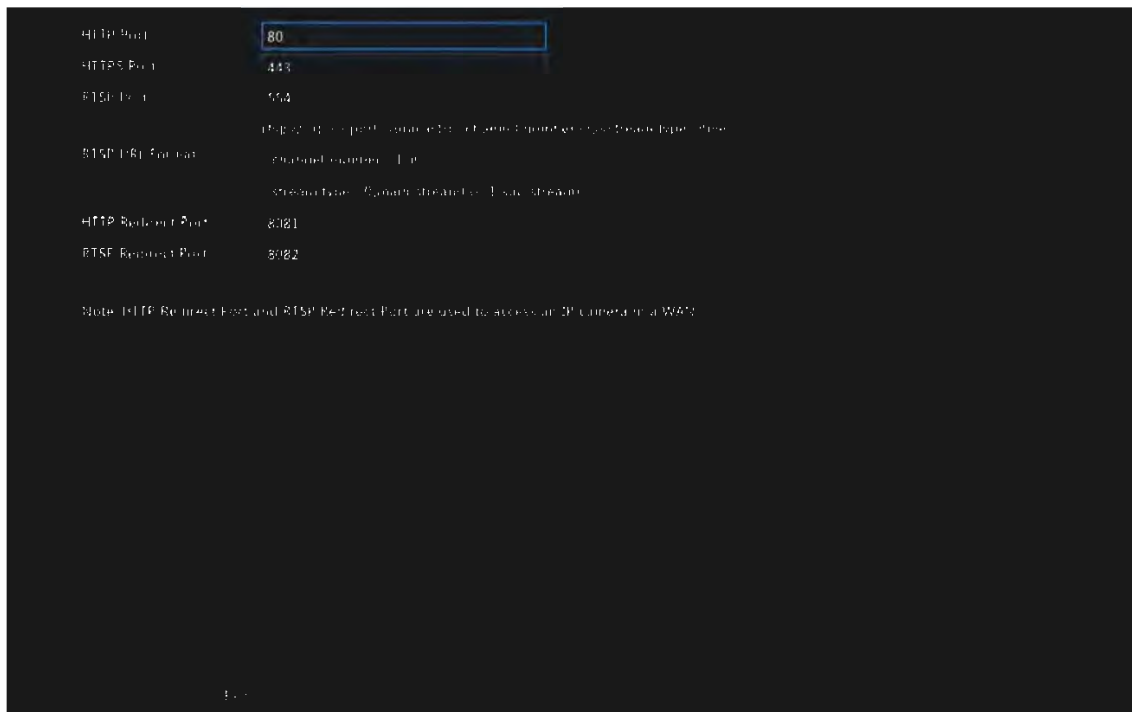
## 6.3 Advanced Configuration

Configure ports, port mapping, and multicast.

### 6.3.1 Port

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

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



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**.

### 6.3.2 Port Mapping

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

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

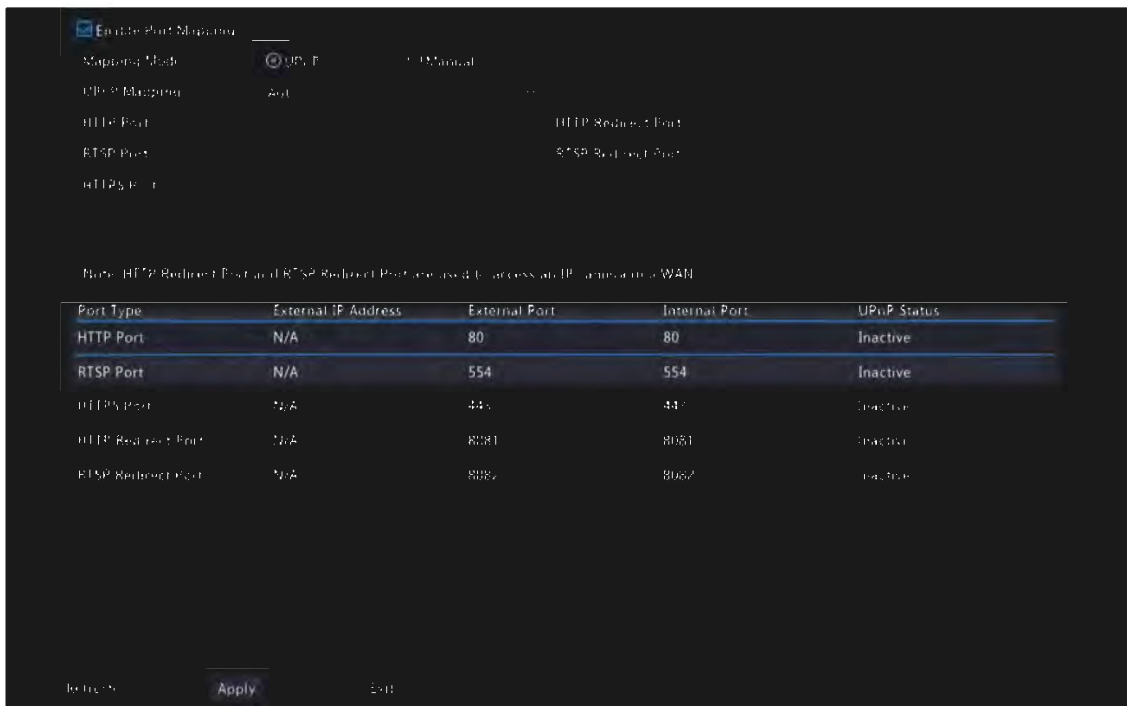
#### UPnP

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 DVR 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 DVR.

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



2. Choose a mode from the **UPnP Mapping** list:

- Auto: The DVR 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 DVR, 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**.

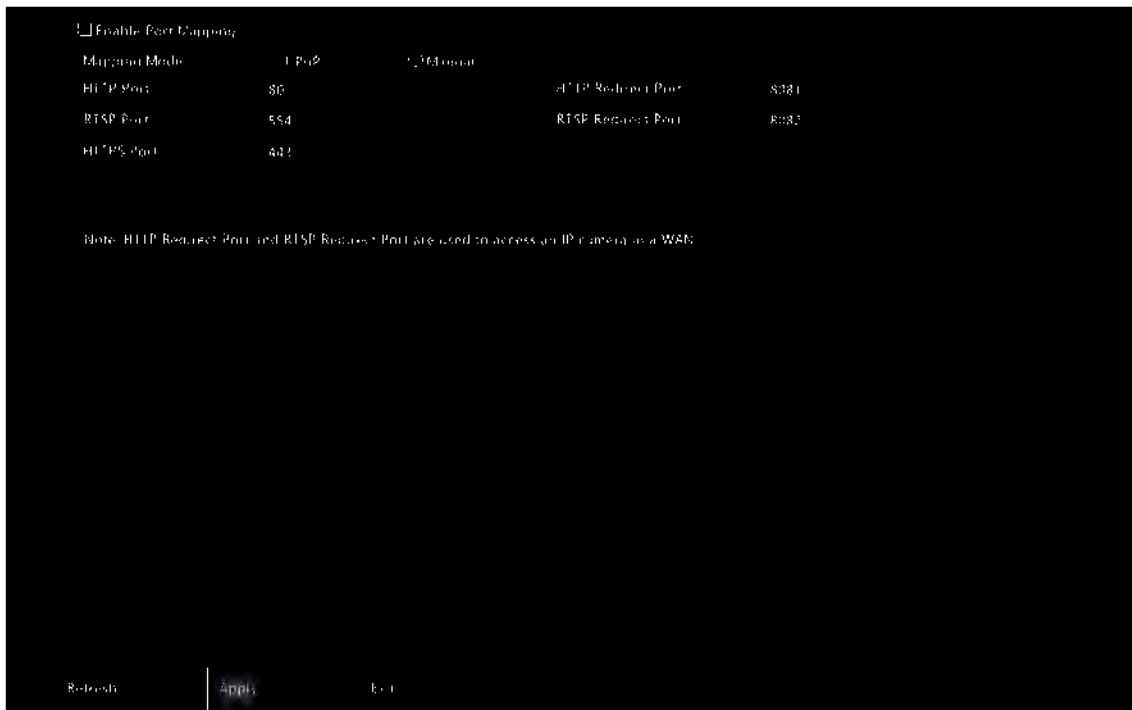
**Manual**

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

**Note:**

- Make sure the ports configured on the DVR are consistent with that configured on the router.
- For some routers, the DVR'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.



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.

### 6.3.3 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 > Network > Advanced > Multicast**.



2. Select **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:\Users\Administrator\Documents\WebPlug	Browse Open Fold...
Live View Protocol	TCP	▼
Intelligent Mark	<input type="radio"/> On <input checked="" type="radio"/> Off	

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

Save

**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).

## 7 System Configuration

This chapter describes how to configure the system parameters.

### 7.1 Basic Configuration

Configure the basic information of the system.




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

Device Name	XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX
Device ID	1
Device Language	English ▼
Auto Logout(min)	5 ▼
Instant Playback(min)	5
Mouse Pointer Speed	<input type="range" value="50"/>
<input checked="" type="checkbox"/> Enable Password Protection	
<input type="checkbox"/> Enable Startup Wizard	
<input type="checkbox"/> Intelligent Mark	

Wizard

2. Configure the basic parameters.

Parameter	Description
Device Name	The default name is the DVR 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.

Parameter	Description
Device Language	Choose the system language. The system will restart after you change the system language.  <b>Note:</b> Not all devices can switch the language.
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.  <b>Note:</b> Only admin can change the setting.
Enable Startup Wizard	Startup wizard appears when the DVR starts up for the first time. If the checkbox is selected, the startup wizard appears every time the device starts up. You may click <b>Wizard</b> to set wizard on the <b>Menu</b> 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: <ul style="list-style-type: none"> <li>• Green: Data have changed but didn't trigger the rules.</li> <li>• Red: Data in the area have triggered the rules configured for the VCA alarm and a VCA alarm has occurred.</li> </ul>  <b>Note:</b> Some smart functions do not support this feature.

3. Click **Apply**.

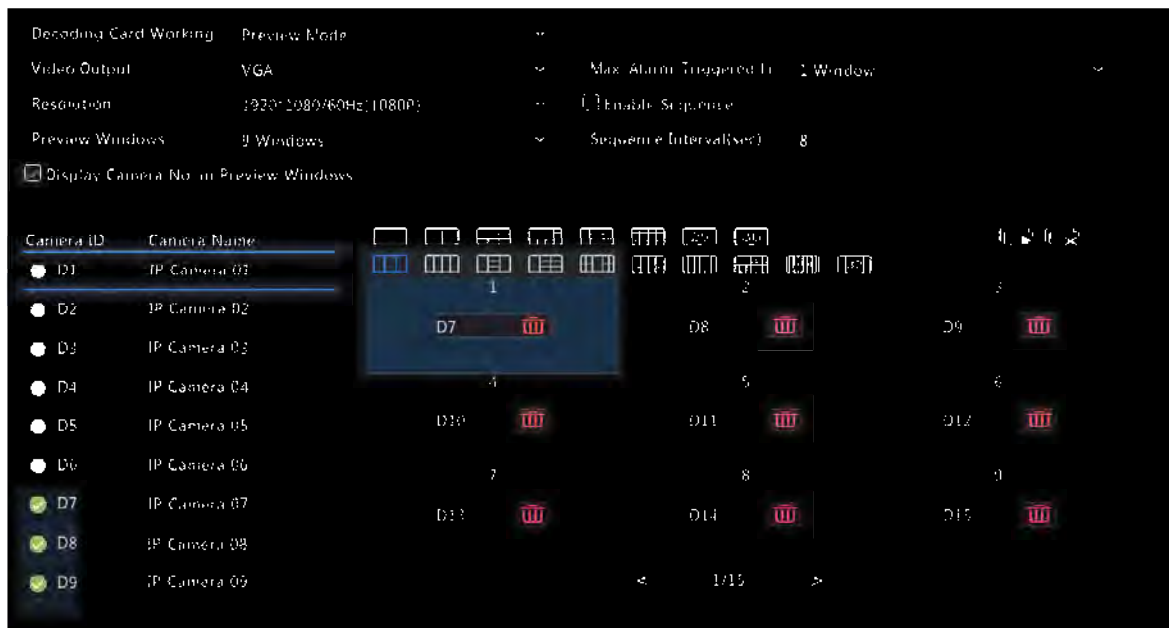
## 7.2 Preview Configuration

Configure the screen display and preferred stream type for preview.


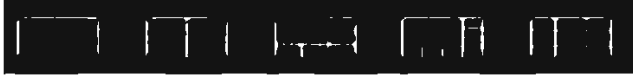
### 7.2.1 Preview Configuration

Configure the basic preview parameters and display mode.

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




## Basic Preview Configuration

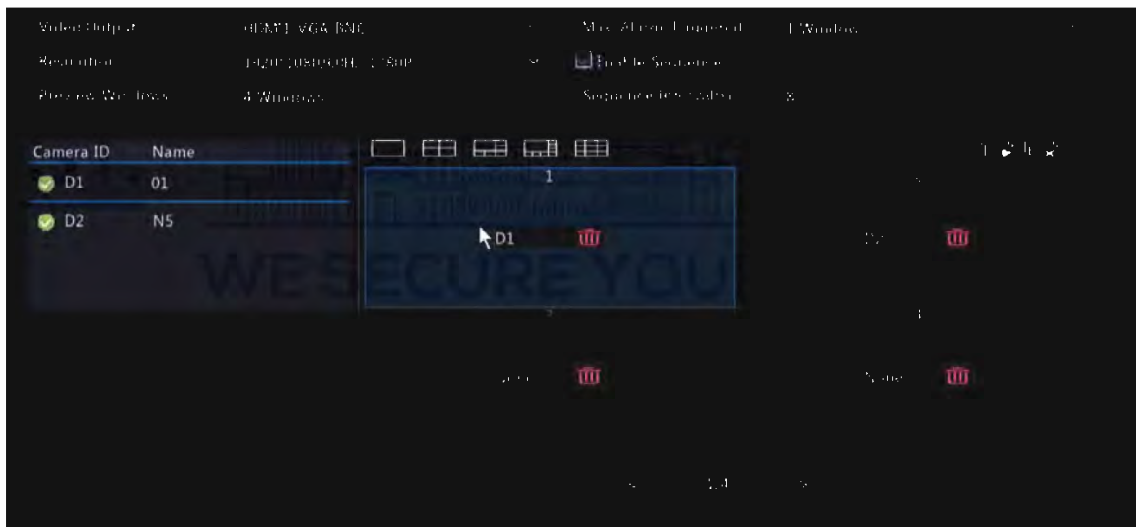
Parameter	Description
Video Output	Outputs the system display to an external display device. Choose an output port.  <b>Note:</b> The DVR provides three output ports (VGA, HDMI1/HDMI2, BNC) and can output the system display to three displays simultaneously for independent operations. The actual port 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 <a href="#">Preview</a> for more information.
Enable Sequence	Select the <b>Enable Sequence</b> checkbox. See <a href="#">Sequence</a> 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

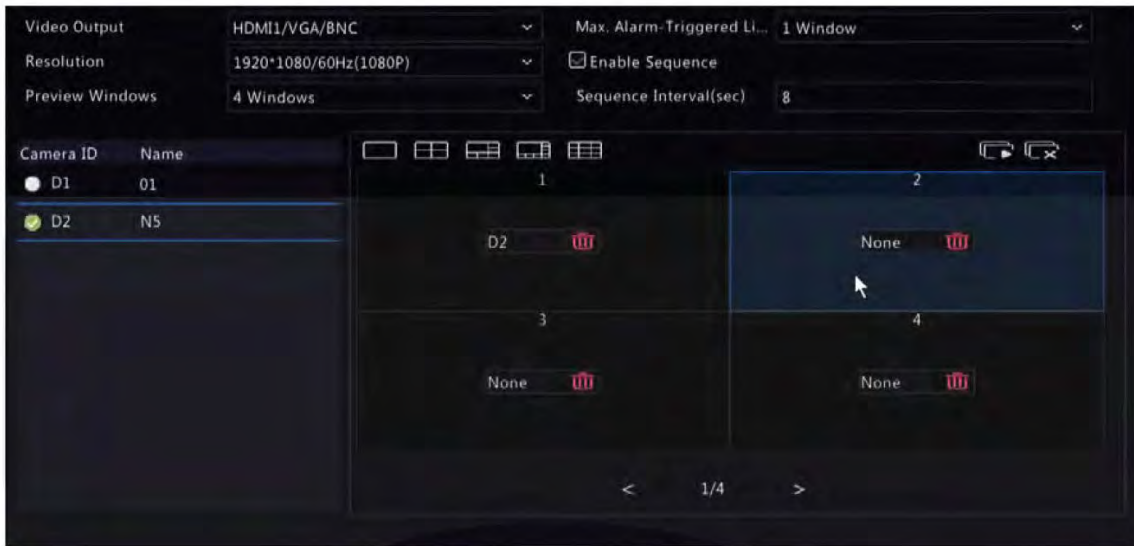
By default, camera IDs correspond to live view windows: D1 to window 1, D2 to window 2, and so on. You can change the correspondence relationship as follows. The example below shows how to switch D1 and D2.

 **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.

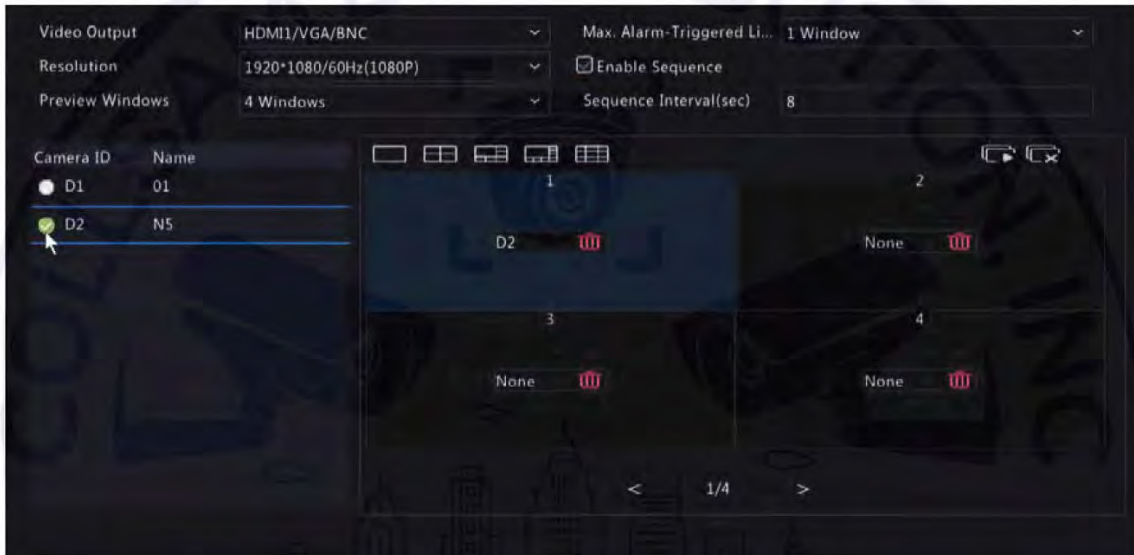


2. Click D2 on the left-side channel list. Now window 1 shows D2, and window 2 shows None.



**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.



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.

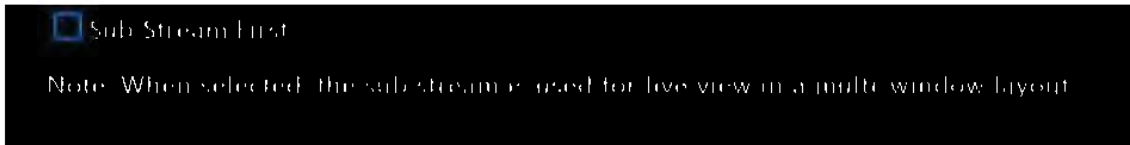


5. Click **Apply**.



## 7.2.2 Advanced Configuration

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



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

## 7.3 Time Configuration

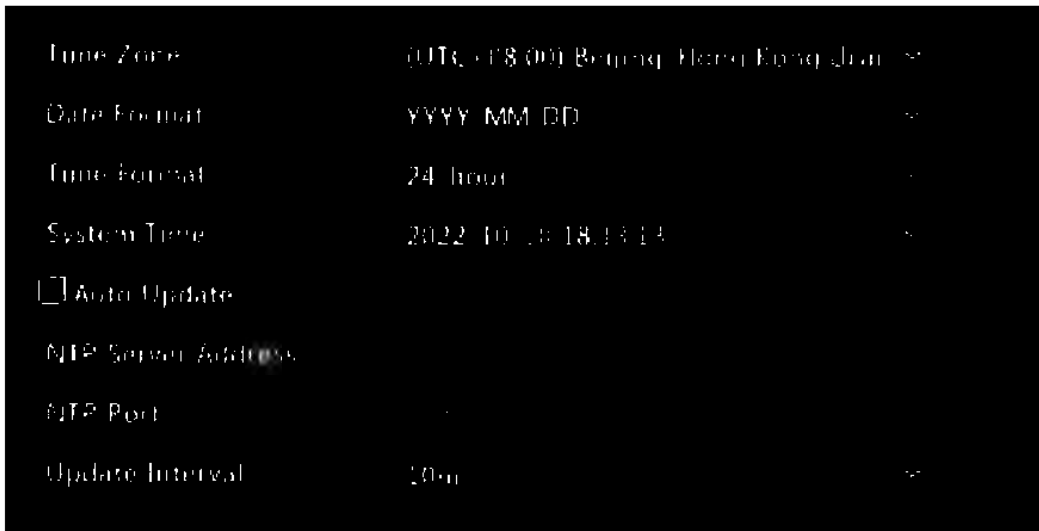
Configure the time display mode, time synchronization mode, and holidays.

### 7.3.1 Time Configuration

Configure the time format and update method.

#### Configure Time Format

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



2. Choose the time zone, date, and time format.
3. Set the system time.

#### Enable Auto Update

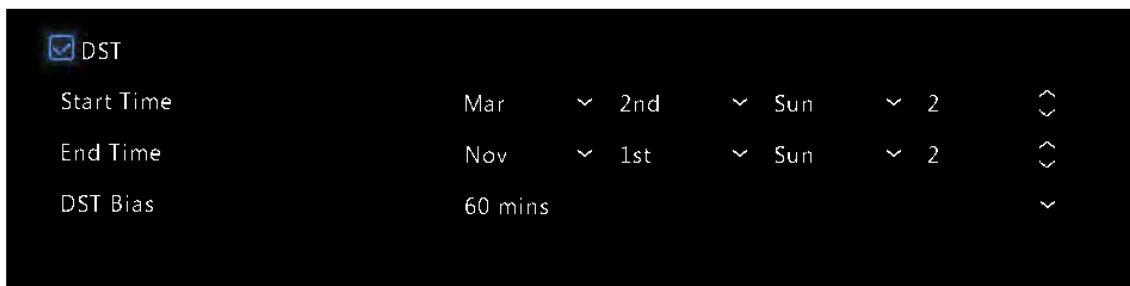
When enabled, the system syncs time with the NTP server.

1. Select **Auto Update**.
2. Enter the NTP server address and port number.
3. Choose an update interval.

### 7.3.2 DST

Configure DST.


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



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

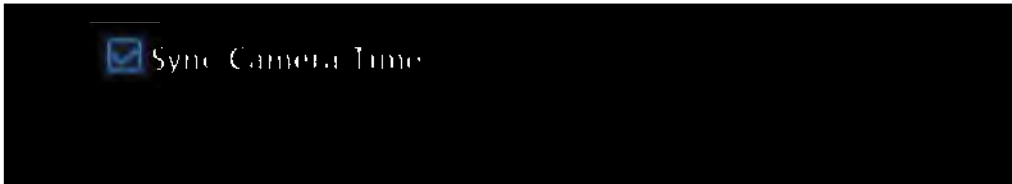
### 7.3.3 Camera Time Synchronization

When **Sync Camera Time** is enabled, the DVR 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 > Time > Time Sync**.

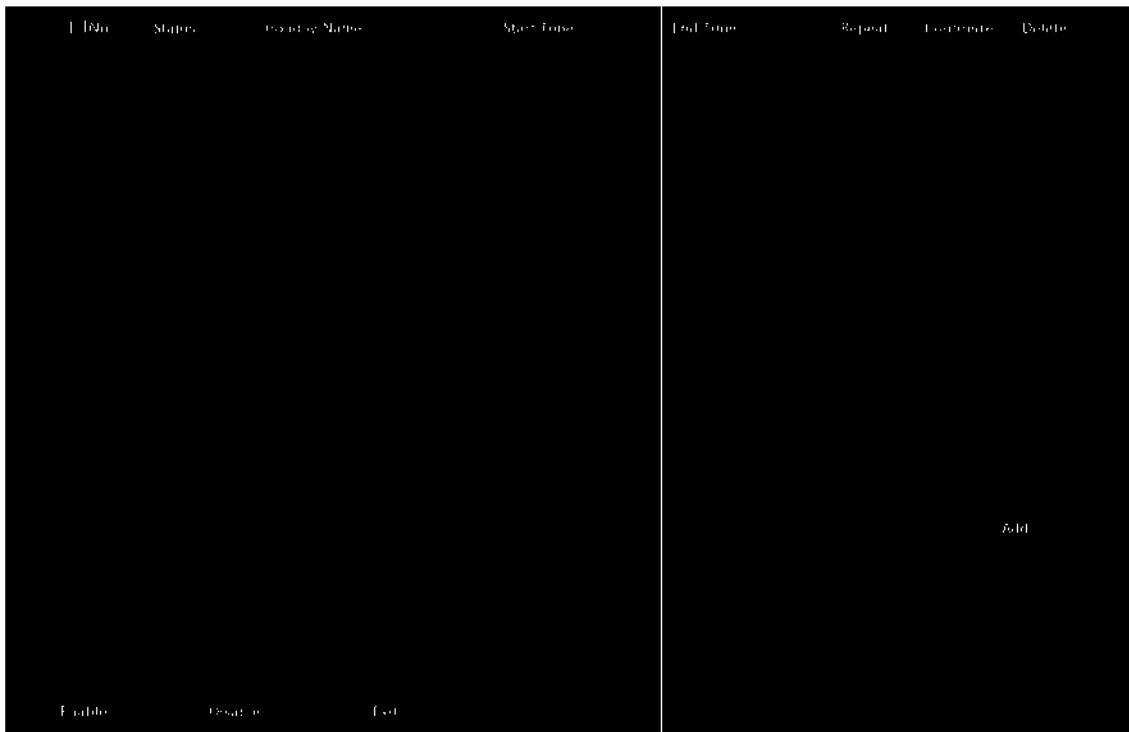


2. Enable/disable this feature as needed.
3. Click **Apply**.

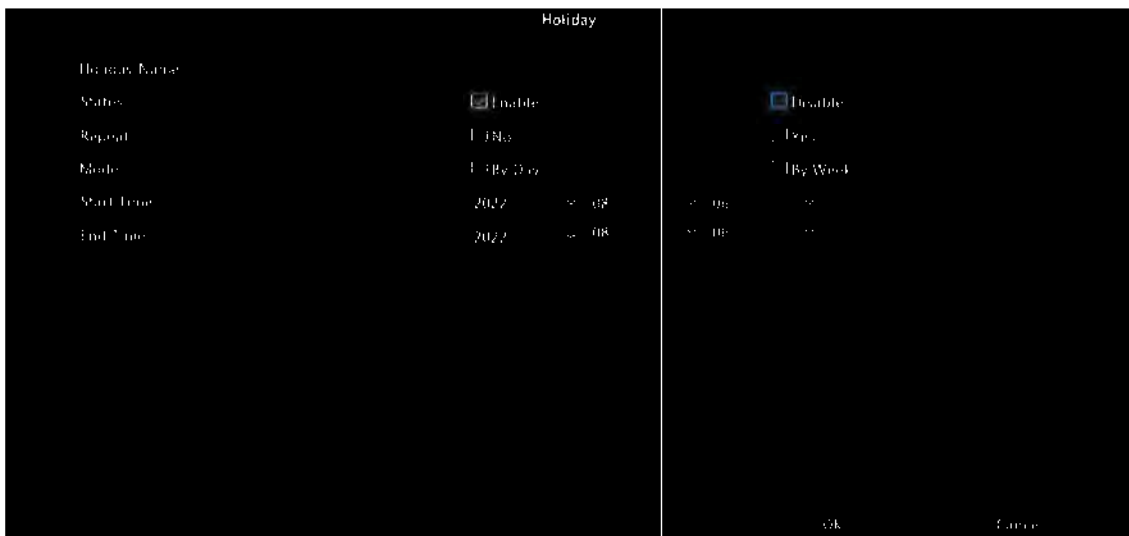
### 7.3.4 Holiday Configuration

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

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



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

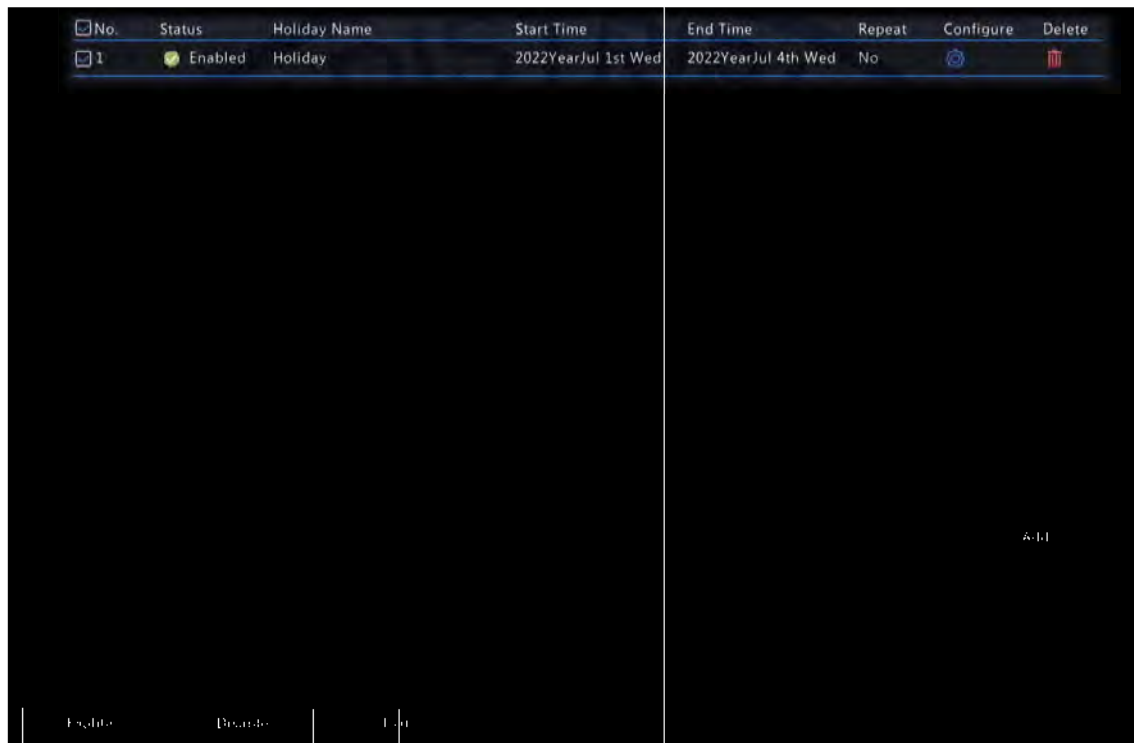


3. Configure the parameters.

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 <b>Disable</b> .
Repeat	<ul style="list-style-type: none"> <li>No: The holiday is effective once only in the specified year. Specify a year for the holiday.</li> <li>Yes: The holiday is effective every year.</li> </ul>
Mode	<ul style="list-style-type: none"> <li>By Day: Set the holiday in the specified format: year/month/day.</li> <li>By Week: Set the holiday in the specified format: year/month/week/day of the week.</li> </ul>
Start Time/End Time	Set according to the specified format.

4. Click **Apply**.

5. Click **OK**.



- 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.

## 7.4 Serial Port Configuration

Configure serial port parameters to connect a keyboard. The serial port settings configured on the DVR must match the serial port settings on the keyboard.

1. Go to **Menu > System > Serial**.



2. Configure the parameters.




Parameter	Description
No.	Choose the serial port ID. The number of serial ports available may vary with device.
Serial Type	Currently only RS485 is available.
Baud Rate	Data transmission speed (unit: bits per second). The greater the value, the faster the transmission speed, and the shorter the transmission distance. Usually the default value is used.
Data Bit	The actual number of data bits in a data packet. Usually the default value is used.
Stop Bit	Indicates the end of a unit of transmission. Usually the default value is used.
Check Bit	Used to check whether the received data bits are erroneous. Choose Odd, Even, or None (default) as needed.
Port Usage	Keyboard or Control PTZ.

3. Click **Apply**.

## 7.5 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. The initial password is <b>123456</b> .  <b>Note:</b> 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.  <b>Note:</b> 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.
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	<input checked="" type="checkbox"/>	—
default	Reserved User	<input checked="" type="checkbox"/>	—

### Add User

1. Click **Add**.

#### Modify/Add User

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

Live View

Control PTZ

Playback

Manual Recording on NVR

Select Camera

D1

D2


D3

D4

Apply    Exit


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.


Item	Description
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.

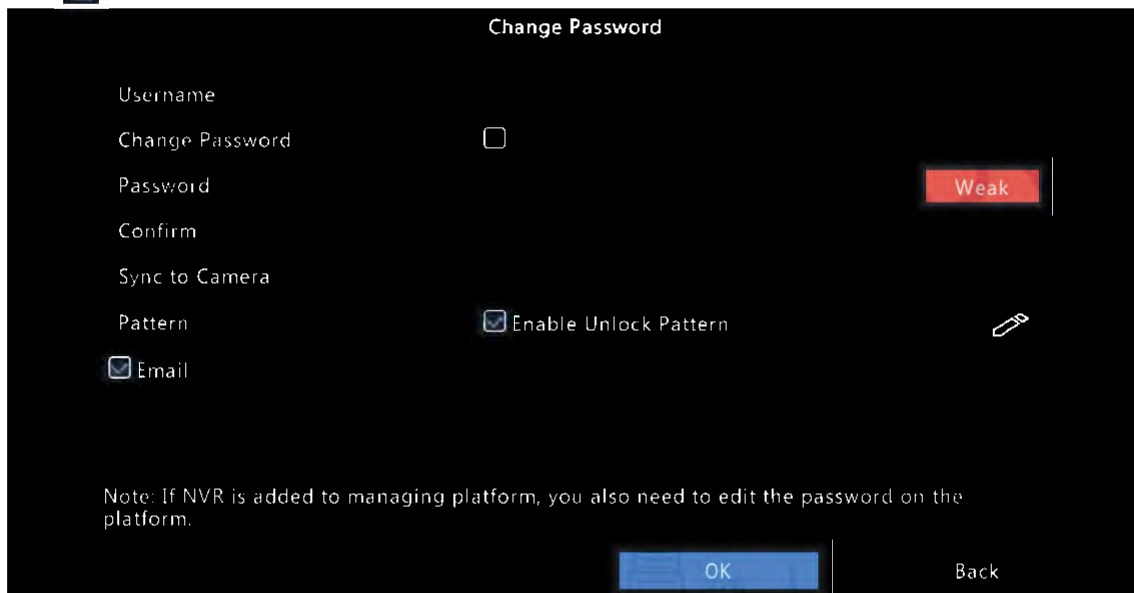
3. Click **OK**.

### 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.



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

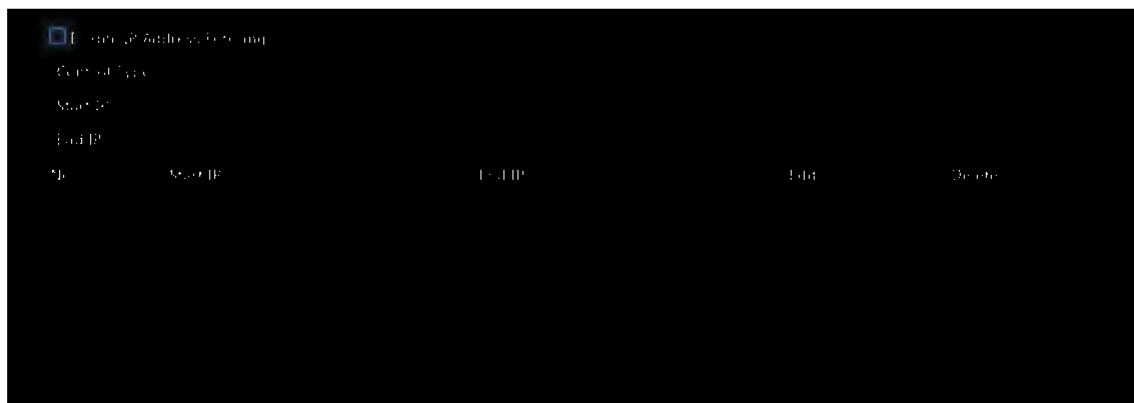
## 7.6 Security Configuration

Security configuration includes IP address filtering, Onvif authentication, and watermark.

### 7.6.1 IP Address Filtering

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

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



2. Select **Enable IP Address Filtering**.

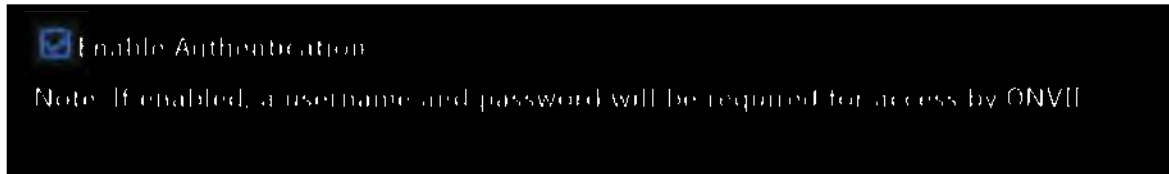
- Configure the parameters.

Parameter	Description
Control Type	<ul style="list-style-type: none"> <li>Blocklist: Access is forbidden if the IP is on the blocklist.</li> <li>Allowlist: Access is allowed only when the IP is on the allowlist. If <b>Allowlist</b> is selected but is empty, remote access will be forbidden.</li> </ul>
Start IP/End IP	Enter the start and end IP addresses. If you want to add only one IP address, enter it in the <b>Start IP</b> field.

- Click **Add**.

### 7.6.2 ONVIF Authentication

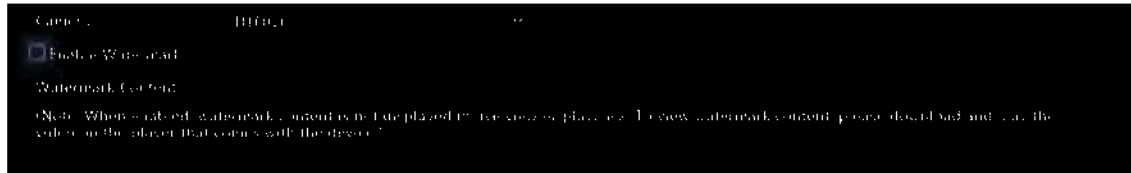
When Onvif authentication is enabled, a username and password will be required to access the DVR via Onvif. This feature is enabled by default. Go to **Menu > System > Security > ONVIF Auth**.



### 7.6.3 Watermark

Use the watermark function to encrypt custom information into video contents to prevent video tampering.

- Go to **Menu > System > Security > Watermark**.



- Choose the channel, and select **Enable Watermark**.
- Enter the watermark contents.
- Click **Apply**.

## 8 Backup

This chapter introduces recording backup and image backup.

### 8.1 Recording Backup

Recording backup refers to backing up videos stored on the DVR'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 DVR.
- The storage device is connected correctly to the DVR.

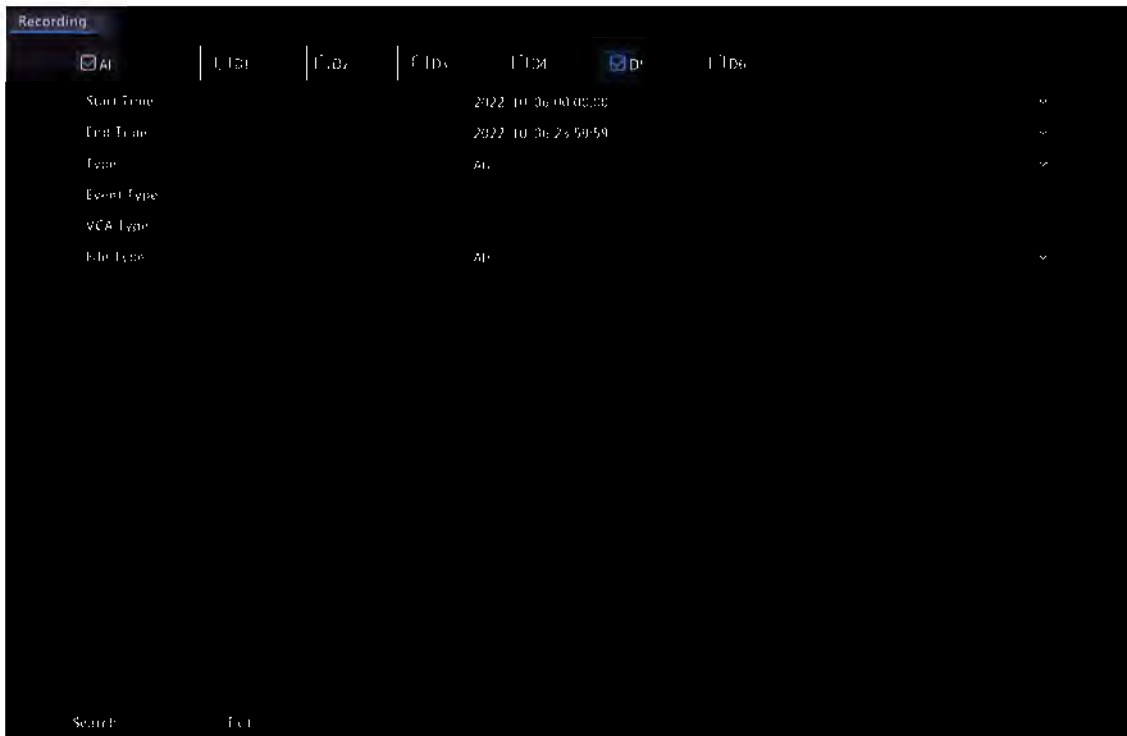
#### Note:


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

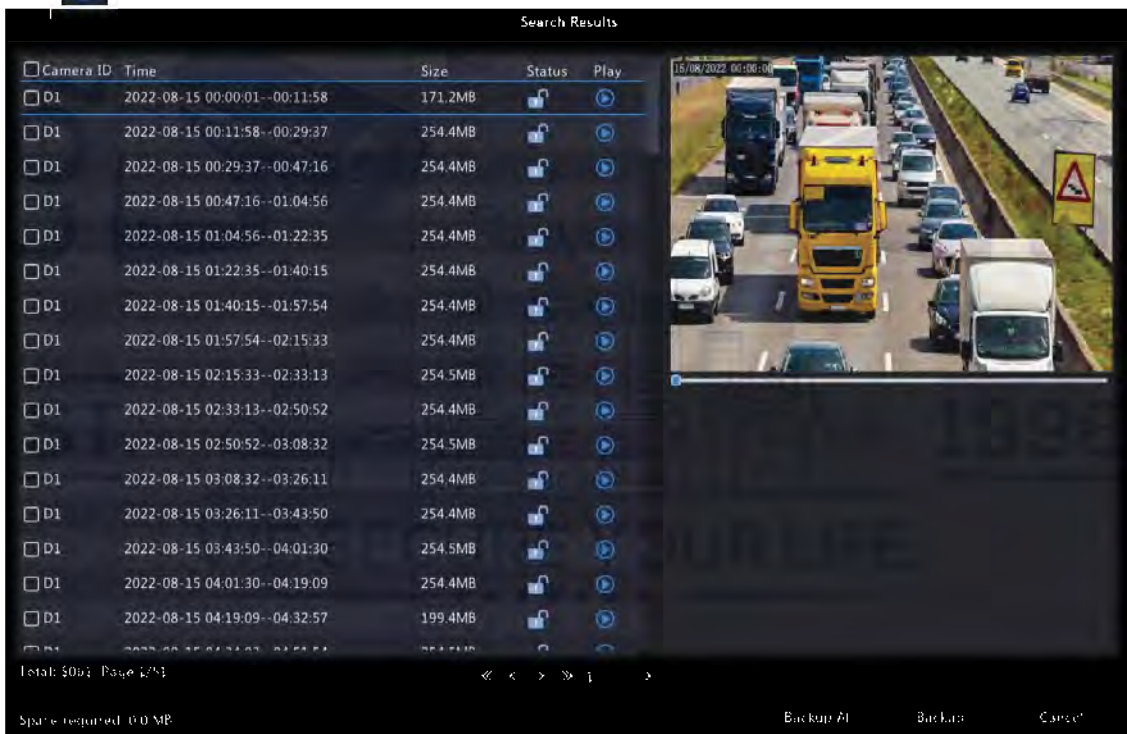
#### Normal Video Backup

Refers to backing up scheduled recording, manual recording, and event-triggered recording.

- Go to **Menu > Backup > Recording > Recording**.
- Select the desired camera(s). All cameras are selected by default.



3. Set search conditions, including the start time, end time, recording type, event type, VCA type, and file type.
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.



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.





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**.

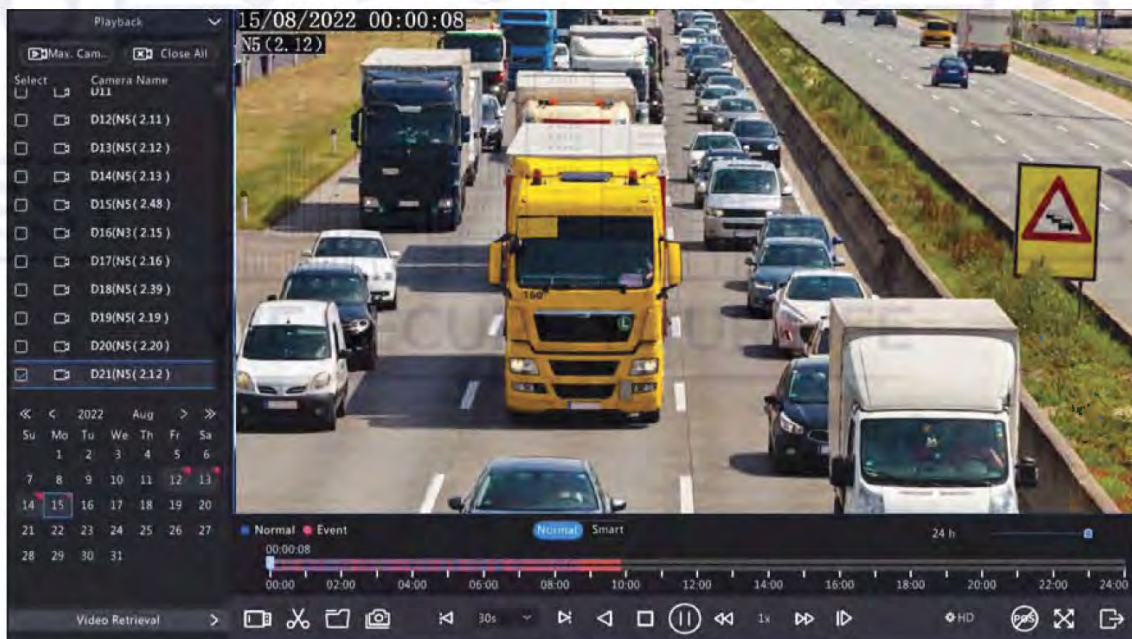
**Note:**





- 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 DVRs 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.

### Video Clip Backup

Refers to clipping a recording and saving it to a USB storage device.

1. Right-click and select **Playback** to go to the **Playback** page.



2. Click  to select HD or SD on the playback toolbar. The default is HD.
3. Select the desired camera to play the recorded video. Click  to clip the video during playback. Click  to save the video clip.
4. Click  to view the video clip in the **Video Clip** tab.




5. Select the desired video clip(s) and then click **Backup**.



6. Select the partition and storage path, click **Backup**. Then the recordings are saved to the specified path on the storage device. You can also create a new folder for the recording(s) by clicking **New Folder**.

## 8.2 Image Backup

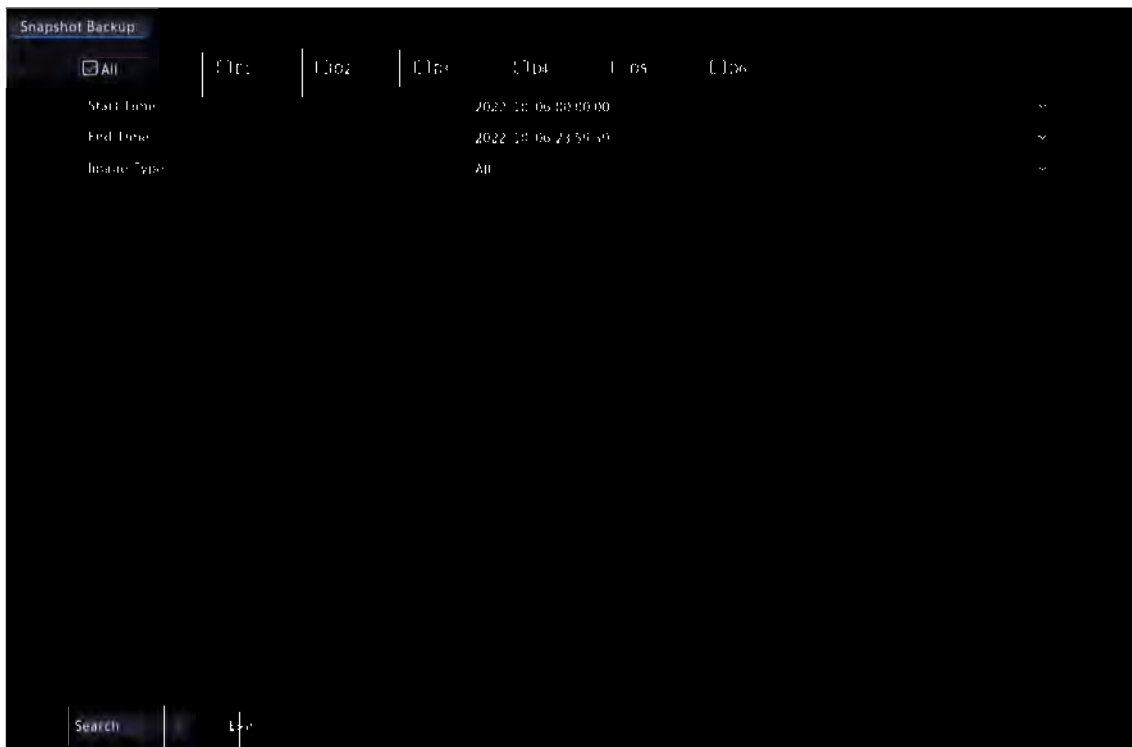
Image backup refers to backing up images stored on the DVR's hard disk to a USB storage device.

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

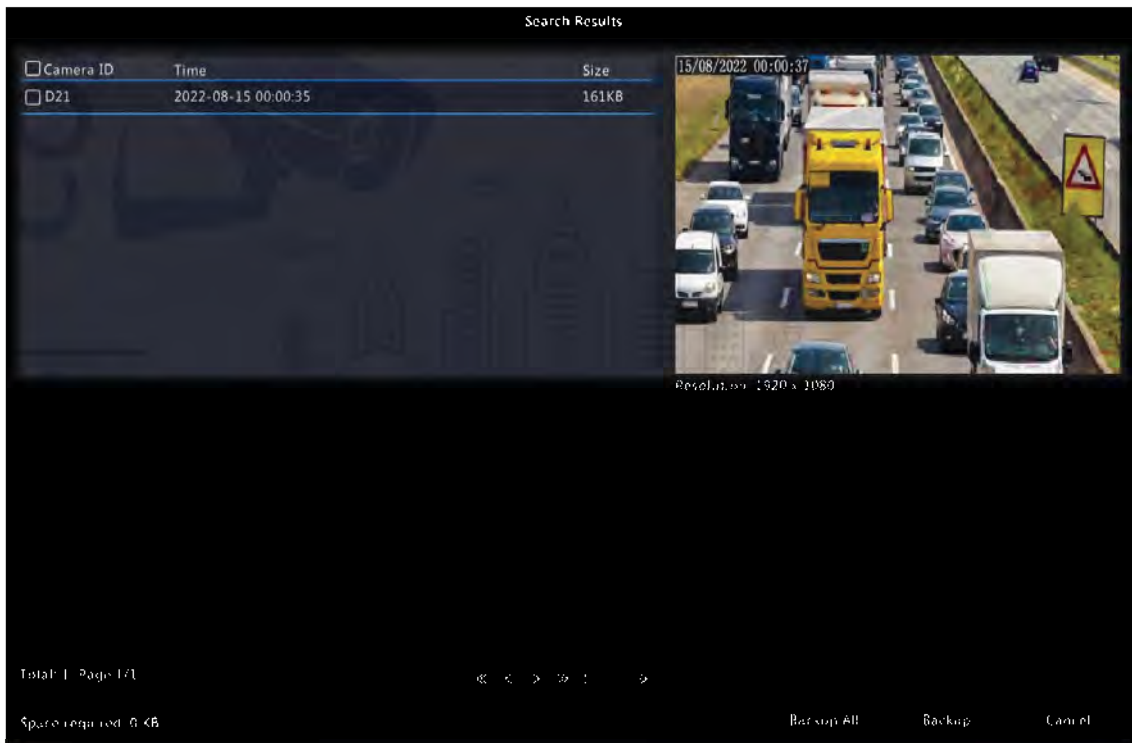
### Normal Snapshot Backup


Refers to backing up scheduled snapshot, manual snapshot, and event-triggered snapshot.

1. Go to **Menu > Backup > Image > Snapshot Backup**.



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.



 **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 one way to back up image(s) as needed.
  - To back up one or more images, select the desired image(s), and then click **Backup**.
  - To back up all the images in the list, click **Backup All**.
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**.

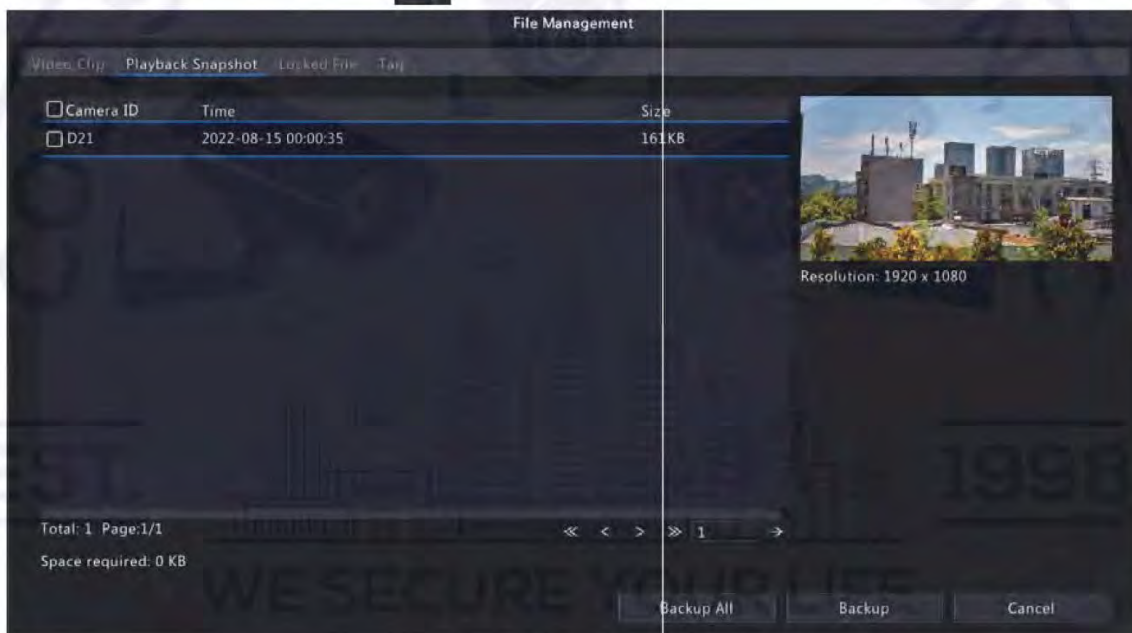
### Playback Snapshot Backup

Refers to backing up snapshots that are taken during playback to a USB storage device.

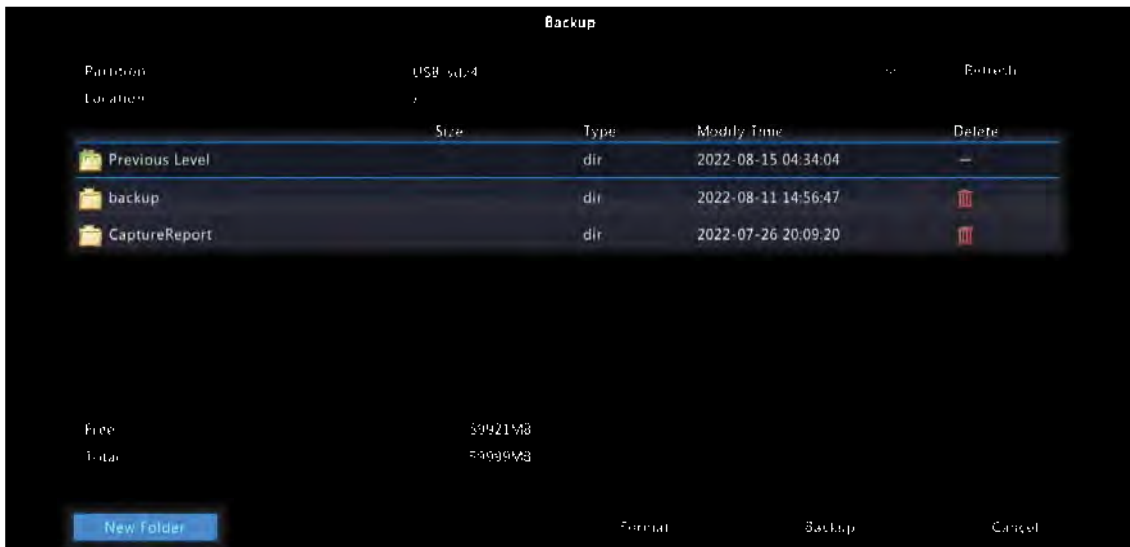
1. Go to the **Playback** page.



2. Click  to select HD or SD on the playback toolbar. The default is HD.
3. Select the desired camera to play the recorded video. Click  to take a snapshot during the playback.
4. To view the saved snapshot(s), click .



5. Select the desired snapshot(s) and then click **Backup**.



6. Select the partition and storage path, and then click **Backup**. The snapshots are saved in the specified path on the storage device. You can also create a new folder for the snapshot(s) by clicking **New Folder**.

## 9 Storage

Configure disk storage parameters.

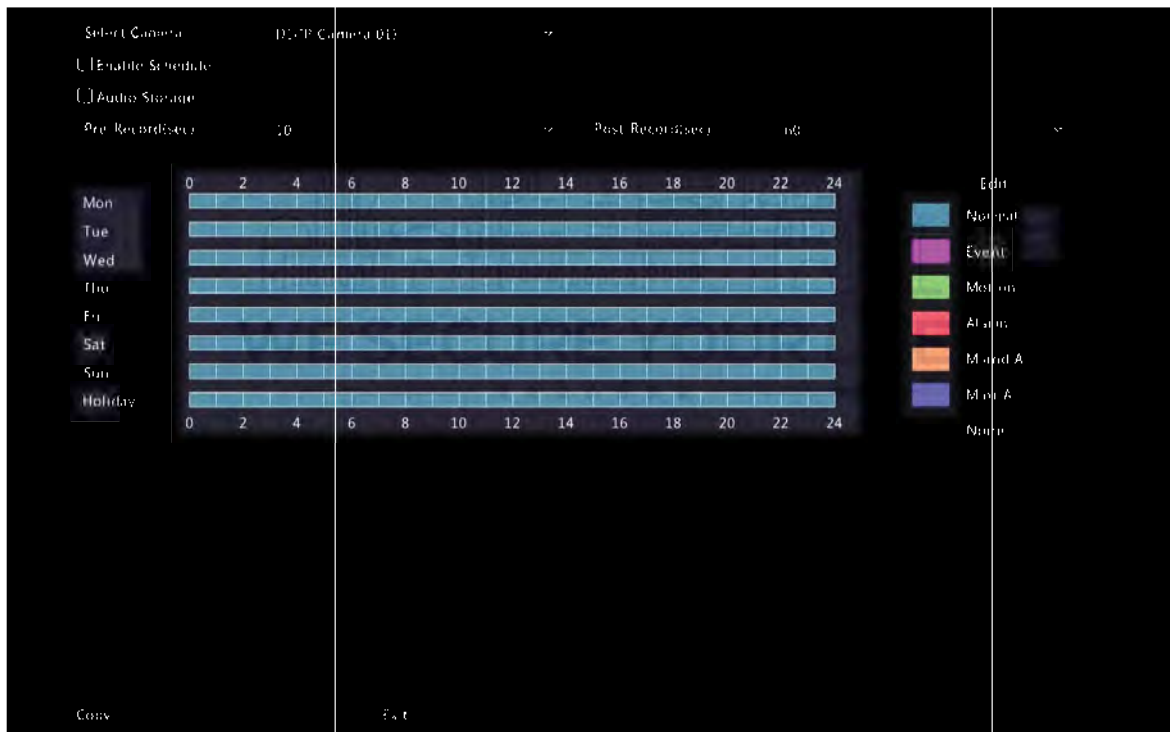
**Note:** You can configure the storage mode under **Menu > Camera > Encoding**.

### 9.1 Recording Schedule

Make a recording schedule.

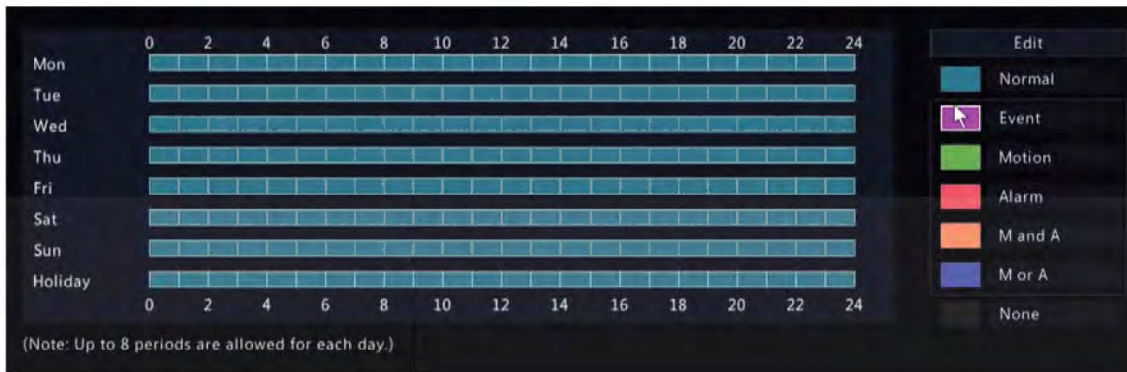
A 24/7 normal recording schedule is enabled by default. You can modify the schedule by drawing or editing as needed.

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



#### Draw a Schedule

1. Select a recording type.



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 <a href="#">Alarm Input</a> 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.

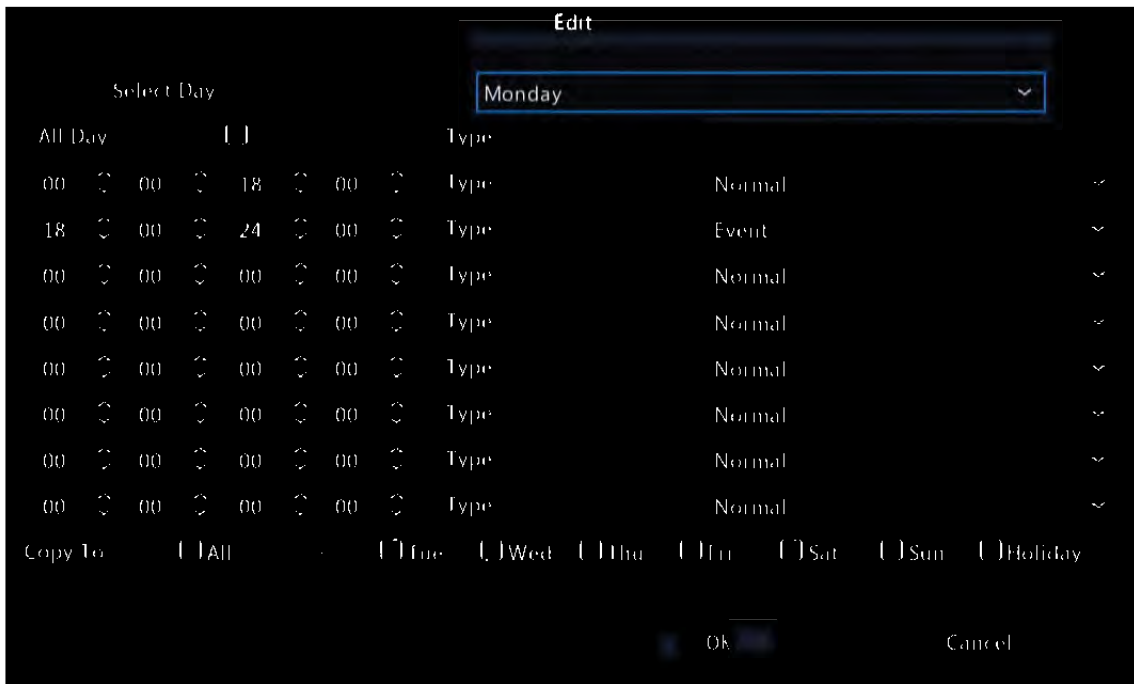
- Drag on the time schedule to specify time periods for the recording type. The figure below shows a recording schedule with event recording from 18:00 to 24:00 on Monday and Tuesday, and normal recording during the rest of the time.



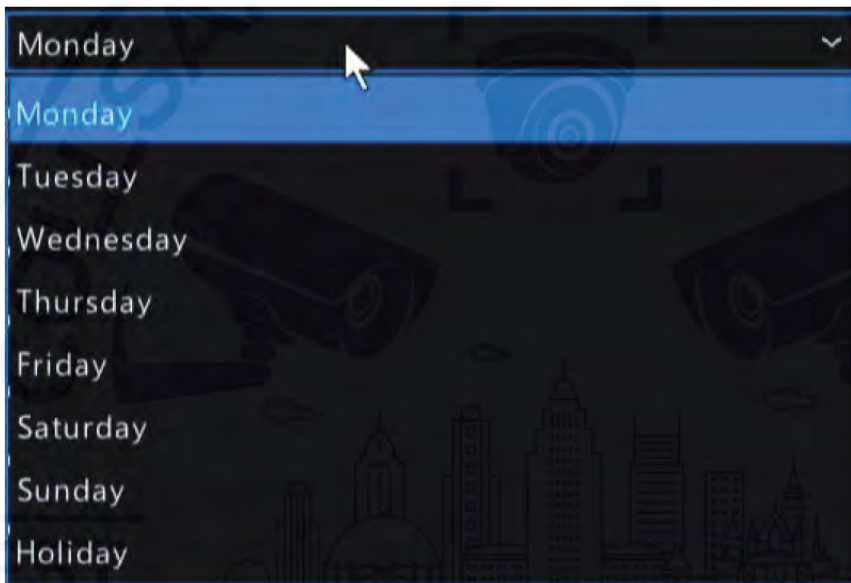
- Click **Apply**.


### Edit a Schedule

- Click **Edit**.



2. Select a day.

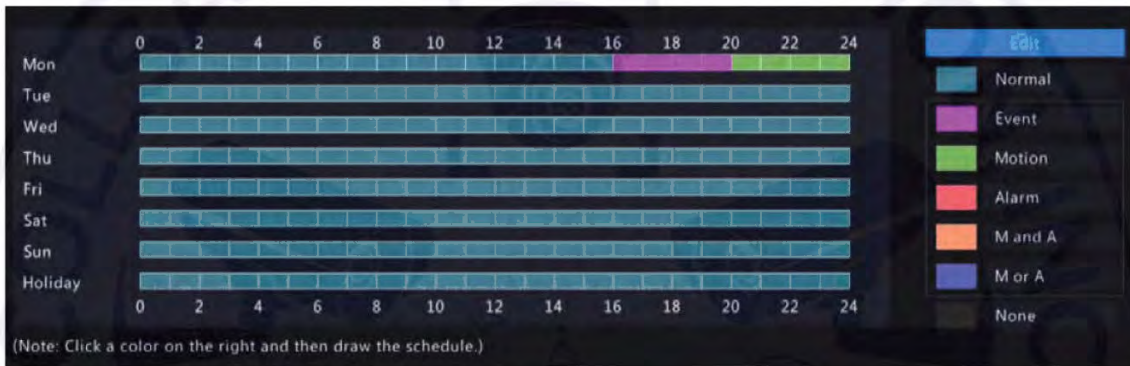


 **Note:** Before you select **Holiday**, go to **System > Time > Holiday** and complete the holiday settings.

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.



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



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.
Audio Storage	Set whether to record audio. Audio is not recorded by default.

## 9.2 Disk Management

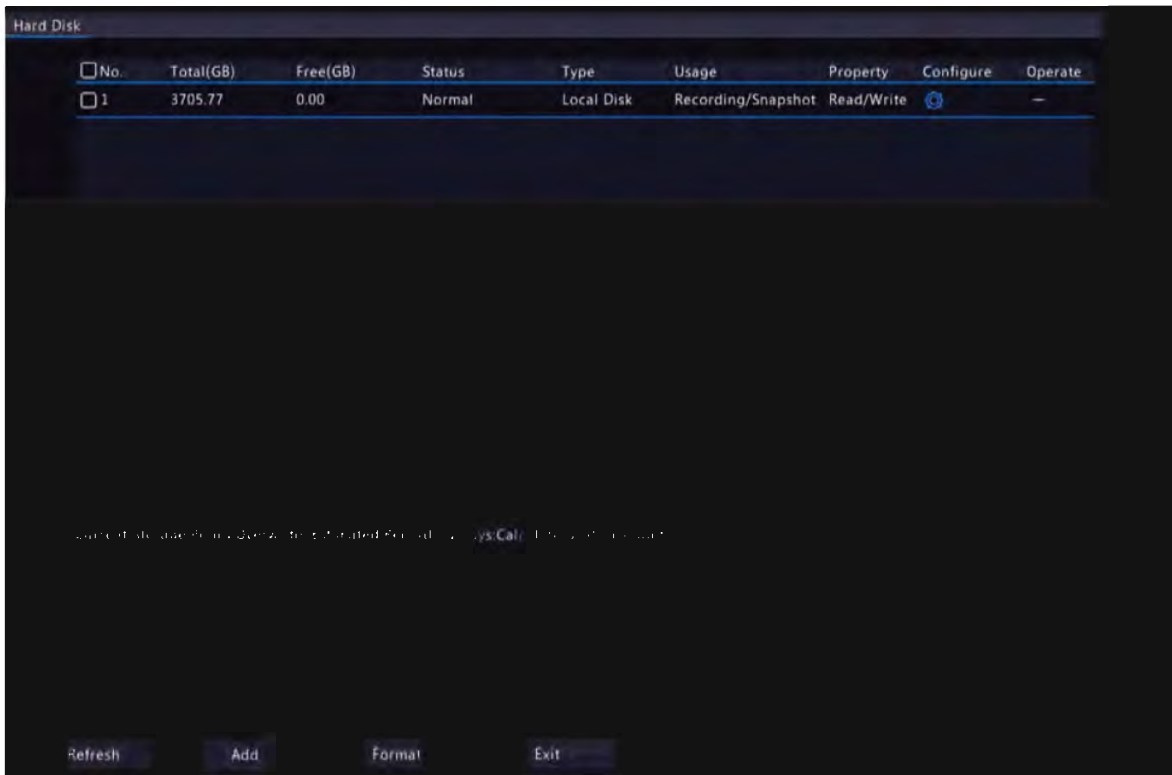
Configure disk usage and property, add external disks, and format disks.

### Note:


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

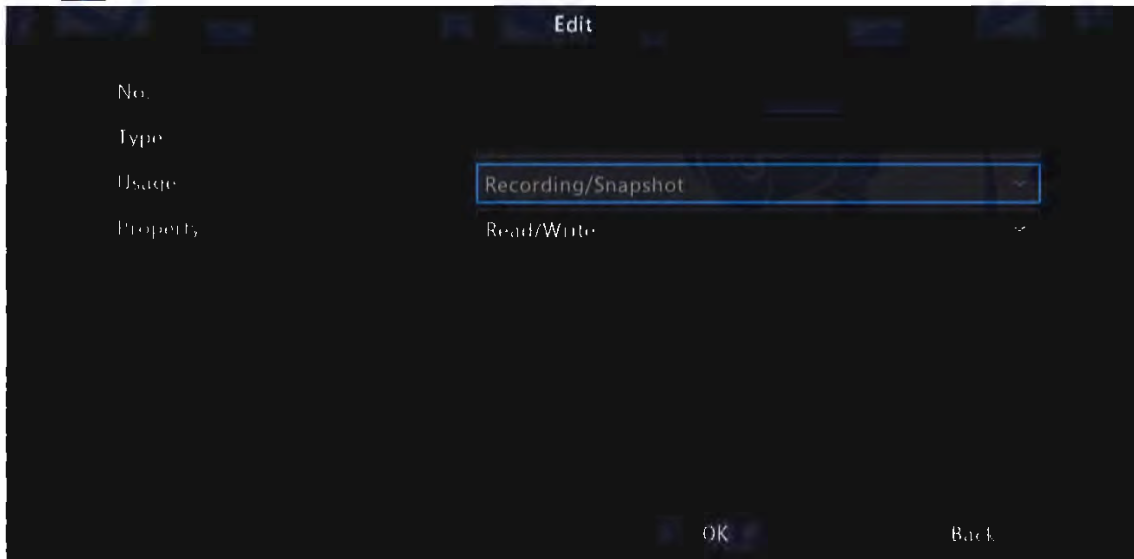
Go to **Menu > Storage > Hard Disk**.





### Configure the Disk Usage and Property

1. Click  for the disk to edit.



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.

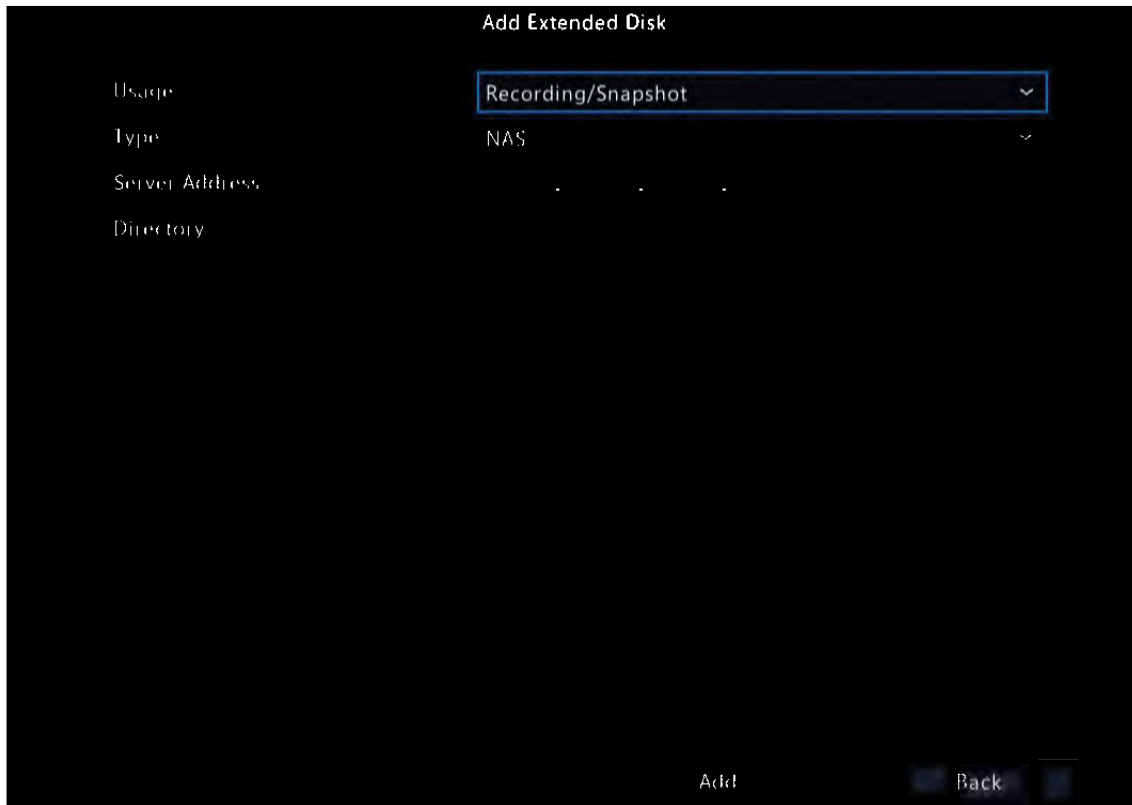
Property	Description
Read/Write	The disk supports recording/snapshot storage, recording playback and snapshot retrieval.
Read Only	The disk only supports recording playback and snapshot retrieval, and does not support recording/snapshot storage.

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**.





2. Enter the NAS server address and directory.
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.

## 9.3 Disk Group

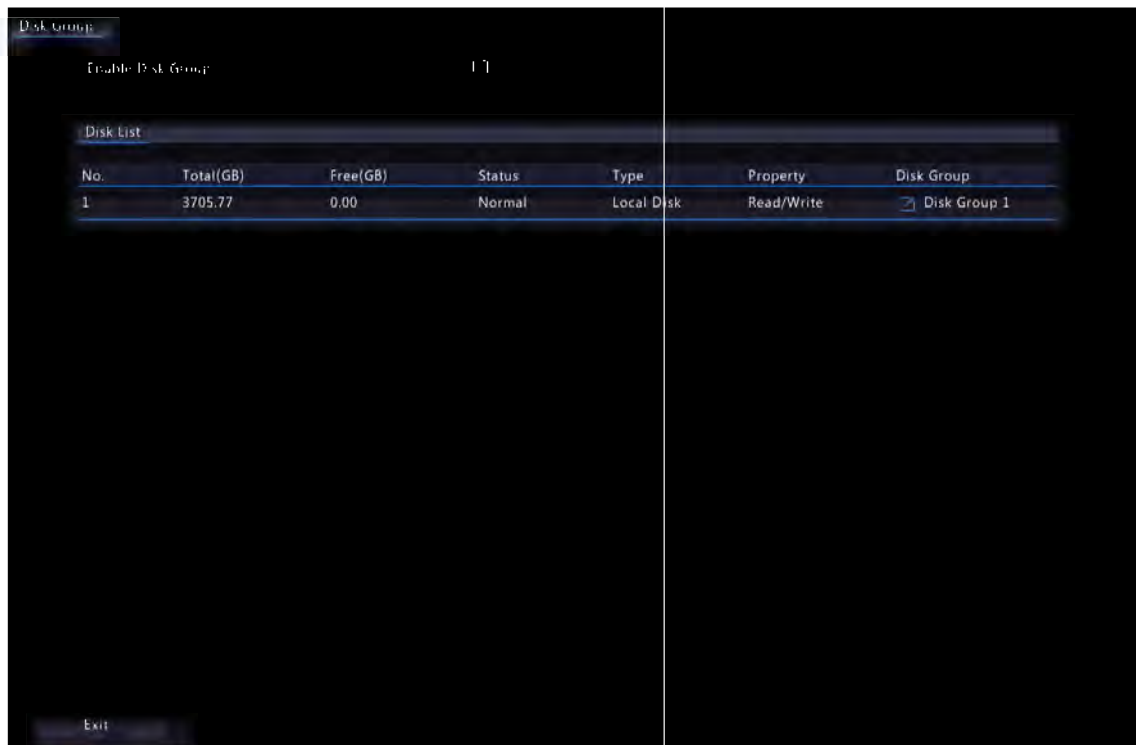
You can group disks and allocate a disk group for videos and images from a specified camera to meet the different storage duration requirements of cameras. Different arrays can be assigned to different disk groups. See [Space Allocation](#) for details.




#### 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. Select the **Enable Disk Group** check box.



3. Click .



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

## 9.4 Space Allocation

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

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



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.
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).


## 9.5 Advanced Settings

Configure the storage policy when the storage is full.

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




2. Select whether to overwrite the existing data or stop storage when the storage is full.

When HDD Full	Description
Overwrite	<p>The disk space is divided into allocated space and remaining space according to whether the disk is used for storage by cameras.</p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p> <b>Note:</b> 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.</p> <ul style="list-style-type: none"> <li>If a camera is allocated storage space, its oldest data will be overwritten when the allocated space is used up.</li> </ul>
Stop	<p>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.</p>

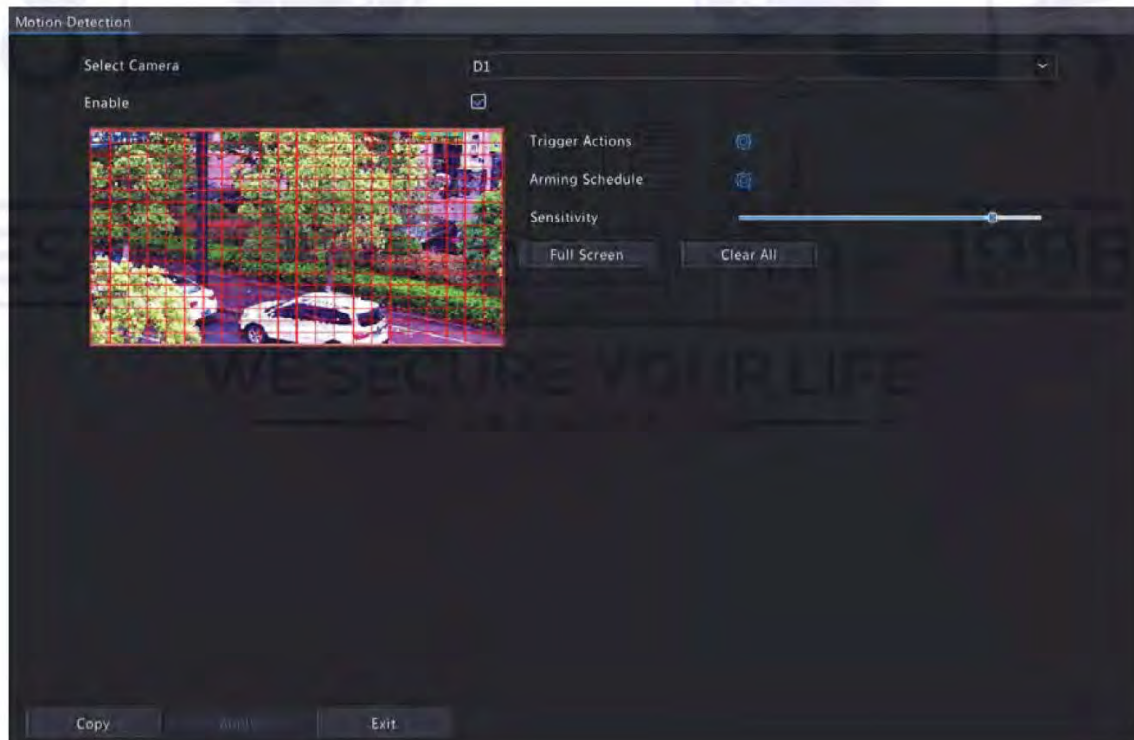
## 10 Alarm Configuration

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.  icon appears in the upper right corner of the preview page when the alarm occurs.

- Go to **Menu > Alarm > Motion Detection**.



- Select the desired camera, and click **Enable**.
- 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**.

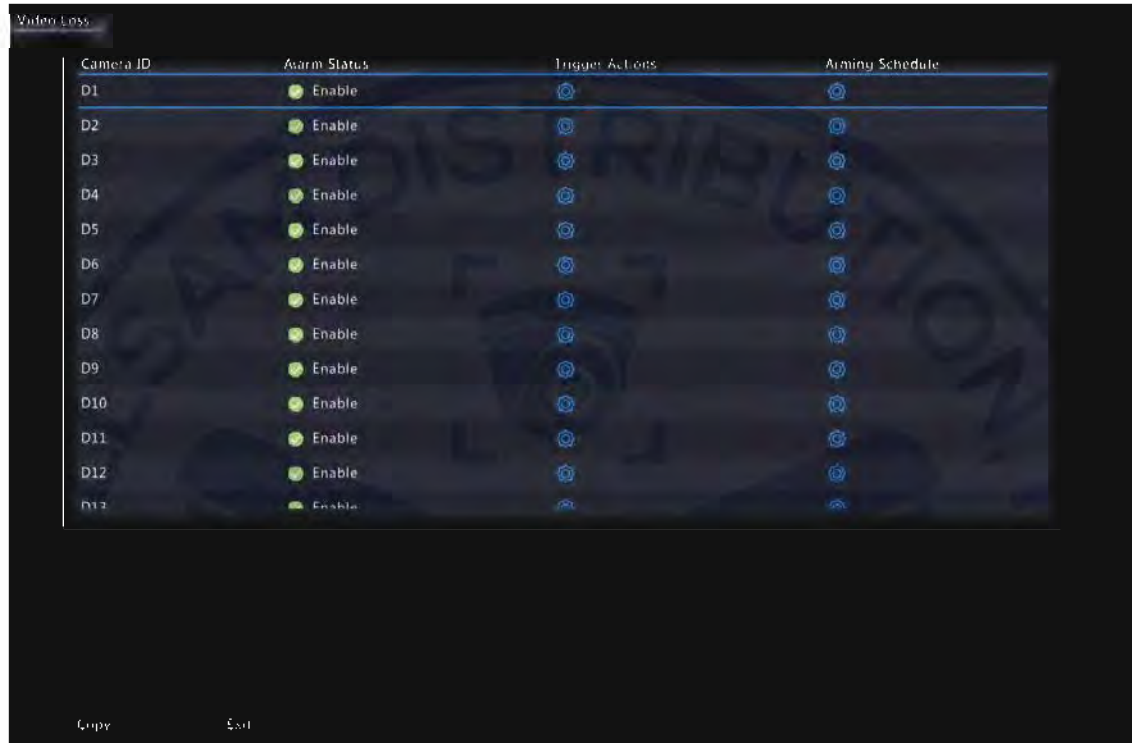
 **Note:** When a moving object is detected, the grids where the object appears on the left-side image are filled by .








































4. 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.
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**.




## 10.2 Video Loss

A video loss alarm is reported when the DVR loses video signals from a camera.

1. Go to **Menu > Alarm > Video Loss**.



Camera ID	Alarm Status	Trigger Actions	Arming Schedule
D1	Enable 		
D2	Enable 		
D3	Enable 		
D4	Enable 		
D5	Enable 		
D6	Enable 		
D7	Enable 		
D8	Enable 		
D9	Enable 		
D10	Enable 		
D11	Enable 		
D12	Enable 		
D13	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**.

## 10.3 Alarm Input and Output

Configure alarm input and alarm output.

### 10.3.1 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 DVR and the ALARM IN interfaces on the cameras. For example, access control devices.

1. Go to **Menu > Alarm > Input/Output > Alarm Input**.




2. Select the alarm input channel to be set.

- A<-1: **A** refers to the ALARM IN interfaces on the DVR, **1** means the first ALARM IN interface. Likewise, **A<-2** means the second ALARM IN interface on the DVR. The number of ALARM IN interfaces may vary with DVR 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**.



Item	Description
Alarm Input	Select <b>Enable</b> to enable the alarm input.
Alarm Input Name	The default name is the alarm input number. You may rename it as needed.
One-Click Disarming	Select <b>Enable</b> to enable the one-click disarming. When enabled, the configured actions will not be triggered when A<-1 reports alarms.
Alarm Type	This item is applicable when <b>Alarm Input</b> is enabled. The default is <b>N.O.</b> . <ul style="list-style-type: none"> <li>• N.O.: Choose this option if the alarm input device is normally closed. The device opens the circuit to input an alarm, triggers the DVR to open the alarm circuit and report an alarm.</li> <li>• N.C.: Choose this option if the alarm input device is normally opened. The device closes the circuit to input an alarm, triggers the DVR to close the alarm circuit and report an alarm.</li> </ul>

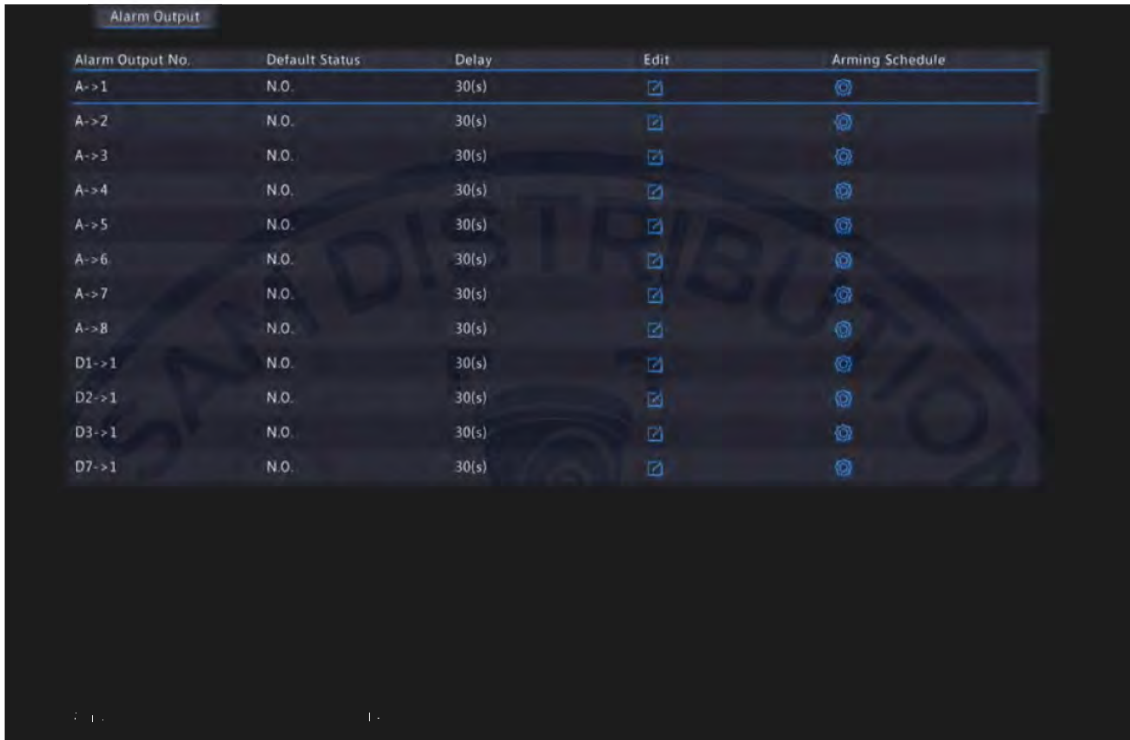
- Set the alarm-triggered actions and arming schedule. Click the corresponding  to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See [Alarm-triggered Actions](#) and [Arming Schedule](#) for details.
- (Optional) To apply the alarm input parameters to other cameras, click **Copy**, and select the desired channel(s) or **Copy To**, and then click **OK**.
- Click **Apply**.


### 10.3.2 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 DVR and the ALARM OUT interfaces on the cameras, such as alarm light and alarm bell.

- Go to **Menu > Alarm > Input/Output > Alarm Output**.






- Select the alarm output channel to be set.
  - A->1: **A** refers to the ALARM OUT interfaces on the DVR, **1** means the first ALARM OUT interface. **A <-2** means the second ALARM OUT interface on the DVR, and so on. The number of ALARM OUT interfaces may vary with DVR 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.
- Click  to configure alarm output parameters. After configuration, Click **OK**.



Item	Description
Default Status	Select the default status from the drop-down list. The default is <b>N.O.</b> . <ul style="list-style-type: none"> <li>N.O.: Choose this option if the external device is normally open.</li> <li>N.C.: Choose this option if the external device is normally closed.</li> </ul>




Item	Description
Alarm Duration/Delay(s)	<p>Set the alarm duration, that is, the length of time that an output alarm lasts after the alarm is ended.</p> <ul style="list-style-type: none"> <li>• Custom: When enabled, you can set the length of time as needed. After an alarm is cleared on the DVR, the third-party alarm device continues alarm till the end of the set duration.</li> </ul> <p> <b>Note:</b> The delay period supported by channels may vary. For most channels, the valid range is 5 to 3600s. For certain channels, the valid range is 1 to 3600s.</p> <ul style="list-style-type: none"> <li>• Maximum: When enabled, you cannot set the delay period. The third-party alarm device continues alarm until you clear it manually.</li> </ul>
Relay Mode	<p>Set the relay mode, including monostable and bistable. The default is bistable.</p> <p> <b>Note:</b> 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.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

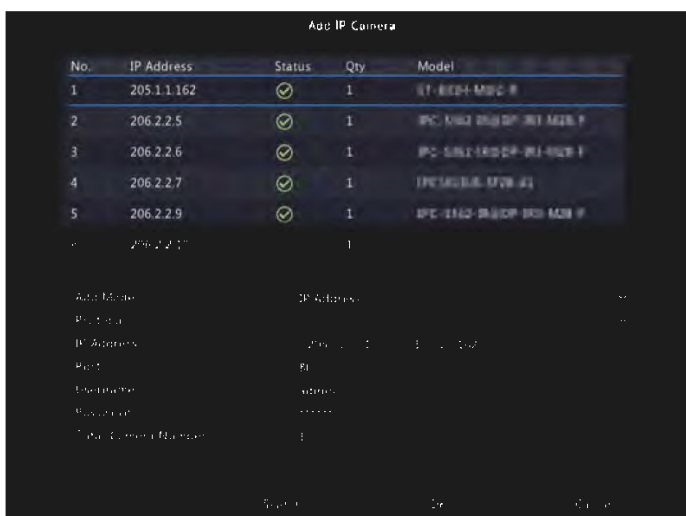
4. Set the alarm-triggered actions and arming schedule. Click the corresponding  to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See [Alarm-triggered Actions](#) and [Arming Schedule](#) for details.
5. (Optional) To apply the alarm output parameters to other cameras, click **Copy**, and select the desired channel(s) or **Copy To**, and then click **OK**.
6. Click **Apply**.

## 10.4 Thermal Imaging

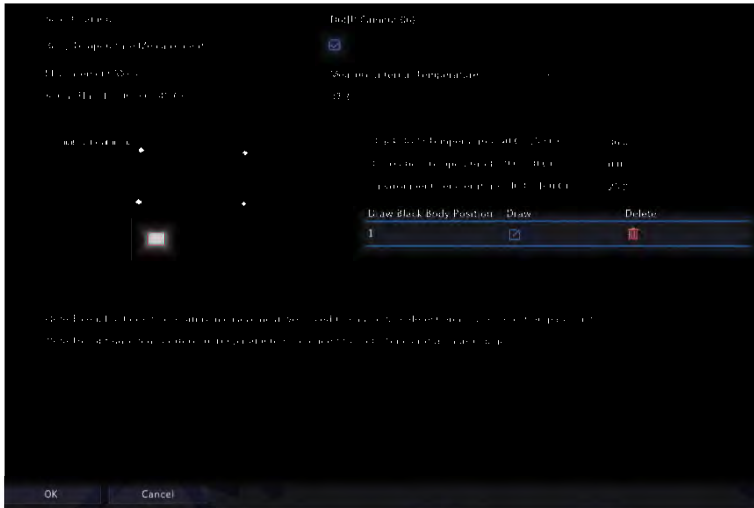
This function measures body temperature based on infrared imaging, and is suitable for high traffic areas such as hospitals, stations, and shopping malls.


 **Note:** To use this function, please enable face detection in the visible light channel first. To perform face recognition, please enable face comparison at the same time. See [Face Detection](#) for details.


1. Add a thermal imaging camera.
  - (1) Go to **Menu > Camera > Camera > Camera**.
  - (2) Click **Custom Add** to go to the **Add IP Camera** page.




- (3) Set the add mode to **IP Address**, select a protocol (Uniview or Private), enter the IP address, port, username, and password. There are 2 channels in total, including a visible light channel and an infrared light channel.
2. Configure thermal imaging parameters.
  - (1) Go to **Menu > Alarm > Thermal Imaging > Body Temperature Measurement**.
  - (2) Select the infrared light channel, and enable **Body Temperature Measurement**.




 **Note:** To use this function, please enable face detection first. See [Face Detection](#) for details.

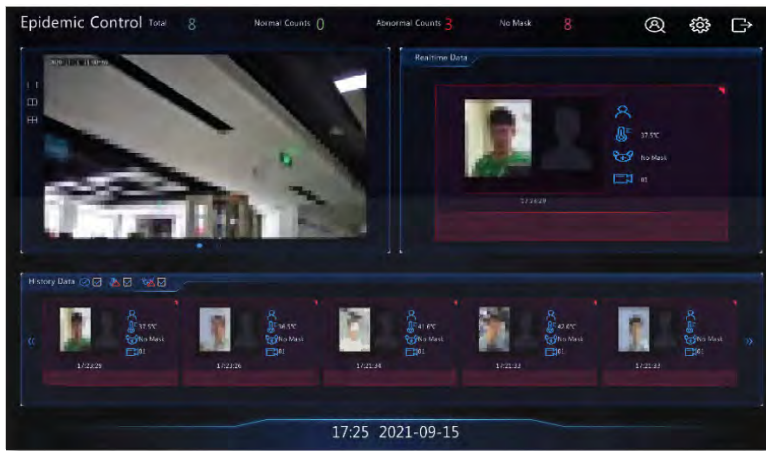
- (3) Set the black body position. Click , drag to draw a bounding box on the left-side image.

 **Note:** The size of the box should be the same as that of the highlighted part of the black body, otherwise measurement results may be affected.

- (4) Set the relevant parameters.

Item	Description
Measurement Mode	<ul style="list-style-type: none"> <li>Measure Internal Temperature: Calculated from the measured body surface temperature by formulas.</li> <li>Measure Body Surface Temperature: Measured directly by the thermal imaging camera.</li> </ul>
Alarm Threshold (30°C~45°C)	An alarm occurs when the measured temperature exceeds the threshold. The default is the normal body temperature of 37.3 °C.
Black Body Temperature (-40°C~150°C)	Set the same temperature as the black body temperature. 36 °C is recommended. For more information, refer to the camera's site survey and commissioning guide.
Correction Temperature (-10°C~10°C)	Correct temperature measurement errors. Devices have been calibrated before leaving the factory. You do not need to set the correction temperature. If in harsh conditions, such as high or low temperature, you may configure it according to the camera's site survey and commissioning guide.
Environment Temperature (-40°C~100°C)	The environment temperature of the camera will affect the temperature measurement results. The higher the environment temperature, the higher the measurement result. The system can calculate the actual temperature automatically based on the entered environment temperature. 25°C is recommended.

- (5) Set alarm-triggered actions in the **Temperature Alarm** page. See [Temperature Alarm](#) for details.
- (6) Click **OK**.
3. View temperature measurement results.  
In the preview page, click  on the screen toolbar to go to the **Epidemic Control** page. Then you can view the detailed information, including counting statistics, live video, realtime data, and history data.



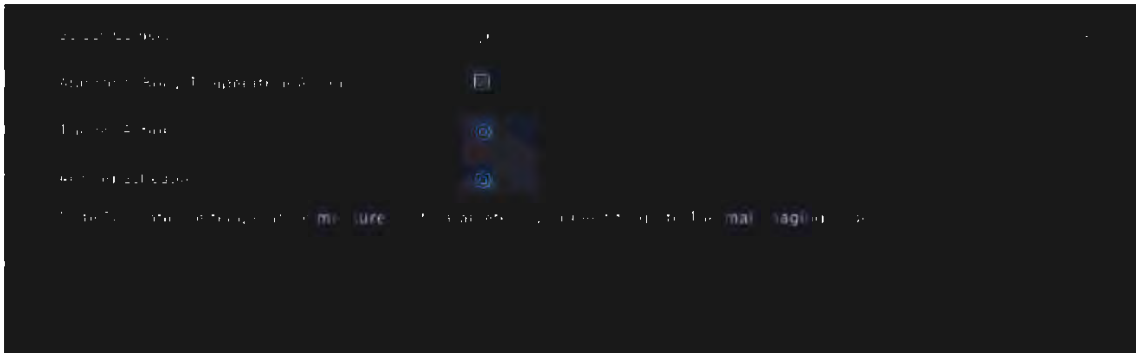
## 10.5 Temperature Alarm


An alarm occurs when the abnormal body temperature is detected.

### Note:

- This function is only available for thermal imaging cameras.
- Before using this function, please enable body temperature measurement in the **Temperature Measurement** page first. See [Thermal Imaging](#) for details.

1. Go to **Menu > Alarm > Temperature Alarm > Body Temperature Alarm**.

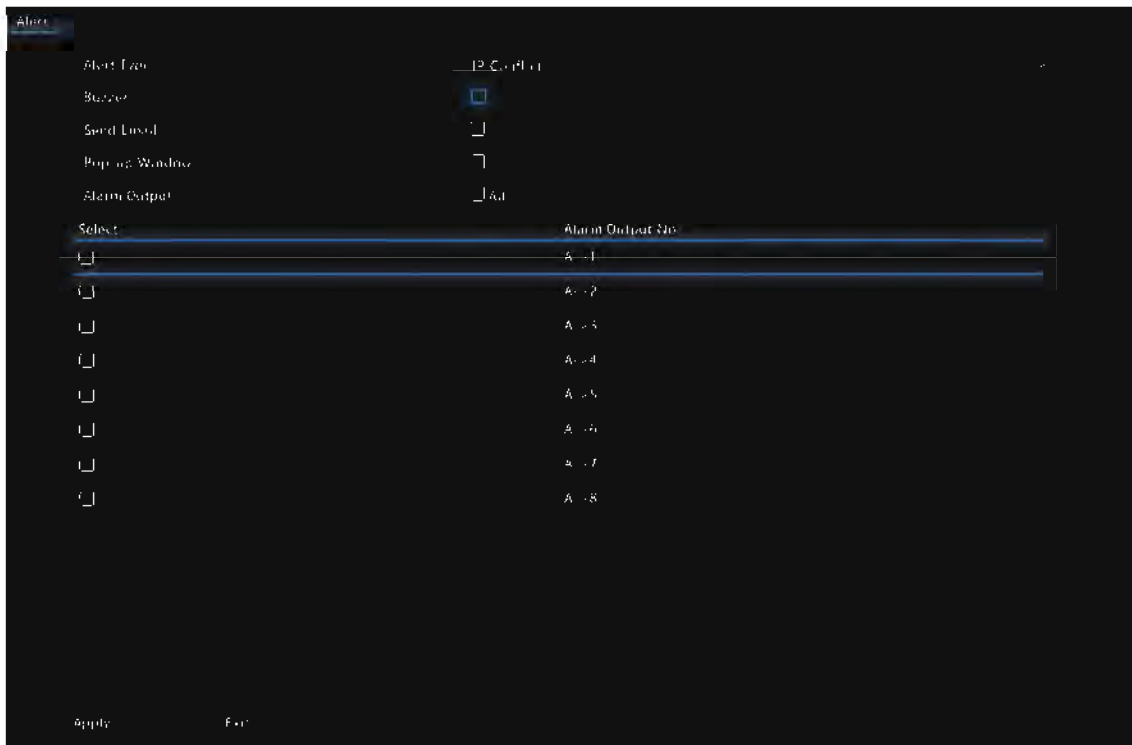


2. Select the infrared light channel, and enable **Abnormal Body Temperature Alarm**.
3. Set the alarm-triggered actions and arming schedule. Click the corresponding  to go to the **Trigger Actions** page and **Arming Schedule** page respectively. See [Alarm-triggered Actions](#) and [Arming Schedule](#) for details.
4. Click **OK**.

## 10.6 Alert

Configure alert actions for device abnormal events. The DVR reports an alarm when an event occurs.

1. Go to **Menu > Alarm > Alert**.
2. Select an alert type from the drop-down list.
  - IP Conflict: IP cameras use the same IP address on the network.
  - Network Disconnected: An IP camera is offline.
  - Disk Offline: No disk or a disk is not properly connected.
  - HDD 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 select **All**, or select specified alarm output channel(s).

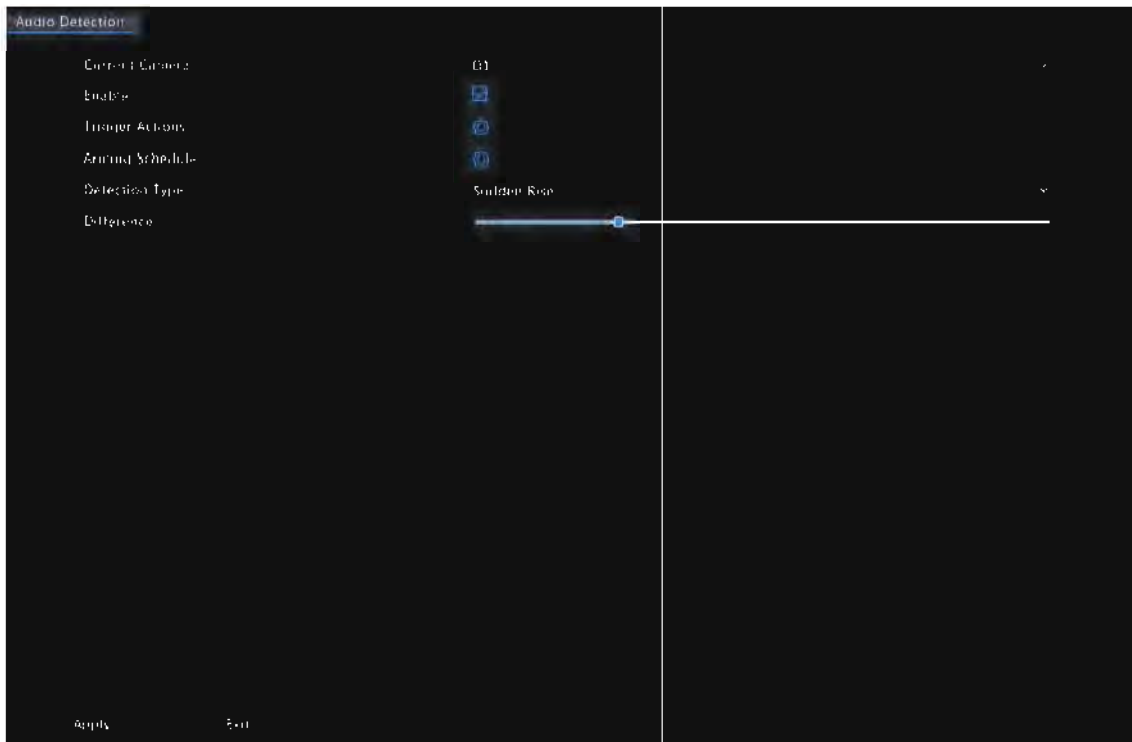



5. Click **Apply**.
6. Repeat the above operations to configure alert actions for other events.

## 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**.



2. Select the desired camera, and click **Enable**.
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.

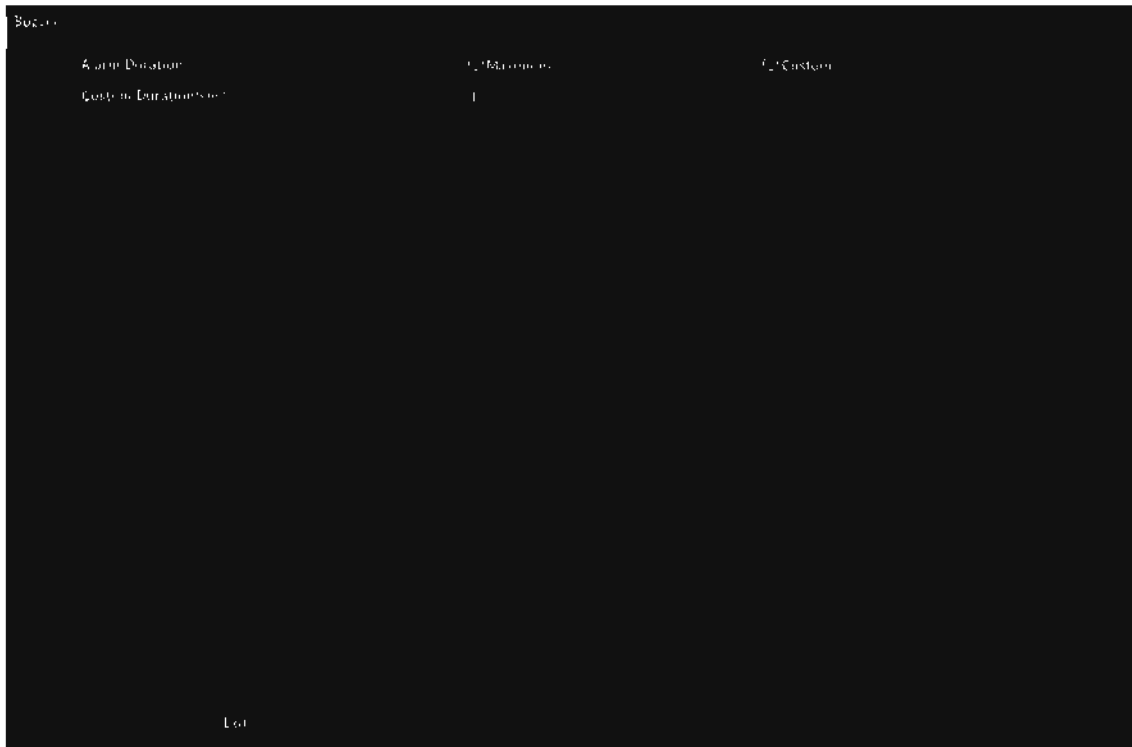
Item	Description
Detection Type	<p>Select an audio detection type from the drop-down list.</p> <ul style="list-style-type: none"> <li>• Sudden Rise: An alarm occurs when the rise of volume exceeds the set value.</li> <li>• Sudden Fall: An alarm occurs when the fall of volume exceeds the set value.</li> <li>• Sudden Change: An alarm occurs when the rise or fall of volume exceeds the set value.</li> <li>• Threshold: An alarm occurs when the volume exceeds the set threshold.</li> </ul>
Difference/Threshold	<p>Drag the slider to adjust the difference and threshold.</p> <ul style="list-style-type: none"> <li>• 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 <b>Sudden Rise</b>, <b>Sudden Fall</b>, or <b>Sudden Change</b>.</li> <li>• 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 <b>Threshold</b>.</li> </ul>

5. Click **Apply**.

## 10.8 Buzzer

Configure the alarm duration of the buzzer on the DVR.

1. Go to **Menu > Alarm > Buzzer**.



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**.

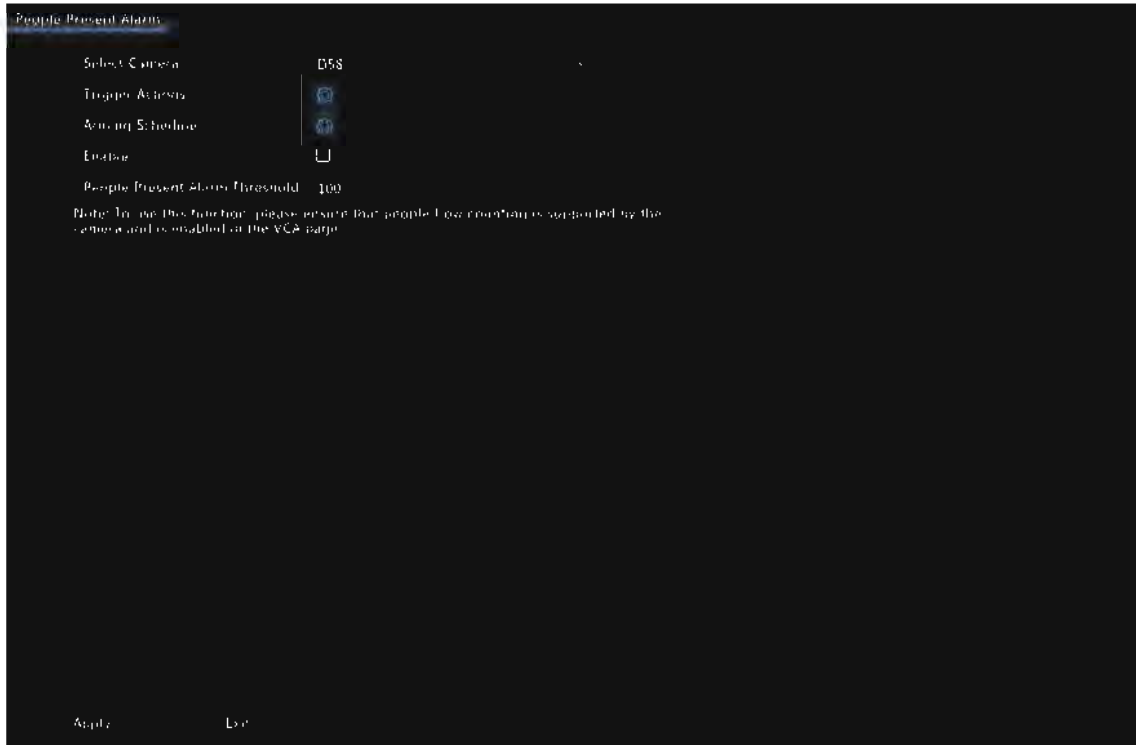
## 10.9 People Present Alarm


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 in the **VCA** page. See [People Flow Counting](#) for details.

### Configure People Present Alarm

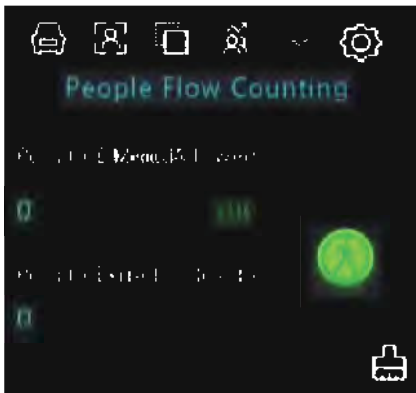
1. Go to **Menu > Alarm > People Present Alarm**.



2. Select the desired camera, and click **Enable**.
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 the people present alarm threshold, which is 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.
5. Click **Apply**.

### View Data

In 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, left, and present.



## 10.10 One-Key Disarming

Cancel alarm-triggered actions of DVRs or IPCs with one click.


### NVR Disarming

1. Go to **Menu > Alarm > One-Key Disarming > NVR Disarming**.



2. Select a disarming mode and configure parameters.
  - Off: Disarming is disabled on the DVR.
  - Disarm by Schedule: The DVR is disarmed during specific time periods per week.



(1) Click  right to **Disarm by Schedule**, and set the disarming periods. Click **OK** to return to the **NVR Disarming** page.

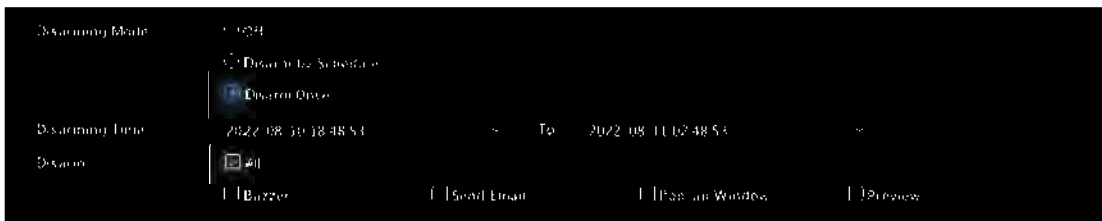


**Note:**

- 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 DVR is disarmed during a specified time period.



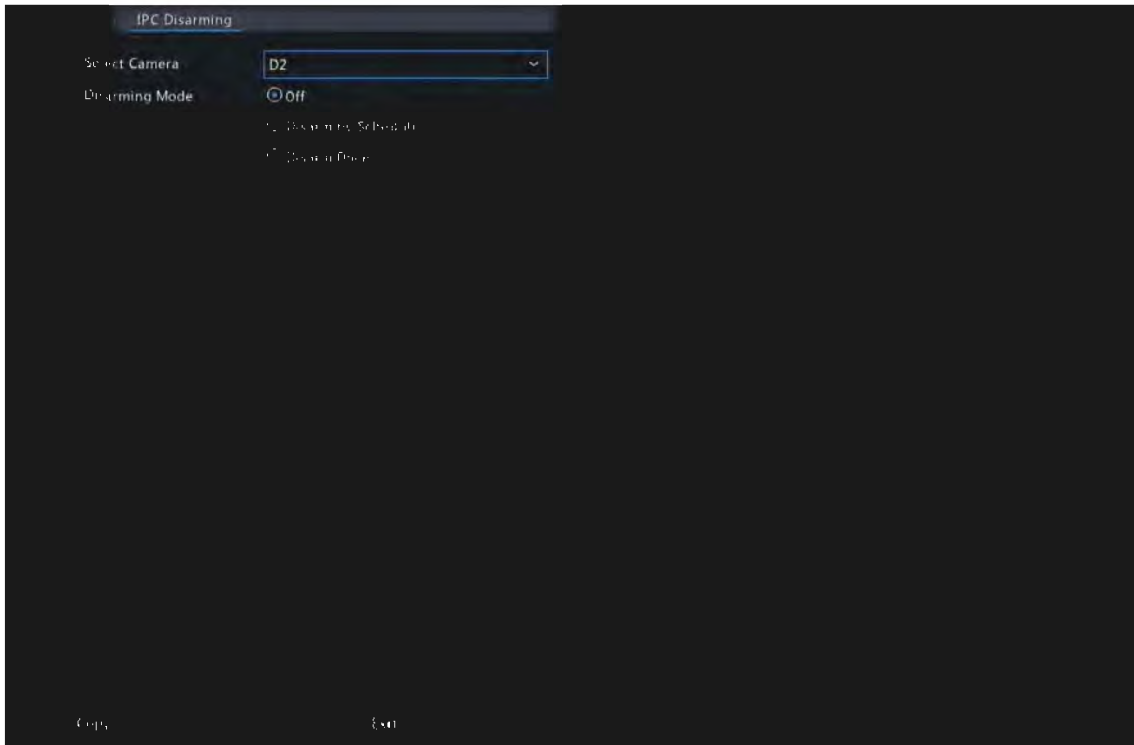
(1) Select **Disarm Once**, and set the disarming start time and end time.

(2) Select actions to be disarmed. The default is all actions. See [Alarm-triggered Actions](#) for details.

3. Click **Apply**.


### IPC Disarming


1. Go to **Menu > Alarm > One-Key Disarming > IPC Disarming**.



2. Select the desired camera.
3. Select a disarming mode and configure parameters.
  - Off: Disarming is disabled on the IPC.
  - Disarm by Schedule: The IPC is disarmed during specific time periods per week.



Click  right to **Disarm by Schedule**, and set the disarming periods. Click **OK** to return to the **IPC Disarming** page.

 **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**.
  - Disarming by schedule will cancel all the actions configured on the IPC's web interface by default. You can modify the settings on the IPC's web interface.
- Disarm Once: The IPC is disarmed during a specified time period. Select **Disarm Once**, and set the disarming start time and end time.



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



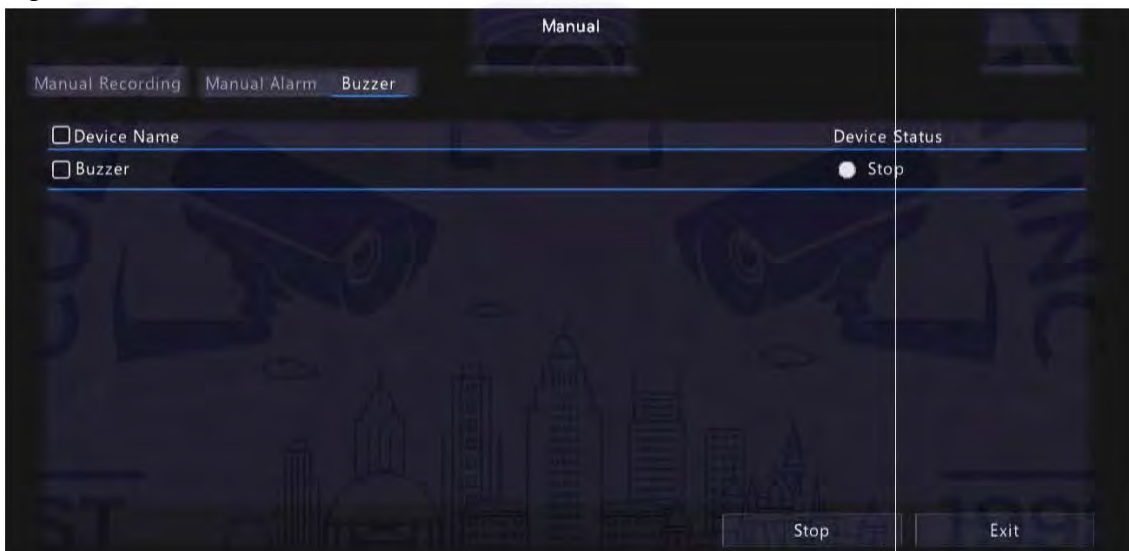


2. Trigger or clear alarm(s) manually.

- 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**.



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 DVR model, firmware version, build date, etc.

1. Go to **Menu > Maintenance > System Info > Basic Info**. View the basic information of the device.



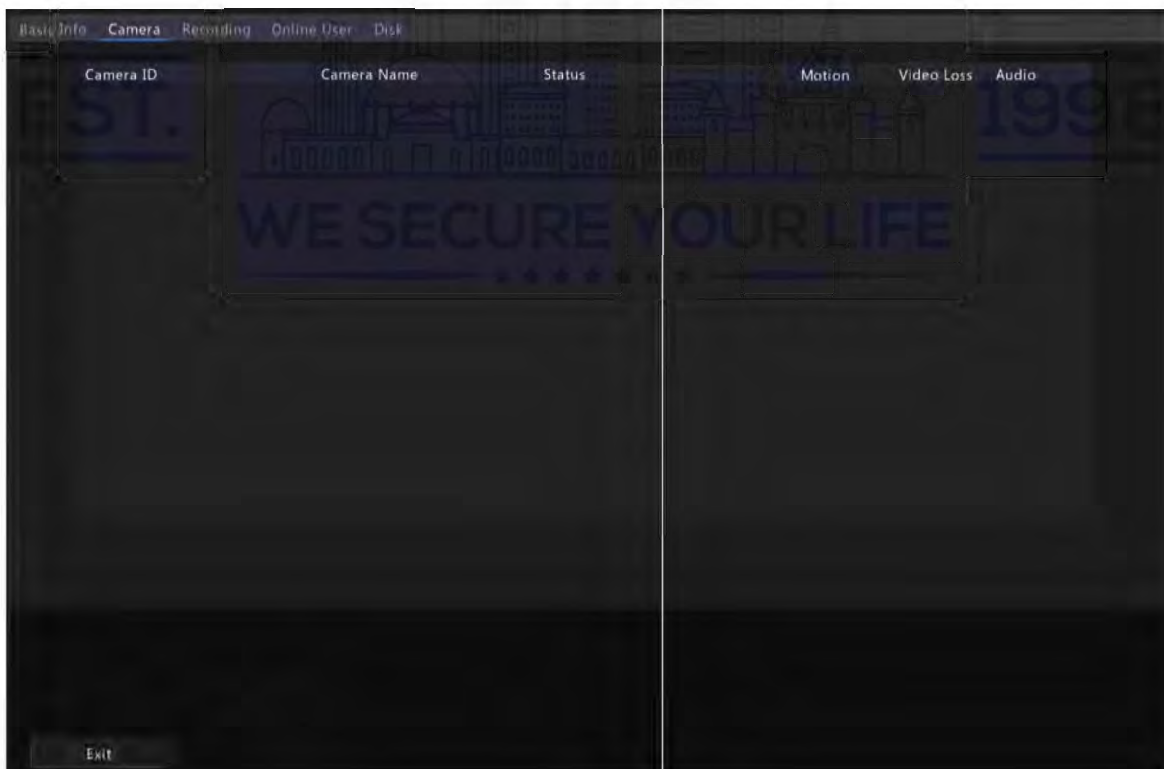
Parameter	Description
Model	DVR model.
Serial No.	Serial number.
Firmware Version	Firmware version of the DVR.
Build Date	Release date of the current firmware version.
Operation Time	Length of time the DVR has been operating since the latest startup.

2. Scan the QR code to download the app and manage the DVR on a mobile phone.

### 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.



### 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
A1	Camera 01	Manual	Ongoing	Normal	Main and Sub S...	15	2042	1920X1080
A2	Camera 02	Normal	Ongoing	Normal	Main and Sub S...	8	135	1920X1080
A3	Camera 03	Normal	Ongoing	Normal	Main and Sub S...	8	135	1920X1080
A4	Camera 04	Normal	Ongoing	Normal	Main and Sub S...	8	135	1920X1080

Exit

### 11.1.4 Online User

View the logged-in users, and force non-admin users to log out of the DVR 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

Logout      Exit

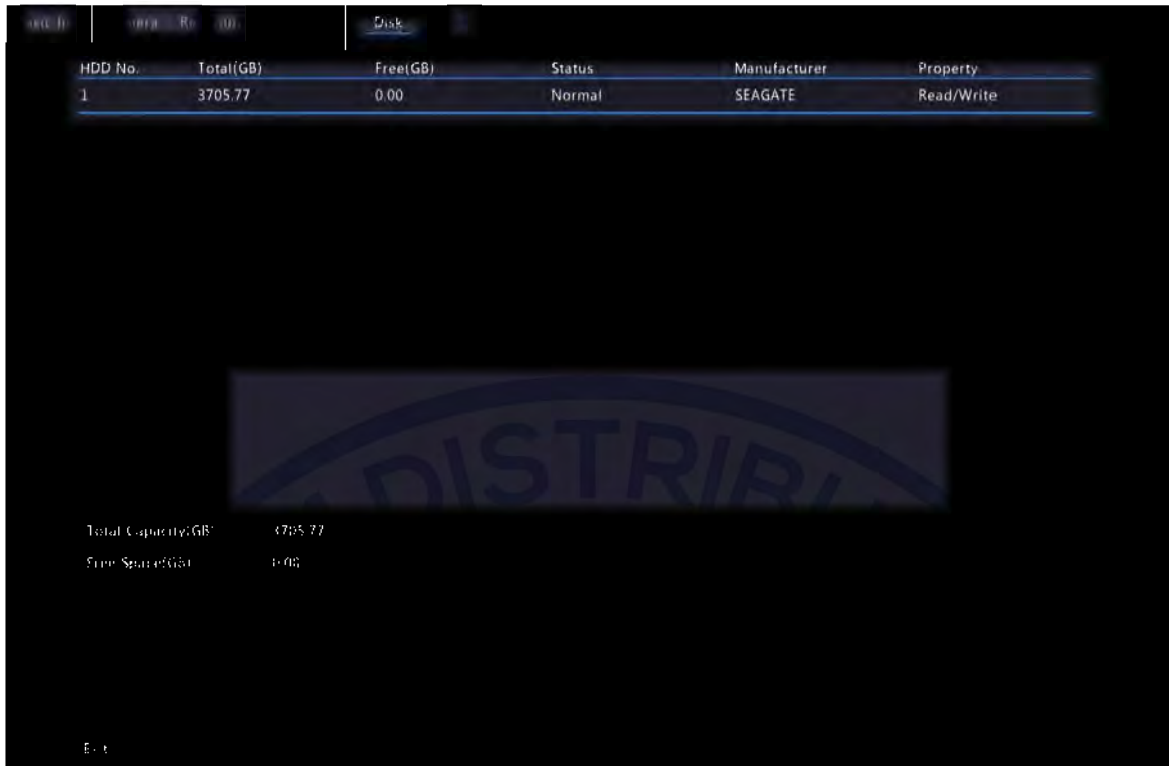
2. Choose a non-admin user and then click **Logout**.

 **Note:** Only admin can manage user permissions.

### 11.1.5 HDD Status

View the status and property of HDDs on the DVR.

Go to **Menu > Maintenance > System Info > Disk**. View hard disk information including the total capacity, free space, status, manufacturer, and property.



### 11.2 Network Information

View network information including network traffic, network statistics 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**.

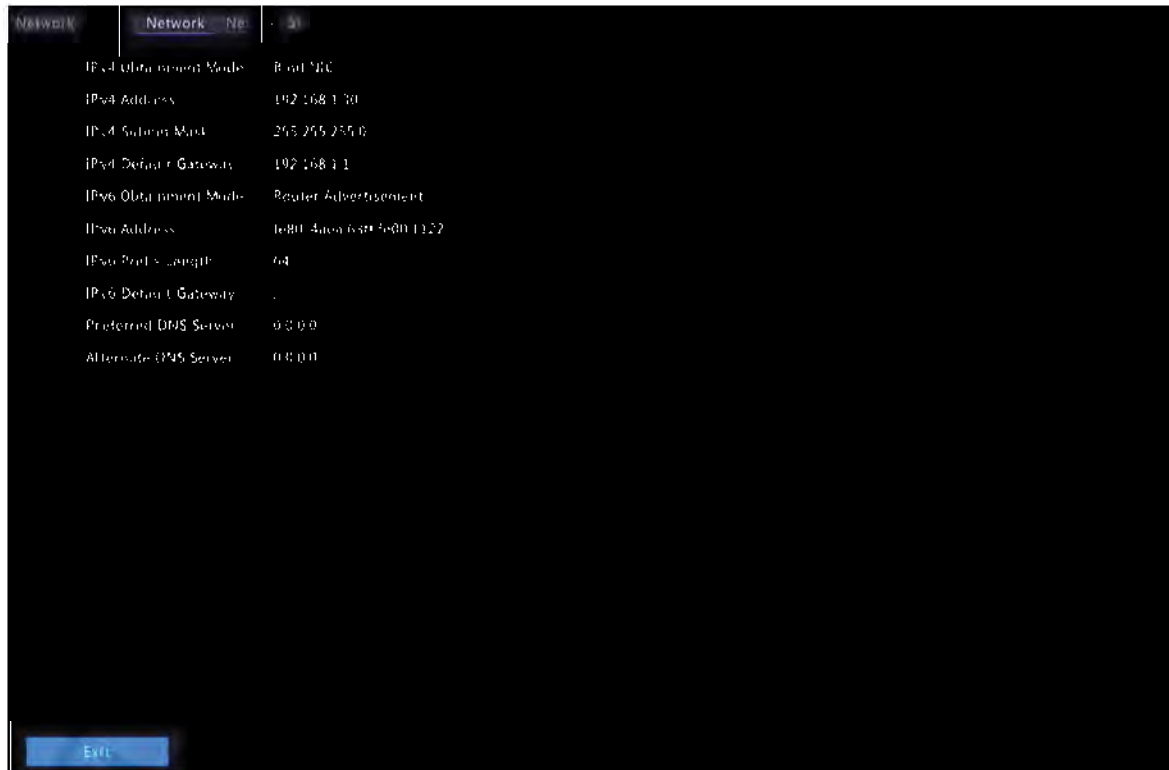


2. Choose an NIC to view the real-time network traffic.

### 11.2.2 Network Status

View network parameters of an NIC.

Go to **Menu > Maintenance > Network Info > Network**. Choose an NIC to view its network parameters.



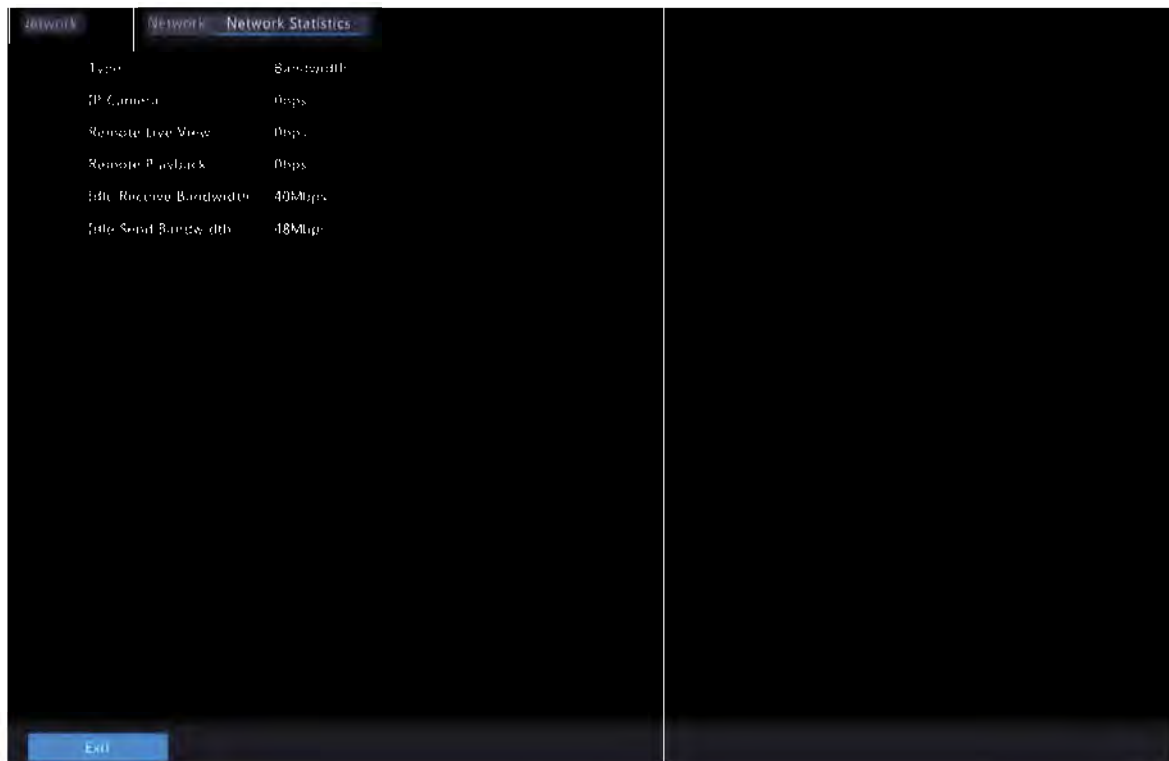
Network	Network	Net	IP
IPv4 Obtainment Mode	Broadcast		
IPv4 Address	192.168.1.30		
IPv4 Subnet Mask	255.255.255.0		
IPv4 Default Gateway	192.168.1.1		
IPv6 Obtainment Mode	Router Advertisement		
IPv6 Address	fe80::4c0a:6301:5001:1122		
IPv6 Prefix Length	64		
IPv6 Default Gateway	.		
Preferred DNS Server	0.0.0.0		
Alternate DNS Server	0.0.0.0		

Exit

### 11.2.3 Network Statistics


View bandwidth usage.

Go to **Menu > Maintenance > Network Info > Network Statistics**. Bandwidth usage is displayed.



Network	Network	Network Statistics
Type	Bandwidth	
IP Camera	0bps	
Reconnect Live View	0bps	
Reconnect Playback	0bps	
Idle Receive Bandwidth	40Mbps	
Idle Send Bandwidth	18Mbps	

Exit

 **Note:**

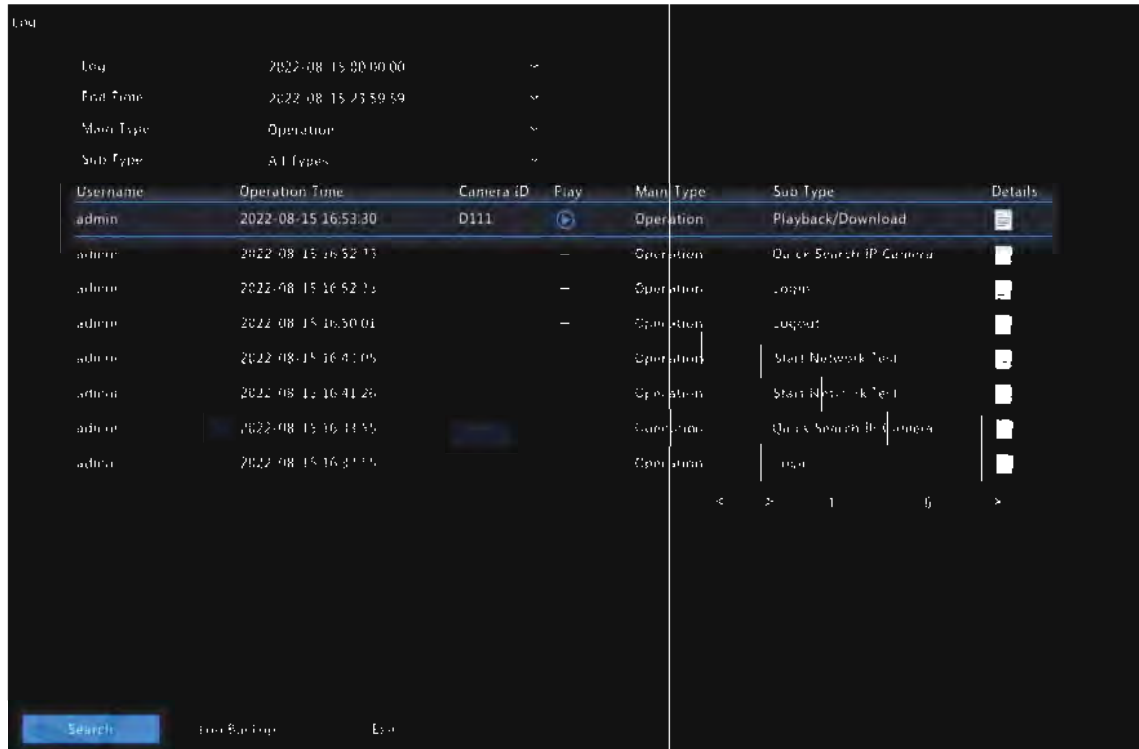
- When idle receive bandwidth is low, cameras cannot get online.
- When idle send bandwidth is low, live view, playback, and recording download will fail.

## 11.3 Log Search

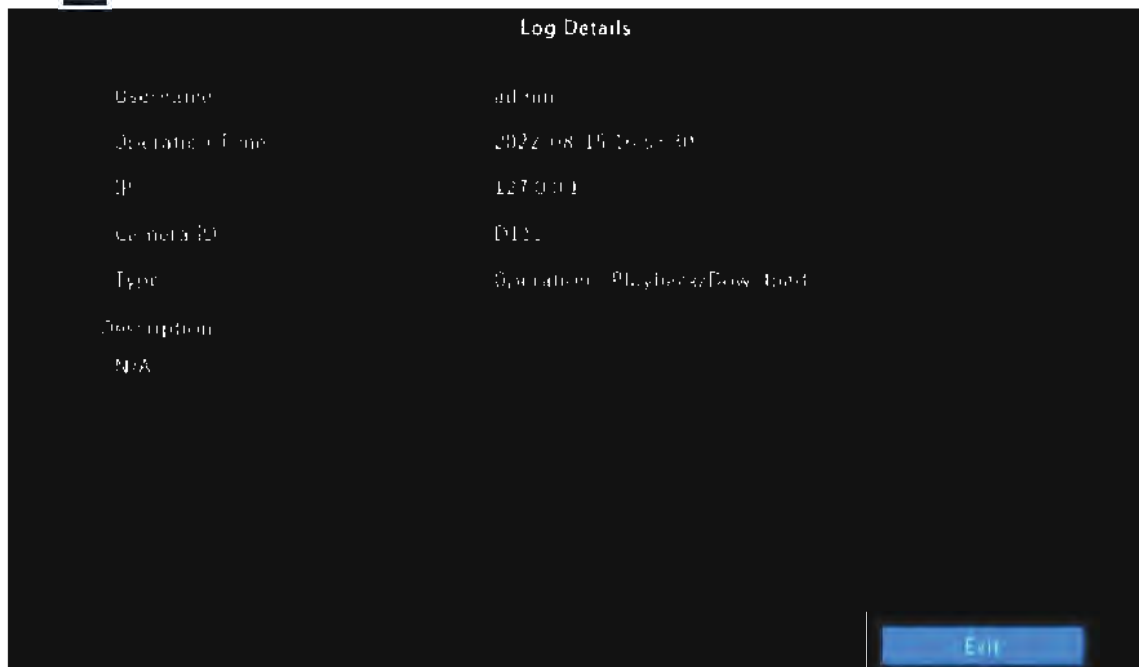
Logs contain information about user operation and device status. You can use logs to keep track of device operation status and view detailed alarm information.

### Log Search

1. Go to **Menu > Maintenance > Log**.



2. Set the start time, end time, main type and sub type.
3. Click **Search**.
4. Click to view log details.



### 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.

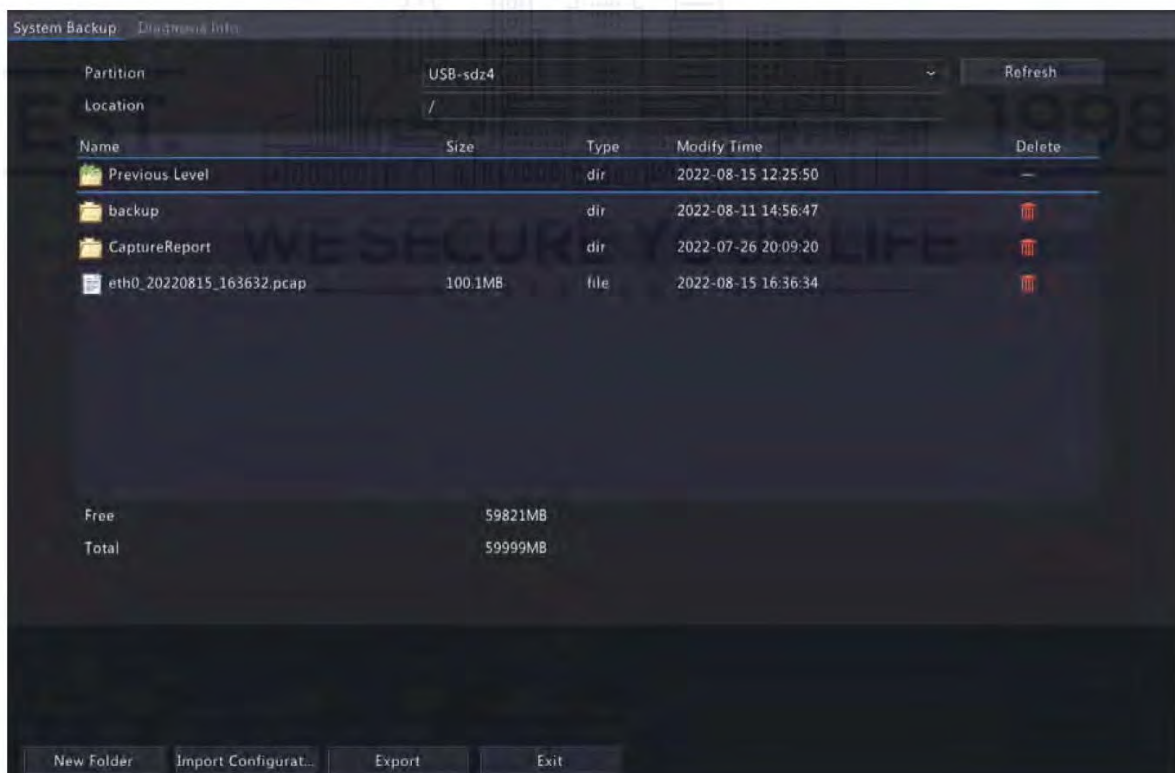
**11.4 System Backup**

Back up system configuration and device diagnosis information.

**11.4.1 System Backup**

Import, export, and delete system configurations.



Go to **Menu > Maintenance > Backup > System Backup**.




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.

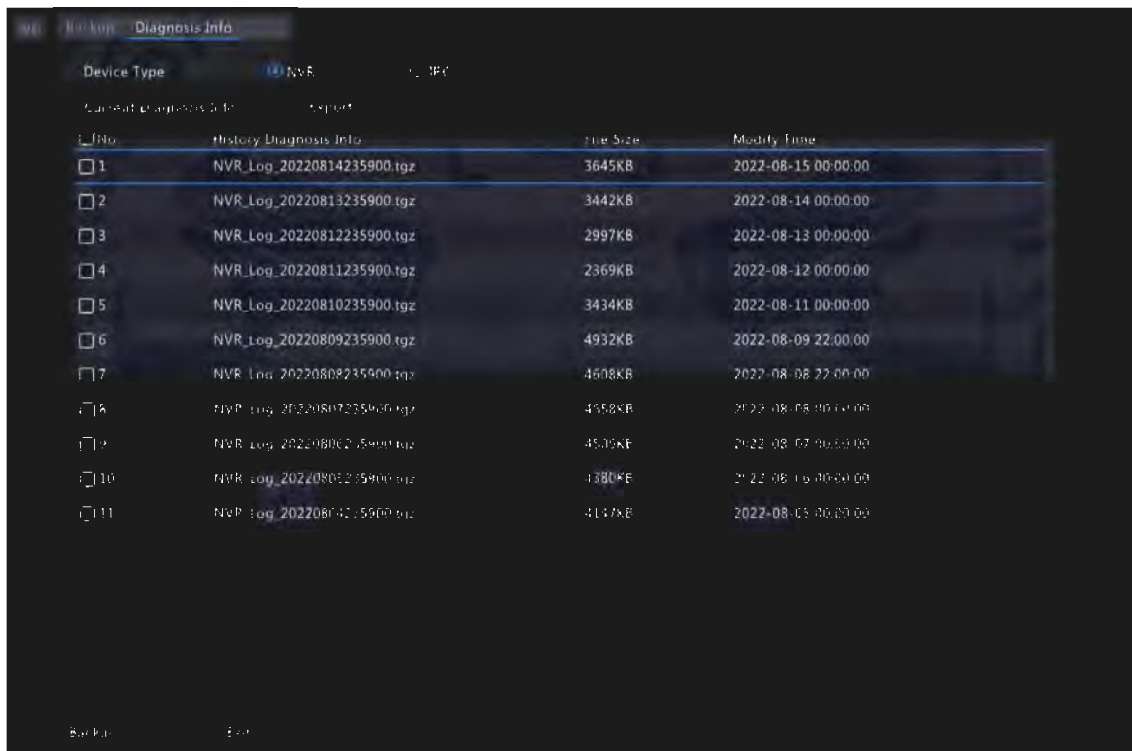
## 11.4.2 Diagnosis Info

View and back up diagnosis information of the DVR and the connected cameras. The DVR keeps 14 days of diagnosis information and overwrites the earliest when the storage is full.

Go to **Menu > Maintenance > Backup > Diagnosis Info**.

### NVR Diagnosis Info

1. Choose **NVR** as the device type.

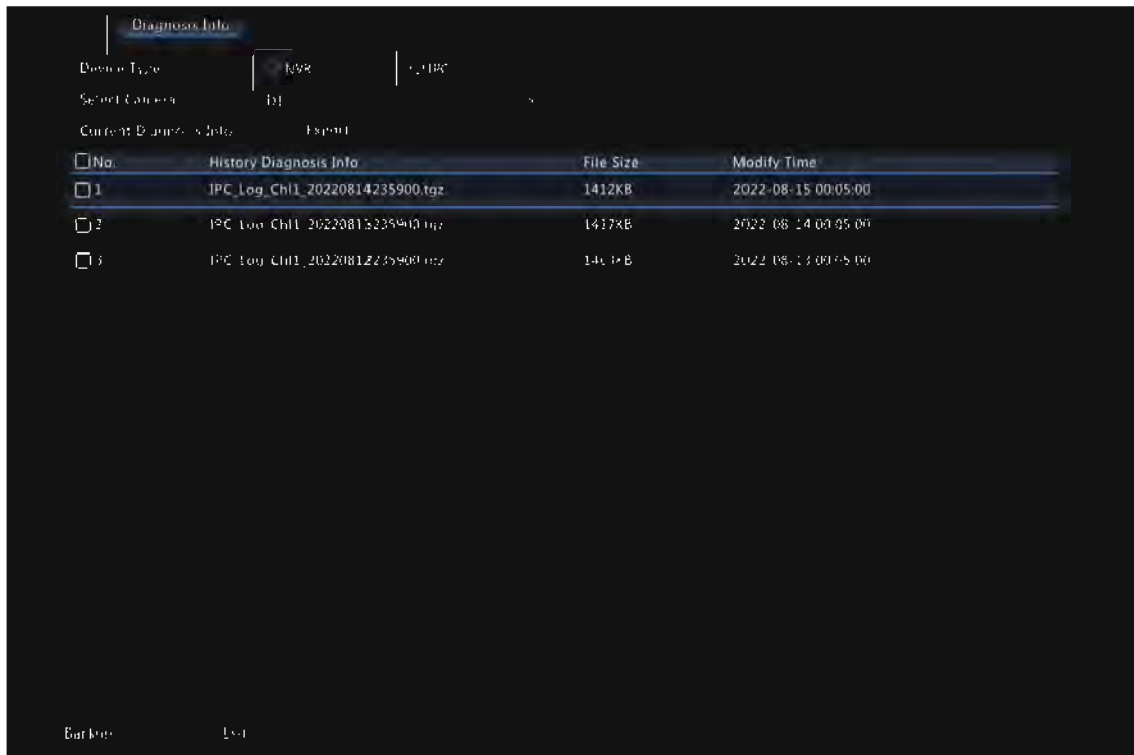


2. Export NVR diagnosis information.
  - Current Diagnosis Info: Diagnosis information since the latest startup. Click **Export** to export diagnosis information to the external storage device.
  - History Diagnosis Info: All the history diagnosis information in the list. Select the desired item(s), click **Backup**. On the **Backup** page, choose the destination path, click **Backup**.

### Camera Diagnosis Info

1. Choose **IPC** as the device type.





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**.


## 11.5 Restore System

Restore default system settings.

1. Go to **Menu > Maintenance > Restore**.



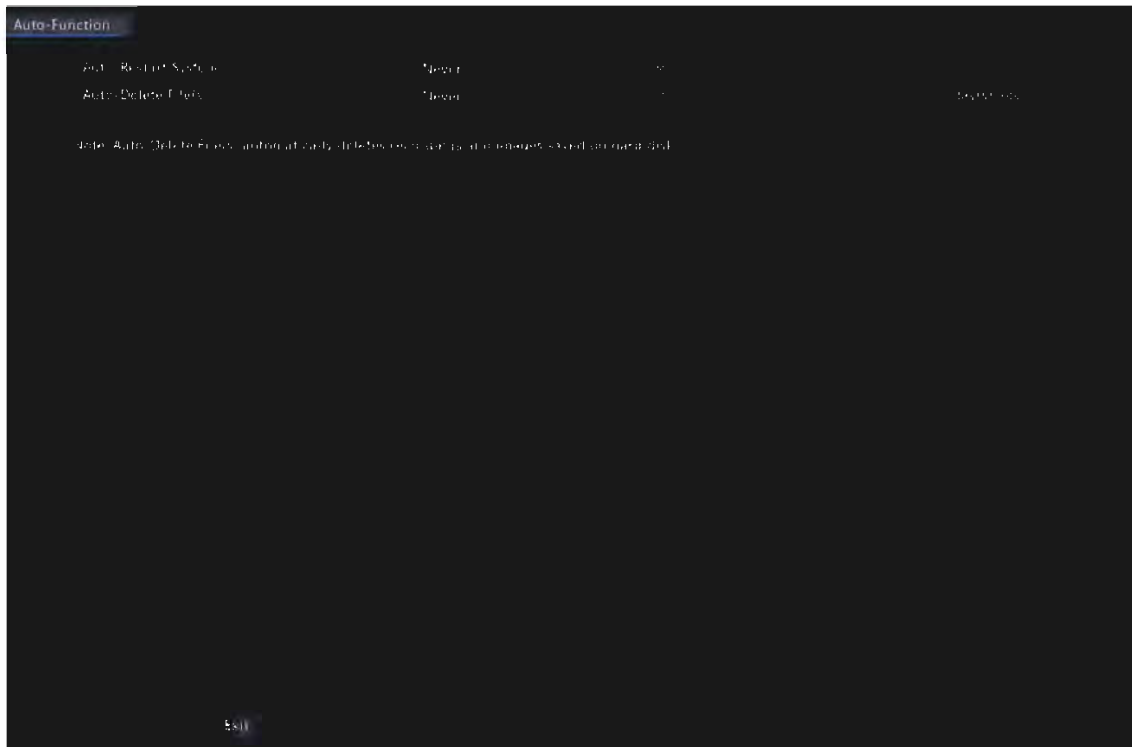
2. Choose **Default** or **Factory Default** as needed. A message appears. The DVR will restart and restore the default settings after you confirm. Choose a method according to your actual needs:
  - Restore: Restore default settings except network settings, user settings, and time settings.
  - Factory Default: Restore all default settings.

 **Note:** Either option will not delete the recorded videos and operation logs.

## 11.6 Auto-Function

The device can restart or delete files automatically at the preset time. Only admin can perform this operation.

1. Go to **Menu > Maintenance > Auto-Function**.



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**.

## 11.7 System Upgrade

Upgrade the firmware of the NVR and the connected cameras.

Two upgrade methods are available. The device will restart after the upgrade is completed.

- Cloud upgrade: Upgrade through the cloud server.
- Local upgrade: Upgrade using the upgrade files saved in a USB storage device.

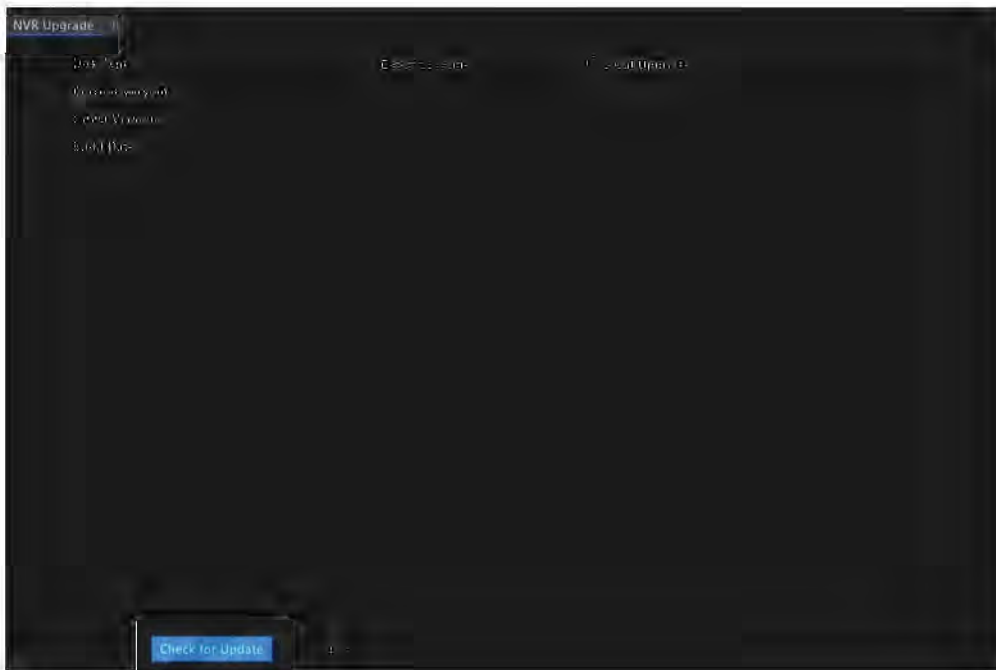
### Note:

- Make sure the device is always connected to power and network during the upgrade. Use an Uninterrupted Power Supplies (UPS) if necessary.
- Before you start a cloud upgrade, make sure the DNS server is functional. Go to **Menu > Network > Basic > Network**. See [Network Configuration](#) for detailed information.
- The cloud upgrade speed is limited by the network transmission speed.

### 11.7.1 NVR Upgrade

Upgrade the firmware of the NVR.

1. Go to **Menu > Maintenance > Upgrade > NVR Upgrade**.



2. Choose **Cloud Upgrade** or **Local Upgrade**.


- Cloud Upgrade

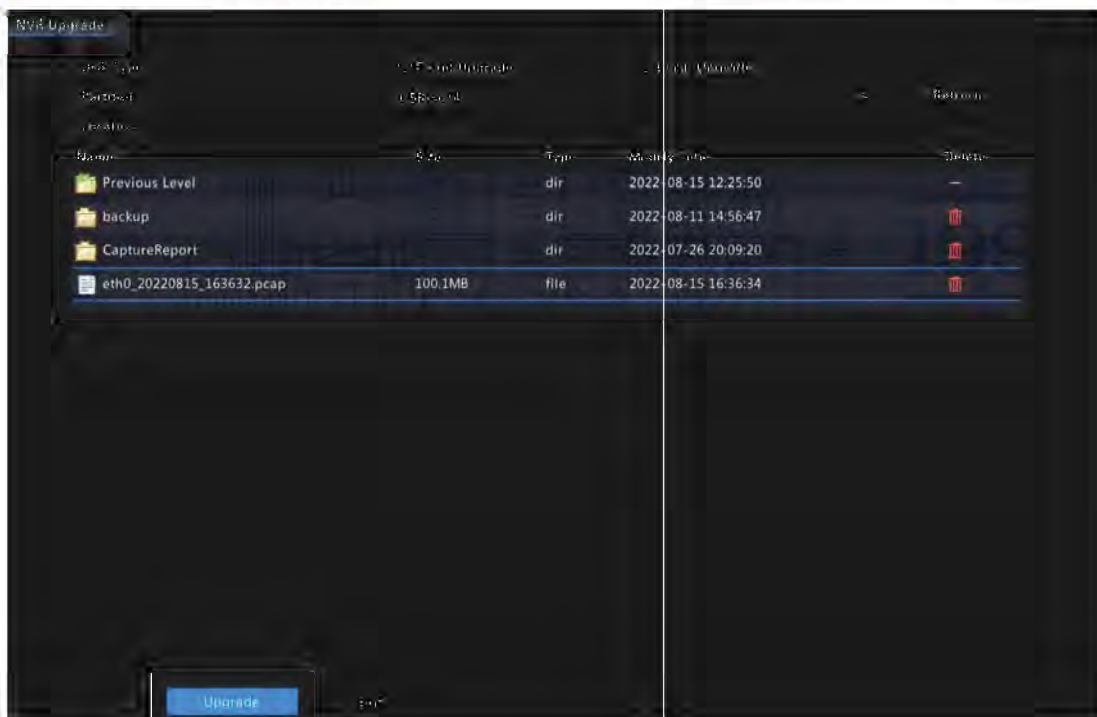
Click **Check for Update**. The system checks for updates.

- If updates are available, the new version number and its build date are displayed. Click **Upgrade** to start.
- If no updates are available, the system indicates that the current version is already the latest.

- Local Upgrade

Select the upgrade file in the USB storage device, click **Upgrade** to start.

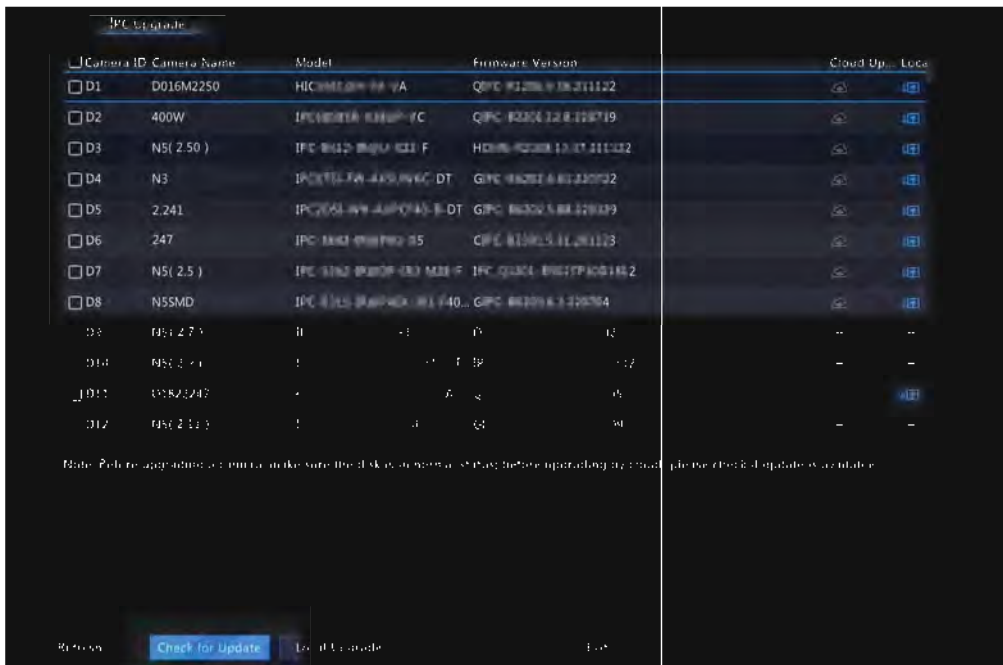
 **Note:** If the upgrade failed, the failure cause will be displayed, and the device will restart automatically. Fix the problem and then try again.



### 11.7.2 IPC Upgrade

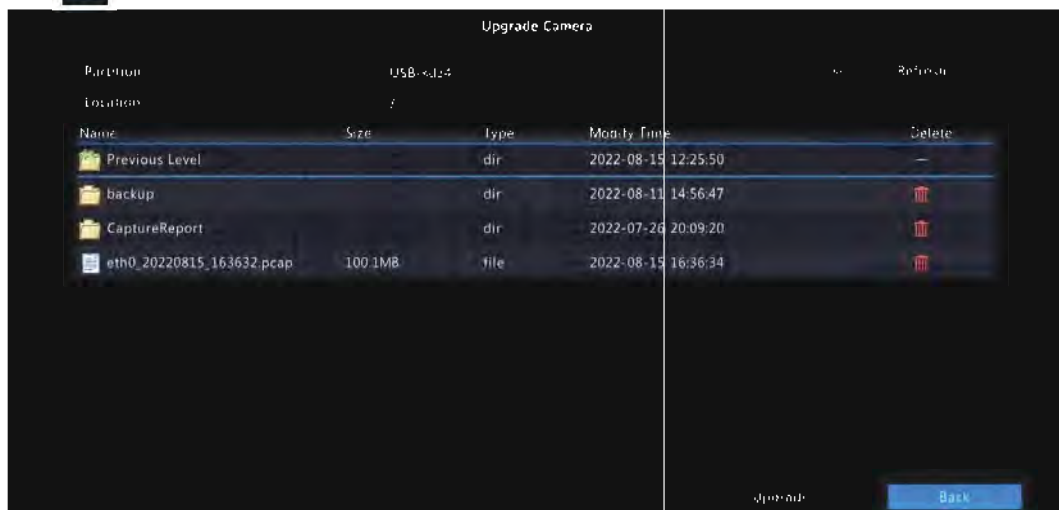
Upgrade the firmware of the IPC. This function is only applicable to cameras connected via the Private protocol.

1. Go to **Menu > Maintenance > Upgrade > IPC Upgrade**.



## 2. Choose **Cloud Upgrade** or **Local Upgrade**.

- **Cloud Upgrade**  
Click **Check for Update**. The system checks for updates.
  - If updates are available, the new version number and its build date are displayed. Click to upgrade a camera, or select multiple cameras and then click **Upgrade** to upgrade in batches.
  - If no updates are available, the system indicates that the current version is already the latest.
- **Local Upgrade**  
(1) Click to upgrade a camera, or select multiple cameras and then click **Local Upgrade**.



- (2) On the **Upgrade Camera** page, select the upgrade file in the USB storage device, and then click **Upgrade**.

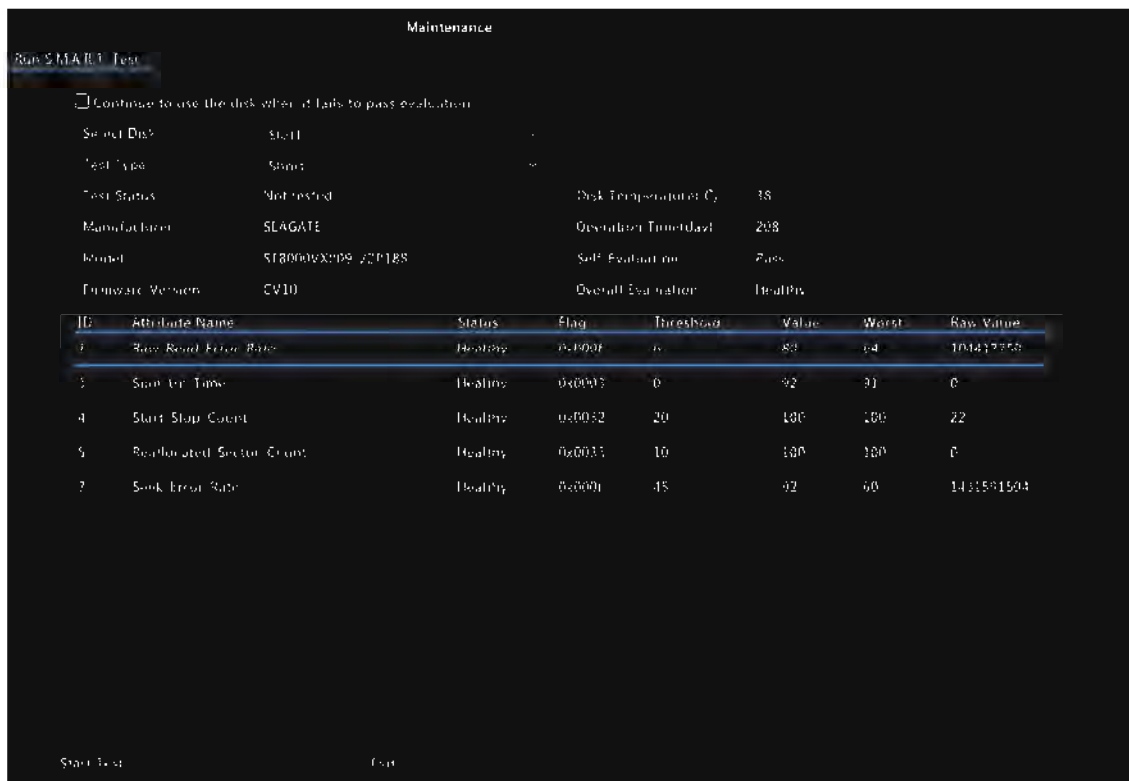
## 11.8 HDD Check

Perform S.M.A.R.T. test and bad sector detection. The actual functions available may vary with device.

### 11.8.1 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 > S.M.A.R.T. Test**.



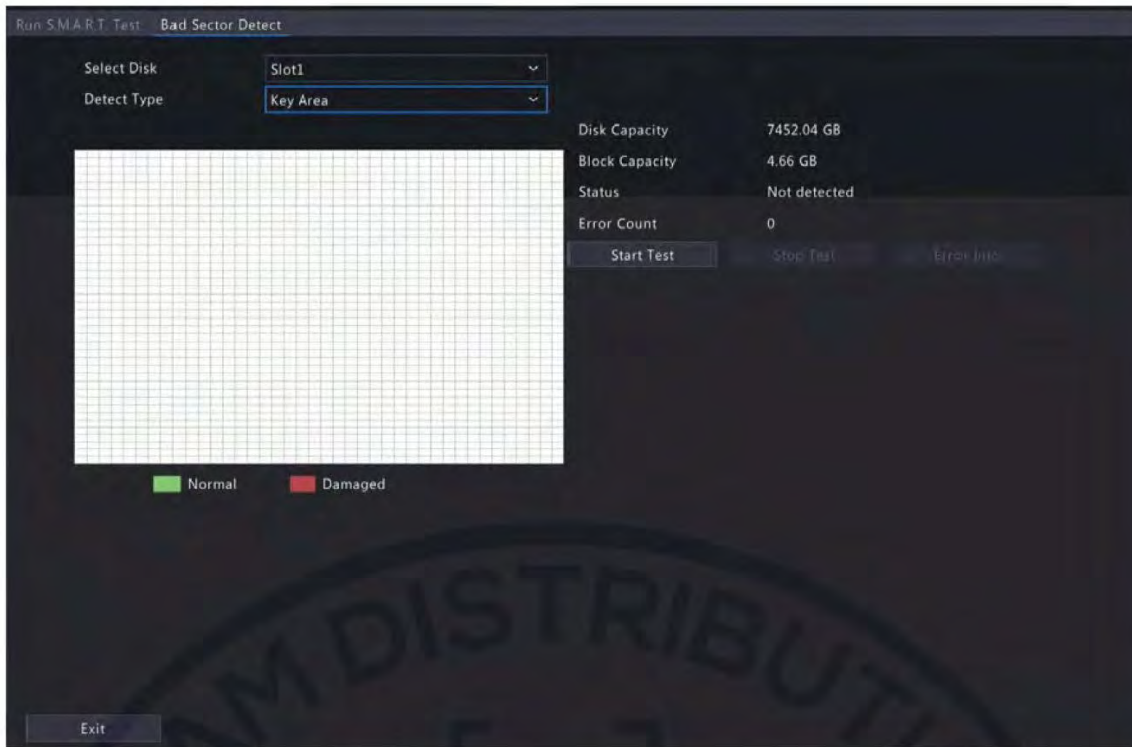
- (Optional) Select , so the device can continue using the hard disk even if the disk fails in the self-assessment. However, this may incur great risks. Please choose carefully.
- Choose the disk slot and test type.
  - Short: Less test contents, faster speed.
  - Extended: More comprehensive and thorough, longer time.
  - Conveyance: Detects problems in data transmission.
- Click **Start Test**. The **Test 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.

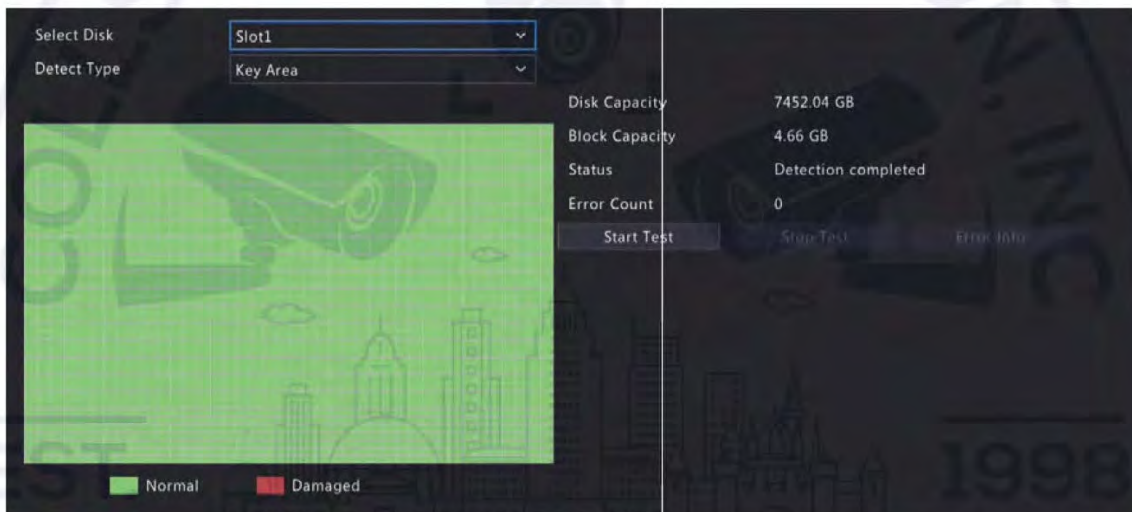
### 11.8.2 Bad Sector Detection

The device system detects bad sectors in hard disks in a read-only manner.

- Go to **Menu > Maintenance > HDD > Bad Sector Detect**.



2. Choose the disk slot and detection type.
3. Click **Start Test**. To stop the detection, click **Stop Test**.

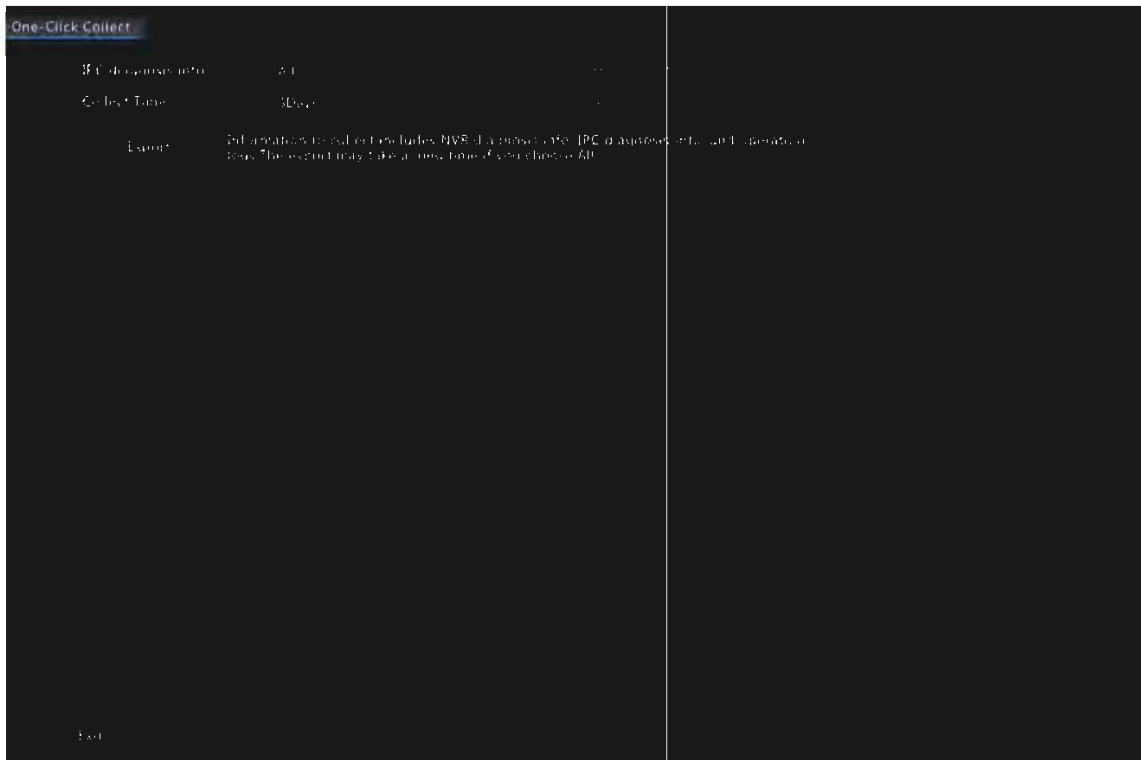


- ■ means the detected area is in good condition.
- ■ means the detected area is damaged. The detection stops automatically when the error count reaches 100.


## 11.9 One-Click Collection

Collect NVR and camera diagnosis information.

1. Go to **Menu > Maintenance > One-Click Collect**.



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**.

## 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. In 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 Normal Playback

Normal playback plays all recordings of the selected camera(s).


- In the preview page, right-click the desired window and select **Playback**. The system plays the video of the selected camera. You can also choose other cameras to play videos in this page.
  - You can choose multiple cameras for synchronous playback.
  - Click **Max. Cameras** to select the maximum number of cameras allowed. The performance may vary with DVR model.
  - Click **Close All** to stop playback for all cameras.



- Double-click the desired date, or select the date and then click  to start playback. By default, the system plays the video of the current day.









 **Note:** 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 DVR plays HD videos by default. You can switch to SD mode if SD videos are stored. The supported video clarity depends on the storage mode, and HD videos are supported by all the storage mode. To store SD videos, go to **Menu > Camera > Encoding** to set the storage mode. See [Encoding Settings](#) for details.


























 **Note:**

- If no images are displayed in 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.

**Table 12-1: Playback Toolbar**

Button	Description
	Show playback progress.  <b>Note:</b> <ul style="list-style-type: none"> <li> indicates 4 cameras are selected.  indicates the playback progress in the first window.  indicates the playback progress in the second window, and so on.</li> <li>Different colors on the progress bar mean different recording types: blue for normal recording, red for event-triggered recording, green for smart event recording.</li> </ul>
	Timeline.  <b>Note:</b> In normal playback mode, hover over the timeline to view a thumbnail image to quickly pinpoint an event.
	Zoom in or out on the timeline. Alternatively, click on the timeline and use the scroll wheel to zoom in or out.



Button	Description
	File saved on a USB storage device.
	Start/stop clipping video.
	Manage files (clips, snapshots, locked files, tags);  indicates there is a newly saved file.
	Take a snapshot. The window borders will flash white.
	Rewind/forward 30s, or choose from the drop-down list.
	Reverse.
	Stop playback and return to the start point.
	Play/pause.
	Slow down/speed up.  <b>Note:</b> Click  to restore the normal playback speed after clicking  , and vice versa.
	Forward by frame.
	Set the video clarity, including HD or SD.
	Enable/disable POS. When enabled, POS OSD appears on the screen, and some toolbar buttons are deactivated.  <b>Note:</b> <ul style="list-style-type: none"> <li>This function is available for certain DVRs.</li> <li>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.</li> </ul>
	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.
	Digital zoom. See <a href="#">Digital zoom</a> for details.
	Turn on/off audio.
	Adjust the sound volume.

Button	Description
	Lock.

## 12.3 Smart Playback




In smart playback mode, the system searches smart events in the recording and adjusts the playback speed accordingly. If smart results are detected such as motions, the video plays at normal speed; otherwise, the video plays at 16x speed to save time.

### Note:


- This function is available for cameras that support smart functions.
- By default the system searches motion in video.
- Only one camera can be selected for smart playback.

1. In the playback page, select **Smart**.








2. Select the desired camera.
3. Double-click the date you want to play, or select the date and then click  or  to start playback.
4. Set smart search rules. The default smart search area is the full screen. To specify a smart search area, follow the steps below.
  - (1) Click  to go to the **Smart** page.






- (2) Click  to clear the existing areas, then click and drag on the image to specify an area.

**Table 12-2: Smart Search Buttons**

Button	Description	Button	Description
	Motion detection: Full screen.		Clear the specified areas.
	Start search smart playback of the specified areas.		Exit the <b>Smart</b> page.
	Adjust detection sensitivity.		

## 12.4 External File Playback

This function allows you to play recordings stored in an external storage devices such as USB drive or portable hard drive.



1. In the playback page, click  on the screen toolbar.
2. Click **Refresh** and then wait for the DVR to read the external storage device.
3. Double-click the desired recording file, or select the file and then click  or  to start playback.

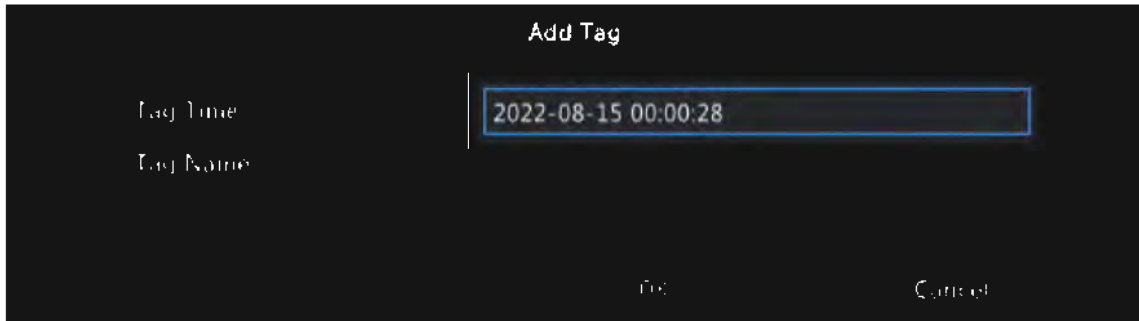


## 12.5 Tag Playback

Use tags to mark specific events in the video for quick location and playback.


### Add Tag



1. In the playback page, select the desired camera and date, and click  to start playback.
2. Click anywhere on the image, and then select  in the pop-up toolbar.

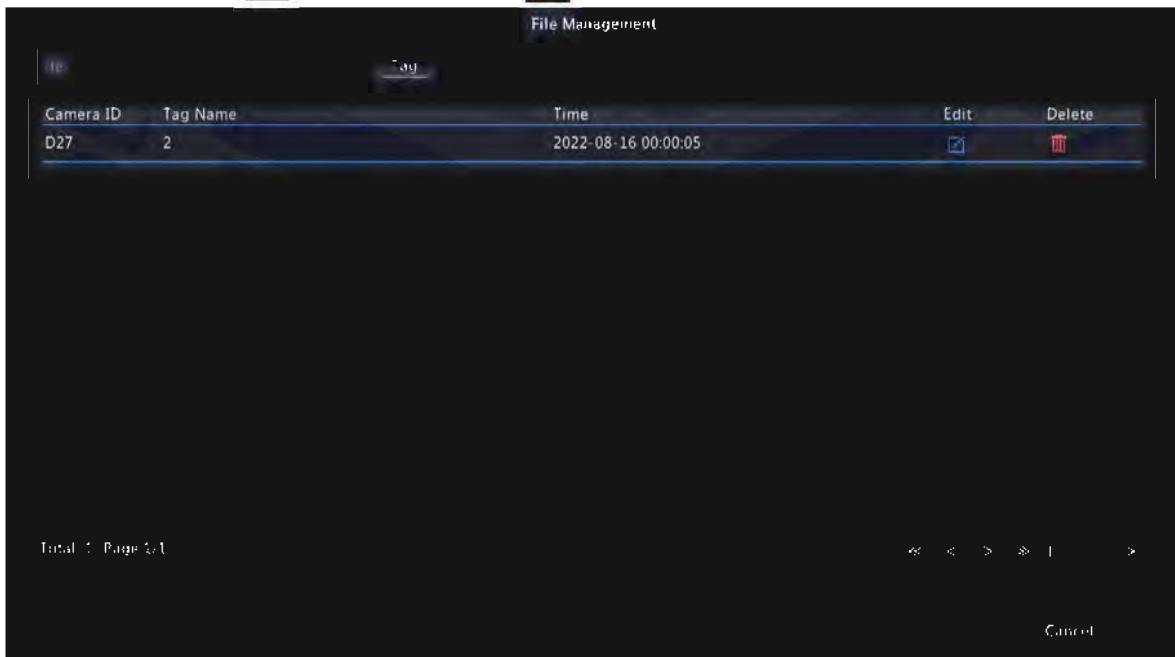




3. Enter the tag name. Tag time cannot be edited, which is the time when the tag was added.
4. Click **OK** to save the settings.

### Tag Management

The added tags are saved to **File Management**. To view the newly added tag, click  on the screen toolbar.

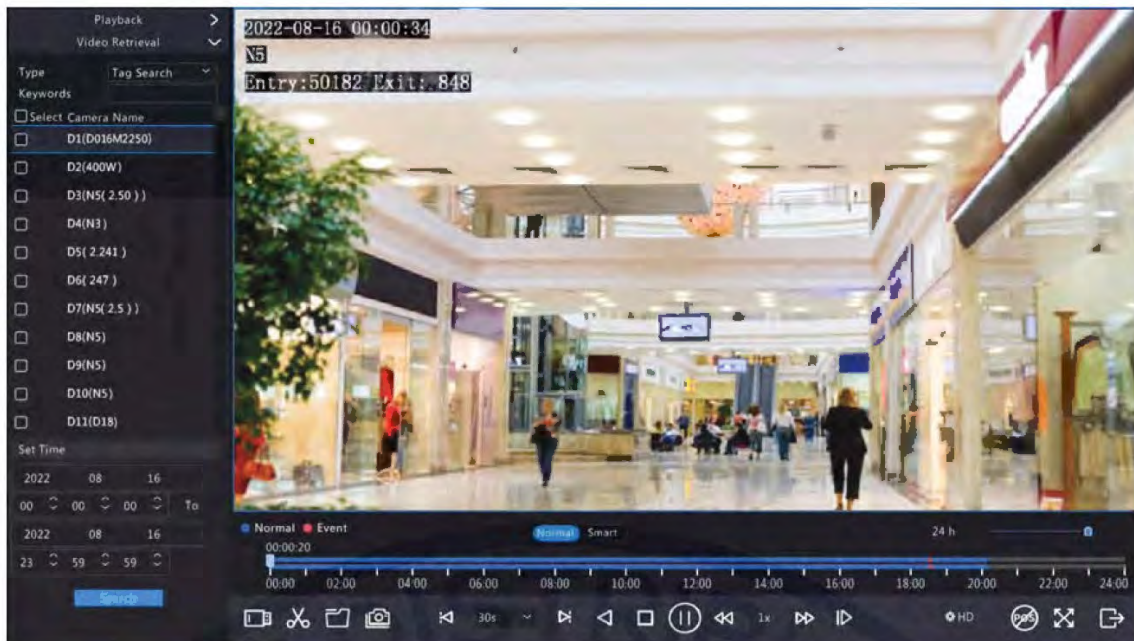
To rename a tag, click . To delete a tag, click .



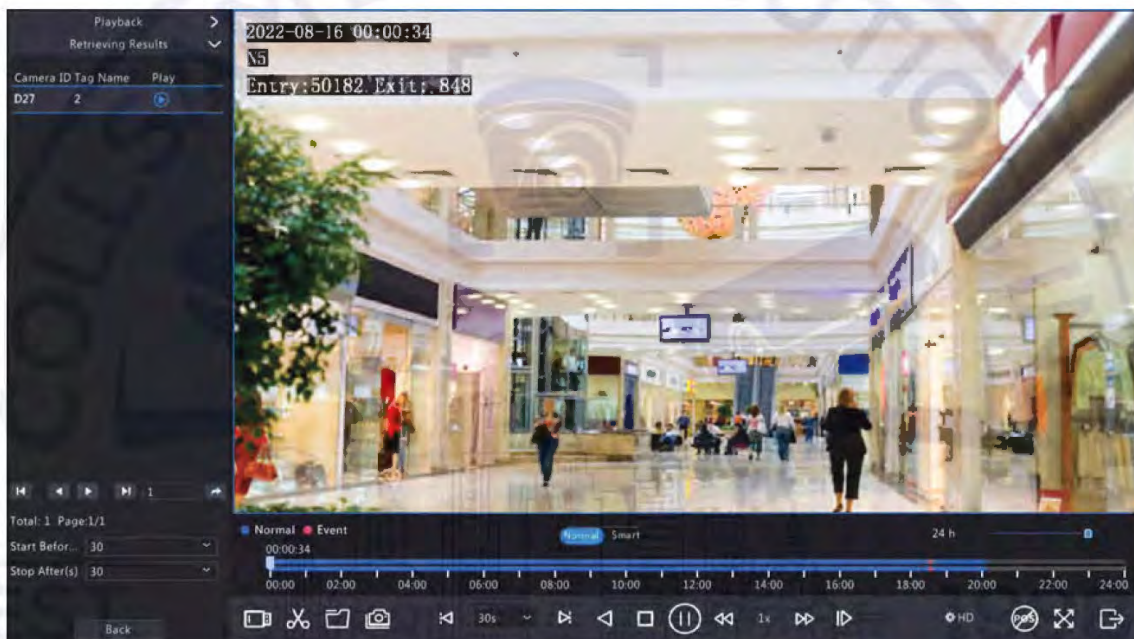
Camera ID	Tag Name	Time	Edit	Delete
D27	2	2022-08-16 00:00:05		



### Playback by Tag

1. In the playback page, click **Video Retrieval**, select **Tag Search** from the drop-down list in the upper left corner.




2. Select the desired cameras with tags, enter keywords, set the time period, and then click **Search**.



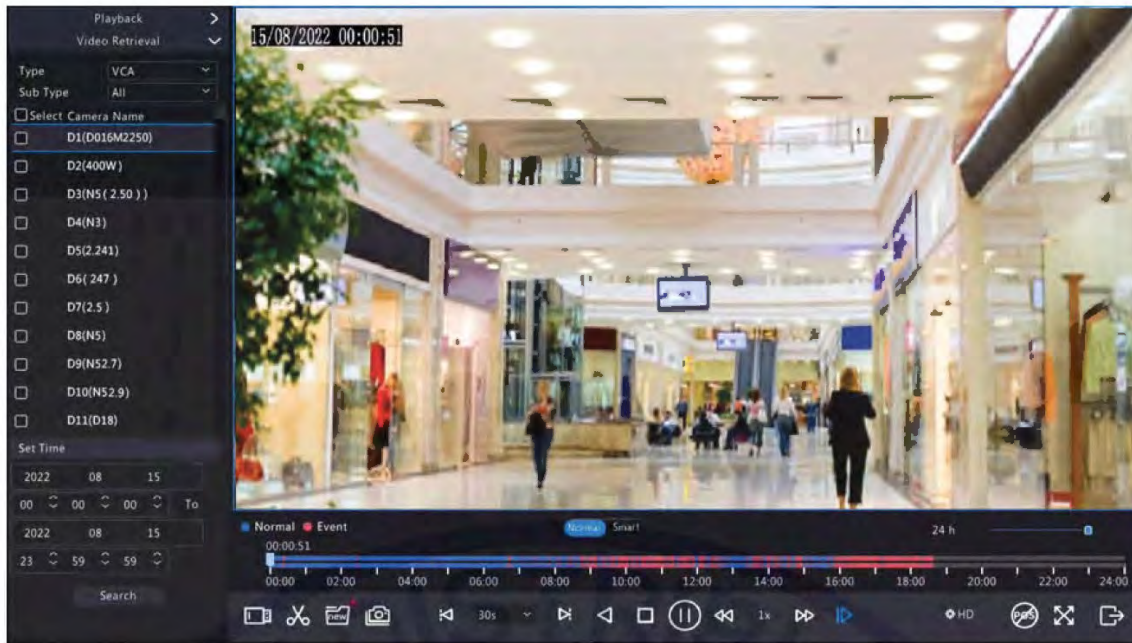
3. Double-click the tag you want to play, or select the tag and then click  or  to start playback.



## 12.6 Playback by Search

This function allows you to search and play recordings by an event type, such as motion detection, alarm input, video loss, VCA, tag, and people present alarm.

 **Note:** Before playback, make sure that the alarm and alarm-triggered storage for the event are enabled.

1. In the preview window, right-click and select **Playback**.
2. In the playback page, click **Video Retrieval**, select the type and sub type, and enter keywords.



3. Select the desired camera(s) and time period, and then click **Search**.
4. Double-click the result you want to play, or select the result and then click  or  to start playback.

## 12.7 File Management

File management allows you to manage video clips, tags, snapshots taken during playback, and lock/unlock files.

### Video Clip



You may clip and back up videos during playback. See [Video Clip Backup](#) for details.




### Playback Snapshot

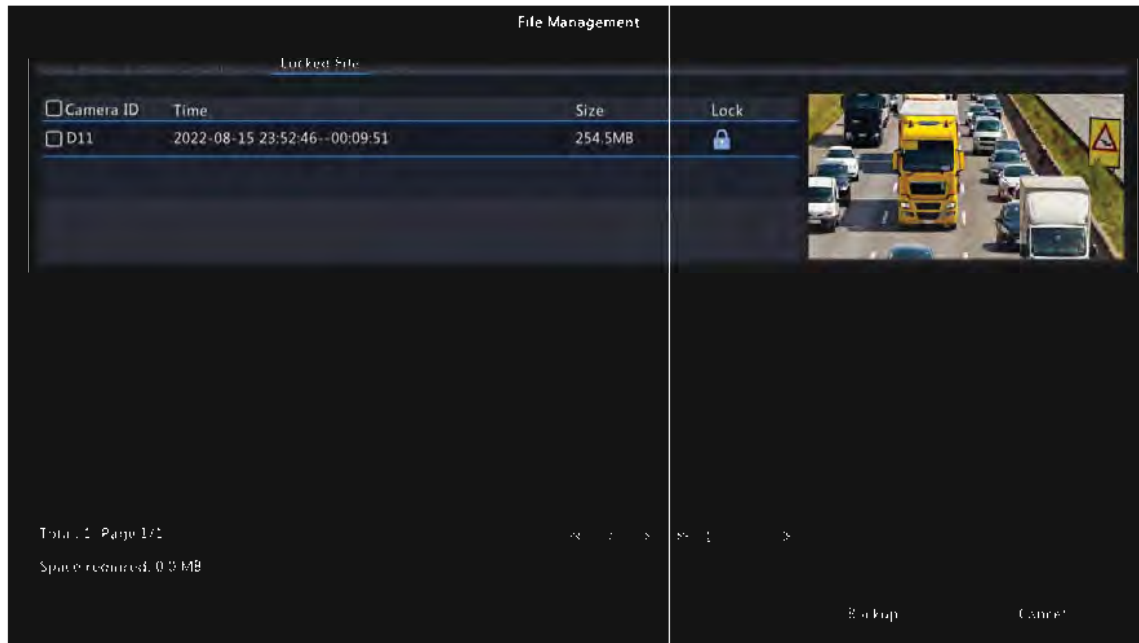
You may take a snapshot during playback and then back up the snapshot. See [Playback Snapshot Backup](#) for details.

### Locked File

You may lock, unlock, and back up a recording file.

1. In the playback page, select the desired camera and date, and click  to start playback.
2. Drag the slider to play the desired part of the video, click on the image to display the toolbar, and then select .
 

Locking a recording file will prevent all the files stored in the same disk partition (254.4MB in size) from being overwritten.
3. Click  on the screen toolbar to view the locked file in the **Locked File** tab.
  - To unlock a file, click , and then the icon changes to .
  - To back up a file, select the file and then click **Backup**.



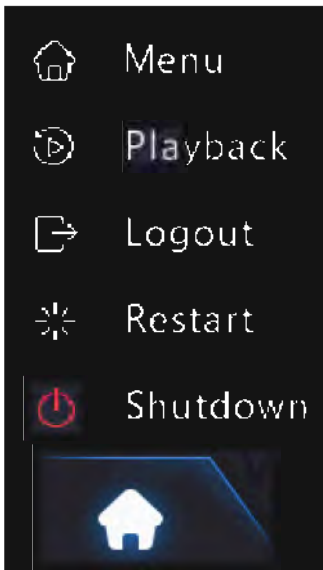
### Tag


You may view, edit, or delete tags as needed. See [Tag Management](#) for details.


## 13 Shutdown

This chapter describes device shutdown, logout, and restart.

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.



- To shut down the DVR, long press the power button on the front panel (if available) for more than 3 seconds till an on-screen message appears, and then click **Yes**.
- To shut down, log out, or restart the DVR, hover the mouse at the bottom of the preview page to display the screen toolbar, click  and then select shut down, log out, or restart as needed.

 **Note:** Unsaved settings will be lost if the DVR is shut down unexpectedly, for example, due to a power failure. A shutdown during a system upgrade may cause startup failures.

## 14 Web-Based Operations

You may access and manage the DVR 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 DVR 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 DVR model.
- The figures below are for illustration purpose only and may vary with DVR model.

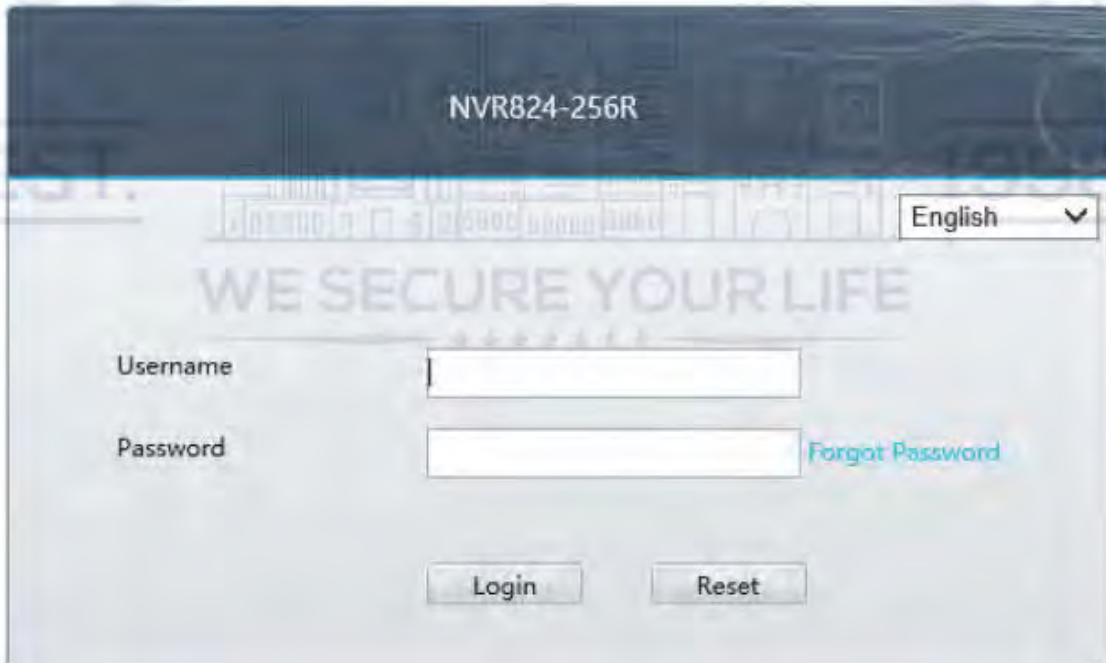
### 14.2 Login

Follow these steps to log in to the Web interface (take IE10 browser as an example).

1. Open a Web browser on your PC, enter the IP address of the DVR in the address bar (**192.168.1.30** 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/Setup.exe in the address bar, and press Enter.
3. In the login page, enter the default username and password (admin/123456) and then click **Login**.



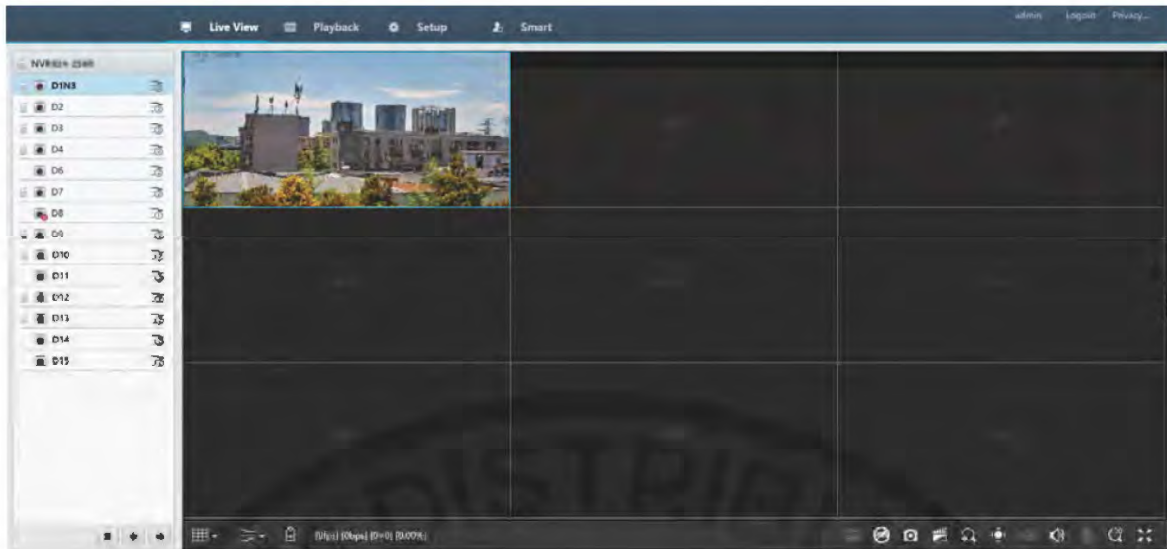
**Note:** The default password is intended only for your first login. You are strongly recommended to set a strong password to ensure account security.

- Strong password: At least 9 characters including all three elements: letter, special character, and digit.
- Weak password: Less than 9 characters including two or less of the three elements: letter, special character, and digit.





















## 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 DVR model.

**Table 14-1: Live View Window Control Buttons**

Button	Description	Button	Description
	Two-way audio		Main/sub/third stream
	Start/stop live video in all windows		Previous/next screen
	Switch screen layout		Select stream type
	Enable/disable intelligent mark		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 positioning		Full screen
	Multi-sensor preview		Fisheye mode

 **Note:**
















-  right to device name means two-way audio with the DVR.  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.

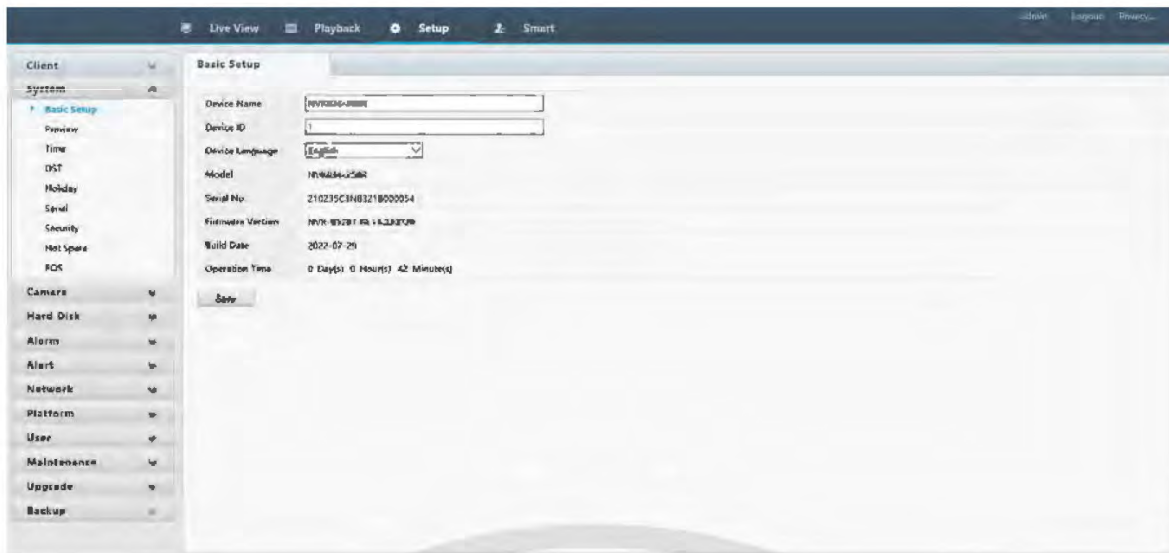


**Table 14-2: Playback Control Buttons**

Button	Description	Button	Description
	Play/pause		Stop
	Reverse		Slow down/speed up
	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.



## 14.6 Smart

Click **Smart** on the top, and configure the relevant parameters. See [VCA Configuration](#) for details.

## 15 Appendix FAQ

Problem	Possible Cause and Solution
Forgot the login password.	Click <b>Forgot Password</b> in the login page as admin, then follow the on-screen instructions to retrieve password.
Cannot load the Web plugin.	<ul style="list-style-type: none"> <li>• Close your web browsers when the installation starts.</li> <li>• Disable the firewall and close the anti-virus program on your PC.</li> <li>• Enable your Internet Explorer (IE) to check for newer versions of the stored pages every time you visit the webpage (<b>Tools &gt; Internet Options &gt; General &gt; Settings</b>).</li> <li>• Add your DVR's IP address to the trusted sites in your IE (<b>Tools &gt; Internet Options &gt; Security</b>).</li> <li>• Add your DVR's IP address to the Compatibility View list in your IE (<b>Tools &gt; Compatibility View Settings</b>).</li> <li>• Clear your IE's cache.</li> </ul>
No images are displayed in live view on the Web interface.	<p>Check if the bit rate is 0Mbps in the live view window.</p> <ul style="list-style-type: none"> <li>• If yes, check if the firewall/anti-virus program is disabled on your PC.</li> <li>• If not, check if the graphics card driver on your PC is working properly. Try installing the driver again.</li> </ul>
A camera is offline, and <b>No Link</b> is displayed.	<p>Click <b>Menu &gt; Maintenance &gt; System Info</b>. The cause is displayed under <b>Status</b>. Common causes include disconnected network, incorrect username or password, weak password, and insufficient bandwidth.</p> <ul style="list-style-type: none"> <li>• Check network connection and other configuration.</li> <li>• If it indicates incorrect username or password, check that the camera password set in the DVR is the one used to access the camera's Web interface.</li> <li>• If it indicates denied access for weak password, log in to the camera's Web interface and set a strong password.</li> <li>• If it indicates insufficient bandwidth, delete other online IP devices on the DVR.</li> </ul>
The NVR displays live video for some cameras and <b>No Resource</b> for others.	<ul style="list-style-type: none"> <li>• Set the camera to encode the sub stream, and decrease its resolution to D1.</li> <li>• Set the DVR to use the sub stream first for live view.</li> </ul>

<b>Problem</b>	<b>Possible Cause and Solution</b>
A camera goes online and offline repeatedly.	<ul style="list-style-type: none"> <li>• Check if network connection is stable.</li> <li>• Upgrade the software version of the camera and DVR. Contact your dealer for the latest versions.</li> </ul>
Live view is normal, but the recording cannot be found.	<ul style="list-style-type: none"> <li>• Check if a recording schedule is properly configured.</li> <li>• Check if the time and time zone configured in the DVR are correct.</li> <li>• Check if the hard disk storing the recording is damaged.</li> <li>• Check if the desired recording has been overwritten.</li> </ul>
Motion detection is not effective.	<ul style="list-style-type: none"> <li>• Check that motion detection is enabled, and the motion detection area is properly configured.</li> <li>• Check that detection sensitivity is properly set.</li> <li>• Check that the arming schedule is properly configured.</li> </ul>
A hard disk cannot be identified by the DVR.	<ul style="list-style-type: none"> <li>• Use the power adapter delivered with the DVR.</li> <li>• Disconnect the power supply of the DVR, and then mount the hard disk again.</li> <li>• Try another disk slot.</li> <li>• The disk is not compatible with your DVR. Contact your dealer for a list of compatible disk models.</li> </ul>
The mouse does not work.	<ul style="list-style-type: none"> <li>• Use the mouse delivered with your DVR.</li> <li>• Make sure no cable is extended.</li> </ul>

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