Contents

Preface

This manual describes how to use your NVR locally or on the Web interface.

In this manual, the terms IP camera and IPC refer to the same thing: network camera, which requires a connection to the network. And the IP device mentioned in this manual refers to an IP camera (also known as network camera) or a Digital Video Server (DVS).

Part I Local Operations

An NVR supports two types of operations: local operations and web-based remote operations. With local operations you connect a monitor and a mouse to the NVR and use the mouse to operate. If your NVR has buttons on the front panel or is delivered with a remote control, you may also control your NVR by pressing the front panel buttons or using the remote control.

The NVR has an embedded web server and allows web-based operations. To do this, you need a client PC that has a network connection to the NVR and is installed with a web browser. You just need to navigate to the NVR's IP address and log in to the Web interface like you log in to the system locally.

This section describes local operations.

1 Before You Begin

Please be aware that the parameters that are grayed out on the system user interface (UI) cannot be modified. The parameters and values displayed may vary with device model, and the figures in this manual are for illustration purpose only.

Login

Use the default username **admin** and password **123456** for your first login.

CAUTION!

The default password is intended only for the first login. Please change it immediately after your first login to ensure security.

1. Right-click anywhere in the preview window and then choose **Menu**. The login dialog box is displayed.
2. Select the username from the drop-down list, enter your password, and then click **Login**.

Local Operations

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. See Mouse Operations for details.

Mouse Operations

Table 1-1 Mouse Operations

Name	Action	Description
Left button	Click	• Select or confirm an item. • Select to edit digits, symbols, upper-case or lower-case letters in a field.
	Double-click	Enter or exit full screen mode in preview.
	Drag	Draw or move a rectangle on the screen, for example, a motion detection area.
Right button	Click	• Show the shortcut menu. • Exit zoom. • Exit the current window when **Cancel** or **Exit** is displayed.
Wheel	Scroll up or down	Scroll up or down a list or a window; or zoom in or out on a playback progress bar.

Front Panel Buttons

The front panel buttons may vary with NVR model.

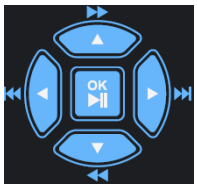
Table 1-2 Front Panel Buttons 1

Button	Description
	Display the main menu.
	Switch to the next tab on the screen or switch the input method.
	Auxiliary function button.
	Exit the current window.

Button	Description
	• /// : Switch windows or menu items; or control rotation directions of a PTZ camera when the PTZ toolbar is closed. PTZ stands for pan, tilt, and zoom. • / : Rewind or forward 30 seconds in full screen. • / : Variable-speed forward or rewind in full screen.
	Confirm an operation, or start/pause the playback.
	Press this button to start up or shut down the NVR. To shut down, press this button and hold for at least 3 seconds till a message appears on your monitor. Click **Yes**. **Note:** This shutdown operation can be performed only when you have logged in to the system.

Table 1-3 Front Panel Buttons 2

Button	Description
	Press this button to start up or shut down the NVR. To shut down, press this button and hold for at least 3 seconds till a message appears on your monitor. Click **Yes**. **Note:** This shutdown operation can be performed only when you have logged in to the system.
	Enter 1; or display the main menu.
	Enter 2, A, B, or C; or start instant playback.
	Enter 3, D, E, or F; or start manual recording.
	Enter 4, G, H, or I; or enter the PTZ control interface.
	Enter 5, J, K, or L; or switch the screen layout in preview or playback mode.
	Enter 6, M, N, or O; or enable or disable arming.
	Enter 7, P, Q, R, or S; or take a snapshot.

Button	Description
	Enter 8, T, U, or V.
	Enter 9, W, X, Y, or Z.
	Enter 0 or a space.
	Delete
	Switch the input method.
	Auxiliary function button.
	Exit the current window.
	Switch to the next tab.
	• /// : Switch windows or menu items; or control rotation directions of a PTZ camera when the PTZ toolbar is closed. • / : Rewind or forward 30 seconds in full screen. • / : Variable-speed forward or rewind in full screen. • : Confirm an operation; or start or pause playback.

Remote Control

Table 1-4 Functions of the Buttons on the Remote Control

Button	Function
Power	Press this button to start up or shut down the NVR. To shut down, press this button and hold for at least 3 seconds till a message appears on your monitor. Click **Yes**. **Note:** This shutdown operation can be performed only when you have logged in to the system.
DEV	This button is for reserved functions.

Button	Function
Toolbar	• In preview mode, press this button to show the toolbar for the currently selected window. • In playback mode, press this button to display windows according to the configured screen layout.
Menu	Press this button to display the main menu.
Iris+/Iris-	Adjust the iris, focus and zoom of the PTZ camera in PTZ control mode.
Focus+/Focus-	
Zoom+/Zoom-	
UP, DOWN, LEFT, RIGHT, ENTER	• Press UP, DOWN, LEFT and RIGHT to navigate between menu items or shift focus. • In PTZ control mode, press UP, DOWN, LEFT, and RIGHT buttons to select the corresponding buttons on the screen, and then press ENTER to activate the selection. • In preview mode, press UP to start sequence in full screen. Pressing UP again starts sequence with three windows on the screen. Press DOWN to open the playback window. • Press ENTER to confirm an operation or to display a selected drop-down list. In playback mode, press ENTER to play or pause in full screen mode. • UP and DOWN: Variable speed forward or rewind in full screen. • LEFT and RIGHT: Rewind or forward 30 seconds in full screen.
Fn	Press to navigate to the next preview window when multiple preview windows are displayed.
Esc	Exit.
Alphanumeric buttons	• Switch to the corresponding channel in live view mode. • Input numbers and characters in edit mode.
Shift	Switch menu items.
Del	Remove characters or spaces on the left of the cursor.

2 Initial Configuration

Preparation

- Make sure that at least one monitor is correctly connected to the VGA or HDMI interface on the rear panel of the NVR.

- Verify that the hard disk(s) are correctly installed. For detailed steps to install a hard disk, please refer to the quick guide shipped with your NVR.

Wizard

The wizard can guide you to complete the most basic setup.

NOTE!

The wizard may vary with device model and other factors. This section takes a non-RAID model as an example.

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

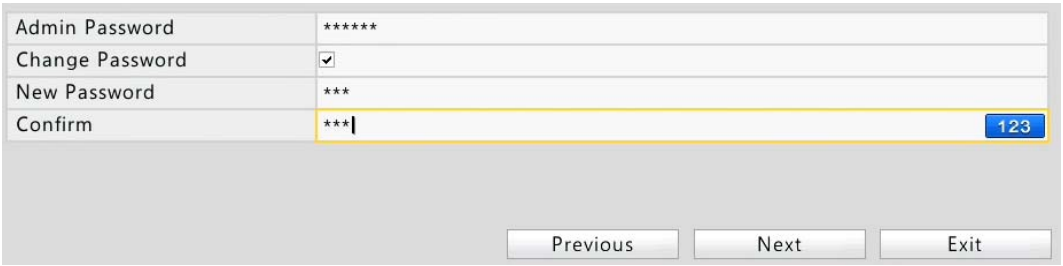
NOTE!

When disabled, the wizard will not be shown at system startup. This setting may be changed later under **Menu** > **System** > **Basic**.

2. Enter the default admin password **123456** and then click **Next**.

CAUTION!

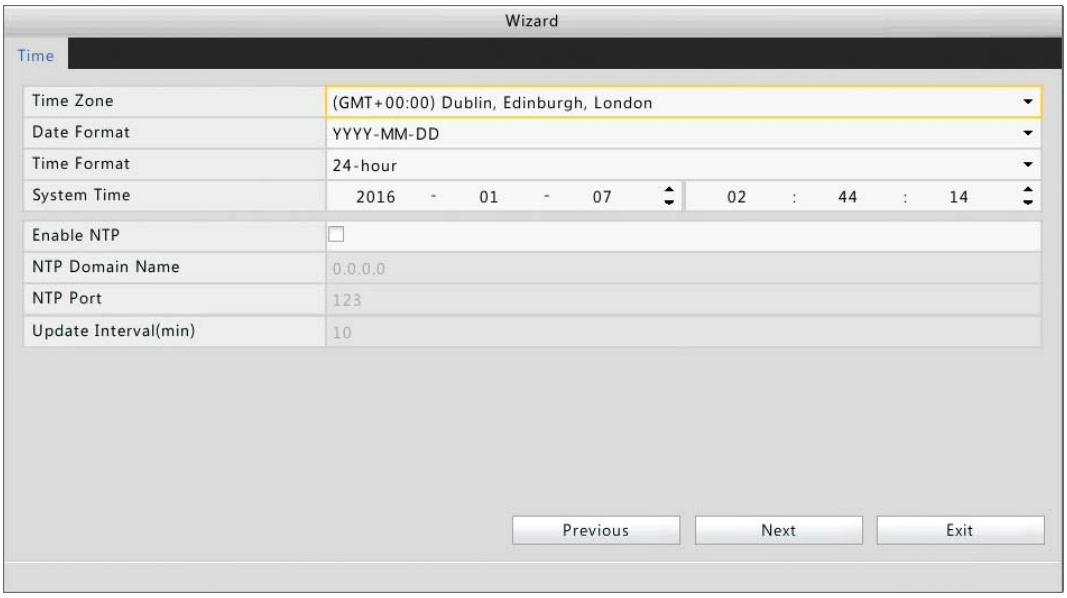
The default password is intended only for the first login. Please change it immediately after your first login to ensure security.



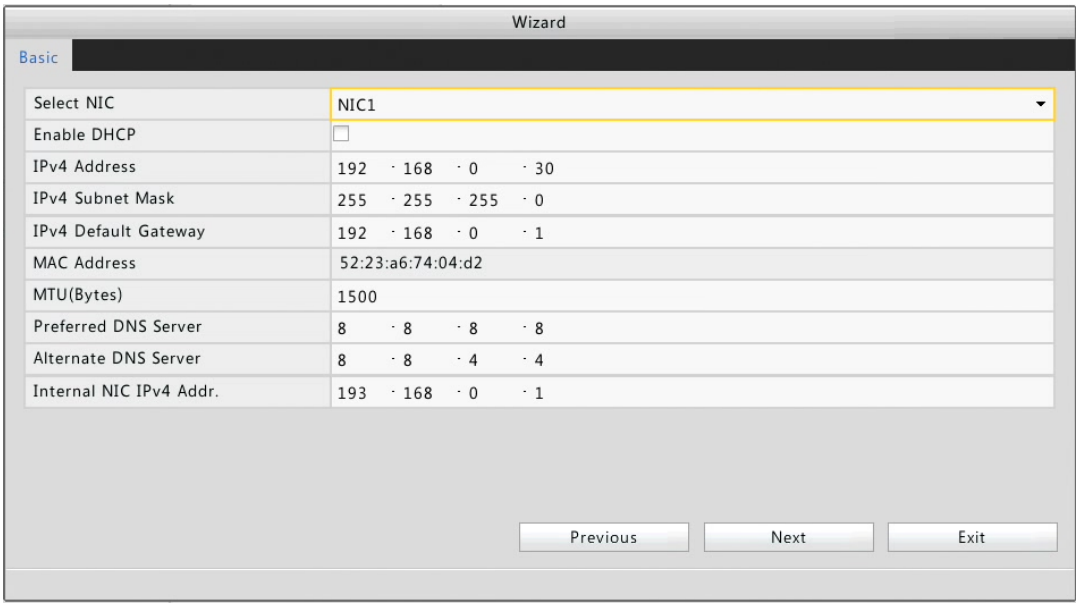
NOTE!

For RAID models, a window appears following this step for RAID configuration.

3. Choose the desired time zone, date and time formats, set the system time, and then click **Next**.



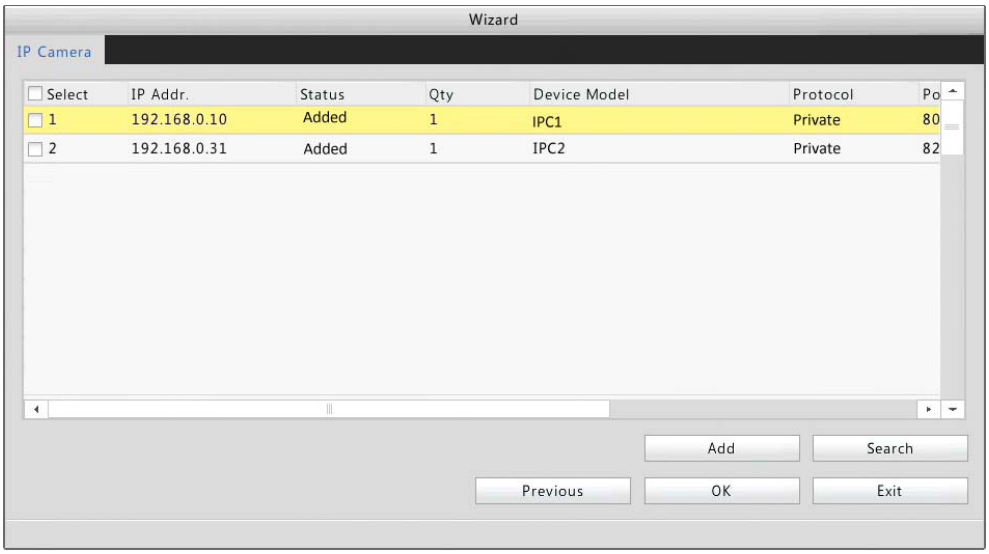
4. Set the IP address, subnet mask, and default gateway for your NVR. Use the default settings for other network parameters unless modification is necessary. Review the settings and then click **Next**.



NOTE!

- For an NVR with multiple Network Interface Cards (NICs), you can configure the NICs and choose a default route.
- An internal IPv4 address can be configured if your NVR has PoE ports or switching ports.

5. Click **Search**. IP devices detected are listed. Select the device(s) to add and then click **Add**. Click **OK** to complete the setup.



NOTE!

You may also edit the above settings by clicking **Wizard** under **Menu** > **System** > **Basic**.

3 Preview

Status Icons in the Preview Window

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

Table 3-1 Preview Window Icons

Icon	Description
	Tampering alarm
	Motion detection alarm
	Recording
	Two-way audio
	Turn on audio

Normally, live video is displayed in a preview window, but other situations are also possible.

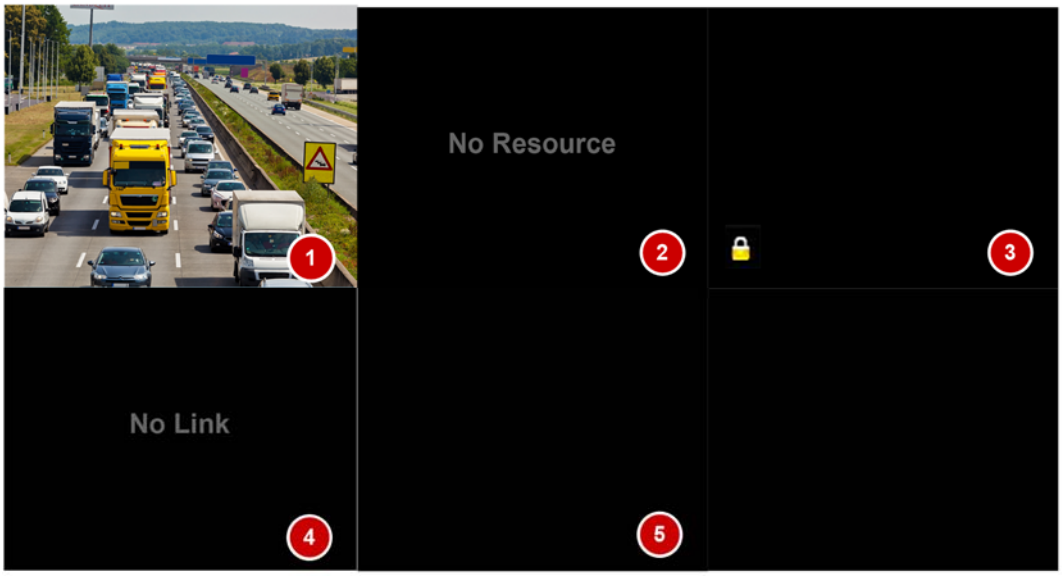


Table 3-2 Window Status Description

No.	Description
1	The IP device is online, and live video is displayed.
2	The IP device is online, but the NVR has insufficient capacity to decode streams from the IP device.
3	No permission to view live video from the IP device.
4	The IP device is offline.
5	No IP device is linked to the window.

Preview Window Toolbar

A toolbar appears when you click in a preview window.

Figure 3-1 Preview Window Toolbar

Table 3-3 Preview Window Toolbar Description

Button	Name	Description
	PTZ Control	Click to display the PTZ control panel for a PTZ camera.

Button	Name	Description
	Manual Recording	Click to start recording live video to the NVR. The button turns into  when recording is started. To stop recording, click  .
	Instant Playback	Click to start playing the video recorded during the last 5 minutes and 30 seconds.
	Zoom	Click to zoom in on a certain area of the image.
	Image Config	Click to change the mode and adjust image settings. Image settings can also be edited under **Menu** > **Camera** > **Image**.
	Preview Snapshot	Click to take a snapshot. To view or back up a snapshot, click **Menu** > **Backup** > **Image**.
	Camera Info	Place the mouse cursor on it for live video information.
	Start Two-Way Audio	Click to start two-way audio with a remote device connected to the NVR. To stop, click  . Use  to adjust the sound volume.
	Turn on audio	Click to turn on audio. To turn off audio, click  . Use  to adjust the sound volume. **Note**: When you turn on audio in a window, audio of the previous window is turned off.
	Switch Camera	Click to link another camera to the current window. **Note**: NVRs with PoE ports or switching ports do not have this function.
	Exit	Click to quit the toolbar.

Shortcut Menu in Preview Window

A shortcut menu appears when you right-click in a preview window.

Table 3-4 Shortcut Menu

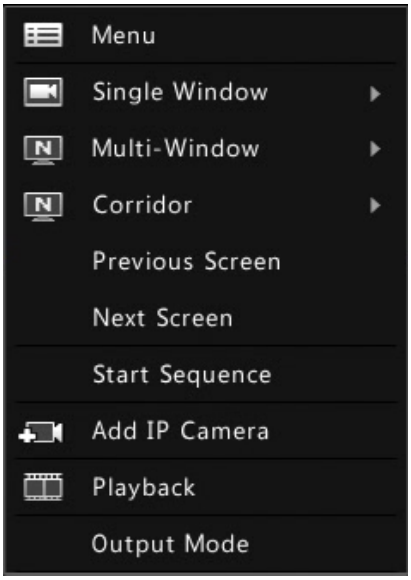


Table 3-5 Shortcut Menu Description

Menu	Description
Menu	Display the main menu.
Single Window	Choose a camera for live video in full screen.
Multi-Window	Choose the desired view.
Corridor	Choose the desired view in corridor mode. **Note**: You may also click **Menu** > **System** > **Preview** and select the desired corridor layout from the **Default Layout** drop-down list.
Previous Screen Next Screen	Switch to the previous or next screen.
Start Sequence Stop Sequence	Display live video in the preview windows screen by screen.
Add IP Camera	Open the **Camera** window to add a camera.
Playback	Play the current day's recording for the camera linked to the current preview window.
Output Mode	Choose a desired output mode for live view.

Sequence Operation

The sequence operation requires you to configure the screen layout, windows, linked cameras, and the sequence interval.

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

1. Right-click anywhere in the preview window, and then click **Multi-Window** > **4 Windows**. Four windows are displayed on the screen.

NOTE!

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

2. Right-click anywhere in a preview window and then click **Start Sequence**. Sequence starts by displaying four windows on the first screen and then the fifth window on the second screen at the set interval.

NOTE!

The default sequence interval is eight seconds and can be set under **Menu** > **System** > **Preview**.

Zoom

This function allows you to zoom in on an area of images in a preview window for details.

1. Click the desired preview window and then click  on the toolbar.
2. In the small window in the lower right corner, click and drag your mouse to specify the area to zoom in on. The image in the main window zooms in. The following shows an example.

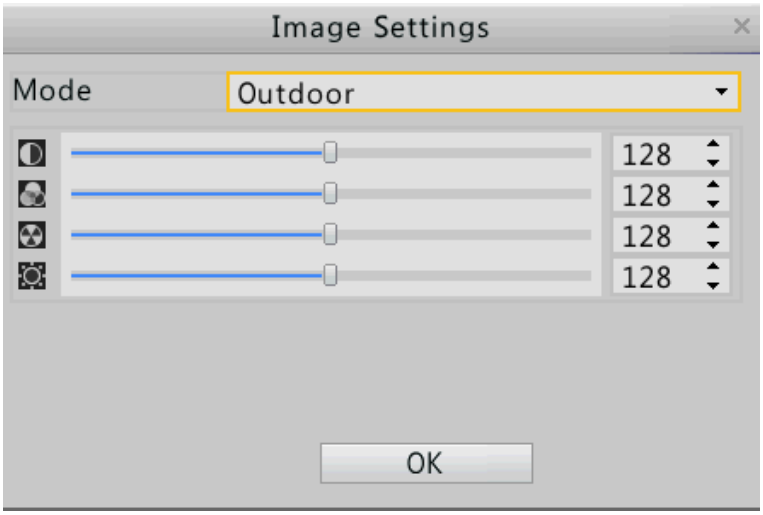
NOTE!

The area will be adjusted automatically according to the window size and its aspect ratio. Also, a minimum size is specified for the area to ensure zoom effects.

Image Configuration

Adjust image settings to get optimal images from a camera.

1. Click the desired preview window and then click  on the toolbar.



2. Select an appropriate mode and then adjust the settings.

Table 3-6 Image Parameter Description

Icon	Meaning	Description
	Contrast	The degree of difference between the lightest (white) and darkest (black) parts of an image. Setting a greater value increases contrast.
	Hue	Purity of colors in an image.
	Saturation	The amount of color in a specified hue.
	Brightness	The greater the value, the brighter the images appear.

3. Click **OK** to save the settings and exit.

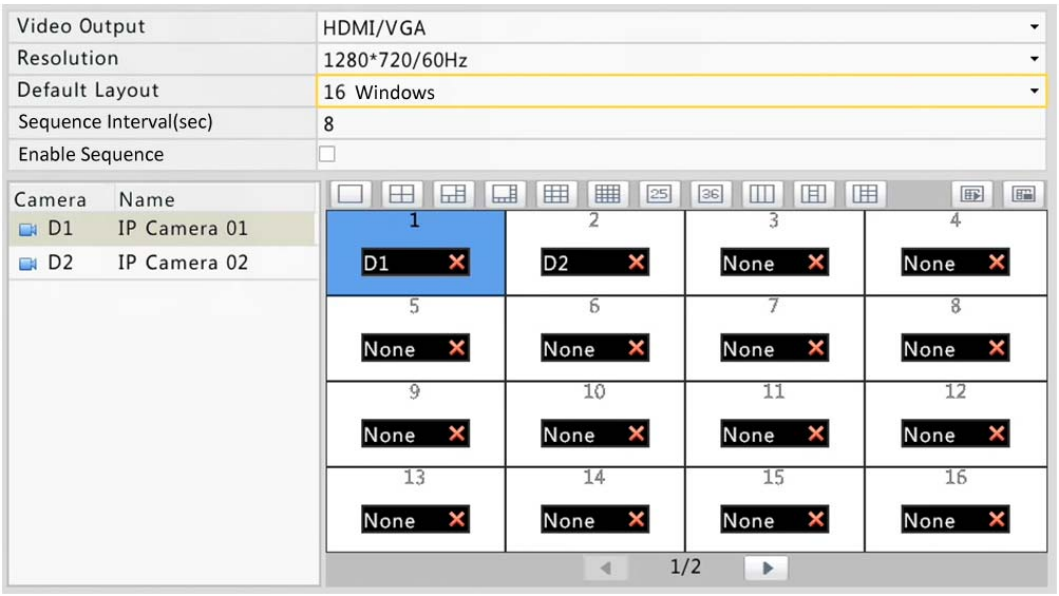
Preview Configuration

Live view shows you video images from the connected cameras in real time.

Normally, live view is available when you complete the basic setup by following the wizard. To modify preview settings, perform the following steps.

1. Click **Menu** > **System** > **Preview**.

2. Modify the settings as needed, for example, video output, resolution and the default layout.



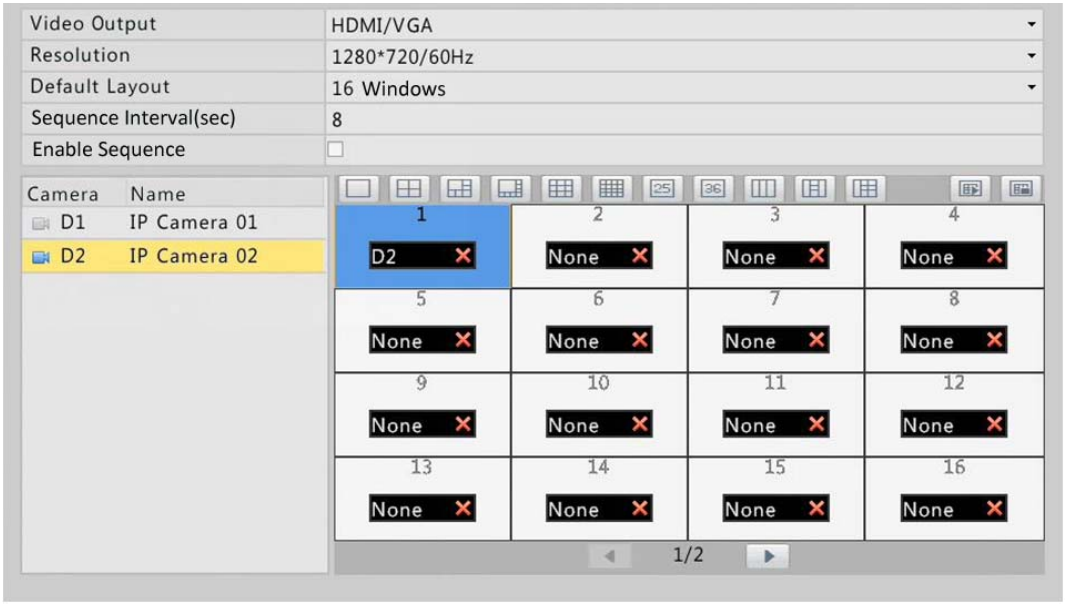
NOTE!

The output interfaces provided and the number of windows supported may vary with NVR model.

3. Configure view.

Configure view to link cameras to intended windows. The following example describes how to switch the windows linked to D1 and D2 cameras.

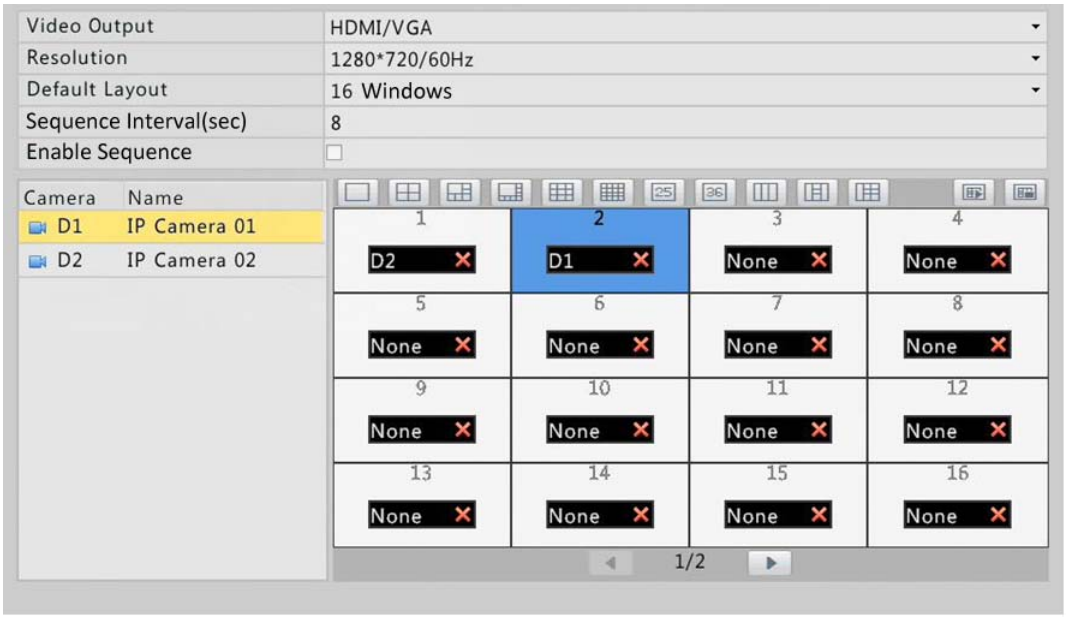
Step 1: Click window 1 on the right to select it, and then click D2 in the **Camera** column on the left. Now **D2** appears in window 1, and **None** appears in window 2.



NOTE!

Now the camera D1 icon is grayed out and displayed as , which means camera D1 is not linked to any preview window.

Step 2: Click window 2 on the right to select it, and then click D1 in the **Camera** column on the left. Now **D1** appears in window 2, and cameras D1 and D2 are linked to their previous windows respectively.



4. Click **Apply** to save the settings.

4 Channel Configuration

Channel Management

This chapter describes how to manage the IP devices connected to your NVR. Before you start, make sure the IP devices are connected to your NVR via network.

CAUTION!

- The IP devices mentioned in this manual refer to IP camera (also known as network camera) or Digital Video Server (DVS).
- Make sure each IP device is connected to one NVR only. Otherwise, unwanted issues may arise.

Adding an IP Device

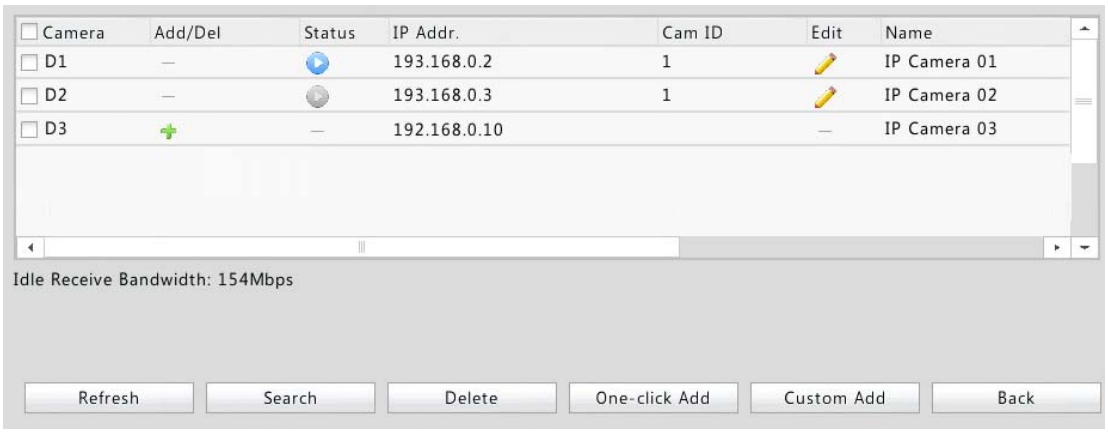
This section provides three options to add an IP device. Some options are only applicable to certain NVR models. Choose one as appropriate.

Option 1

NOTE!

Normally, all the IP devices discovered can be added, and appears in the **Status** column to indicate the device is online. Otherwise, check network connection and verify the username and password for the IP device. To modify the username and password for an IP device, click .

1. Click **Menu** > **Camera** > **Camera** > **Camera**.



NOTE!

- **Idle Receive Bandwidth** indicates network bandwidth currently available for receiving streams. For more details, see Network Statistics.
- If is displayed in the **Status** column, you may click it to view live video.

2. (Optional) A quick search is made automatically. You may click **Refresh** to search again.

NOTE!

To search a specified network segment, click **Search**.

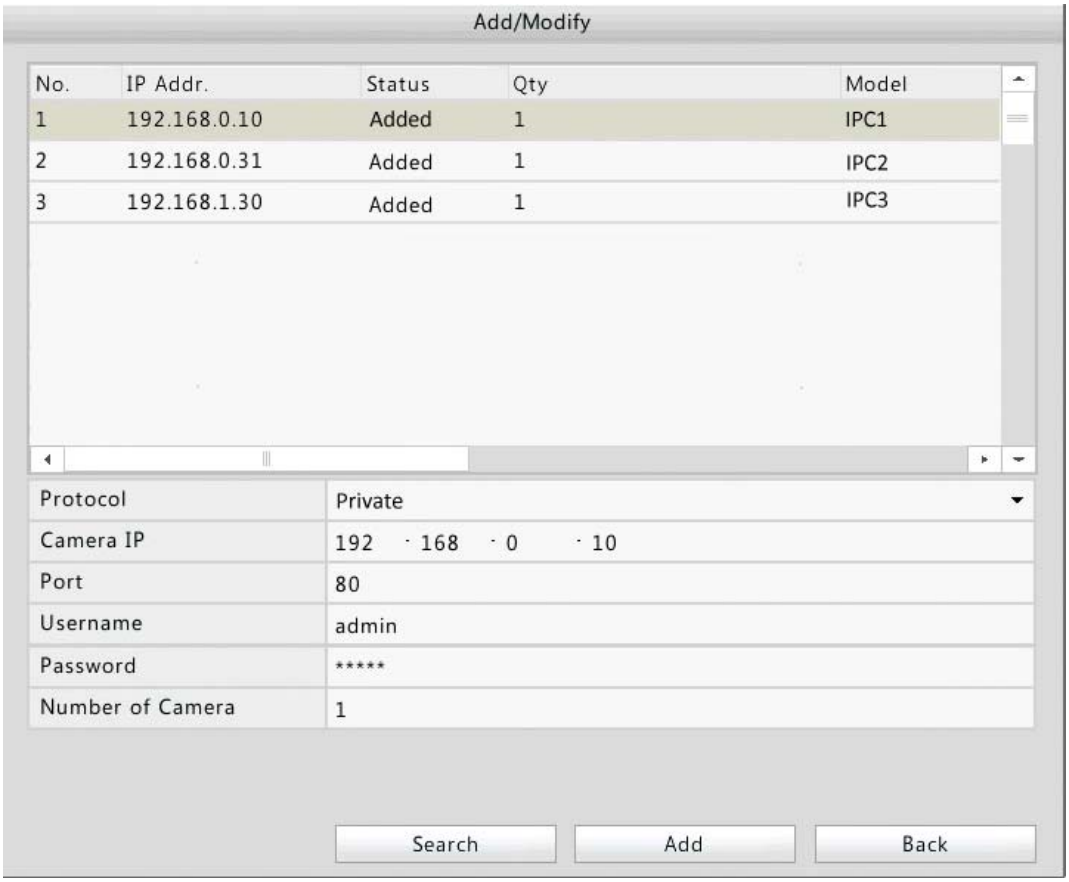
3. Click to add the desired IP device.

- Clicking **One-click Add** will add all the discovered IP devices, as long as the total number does not exceed the limit allowed by the NVR.

- By clicking **Custom Add**, you may:

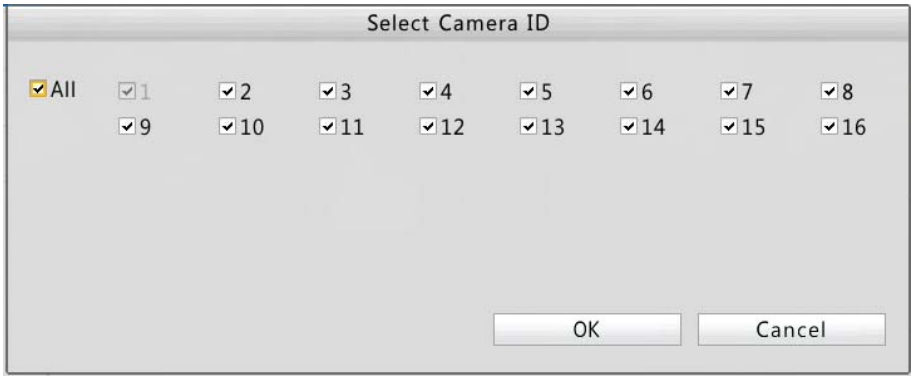
  Select a discovered IP device and click **Add** to add it.

  Edit settings for an IP device, including its IP address, and then click **Add** to add it.



NOTE!

For a multi-channel DVS, a window appears when you click **Add**. Select the desired channels and then click **OK** to add the DVS connected cameras.

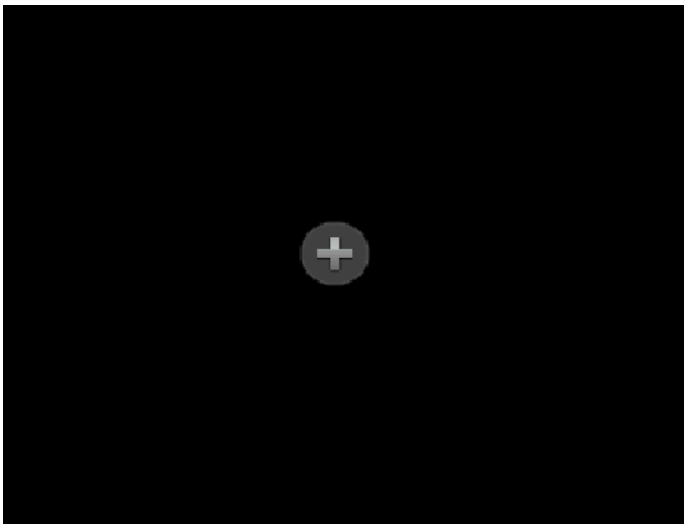


Option 2

NOTE!

This option is not applicable to NVRs with PoE ports or switching ports.

1. Click in a preview window.



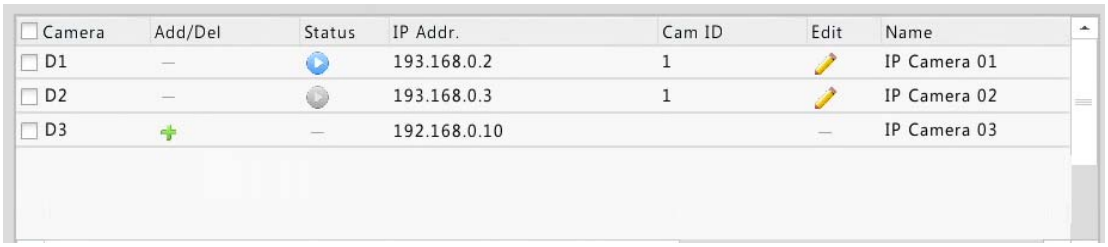
2. Select the desired IP device and then click **Add**.

Option 3

NOTE!

- This option is only applicable to NVRs with PoE ports or switching ports.
- A channel connected to a PoE port or a switching port cannot be deleted.

1. Connect an IP camera to a PoE port or a switching port on the NVR with a network cable. The connected IP camera will be added automatically.
2. Check the connection status under **Menu** > **Camera** > **Camera** > **Camera**.



NOTE!

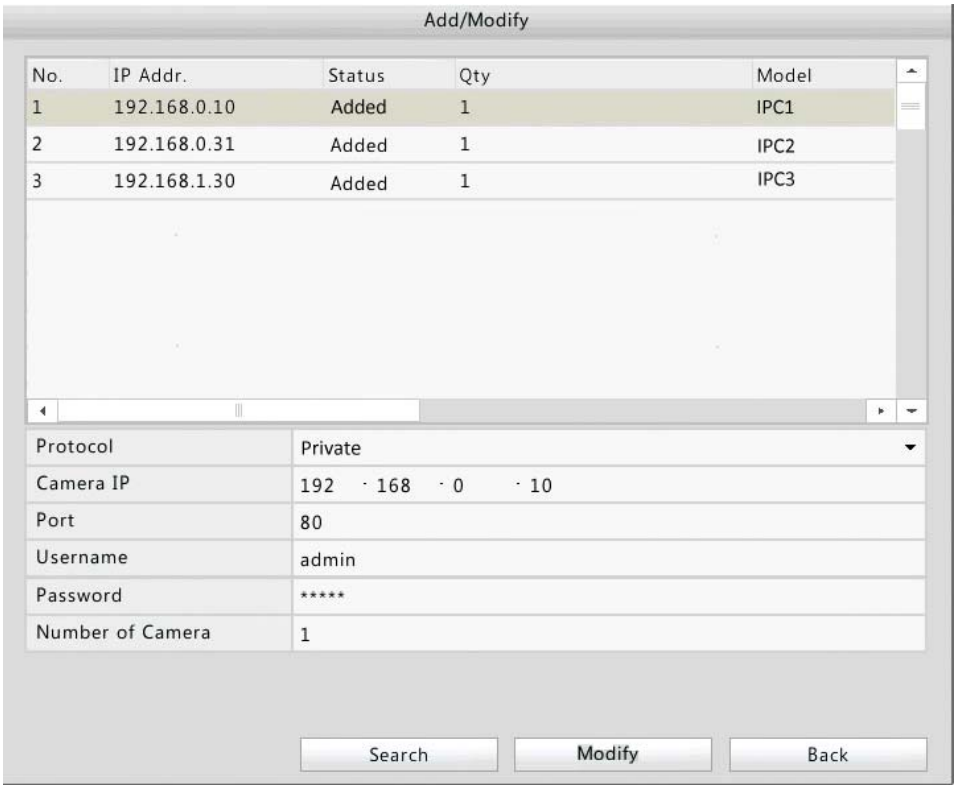
- To connect an IP camera to a PoE port or a switching port indirectly, for example, via a network switch, click in the **Edit** column. In the **Add/Modify** window displayed, set **Add Mode** to **Manual**, and then complete other settings correctly.
- For an NVR with PoE ports, will appear in the **Status** column if the power output from a PoE port is below or above the rated power of the connected camera.
- You may click to view live video.

Managing an IP Device

Click **Menu** > **Camera** > **Camera** > **Camera**.

Edit an IP device

Select the channel to edit and then click in the **Edit** column. In the **Add/Modify** window, modify the settings as needed and then click **Modify**.



NOTE!

- To link the current channel to another IP device, do the following: In the lower part of the window, replace the current IP address with that of the desired device, modify other settings as appropriate, and then click **Modify**. You may also click to select the desired IP device from the list in the upper part of the window.
- The window displayed may differ with the connected IP device and may be different from the window displayed on your monitor.

Delete an IP device

- To delete an IP device, click and then click **Yes**.
- To delete multiple IP devices at a time, select the devices, click **Delete**, and then click **Yes**.

NOTE!

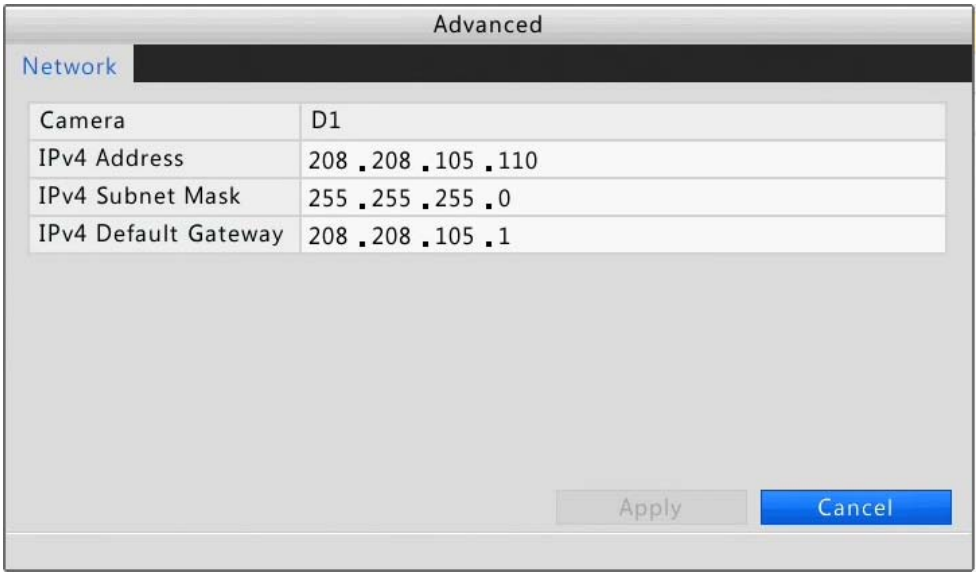
A channel connected to a PoE port or a switching port cannot be deleted.

Use the advanced function

Use this function to change the IP address of a connected IP camera. Click in the **Advanced** column for the camera. In the **Advanced** window, edit the settings as appropriate and then click **Apply**.

NOTE!

- The – icon in the **Advanced** column means the camera does not support this function.
- This function is not applicable to a DVS. To change the IP address of a DVS, you need to access its Web interface.

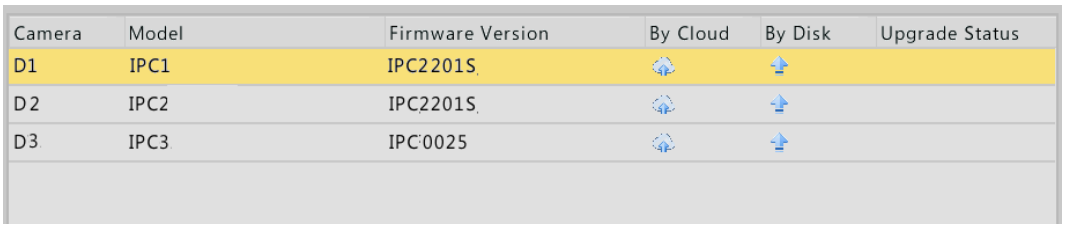


NOTE!

This window may vary with the connected camera and may be different from the one displayed on your monitor.

Advanced Camera Configuration

Click **Menu** > **Camera** > **Camera** > **Advanced**.



Upgrade an IP camera

Choose a way to upgrade a connected IP camera.

- Cloud upgrade: Click for the camera to upgrade. A prompt message appears. Click **OK** to proceed.
- Local upgrade: Click for the camera to upgrade. In the window displayed, locate the upgrade file in the USB storage device and then click **Upgrade** to proceed.

Restore default settings

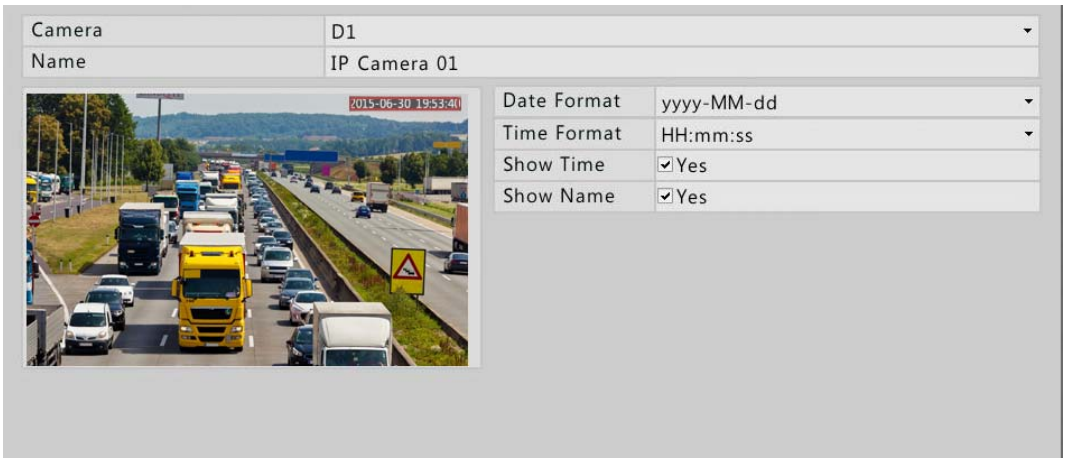
Use this function to restore factory default settings for a connected camera.

Click for the desired IP camera, and then click **OK** to proceed.

OSD Configuration

On Screen Display (OSD) are characters displayed together with video images, for example, date and time, camera name, and surveillance location.

1. Click **Menu** > **Camera** > **OSD**.
2. Select the desired camera and then enter a name for the camera.
3. Select the desired date and time formats, choose to display time and/or name as needed. You may drag the OSD to the desired position in the preview window on the left.



4. Click **Apply** to save the settings.

Image Configuration

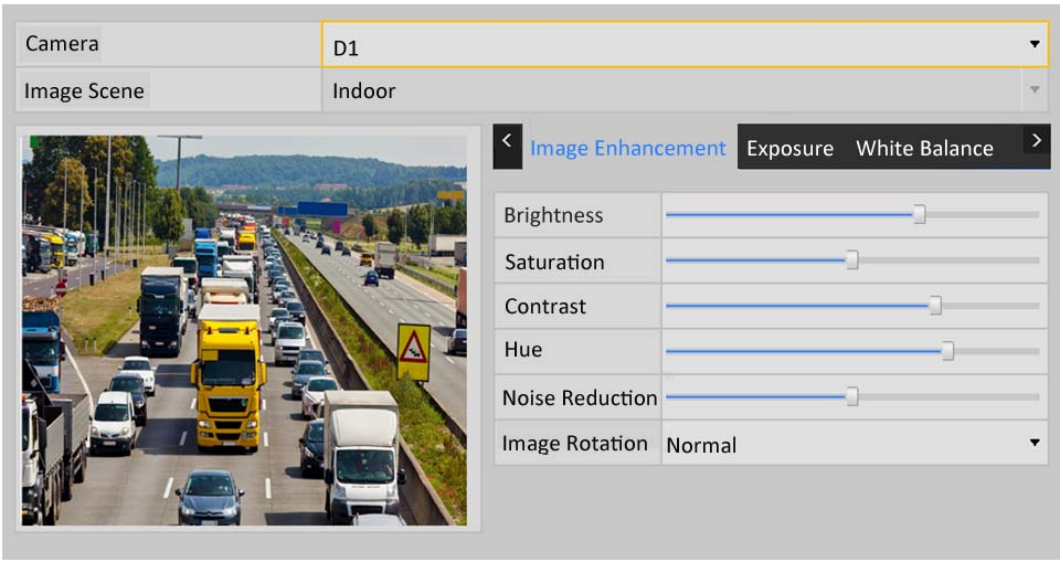
1. Click **Menu** > **Camera** > **Image**.
2. Select the desired camera and scene.
3. Adjust settings on the tabs as needed to achieve optimal images. See the following sections for detailed information.

NOTE!

- A scene can be selected only when it is supported by the IP camera.
- To restore default image settings, click **Default** in the lower right corner. This function is available only when the camera is connected to the NVR via the private protocol.
- Image settings apply to both live and recorded videos.

Image enhancement

1. Click the **Image Enhancement** tab.

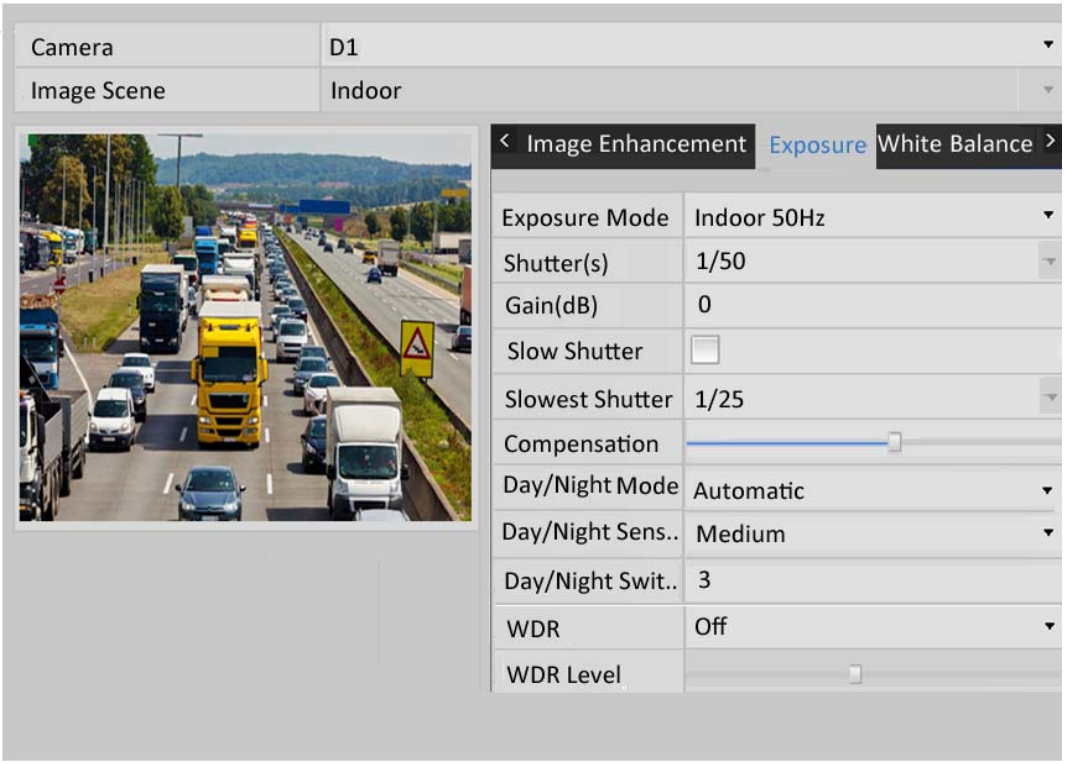


2. Adjust the settings as needed. Some important parameters are described in the table below.

Parameter	Description
Brightness	The greater the value, the brighter the images appear.
Saturation	The amount of color in a specified hue.
Contrast	The degree of difference between the lightest (white) and darkest (black) parts of an image. Setting a greater value increases contrast.
Hue	Purity of colors in an image.
Sharpness	Contrast of boundaries of objects in an image.
Noise Reduction	Reduce noises in images to improve image quality.
Image Rotation	• Normal: Displays images without rotation. • Flip Vertical: Displays images flipped vertically. • Flip Horizontal: Displays images flipped horizontally. • 180°: Displays images flipped vertically and horizontally. • 90° CW: Displays images rotated 90° clockwise. • 90° CCW: Displays images rotated 90° counterclockwise. **Note:** • *The 90° CW and 90° CCW options can be used to achieve corridor mode, depending on the camera installation direction.* • *In corridor mode, operations to areas of interest (such as zoom and motion detection areas) also work in corridor mode.*

Exposure

1. Click the **Exposure** tab.



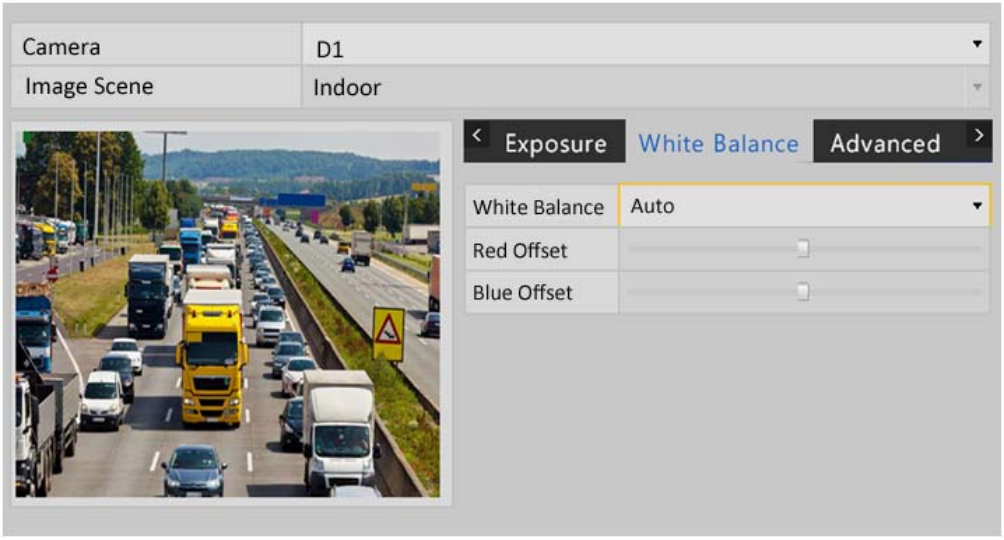
2. Adjust the settings as needed. Some important parameters are described in the table below.

Parameter	Description
Exposure Mode	Select the correct exposure mode to achieve the desired exposure effect.
Shutter(s)	Shutter is used to control the light that comes into the lens. A fast shutter speed is ideal for scenes in quick motion. A slow shutter speed is ideal for scenes that change slowly.
Gain(dB)	Control image signals so that the camera can output standard video signals in different light conditions.
Iris	Adjust iris opening of the lens to control the amount of incoming light.
Slow Shutter	Improves image brightness in low light conditions.
Slowest Shutter	Set the slowest shutter speed for the camera during exposure.
Compensation	Adjust the compensation value as required to achieve the desired image effects.
Day/Night Mode	• Automatic: In this mode, the camera can automatically switch between night mode and day mode according to the ambient lighting condition to output optimum images. • Night: The camera outputs high-quality black and white images according to the ambient lighting condition. • Day: The camera outputs high-quality color images according to the ambient lighting condition.

Parameter	Description
Day/Night Sensitivity	Light threshold for switching between day mode and night mode. A higher sensitivity value means that the camera is more sensitive to the change of light and is therefore more easily to switch between day mode and night mode.
Day/Night Switching(s)	Set the length of time before the camera switches between day mode and night mode after the switching conditions are met.
WDR	Enable WDR to ensure clear images in high contrast conditions.
WDR Level	After enabling WDR, you can improve image quality by adjusting the WDR level.

White balance

1. Click the **White Balance** tab.

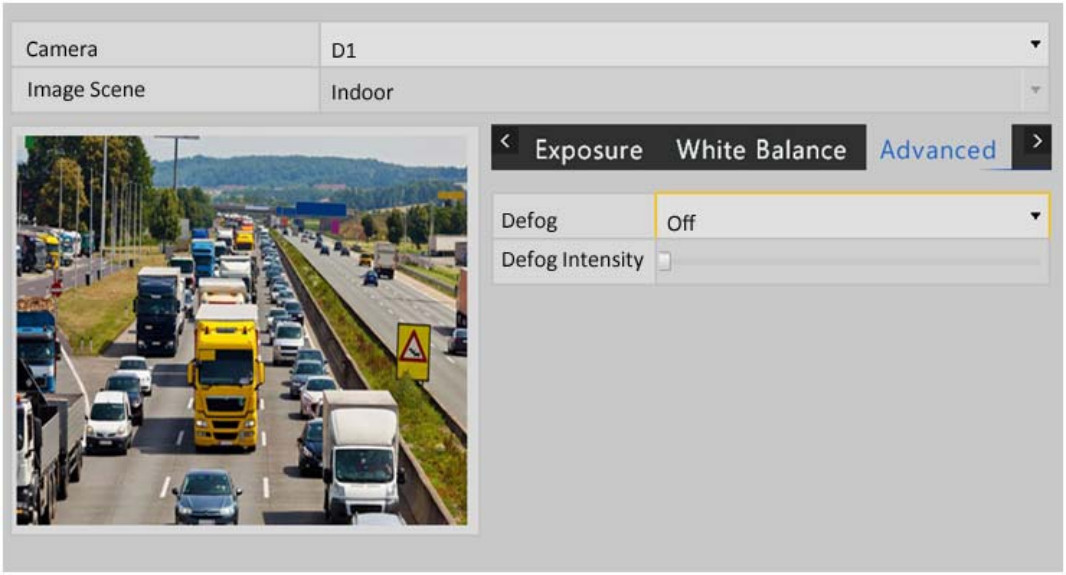


2. Adjust the settings on this tab. Some important parameters are described in the table below.

Parameter	Description
White Balance	Adjust the red or blue offset of the image: • Auto: The camera adjusts the red or blue offset automatically according to the lighting condition (the color tends to be blue). • Finetune: Allow you to adjust the red or blue offset manually.
Red Offset	Adjust the red offset manually.
Blue Offset	Adjust the blue offset manually.

Advanced settings

1. Click the **Advanced** tab.



2. Use defog to improve image quality in foggy days.

Privacy Mask Configuration

A privacy mask is an area of solid color covering certain parts of the monitored area. Privacy mask protects specified areas of images from being viewed and recorded. Multiple mask areas are allowed.

1. Click **Menu** > **Camera** > **Privacy Mask**.
2. Select the desired camera, select **Enable Privacy Mask**, and then use the mouse to specify areas to mask. Up to four areas are allowed. The areas are differentiated by different colors.

3. (Optional) To clear a mask area, click the corresponding **Clear** button.
4. Click **Apply** to save the settings.

5 PTZ Control

PTZ (pan, tilt, and zoom) control allows you to control the rotation speed, viewing direction, iris, and focus of a connected PTZ camera, turn on/off its illumination, heater, wiper (if applicable), and set preset positions (presets for short) from an NVR.

NOTE!

PTZ control is applicable to PTZ cameras only and depends on the functions and protocols supported by the PTZ cameras. Refer to PTZ camera specifications for more details.

Accessing the PTZ Management Window

Accessing from the PTZ Control Window

1. Click the desired preview window and then click  on the toolbar. The **PTZ Control** window appears.
2. Operate as needed in the **PTZ Control** window. For details about how to use the buttons in this window, see PTZ Control Window Buttons.
3. Click the **Set** button to open the **PTZ Management** window.

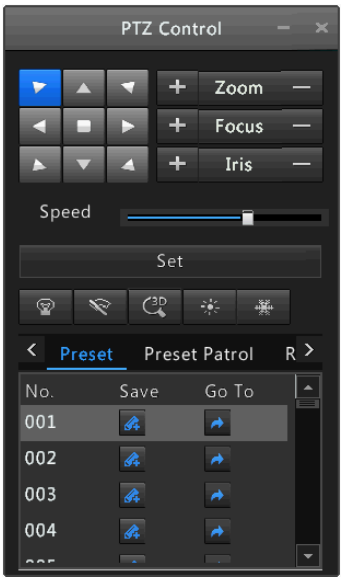
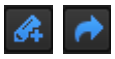


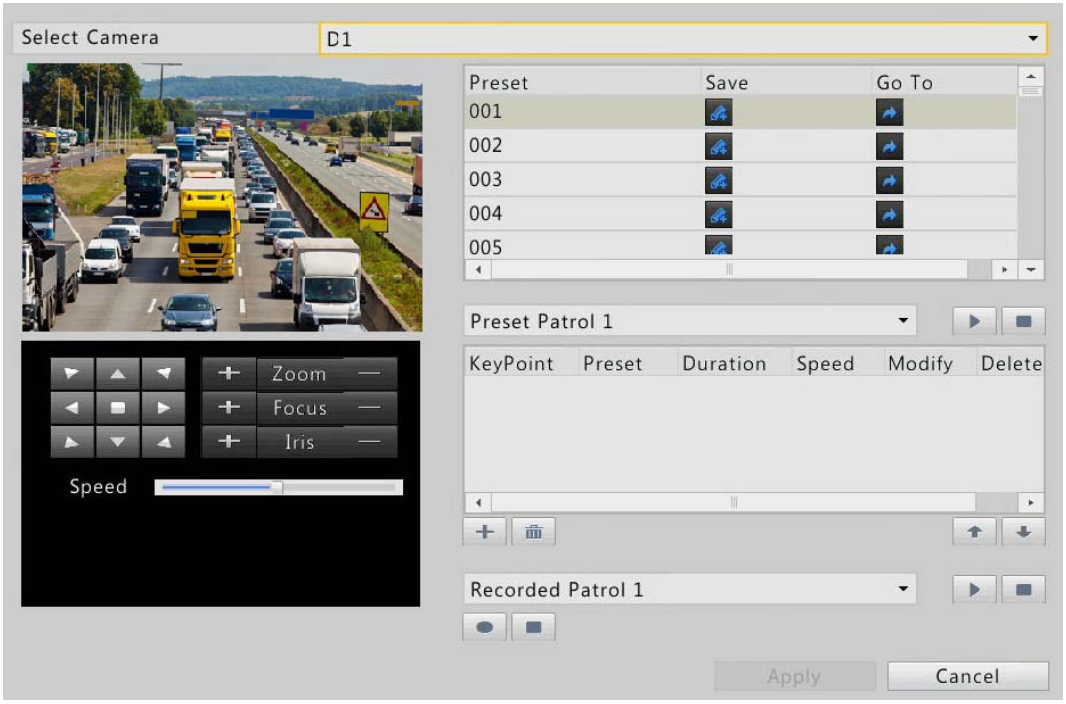
Table 5-1 PTZ Control Window Buttons

Button	Description
	Control the rotation direction of the PTZ camera or stop rotation.

Button	Description
	Adjust the zoom, focus, and iris of the PTZ camera. **Note**: You can also zoom in or out using the scroll wheel on your mouse.
	Control the rotation speed of the camera. 1 means the slowest speed, and 9 means the fastest.
	Click to display the **PTZ Management** window.
	• Turn on/off the light. • Turn on/off the wiper. • Use 3D positioning. • Turn on/off the heater. • Turn on/off the function to remove snow. **Note:** • *Check that the 3D positioning, heater and snow removal functions are supported by the camera before using.* • *Use 3D positioning to zoom in or out. Dragging from top down zooms in. Dragging the other way zooms out.*
	Preset button.
	• Save the current position and status of the camera as a preset. • Call a preset so the PTZ camera goes to the preset position. **Note:** Before you select a preset number, check whether a preset has been configured for this preset number. Otherwise, the new preset will replace the current one.
	Preset patrol and recorded patrol.
	Start or stop patrol.

Accessing from the Menu

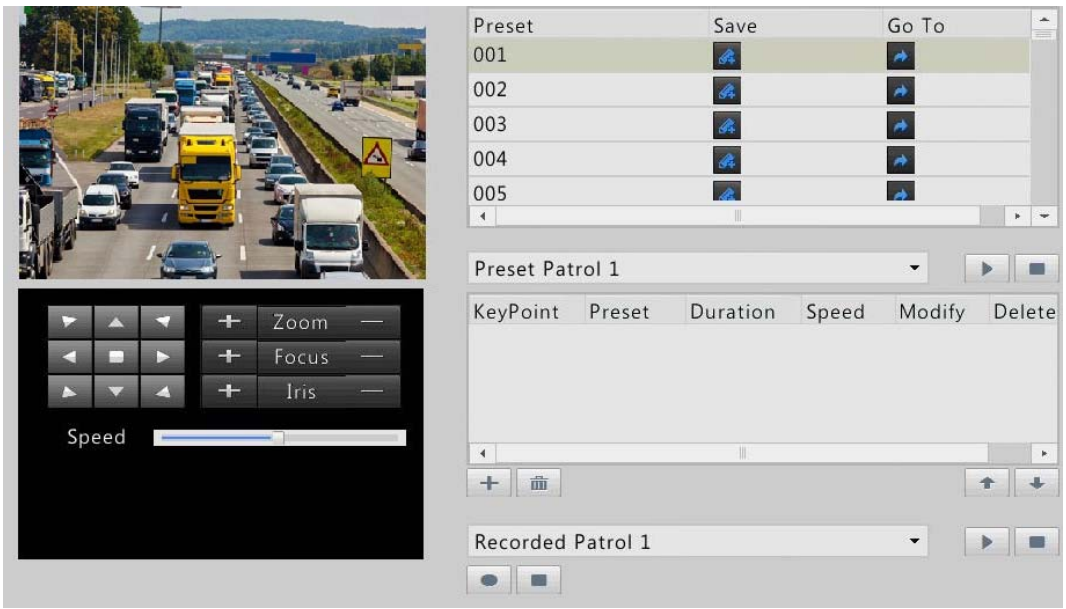
1. Click **Menu** > **Camera** > **PTZ**.
2. Select the desired camera from the drop-down list.



Setting and Calling a Preset

A preset position is a saved view used to quickly steer the PTZ camera to a specific position. A preset position consists of the following settings: pan and tilt positions, zoom, focus, and iris.

1. Access the **PTZ Management** window. For the detailed steps, see Accessing the PTZ Management Window.



2. Add presets.
   a. Click the directional buttons to steer the PTZ camera to the desired position.

b. Adjust the zoom, focus, and iris as needed.

c. Select a preset number not in use, and then click  .

d. Repeat the above steps to add all the presets.

3. To call a preset, click  for the corresponding number. The camera rotates to the preset position.

NOTE!

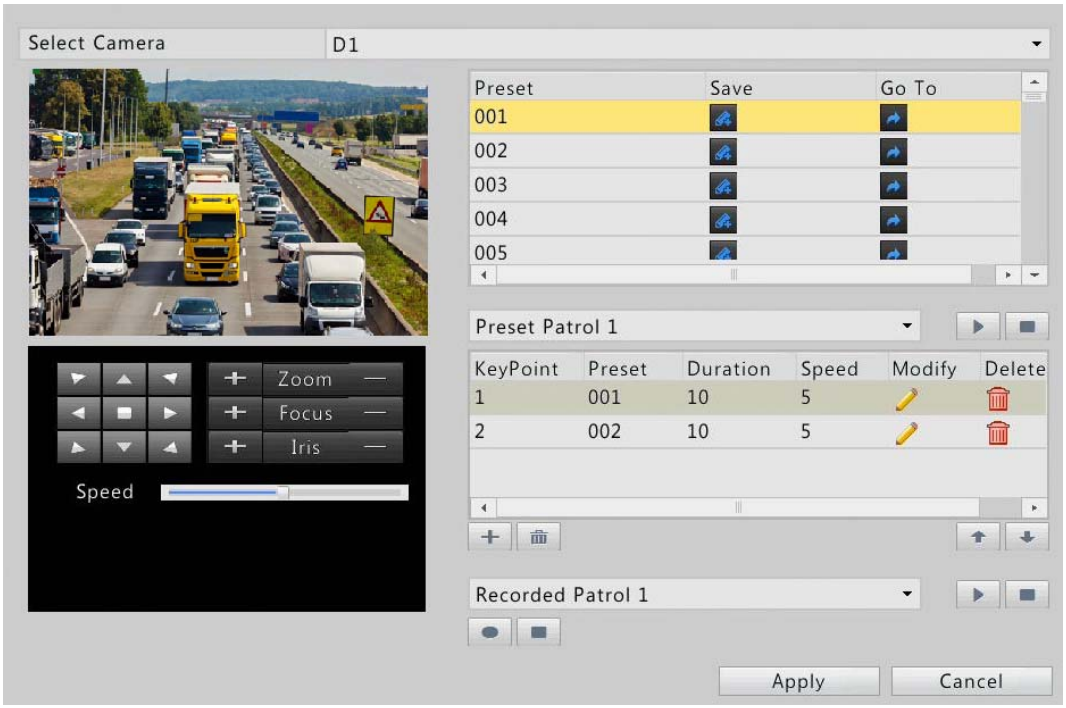
Presets can also be triggered by alarms. See Alarm-Triggered Actions for details.

Setting and Starting a Preset Patrol

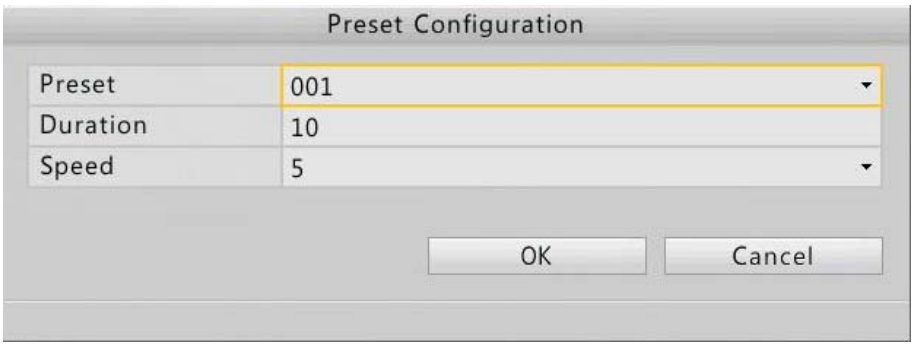
NOTE!

Up to four patrol routes are allowed for each PTZ camera, and each patrol route can have up to eight presets.

1. Access the **PTZ Management** window. For the detailed steps, see Accessing the PTZ Management Window.



2. Click  to add a keypoint. In the **Preset Configuration** window, select the desired preset, set the duration (length of time the camera dwells on the preset) and rotation speed, and then click **OK**. Repeat this step to add all the key points for the patrol route.



3. Select the desired patrol route from the drop-down list and then click to start patrol. To stop patrol, click .

NOTE!

- The duration ranges from 0 to 1800 seconds (default: 10). The rotation speed ranges from 1 to 9 levels (default: 5).
- and are used to modify and delete a preset.
- and are used to adjust the sequence of key points. Click to move upper, and click to move down.
- Clicking deletes all the key points.

Setting and Starting a Recorded Patrol

1. Click to start recording a patrol route. After clicking , steer the camera to the desired directions, and adjust the zoom, focus, iris as needed during the process. To stop recording, click .

2. To start a recorded patrol, select it from the drop-down list and then click . Click to stop.

NOTE!

The drop-down list and the buttons on the right are hidden if this function is not supported by the camera.

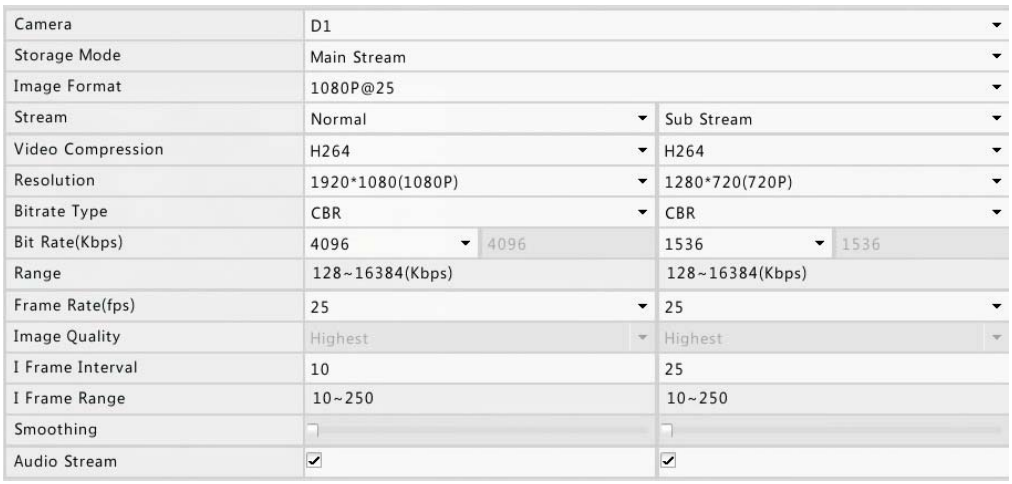
6 Recording and Snapshot

You can record video after finishing the basic configuration as described in Initial Configuration.

Encoding Settings

Recording

1. Click **Menu** > **Camera** > **Encoding**.



2. Select the desired camera and stream type, and then complete other settings.

Table 6-1 Encoding Settings

Parameter	Description
Camera	Select the desired camera from the drop-down list.
Storage Mode	• Main Stream • Sub Stream By default, the main stream is used for storage.
Image Format	Combinations of resolutions and frame rates. **Note:** This parameter is effective only when the camera is connected to the NVR via the private protocol.
Stream	• Normal: main stream that is intended for scheduled recording. • Event: main stream that is intended for recording triggered by events such as alarm inputs or motion detection alarms. • Sub Stream: low resolution video that is intended for local or remote real-time monitoring.
Video Compression	Video compression standard, for example, H.264.

Parameter	Description
	The listed options depend on the standards supported by the camera.
Resolution	Image resolution.
Bitrate Type	• CBR: Constant Bit Rate (CBR) is used to maintain a specific bit rate by varying the quality of video streams. CBR is preferred when limited bandwidth is available. The disadvantage is that video quality will vary and may decrease significantly with increased motion in the scene. • VBR: When using Variable Bit Rate(VBR), video quality is kept as constant as possible, at the cost of a varying bit rate, and regardless of whether or not there is motion in the image. VBR is ideal when high quality is a requirement, especially when there is motion in the picture.
Bit Rate(Kbps)	Number of bits transferred per second. Select a value or select **Custom** and then set a value as needed.
Range	Bit rate range. Currently the range is fixed.
Frame Rate(fps)	Number of frames per second.
Image Quality	This parameter is effective only when **Bitrate Type** is set to **VBR**. Six levels are provided.
I Frame Interval	Number of frames between two adjacent I frames.
I Frame Range	Range of I frames. Currently the range is fixed.
Smoothing	Use the slider to control the sudden increase of bit rate.
Audio Stream	Enable or disable audio stream.

NOTE!

The parameters and options displayed may vary with camera model.

3. Click **Apply** to save the settings.

Snapshot

1. Click **Menu** > **Camera** > **Snapshot**.
2. Set the parameters as needed.

NOTE!

- Scheduled snapshot uses the Normal type of schedule. Event-triggered snapshot is triggered by an event such as an alarm input and a motion detection alarm. Settings effective to event-triggered snapshot also apply to manual snapshot.
- Snapshot interval is the length of time between two snapshots.

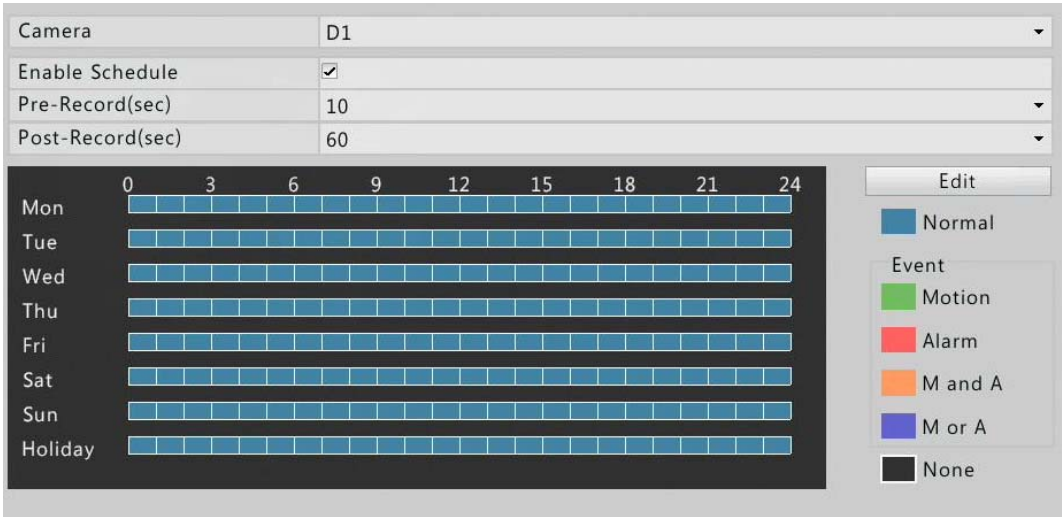
3. Click **Apply** to save the settings.

Scheduled Recording and Snapshot

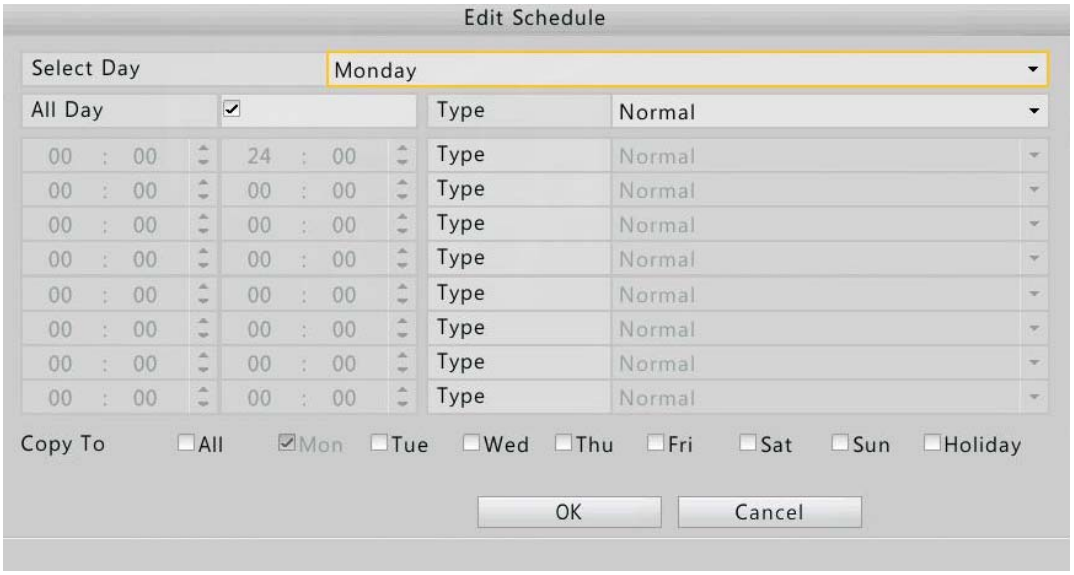
Scheduled Recording

Scheduled recording records video according to a schedule. It is different from manual recording and alarm-triggered recording. A 24×7 recording schedule is enabled by default and may be edited as needed to record video in specified periods only.

1. Click **Menu** > **Storage** > **Recording**.



2. Set a recording schedule.
   a. Select the desired camera and select **Enable Schedule**. By default **Enable Schedule** is selected.
   b. Set **Pre-Record** and **Post-Record** as needed and then click **Edit**.
3. Set recording period(s) as needed, and make sure you select **Normal** from the **Type** drop-down list(s). Click **OK** after you complete.



NOTE!

- **All Day** is selected by default. You may clear the check box and set up to eight different periods for each day.
- Scheduled recording (**Normal**) is the default recording type. To select a different recording type, make sure you have enabled the corresponding alarm function and have configured alarm-triggered recording.
- To apply the schedule to other day(s), select the day(s) right to **Copy To**.

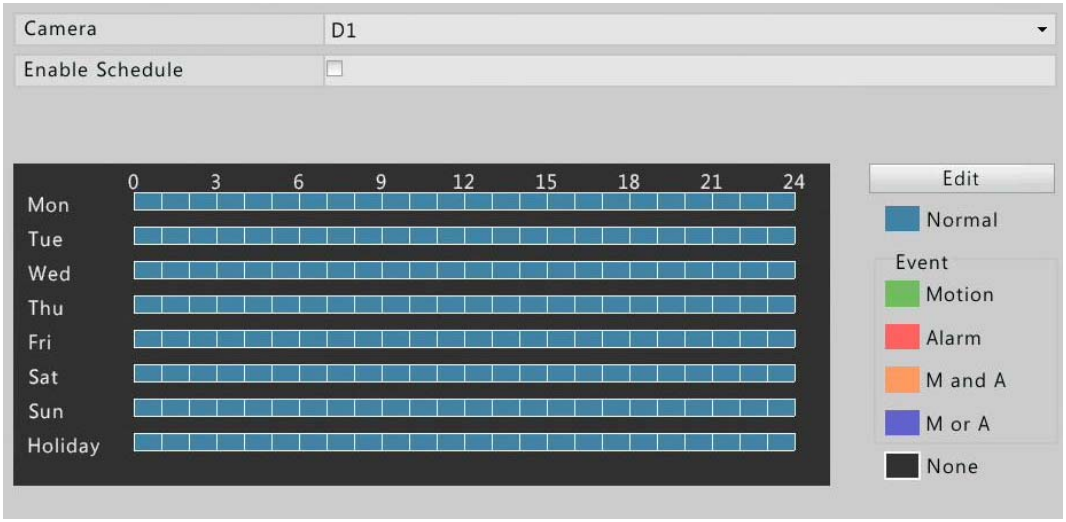
4. Click **Apply** to save the settings.

NOTE!

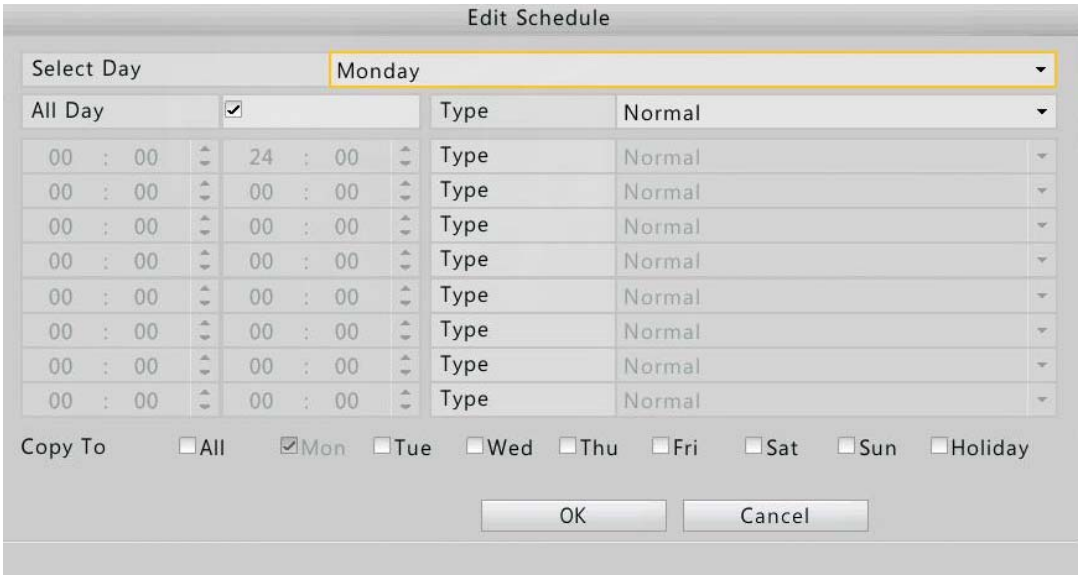
To apply the same settings to other cameras, click **Copy**, select the desired cameras, and then click **OK**.

Scheduled Snapshot

1. Click **Menu** > **Storage** > **Snapshot**.



2. Set a snapshot schedule.
   a. Select the desired camera and then select **Enable Schedule**.
   b. Click **Edit**.
3. Set snapshot period(s) as needed, and make sure you select **Normal** from the **Type** drop-down list(s). Click **OK**.



NOTE!

- **All Day** is selected by default. You may clear the check box and set up to eight different periods for each day.
- Scheduled snapshot (**Normal**) is the default snapshot type. To select a different snapshot type, make sure you have enabled the corresponding alarm function and have configured alarm-triggered snapshot.
- To apply the schedule to other day(s), select the day(s) right to **Copy To**.

4. Click **Apply** to save the settings.

NOTE!

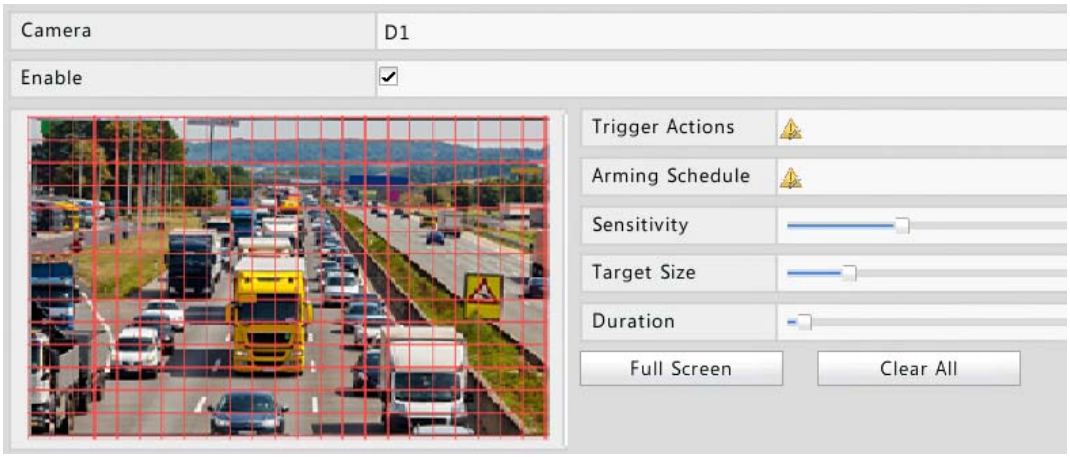
To apply the same settings to other cameras, click **Copy**, select the desired cameras, and then click **OK**.

Motion Detection Recording and Snapshot

When enabled, a motion detection alarm occurs if an object inside the detection area moves to certain extent. Motion detection alarms can trigger actions including recording and snapshot.

Motion Detection Recording

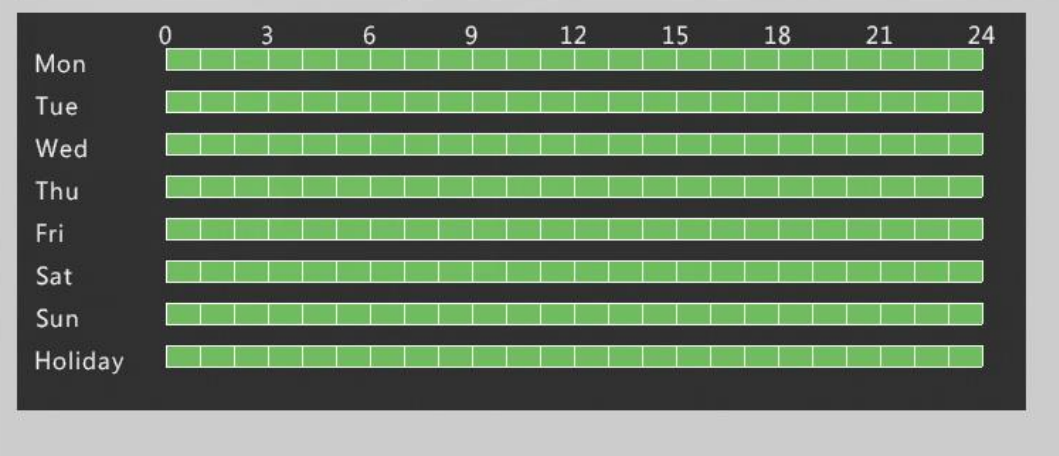
1. Click **Menu** > **Alarm** > **Motion**.
2. Select the desired camera, and then select the check box to enable motion detection.



NOTE!

- When enabled on the NVR, the default detection area covers the full screen, and recording is triggered only for the current camera by default. If motion detection recording has been configured before, the previously configured motion detection area and motion detection recording are still effective when you enable motion detection in step 2.
- When a motion detection alarm occurs, highlighted grids appear in the preview window to indicate the motion detected area, and meanwhile, an alarm icon appears in the upper right corner.

3. Click and drag the mouse to specify a motion detection area. Use the sliders to adjust detection sensitivity, target object size, and duration.
4. Configure motion detection recording: click right to **Trigger Actions**, click the **Recording** tab, select the desired camera, and then click **OK**.
5. Set a schedule under **Menu** > **Storage** > **Recording**. For the detailed steps, see Scheduled Recording and Snapshot. Make sure **Type** is set to **Motion**. The set schedule appears in green, which stands for motion detection recording. The following figure shows an example.

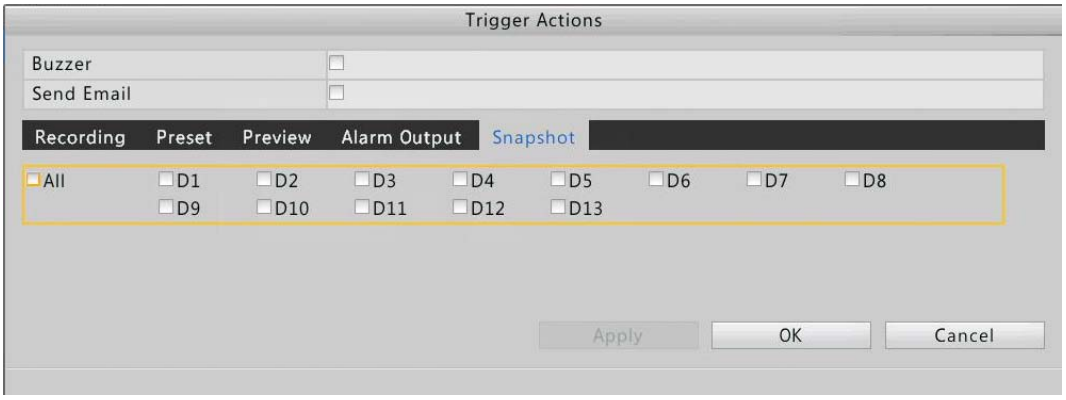


Motion Detection Snapshot

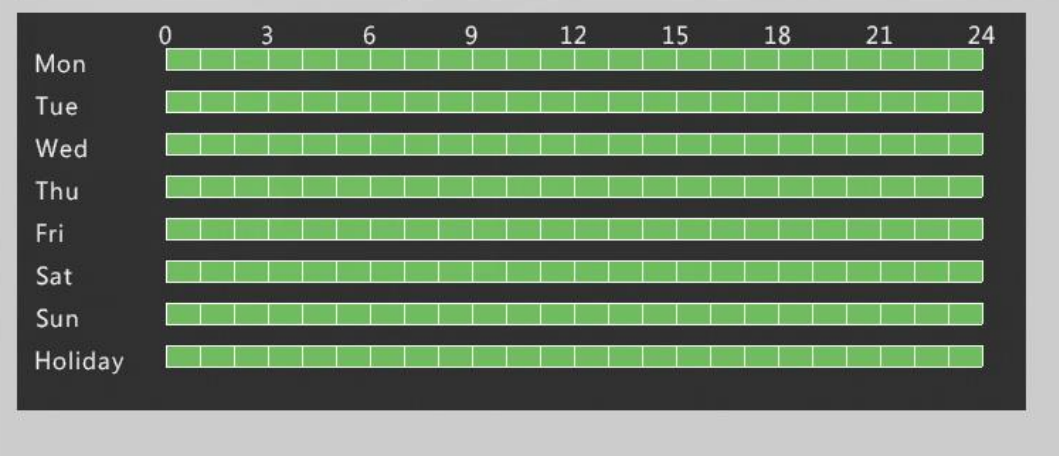
You need to enable motion detection first. For the detailed steps, see steps 1 to 3 in Motion Detection Recording.

Follow these steps after you have enabled motion detection:

1. Set motion detection snapshot: click right to **Trigger Actions**. In the window displayed, click the **Snapshot** tab, select the desired camera, and then click **OK**.



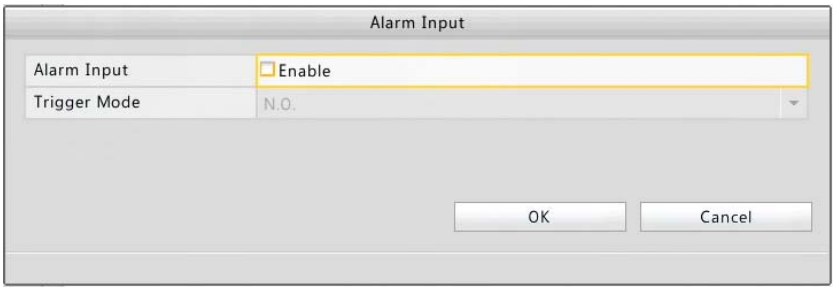
2. Set a schedule under **Menu** > **Storage** > **Snapshot**. For the detailed steps, see Scheduled Snapshot. Make sure **Type** is set to **Motion**. The set schedule appears in green, which stands for motion detection snapshot. The following figure shows an example.



Alarm Triggered Recording and Snapshot

Alarm Triggered Recording

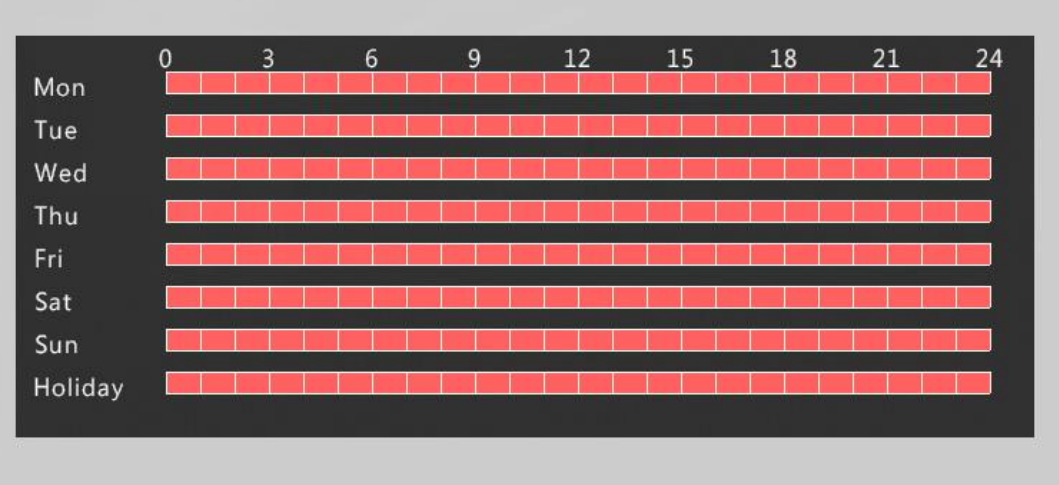
1. Click **Menu** > **Alarm** > **Input/Output** > **Alarm Input**.
2. Set alarm input: click  for the desired camera. In the window displayed, select **Enable**, select the correct trigger mode from the drop-down list, and then click **OK**.



NOTE!

To apply the same settings to other camera(s), click **Copy** and then select the desired camera(s).

3. Set alarm triggered recording: click  in the **Trigger Actions** column. In the window displayed, click the **Recording** tab, select the desired camera, and then click **OK**.
4. Set a schedule under **Menu** > **Storage** > **Recording**. For the detailed steps, see Scheduled Recording and Snapshot. Make sure **Type** is set to **Alarm**. The set schedule appears in red, which stands for alarm-triggered recording. The following shows an example.

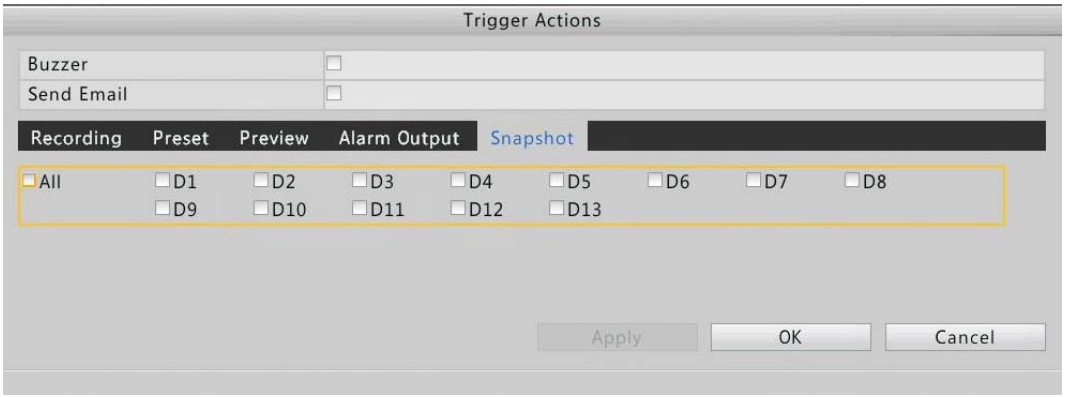


Alarm Triggered Snapshot

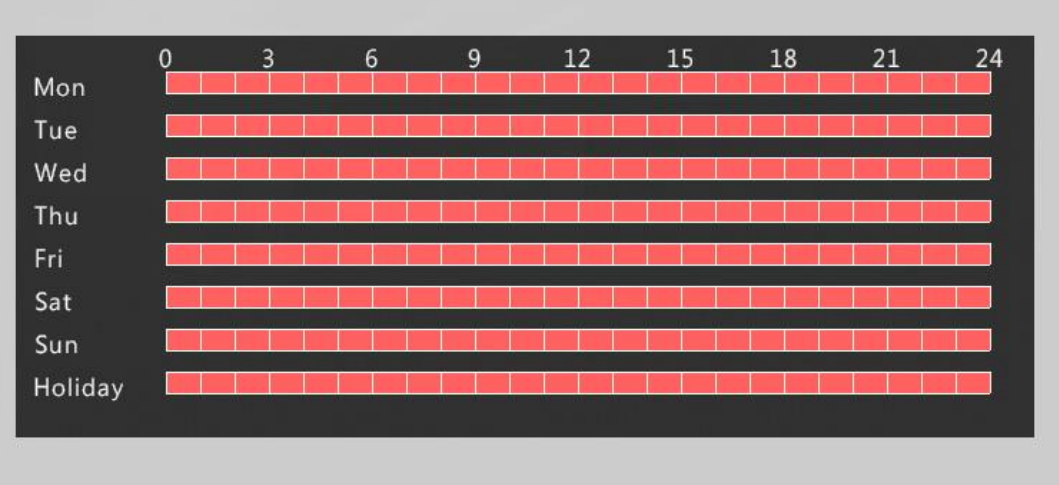
You need to enable alarm input first. For the detailed steps, see steps 1 to 2 in Alarm Triggered Recording.

Follow these steps after you have enabled alarm input:

1. Set alarm triggered snapshot: Click in the **Trigger Actions** column. In the window displayed, click the **Snapshot** tab, select the desired camera, and then click **OK**.



2. Set a schedule under **Menu** > **Storage** > **Snapshot**. For the detailed steps, see Scheduled Snapshot. Make sure **Type** is set to **Alarm**. The set schedule appears in red, which stands for alarm-triggered snapshot. The following shows an example.



Manual Recording and Snapshot

Manual Recording

Two options are available:

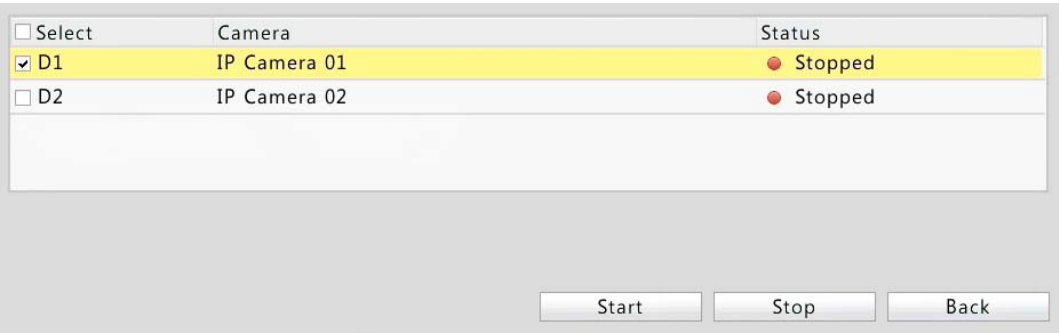
- Option 1

Click the desired preview window and then click  on the toolbar to start recording.

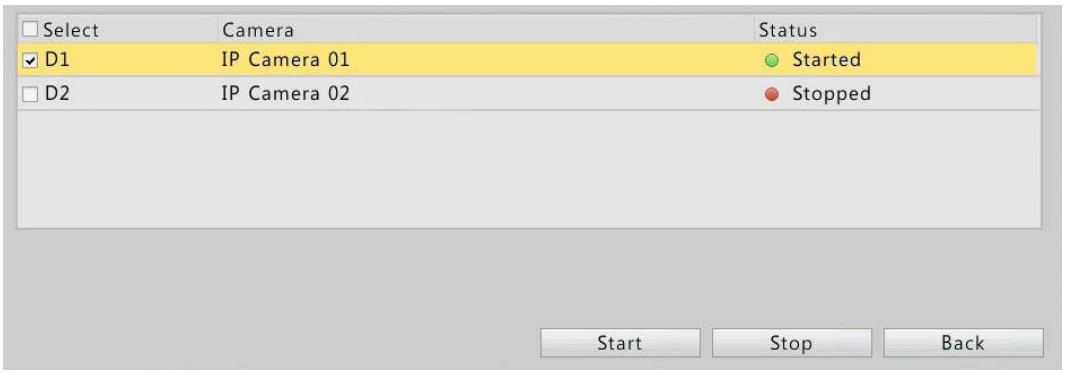
Click  to stop.

- Option 2

Click **Menu** > **Manual** > **Recording**, select the desired camera, and then click **Start** to start recording.

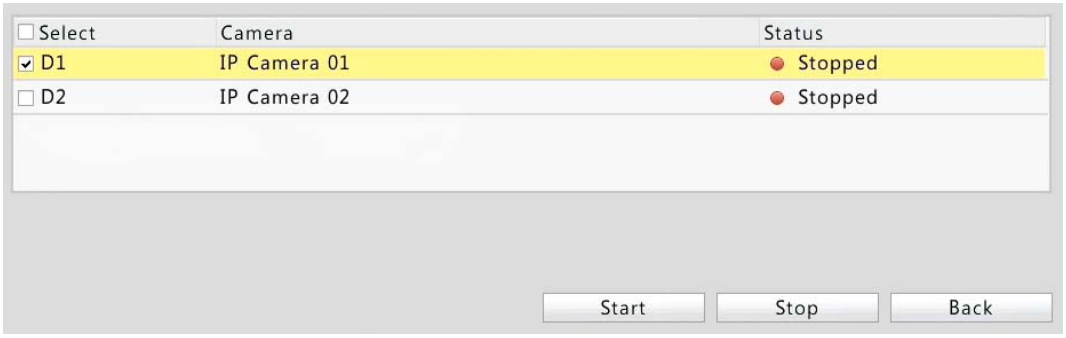


To stop, select the camera and then click **Stop**.

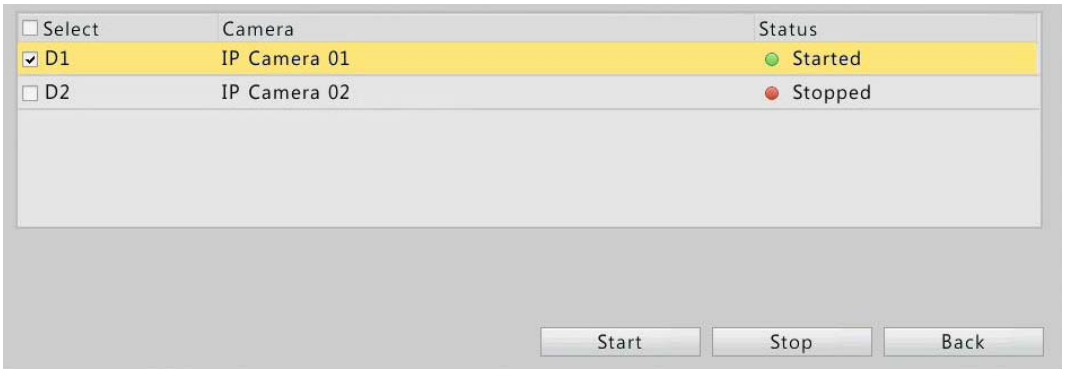


Manual Snapshot

1. Click **Menu** > **Manual** > **Snapshot**, select the desired camera, and then click **Start** to start manual snapshot.



2. To stop, select the camera and then click **Stop**.

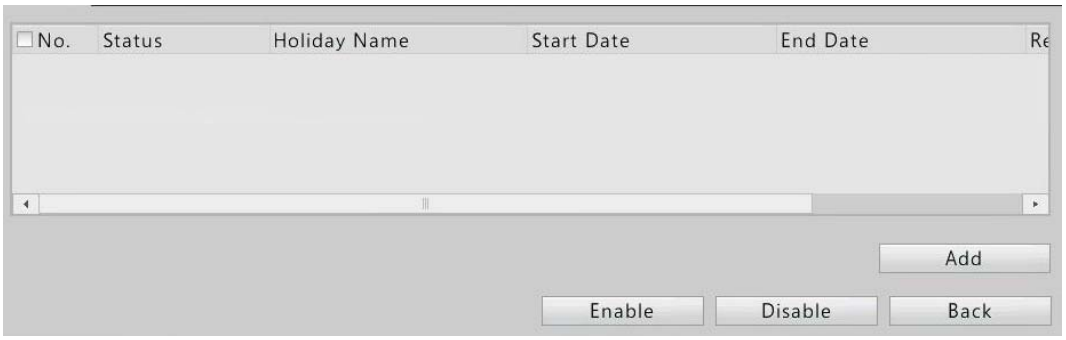


Holiday Recording and Snapshot

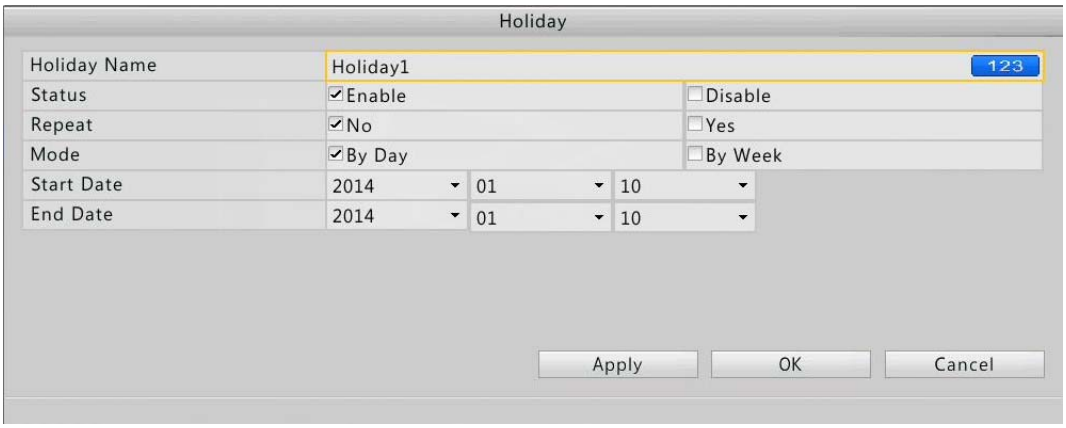
Holiday configuration allows you to specify certain time periods as holidays for scheduled recording and snapshot.

Holiday Recording

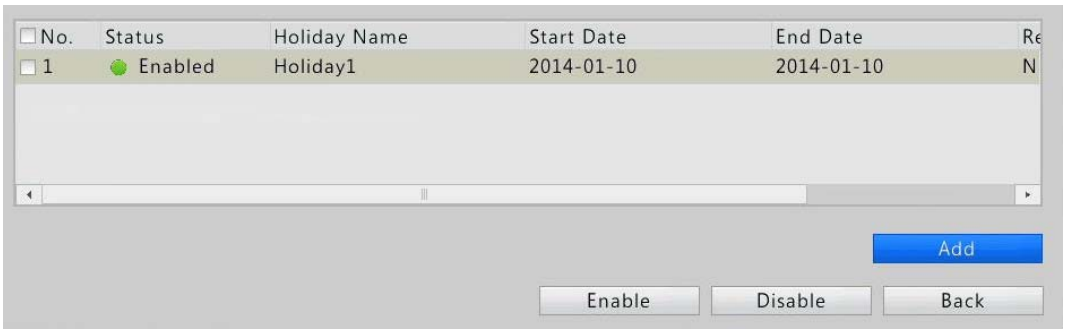
1. Click **Menu** > **System** > **Holiday**.



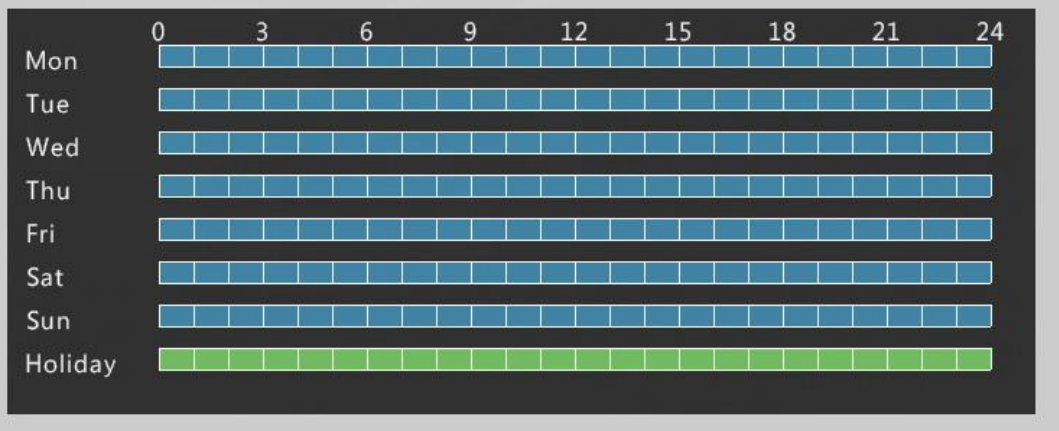
2. Click the **Add** button in the lower right corner.



3. In the **Holiday** window, complete the settings and then click **OK**. The holiday appears in the list.

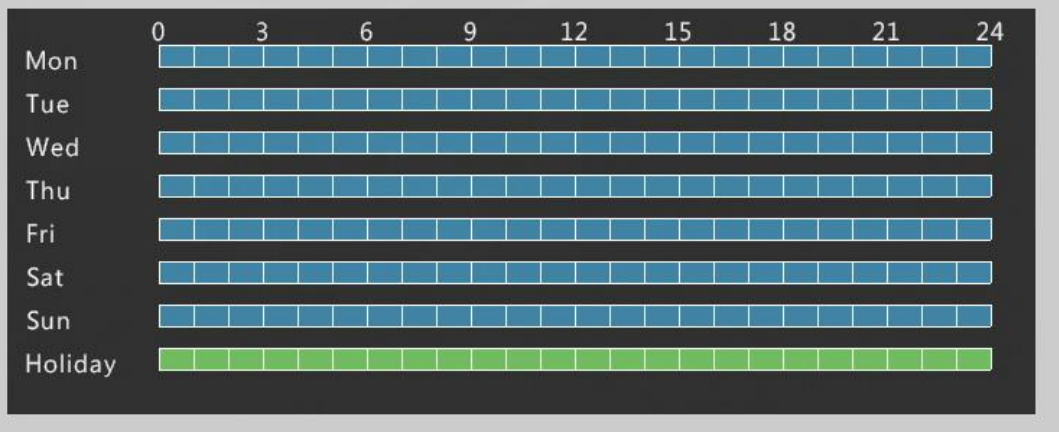


4. Click **Menu** > **Storage** > **Recording**, and set a recording schedule as described in Scheduled Recording and Snapshot. Make sure **Holiday** is selected in the **Select Day** drop-down list. After the configuration is completed, the schedule indicates normal and holiday recording types. The following shows an example.



Holiday Snapshot

Click **Menu** > **Storage** > **Snapshot**. Set a snapshot schedule as described in Scheduled Snapshot. Make sure **Holiday** is selected from the **Select Day** drop-down list. After the configuration is completed, the schedule indicates normal and holiday snapshot types. The following shows an example.



Other Recording and Snapshot Types

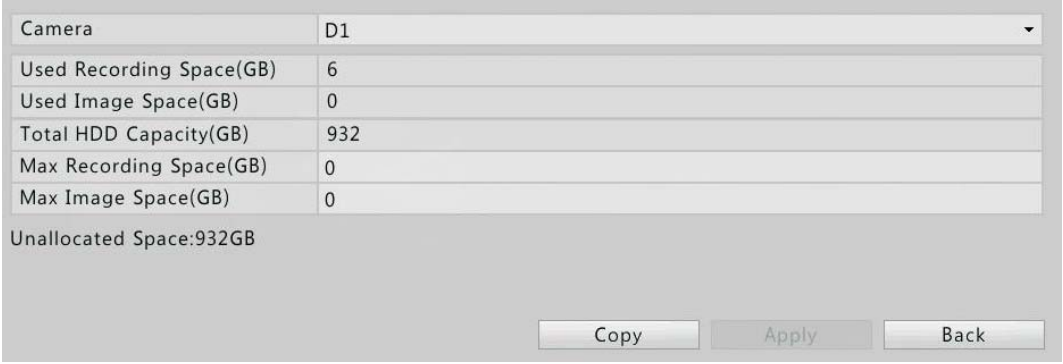
Other recording and snapshot types :

- Motion detection AND alarm triggered (M and A for short): recording or snapshot is triggered only when a motion detection alarm AND an input alarm occur simultaneously.
- Motion detection OR alarm triggered (M or A for short): recording or snapshot is triggered when a motion detection alarm OR an input alarm occurs.

For more details, see Motion Detection Recording and Snapshot.

Space Allocation

1. Click **Menu** > **Storage** > **Allocate Space**.



2. Select the desired camera from the drop-down list and then assign space for recordings and snapshots.
3. Click **Apply** to save the settings.

NOTE!

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

Advanced Configuration

This advanced configuration sets whether to overwrite recordings or snapshots when storage is full.

1. Click **Menu** > **Storage** > **Advanced**.

2. Choose the desired option:
   - Overwrite:

     For a camera that is allocated zero space, the camera shares unallocated space, and its oldest recordings/snapshots will be overwritten when the space is used up.

     For a camera that is allocated non-zero space, its oldest recordings/snapshots will be overwritten when its allocated space is used up.
   - Stop: This option is effective only to cameras allocated non-zero space. When selected, new recordings and snapshots of a camera will not be saved when its allocated space is used up.

NOTE!

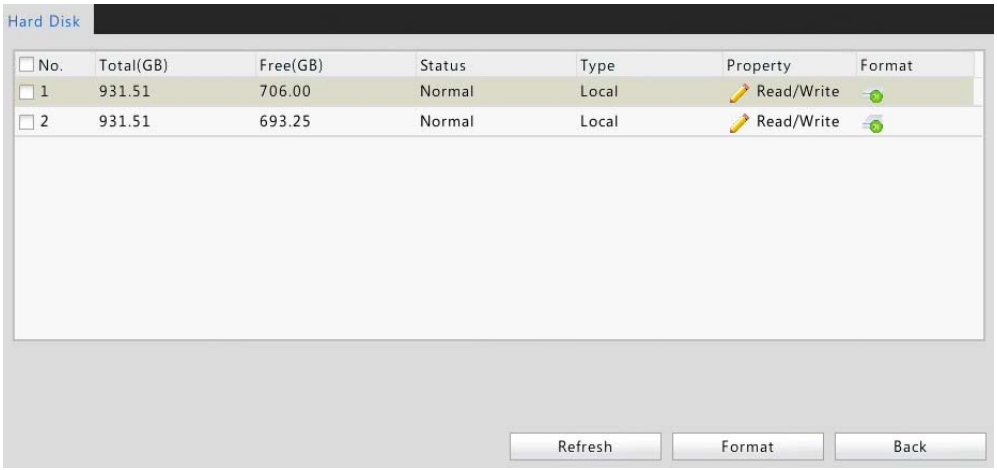
The oldest recordings and snapshots will still be overwritten for cameras allocated zero space even if **HDD Full** is set to **Stop**.

3. Click **Apply** to save the settings.

Disk Management

Make sure hard disks are correctly installed before you start. Only admin can format a hard disk and set disk properties.

1. Click **Menu** > **Storage** > **Hard Disk**.



NOTE!

The list shows disk information such as total capacity, free space, and disk status.

2. Manage hard disks.

- Set disk properties: Click for the desired disk and then select **Read/Write** or **Read Only** as needed.
- Format a hard disk: Click for the disk and then confirm to proceed. To format multiple disks at a time, select the disks and then click **Format**.

NOTE!

- The NVR can automatically format newly installed hard disks.
- Format a hard disk with caution. All the data on it will be erased.

7 Playback

Instant Playback

Instant playback plays the video recorded during the last 5 minutes and 30 seconds. If no recording is found, it means there is no recording during this period.

1. Click the desired preview window, and then click on the toolbar to start instant playback.
2. You may drag the slider to control the progress. Pause and resume as needed.

Playback Toolbar

Figure 7-1 Playback Toolbar

Table 7-1 Playback Toolbar

Button	Description
	Show playback progress. **Note**: A small window displaying video appears when you drag the slider, helping you locate the part you want to view.
	Timeline.
	Zoom in or out on the timeline. **Note**: Alternatively, scroll your mouse wheel.
	Play, pause, stop.
	Rewind or forward 30 seconds.
	Slow down or speed up. **Note**: You can click  to restore the normal playback speed after clicking  , and vice versa.
	Forward by frame
	Start or stop clipping video.
	Take a snapshot.
	Lock.

Button	Description
/	Add a default or custom tag.
	Manage files.
	Zoom in on images. For more details, see Zoom.
/	Turn off/on audio.
	Adjust sound volume for the current window.

Playback by Camera and Date

Use this method to play recordings found by camera and date.

1. Right-click the mouse and then choose **Playback**.
2. Select the desired camera(s).

NOTE!

You can select multiple cameras for synchronous playback. Clicking **Max. Camera** selects the maximum number of cameras allowed, and clicking **Close All** stops playback for all cameras. The performance varies with NVR model.

3. Double-click the desired date to start playback.

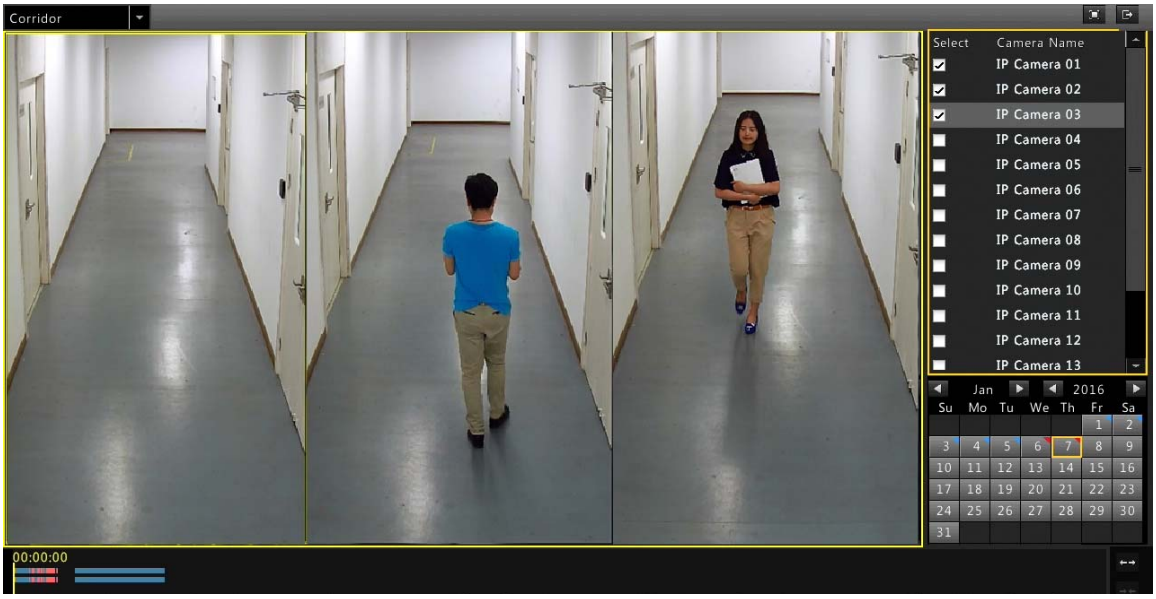
NOTE!

- You may also select a date and then click to play video recorded on that date.
- The calendar uses different flags to indicate different recording statuses. If a camera has common recordings on a date, the date has a blue flag on the calendar, for example, 2. If a camera has event type recording on a date, the date has a red flag on the calendar, for example, 17. A date with no flag, for example, 22, indicates there is no recording on this date.
- The first progress bar indicates playback progress of the video playing in the highlighted window. The second progress bar indicates the overall playback progress for the selected cameras.

Playback in Corridor Mode

Recordings can be played in corridor mode in multiple windows.

1. In the playback window, select **Corridor** from the drop-down list in the upper left corner.
2. Select the desired cameras and then double-click the desired date to start playback.



Playback by Tag

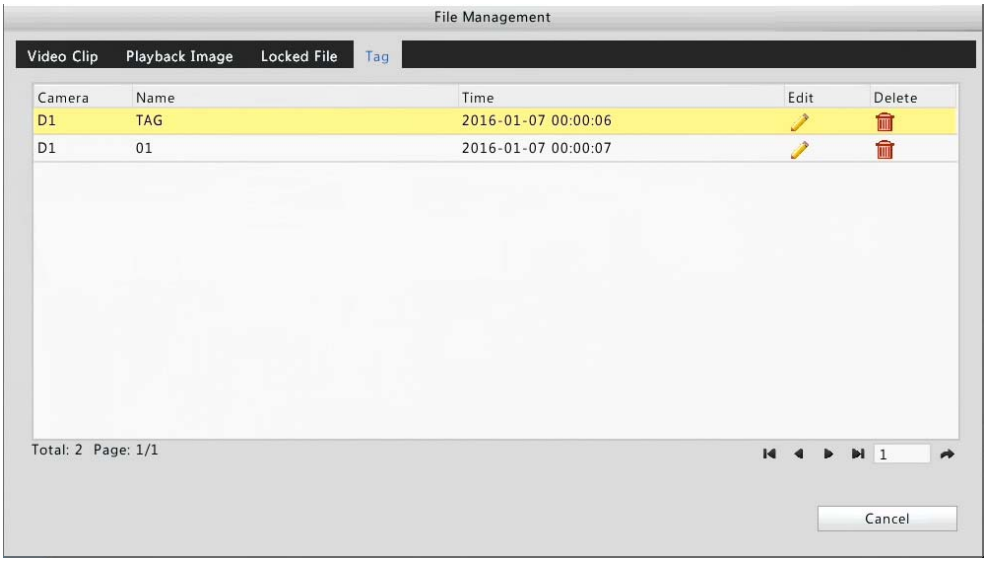
Tags are used to mark time points with useful information such as an event name or a location. With tags you can locate time points quickly and search for the related recordings.

Adding a Tag

1. Right-click and then click choose **Playback**.
2. Add a tag using one of the following methods:

- Click to add a default tag named TAG.
- Click to add a custom tag. You need to set a name for the tag, for example, tag1.

3. Manage tags: click , and you can view, edit and delete the listed tags as needed.



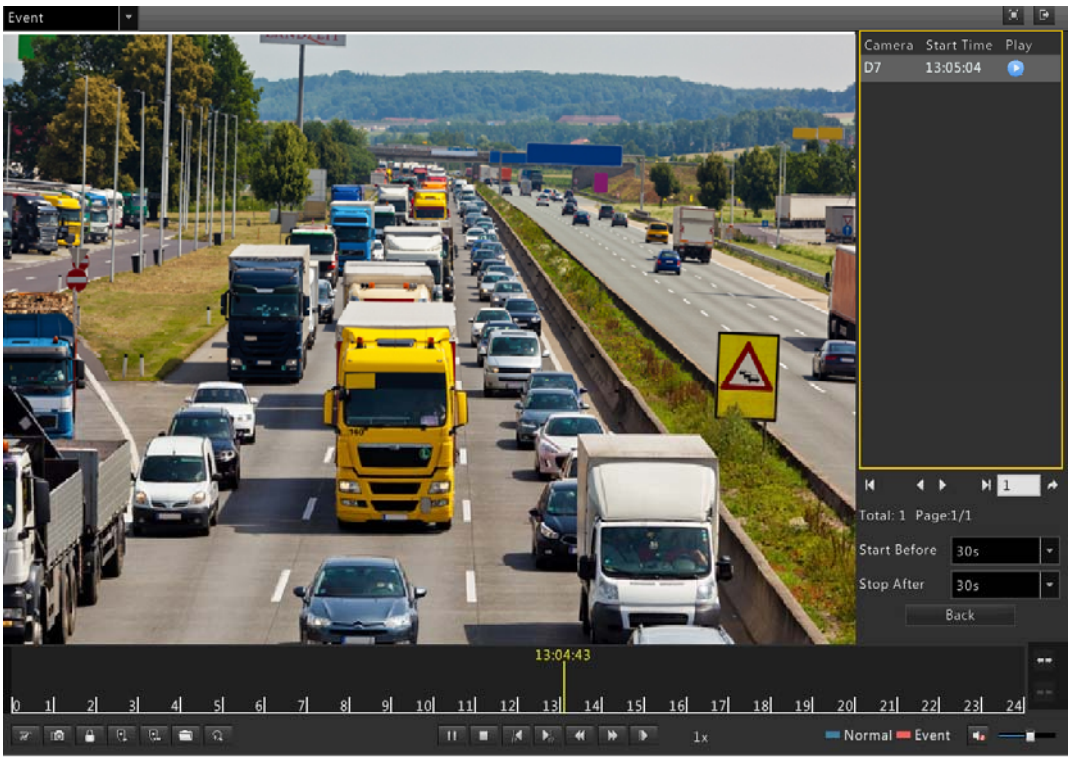
Playback by Tag

1. In the playback window, select **Tag** from the drop-down list in the upper left corner.
2. Select the desired camera, set the time period, and then click **Search**.
3. Click for the desired tag to start playback.

Playback by Event

You can specify an event type to search for and play videos recorded for one or more cameras during a specified time period.

1. In the playback window, select **Event** from the drop-down list in the upper left corner.
2. Select the desired event type, for example, motion. Select the desired camera, set the time period, and then click **Search**.
3. Click for the desired recording to start playback.



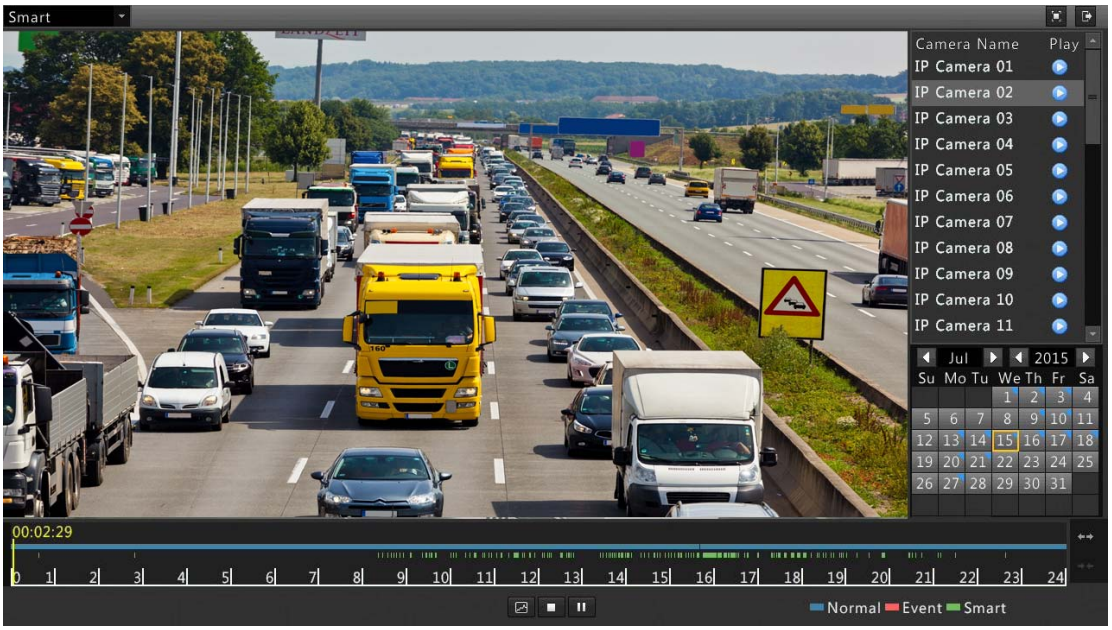
Playback by Smart Search

This function provides an efficient way to review recordings containing smart search results such as detected motions. In smart playback mode, the system analyzes recordings for smart search results. If such results are detected, the progress bar is highlighted in green, and the video plays at the normal speed, allowing you enough time to catch details. Otherwise, the video plays at 16x speed to save time.

NOTE!

Motion detection is the default smart search mode.

1. In the playback window, select **Smart** from the drop-down list in the upper left corner.
2. Click for the desired camera to start smart playback.



3. Click . The smart search window is displayed. By default, the full screen is the smart search area.
4. Set smart search rules.

Table 7-2 Smart Search Buttons

Button	Description	Button	Description
	Search motion detection in full screen		Clear the screen
	Search		Draw rectangle(s) on the screen
	Exit	–	–

5. Click  to start.

NOTE!

Setting smart search rules for motion detection require support from the camera.

Playback by External File

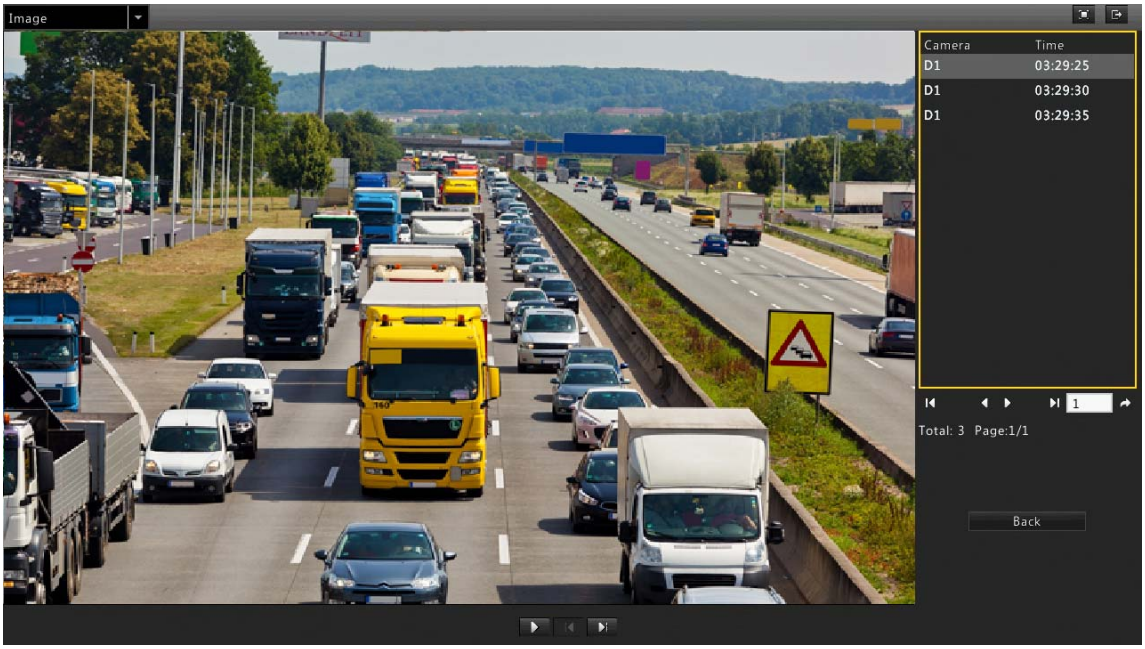
Use this function to play recordings stored in an external storage device, for example, a USB drive or a portable hard drive.

1. In the playback window, select **External File** from the drop-down list in the upper left corner.
2. Click **Refresh** and then wait for the NVR to read the external storage device.
3. Select the desired recording file and then click  to start playback.

Playback by Image

Specify an image type (for example, Normal or Motion) to search for and play images from one or more cameras during a specified time period.

1. In the playback window, select **Image** from the drop-down list in the upper left corner.
2. Select a type from the **Type** drop-down list in the upper right corner.
3. Select the desired camera(s), set the desired time period, and then click **Search**.
4. Click the desired file to start playback.



File Management

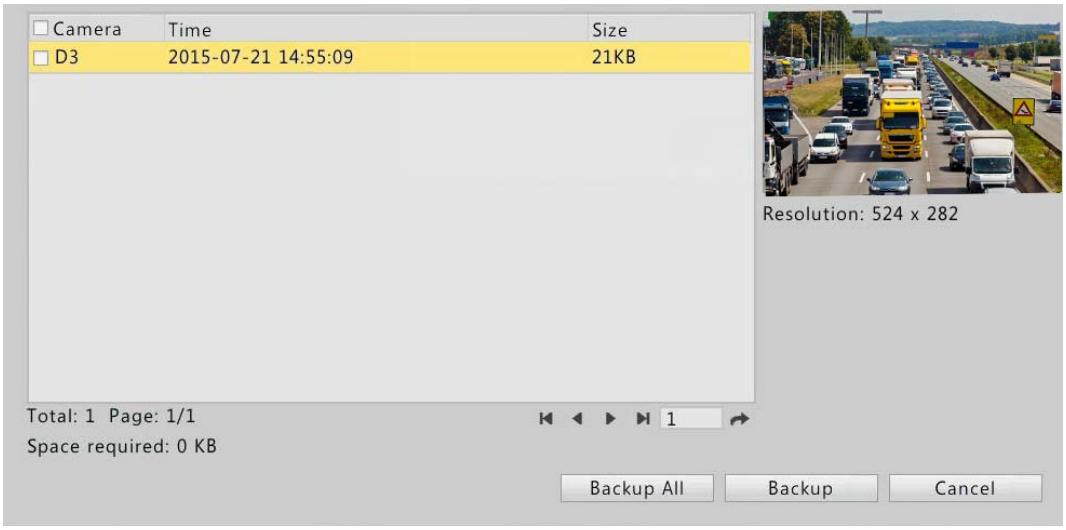
File management allows you to manage video clips, tags, snapshots taken during playback, and lock or unlock files.

1. Take snapshot during playback.

a. Click in the playback window to take a snapshot of the desired image.

b. Click and then click the **Playback Image** tab to view the snapshot.

c. Select the desired image file(s) and then click **Backup** to save them to the storage device.



NOTE!

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

2. Lock files.

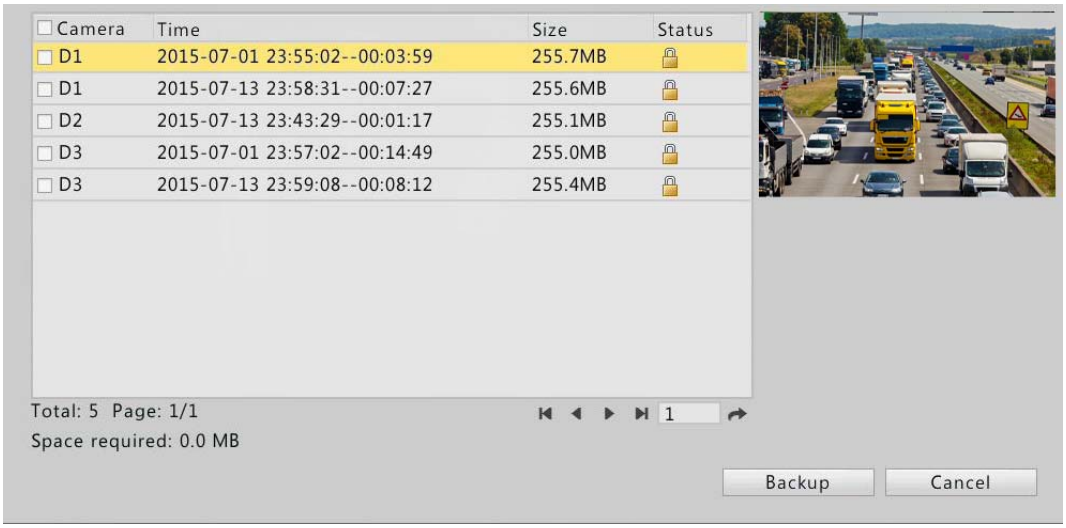
Use this function to lock a recording file so it will not be overwritten.

a. Click for the recording you want to lock in the playback window.

b. Click and then click the **Locked File** tab to view the locked file. You can also perform the following operations:

To unlock a file, click , and the icon changes to .

To back up a file, select the file and then click **Backup**.



8 Backup

Recording Backup

Backup, also known as recording backup, is the process of querying video stored on a hard disk of the NVR and then saving the recording to a USB storage device as a file.

Recording backup has the following conditions:

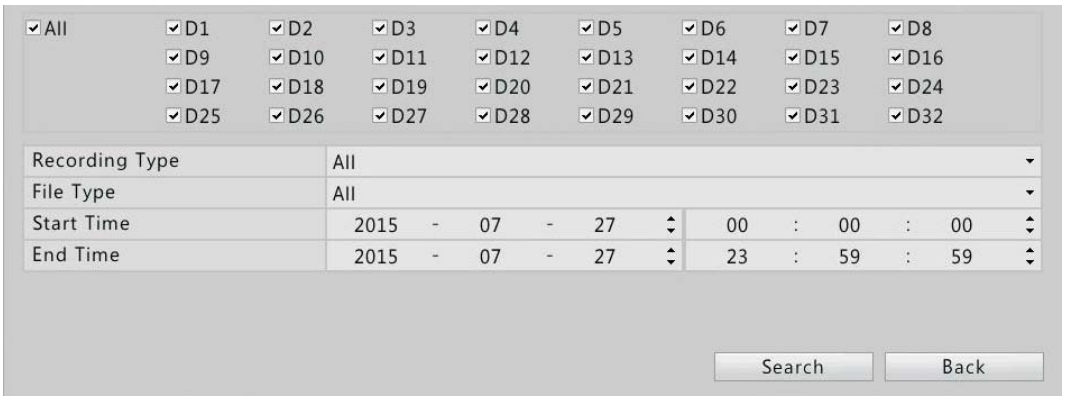
- The USB storage device has a FAT32 or an NTFS file system and is correctly connected to the NVR.
- Permission is required.
- The recording to back up is stored on a hard disk of the NVR.

NOTE!

By default a recording is backed up as a .mp4 file.

Normal Backup

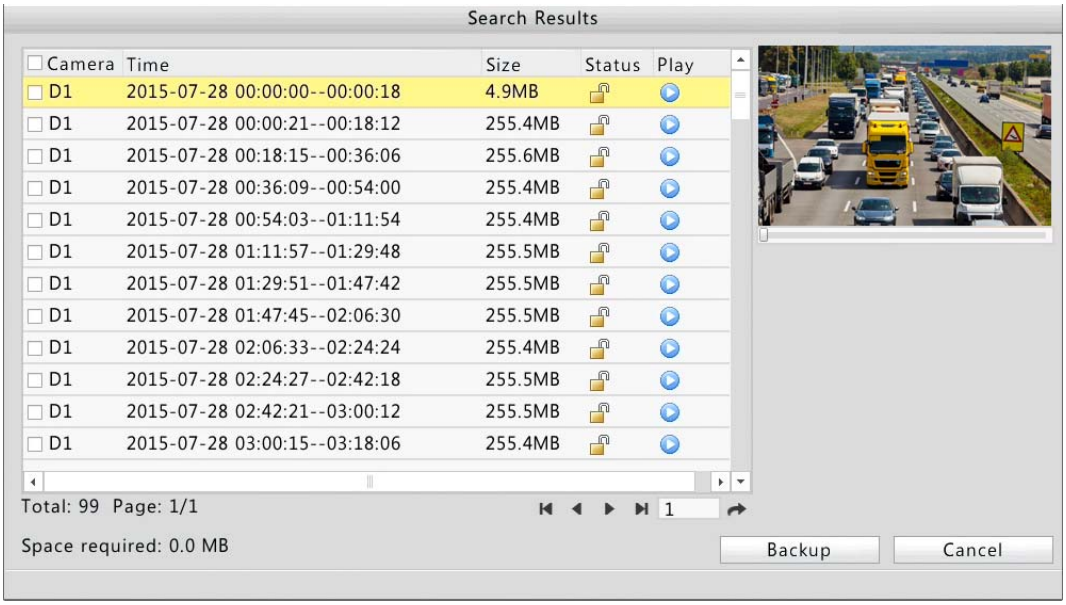
1. Click **Menu** > **Backup > Recording**.



NOTE!

All cameras are selected by default.

2. Set search conditions and then click **Search**. Search results are displayed.

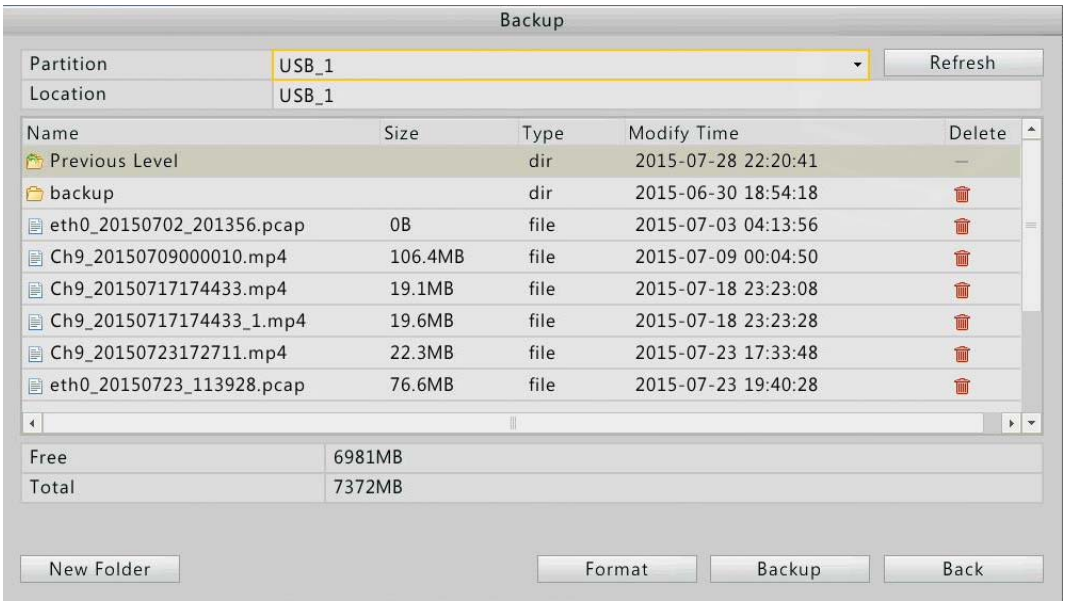


NOTE!

You can lock/unlock and play recording files in this window.

3. Select the desired recording(s) and then click **Backup**.

4. Select a destination in the USB storage device and then click **Backup**. The recording(s) will be saved to the specified directory.



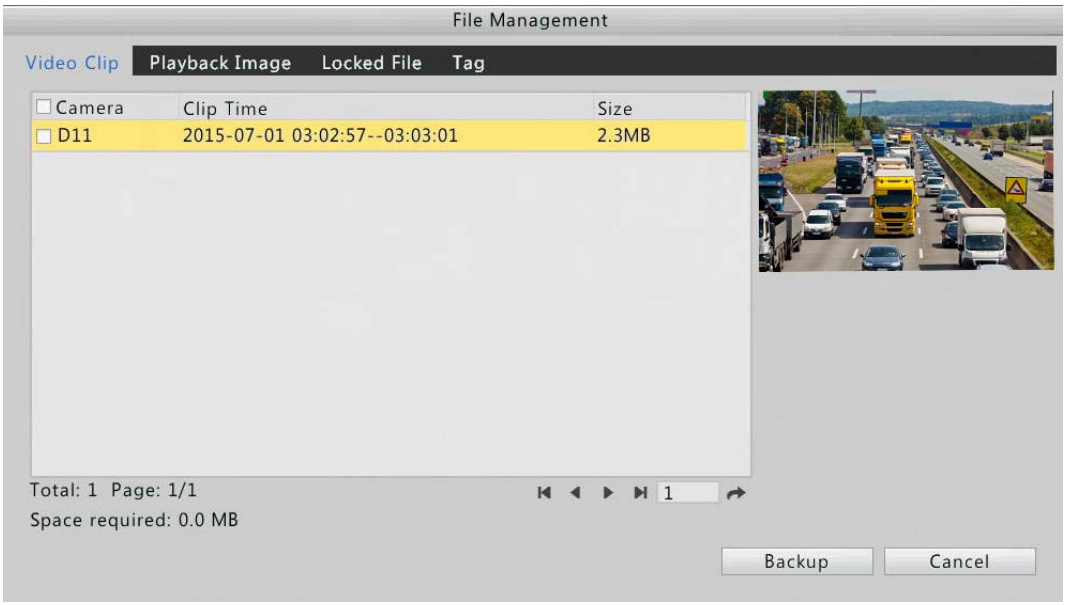
NOTE!

- You may want to create a new folder for the recording(s) by clicking **New Folder**.
- By clicking **Format** you can format a connected USB device into a FAT32 file system.
- A progress bar (e.g., **Exporting** *X*/*Y*) is displayed to indicate the progress, where *X* indicates the current number being backed up, and *Y* indicates the total number of recordings. To cancel the operation, click **Cancel**.
- A backup file is named in this format: *camera name-recording start time*.file extension. For example, Ch9-20150630183546.mp4.

Video Clip Backup

A recording can be clipped and saved to a USB storage device.

1. Open the playback window. For the detailed steps, see Playback.
2. After playback starts, click  and  on the playback toolbar to clip videos.
3. Click  and then click the **Video Clip** tab to view video clips.



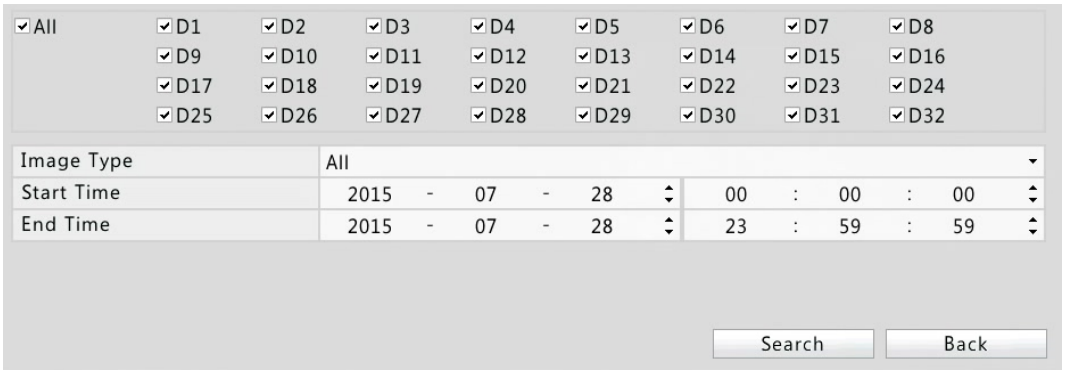
4. Select the desired video clip(s) and then click **Backup**.
5. Select a destination in the USB storage device and then click **Backup**. The selected video clips are saved to the specified directory.

Image Backup

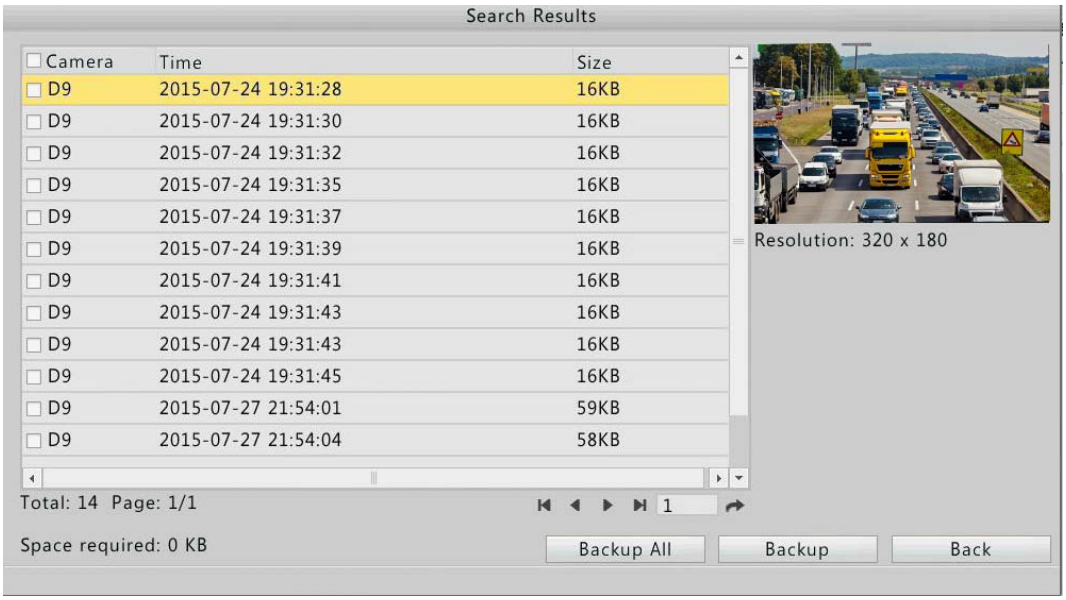
NOTE!

The default format of image backup is JPEG.

1. Click **Menu** > **Backup** > **Image**.



2. Set search conditions and then click **Search**. Search results are displayed.



NOTE!

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

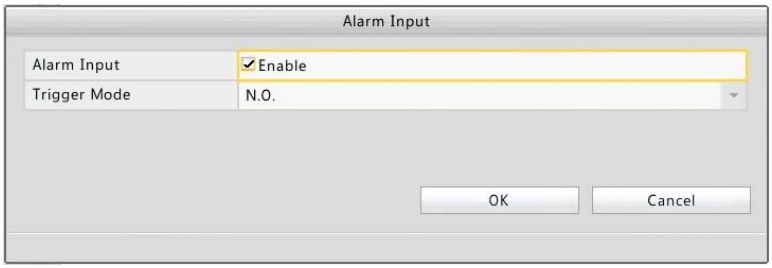
3. Select the desired file(s) and then click **Backup**.
4. Select a destination in the USB storage device and then click **Backup**. The selected files are saved to the specified directory.

9 Alarm

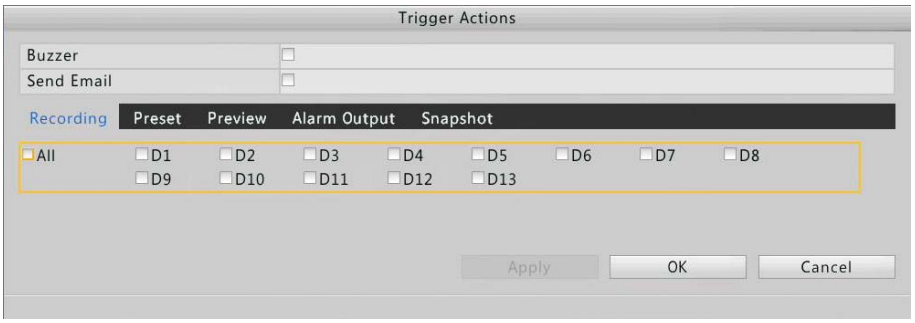
Alarm Input and Output

Alarm Input

1. Click **Menu** > **Alarm** > **Input/Output** > **Alarm Input**.
2. Click for the desired camera, select **Enable**, select a trigger mode as needed, and then click **OK**.



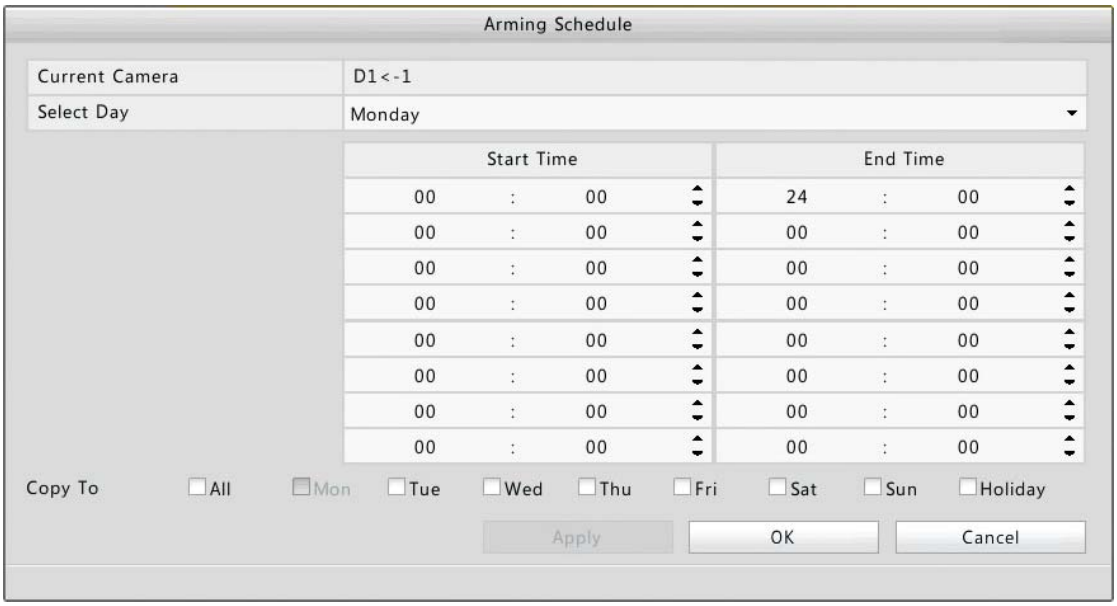
3. Click in the **Trigger Actions** column and then set action(s) to trigger. For more details, see Alarm-Triggered Actions.



NOTE!

- The number of cameras that can be connected may vary with NVR model.
- Actions that can be triggered may vary with alarm type.

4. Click in the **Arming Schedule** column and then set an arming schedule as needed.

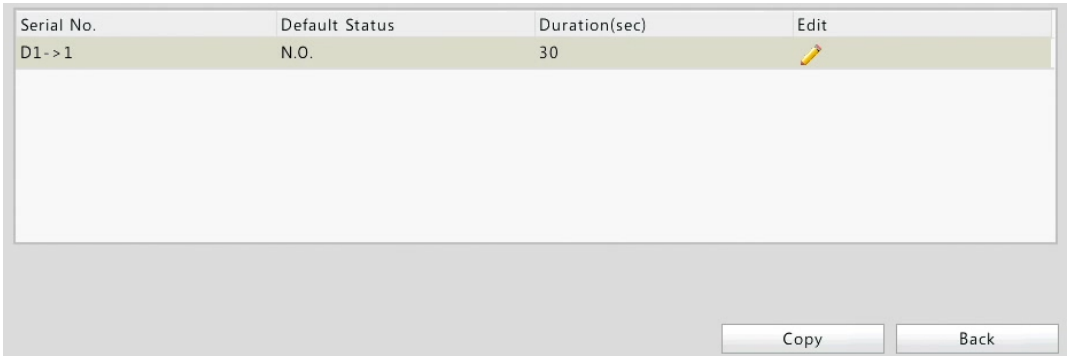


NOTE!

- The default schedule is 24×7. You may change it as needed and set up to eight different periods for each day. Time periods cannot overlap.
- To apply the same arming schedule to other days, select the intended days right to **Copy To**.
- To apply the same settings to other cameras, click **Copy**, select the desired cameras, and then click **OK**.

Alarm Output

1. Click **Menu** > **Alarm** > **Input/Output** > **Alarm Output**.



2. Click for the desired camera, and then set the default status and duration. After you have completed the settings, click **OK**.

NOTE!

To apply the same settings to other cameras, click **Copy**, select the desired cameras, and then click **OK**.

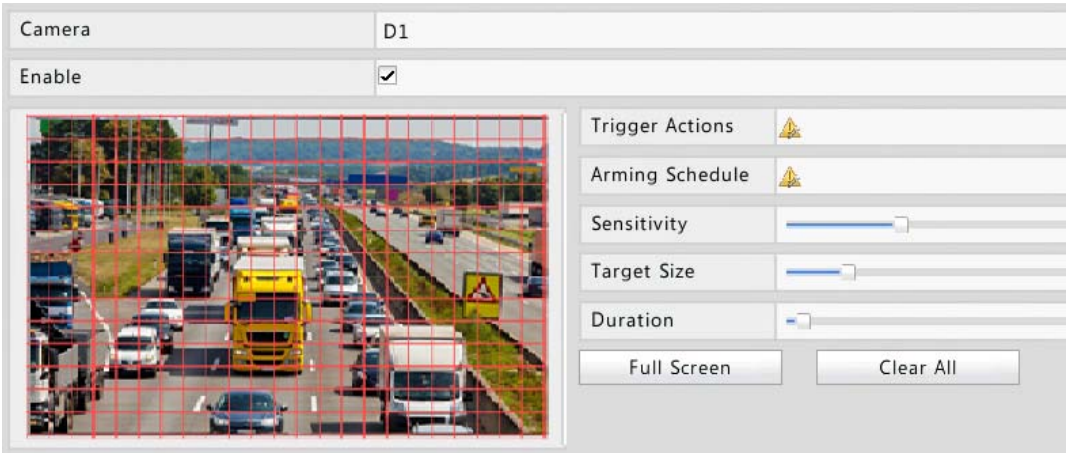
Motion Detection

When enabled, a motion detection alarm occurs if an object inside the detection area moves to certain extent.

NOTE!

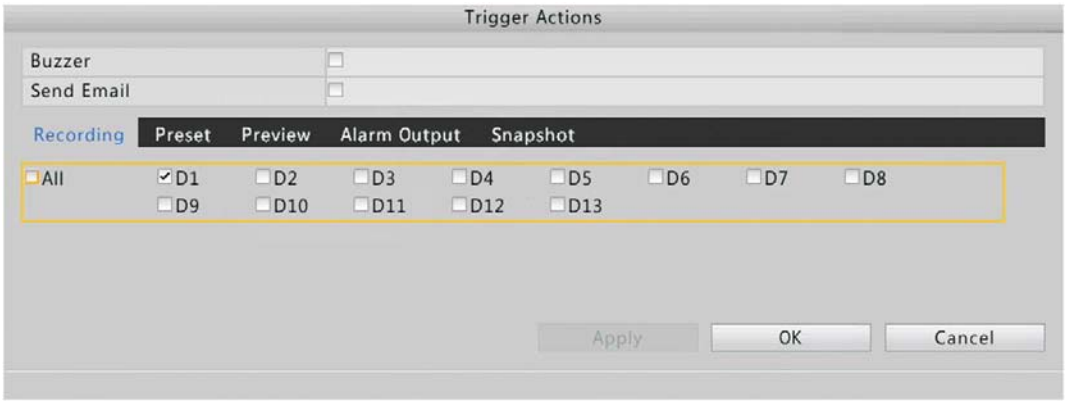
- When enabled on the NVR, the default detection area covers the full screen, and recording is triggered only for the current camera by default. If motion detection recording has been configured before, the previously configured motion detection area and motion detection recording are still effective when you enable motion detection in step 2.
- When a motion detection alarm occurs, highlighted grids appear in the preview window to indicate the motion detected area, and meanwhile, an alarm icon appears in the upper right corner.

1. Click **Menu** > **Alarm** > **Motion**.
2. Select the desired camera and then select **Enable** to enable motion detection.



3. Use the mouse to draw a detection area, and drag the slider to set detection sensitivity, target object size, and duration.

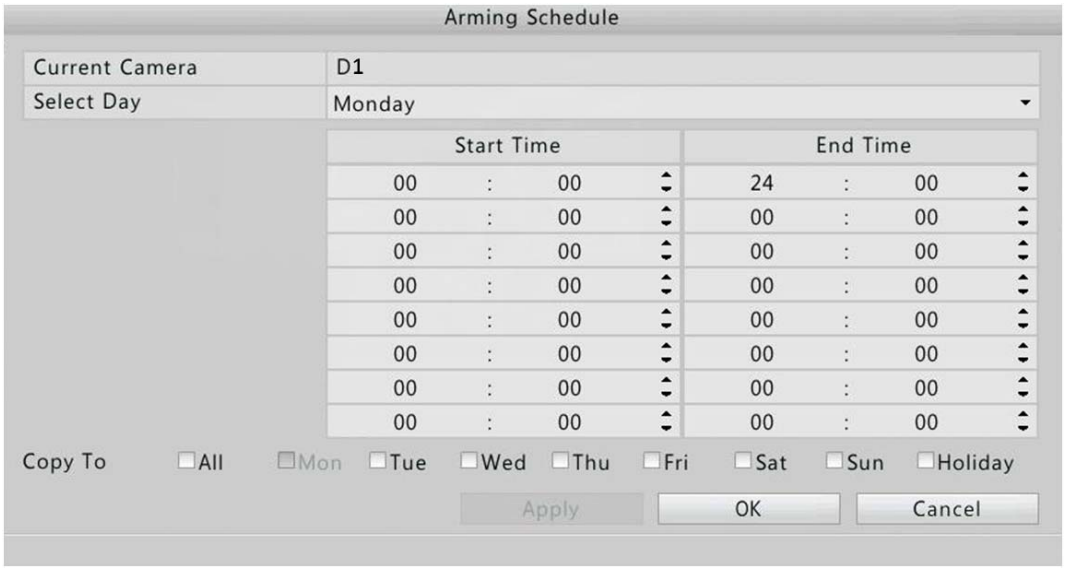
4. Click right to **Trigger Actions** and set action(s) to trigger. For the detailed steps, see Alarm-Triggered Actions.



NOTE!

- The number of cameras that can be connected may vary with NVR model.
- Actions that can be triggered may vary with alarm type.

5. Click right to **Arming Schedule** and then set an arming schedule as needed.



NOTE!

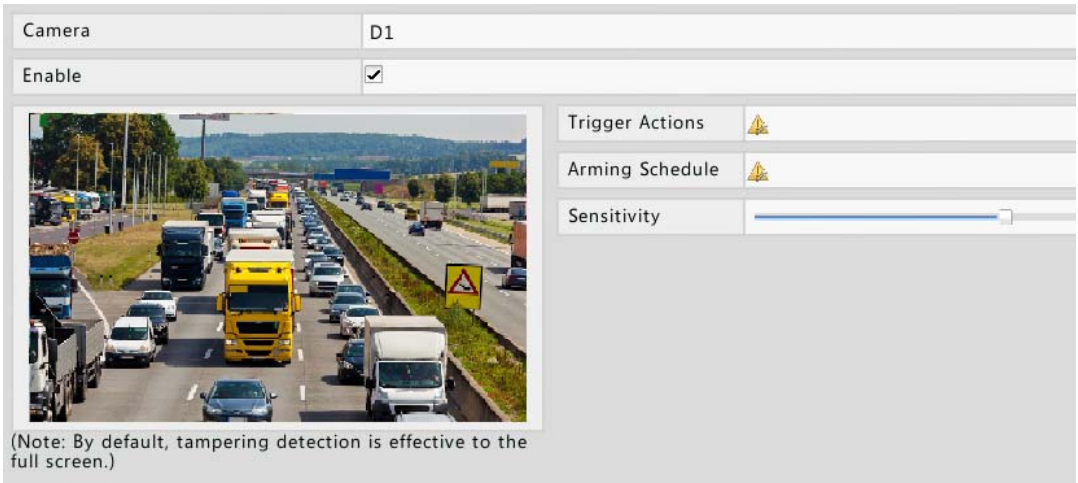
- The default schedule is 24×7. You may change it as needed and set up to eight different periods for each day. Time periods cannot overlap.
- To apply the same arming schedule to other days, select the intended days right to **Copy To**.

6. Click **Apply** to save the settings.

Tampering Detection

A tampering detection alarm occurs when the camera lens is covered.

1. Click **Menu** > **Alarm** > **Tampering**.
2. Select the desired camera and then select **Enable** to enable tampering detection.



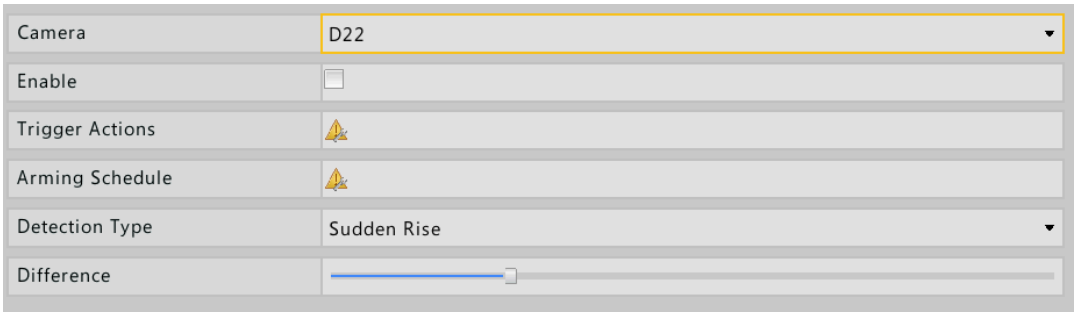
3. Click right to **Trigger Actions** and set action(s) to trigger. For the detailed steps, see Alarm-Triggered Actions.

4. Click right to **Arming Schedule** and then set an arming schedule as needed.
5. Click **Apply** to save the settings.

Audio Detection

An audio detection alarm occurs when a camera detects a sudden change in sound volume.

1. Click **Menu** > **Alarm** > **Audio Detection**.



2. Select the desired camera and then select **Enable** to enable audio detection.
3. Click right to **Trigger Actions** and set action(s) to trigger. For the detailed steps, see Alarm-Triggered Actions.
4. Click right to **Arming Schedule** and set a schedule as needed.
5. Select a detection type and adjust the settings as needed.

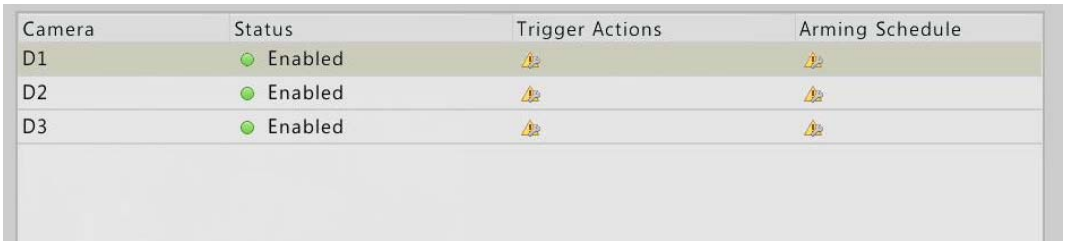
Detection Type	Description
Sudden Rise	An alarm occurs when the rise of volume exceeds the set value.
Sudden Fall	An alarm occurs when the fall of volume exceeds the set value.
Sudden Change	An alarm occurs when the rise or fall of volume exceeds the set value.
Threshold	An alarm occurs when the volume exceeds the set value.

6. Click **Apply** to save the settings.

Video Loss

A video loss alarm occurs when the NVR loses video signals from a camera.

1. Click **Menu** > **Alarm** > **Video Loss**.



2. Click in the **Trigger Actions** column and set action(s) to trigger. For more details, see Alarm-Triggered Actions.

NOTE!

- Video loss alarm is enabled by default. To disable this function for a channel, click , and then the icon changes to .
- The following actions are not supported for the current channel: recording, preset, preview and snapshot.

3. Click in the **Arming Schedule** column and set an arming schedule as needed.

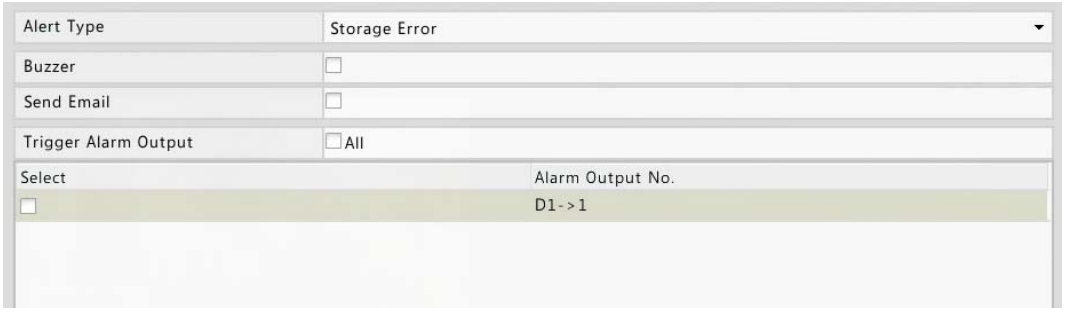
Alert

The NVR reports an alert when an event occurs in the system. The following are some alerts and their definitions in the system.

- **Storage Error**: Recording failed.
- **Disk Offline**: A disk is not properly connected or is damaged.
- **Disk Abnormal**: A disk cannot be accessed.
- **Illegal Access**: The username does not exist or the password is incorrect.
- **Network Disconnected**: Network connection is lost.
- **IP Conflict**: Devices on the network use the same IP address.

Perform the following steps to configure an alert:

1. Click **Menu** > **Alarm** > **Alert**.
2. Select an alert type, select the desired actions, and then select the camera(s) for which you want to enable alarm output.

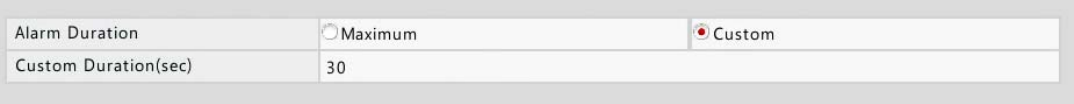


3. Click **Apply** to save the settings.

Buzzer

The buzzer can be triggered by alarms to alert the user. Follow the steps to set how long the buzzer will buzz after it is triggered.

1. Click **Menu** > **Alarm** > **Buzzer**.



2. Set the duration as needed. The range is from 1 to 600 seconds.
3. Click **Apply** to save the settings.

Alarm-Triggered Actions

An alarm can trigger actions, for example, buzzer, recording, and preview. The supported actions may vary with NVR model.

Alarm-Triggered Buzzer

The NVR makes a buzzing sound when an alarm occurs.

Alarm-Triggered E-mail

The NVR e-mails an alarm message to a specified email address when an alarm occurs.

Alarm-Triggered Recording

The NVR records video from a specified camera when an alarm occurs.

Alarm-Triggered Snapshot

The NVR takes a snapshot when an alarm occurs.

Alarm-Triggered Preset

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

Alarm-Triggered Preview

The NVR plays live video in full screen when an alarm occurs.

Alarm-Triggered Alarm Output

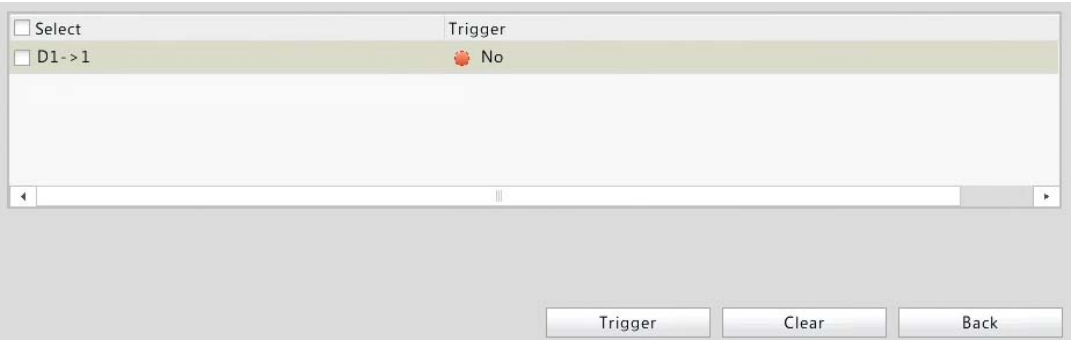
The NVR outputs an alarm to trigger actions by a third-party device when an alarm occurs.

Manual Alarm

Manual Alarm Output

Follow the steps to trigger or clear an alarm output manually.

1. Click **Menu** > **Manual** > **Alarm** > **Manual Alarm**.



2. Select the desired channel and then click **Trigger** or **Clear**.

Manual Buzzer

Follow the steps to stop the buzzer manually.

1. Click **Menu** > **Manual** > **Alarm** > **Buzzer**.

2. Select the buzzer (in **Started** status) and then click **Stop**.

10 Network Configuration

Network configuration is required if your NVR operates in a network.

NOTE!

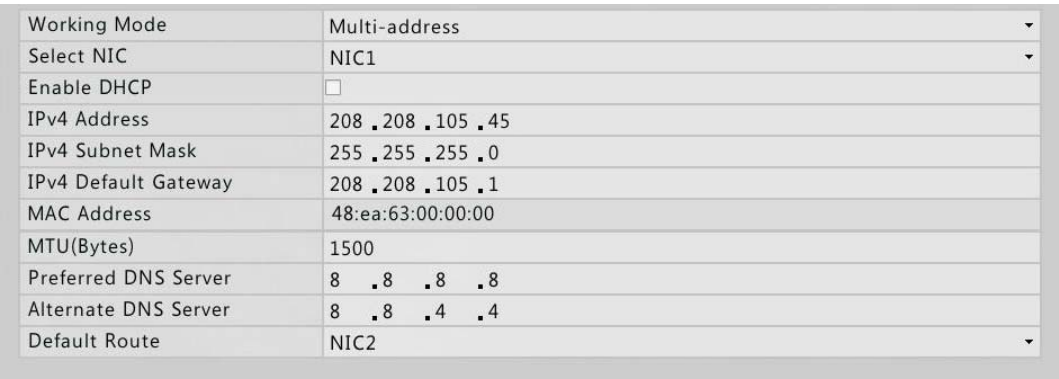
The default IP address is 192.168.0.30 for NIC 1 and 192.168.1.30 for NIC 2.

Basic Configuration

1. Click **Menu** > **System** > **Network > Basic**.
2. Set the network parameters as needed. For some models, DHCP is enabled by default.

You can choose a working mode if your NVR has two NICs:

- Multi-address mode: The two NICs work independently and can be configured separately. Either NIC can be chosen as the default route, and data will be forwarded through this NIC when the NVR connects to the extranet.
- Load balance mode: The two NICs are bound to the same IP address and work together to share network traffic.
- Net fault-tolerance mode: The two NICs are bound to the same IP address. In cases where one NIC fails, the other takes over service seamlessly from the faulty one to ensure network connectivity.



3. Click **Apply** to save the settings.

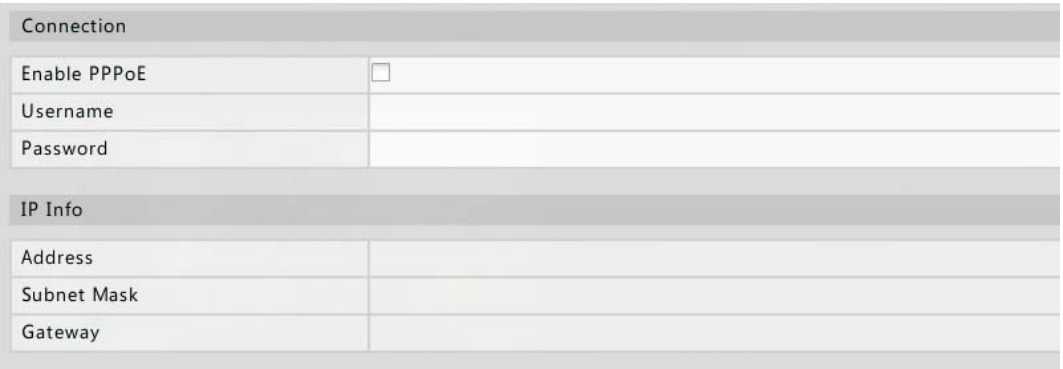
NOTE!

- For an NVR with multiple NICs, you can configure the NICs and choose a default route.
- If your NVR has a PoE port or a switching port, you can configure an internal NIC IPv4 address.

PPPoE

The NVR allows access through Point-to-Point over Ethernet (PPPoE).

1. Click **Menu** > **System** > **Network** > **PPPoE**.



2. Select **PPPoE**, and then enter the username and password provided by your Internet Service Provider (ISP). The network information appears under **IP Info** when dial-up succeeds.

NOTE!

If your NVR has multiple NICs, PPPoE dial-up will be implemented through the NIC specified as the default route.

3. Click **Apply** to save the settings.

P2P

The NVR allows access through Peer-to-Peer (P2P) protocols. You need to sign up for a P2P account on the specified website (see the domain name) before using this function. After completing the sign-up, scan the code with your mobile phone to download the app, and then run the app to access the device.

1. Click **Menu** > **System** > **Network** > **P2P**.
2. P2P is enabled by default. If it is disabled, select the check box to enable it.

NOTE!

- You can obtain the register code by scanning the QR code.
- If the device is offline, the possible causes will be displayed for your reference.

3. Click **Apply** to save the settings.

DDNS

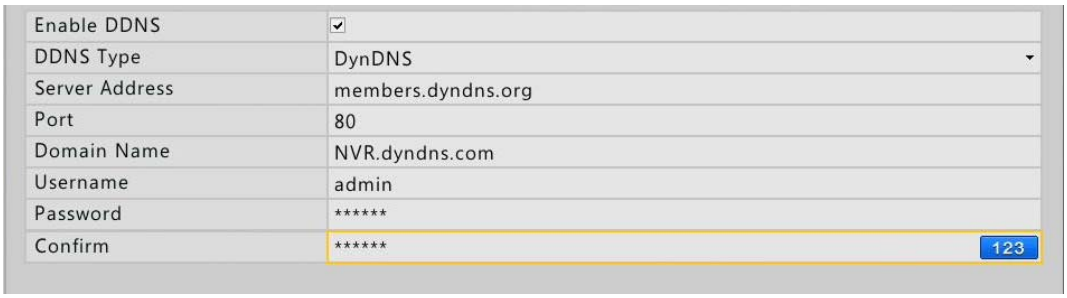
If your NVR is connected to the Internet through PPPoE, the IP address of the network changes every time it connects to the ISP server without your awareness. This is inconvenient when you remotely access your NVR with an IP address. To avoid this issue, you can register with an DDNS server to obtain a domain name for your NVR and then access your NVR by visiting the domain name instead of an IP address (http://*DDNS server address*/*NVR's domain name*) using a web browser.

1. Click **Menu** > **System** > **Network** > **DDNS**.
2. Enable DDNS, select a DDNS type, and then complete other settings.

- If the DDNS type is **DynDNS** or **No-IP**, enter the domain name, username and password.

  The domain name is the one that you have successfully registered at a domain name registration website, for example, DynDNS.

  The username and password are those of the account you have registered at the domain name registration website (for example, DynDNS).



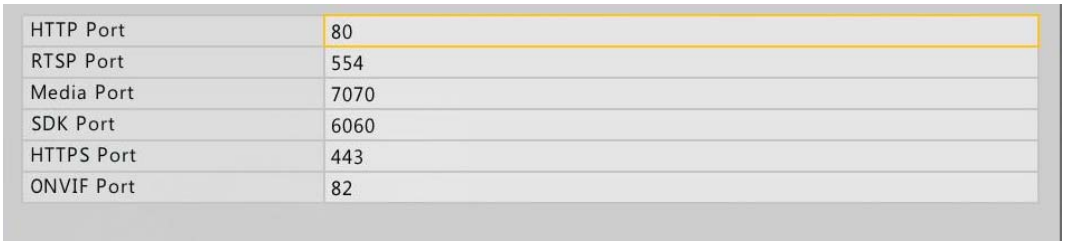
- If the DDNS type is **EZDDNS**, enter a valid domain name for your NVR and then click **Test** to see if the domain name is available.

3. Click **Apply** to save the settings.

Port

Normally the default port numbers need no modification. This function is mainly used together with the port mapping function. See the next section for more details.

1. Click **Menu** > **System** > **Network** > **Port**.
2. Configure internal ports as planned.



NOTE!

A valid port number ranges from 1 to 65535, among which 21, 23, 2000, 3702 and 60000 are reserved for other purposes. Make sure each port number configured is unique.

3. Click **Apply** to save the settings.

Port Mapping

Two port mapping methods are available:

- Universal Plug and Play (UPnP)
- Internal and external mapping

UPnP

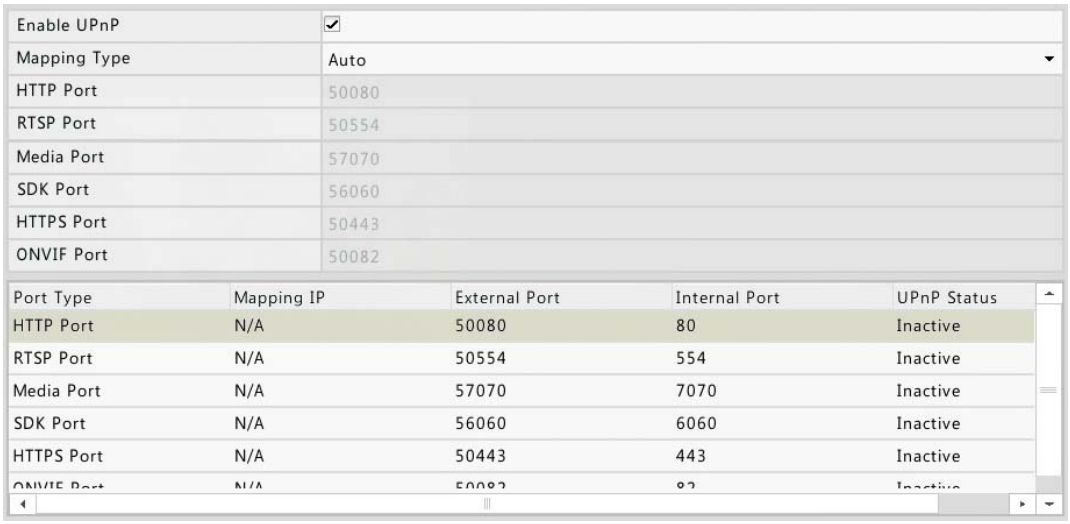
UPnP enables the NVR to discover other devices on the network and establish network services such as data sharing and communication.

To use UPnP in your NVR, you must enable UPnP in the router to which your NVR is connected. With UPnP enabled for Network Address Translation (NAT), the ports on the NVR can be mapped automatically to the router, and computers can access your NVR from outside the LAN.

1. Click **Menu** > **System** > **Network** > **Port Mapping**.
2. UPnP is enabled by default. Select the desired mapping type from the drop-down list. To map ports manually, select **Manual** and then set external ports for the router.

NOTE!

- Auto mode is recommended. Ports will conflict if not configured properly.
- For an NVR with multiple NICs, port mapping should be configured based on the NIC specified as the default route.



3. Click **Refresh** and check that **Active** is displayed for these ports in the **UPnP Status** column.
4. Click **Apply** to save the settings.

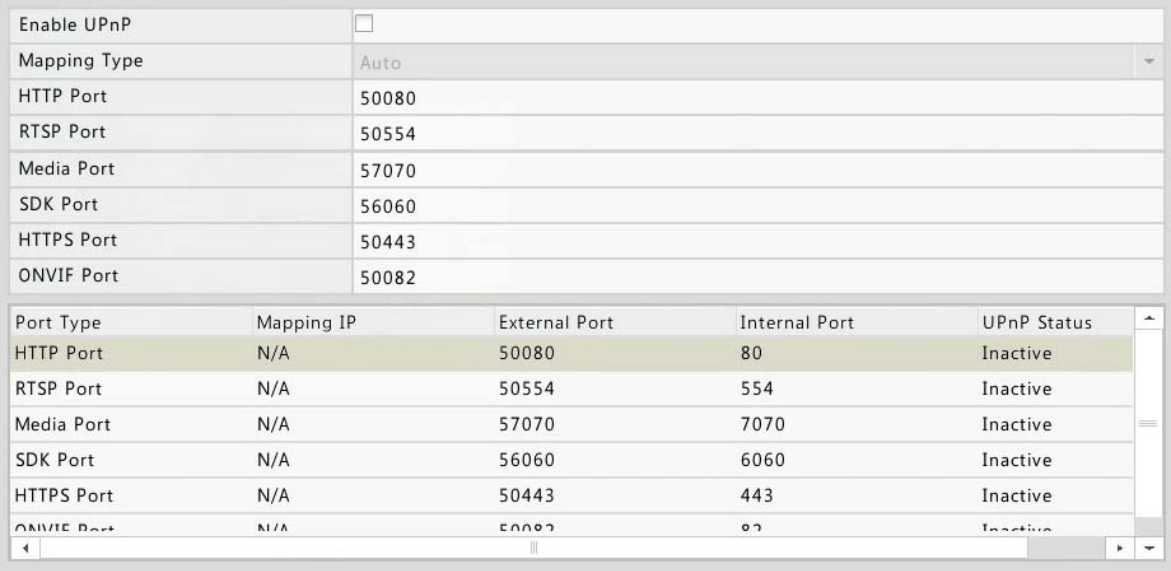
Internal and External Port Mapping

If your router does not support UPnP, then you need to configure internal and external ports manually.

NOTE!

- The principle of port mapping is that the internal and external ports of the NVR are consistent with that of the router.
- Some routers may require the same internal and external ports for the NVR and the router.

1. Click **Menu** > **System** > **Network** > **Port Mapping**.
2. Disable UPnP by clearing the check box, and then set external ports manually.



3. Click **Apply** to save the settings.

NOTE!

You may verify by entering the following information in the address bar of your web browser:: router's WAN port IP address:external HTTP port. For example, if 10.2.2.10 is the IP address and 82 is the HTTP port, then you enter http://10.2.2.10:82. If port mapping is effective, the login page of the NVR will be displayed.

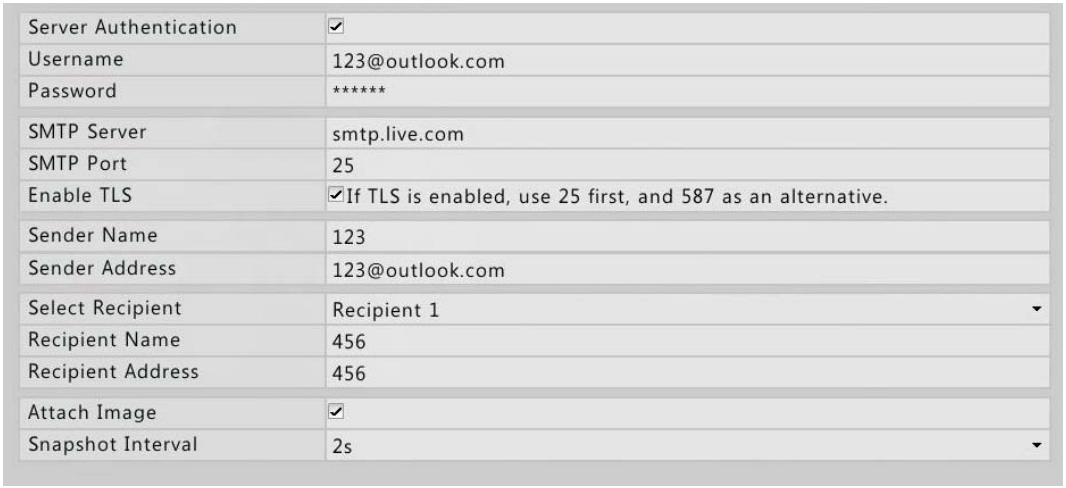
Email

The NVR can be set to send an email notification to specified email addresses when an alarm occurs. The email contains basic alarm information such as alarm type, alarm time, camera ID, and camera name, etc.

Before using this function, make sure the NVR has a functional connection to an SMTP server with which you have a valid email account. Depending on the intended recipients, a connection to the Internet may be required.

1. Click **Menu** > **System** > **Network** > **Email**.
2. Configure the related parameters.

   If server authentication is required, you need to enter the correct username and password.



NOTE!

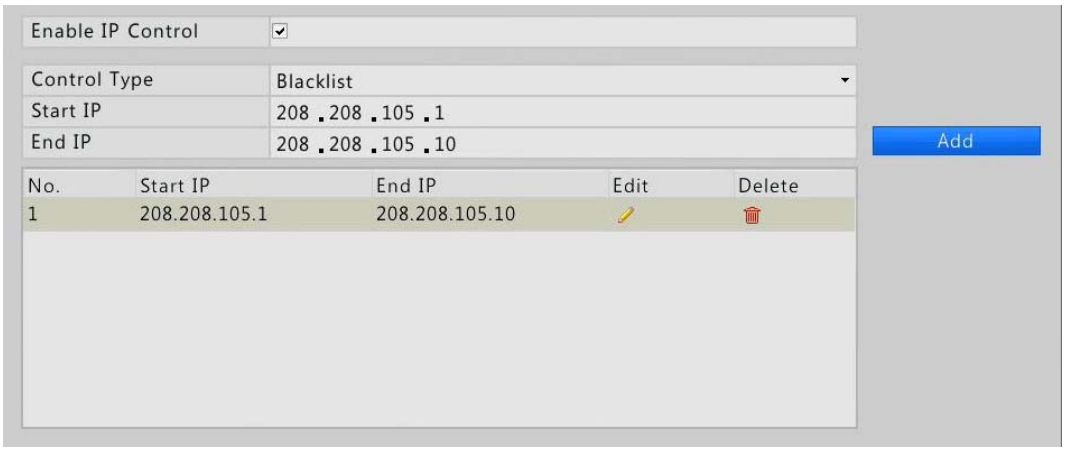
- Enter a valid SMTP server address and port number, and then select **Enable TLS** if required.
- Select **Attach Image** if you want snapshots to be sent via email. Make sure Email and snapshot have been enabled in the **Trigger Actions** window.

3. Click **Apply** to save the settings.

IP Control

Use this function to enhance security by allowing or forbidding access to the NVR from specified IP addresses.

1. Click **Menu** > **System** > **Network** > **IP Control**.



2. Select **Enable IP Control**, select **Blacklist** or **Whitelist** from the drop-down list, set the start and end IP addresses, and then click **Add**.

NOTE!

- If **Blacklist** is selected, the NVR denies remote access from the IP address(es) on the list.
- If **Whitelist** is selected, the NVR only allows remote access from the IP address(es) on the list. However, if **Whitelist** is selected with no IP address specified, remote access to the NVR will be denied.

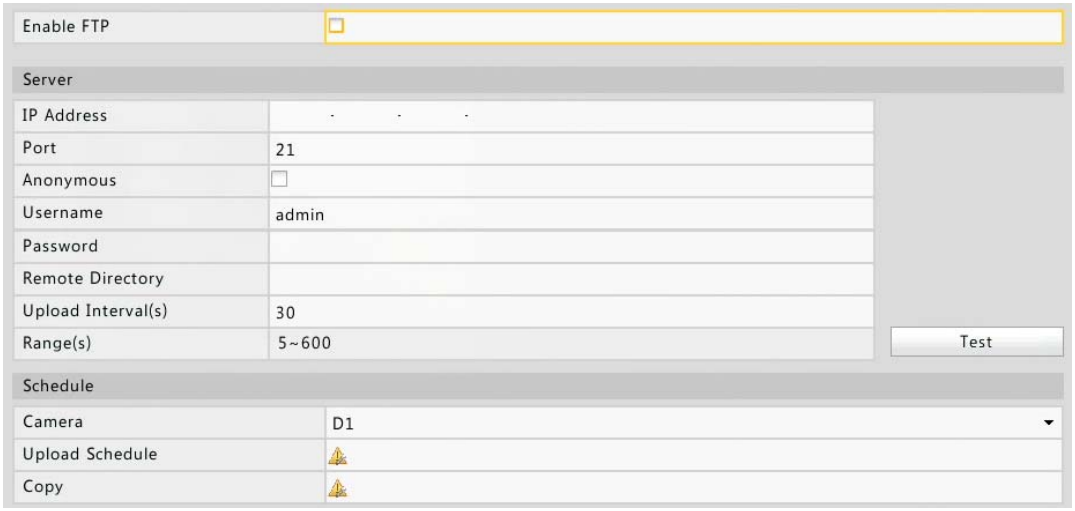
3. Click **Apply** to save the settings.

FTP

NOTE!

- Only some device models support FTP.
- An FTP tool is required for this function.
- With this function enabled, images will be automatically uploaded to the FTP server.

1. Click **Menu** > **System** > **Network** > **FTP**.

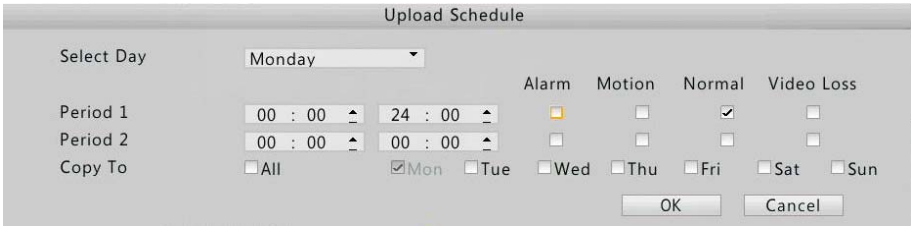


2. Select the check box to enable FTP.
3. Enter the IP address of the FTP server, username and password, remote directory, and upload interval.

NOTE!

- Click **Test** to verify whether an FTP connection can be established.
- If the remote directory is not specified, the system will create different folders by IP, time and camera.

4. Select the desired camera and then click right to **Upload Schedule**. In the **Upload Schedule** window, select the desired image type and time periods.



NOTE!

To apply the same settings to other days in a week, select the desired days right to **Copy To**.

5. Click **Apply** to save the settings.

NOTE!

To apply the same settings to other cameras, click right to **Copy**, select the desired cameras and then click **OK**.

11 Array Configuration

NOTE!

- Only some NVR models support RAID.
- Currently only RAID 1 and RAID 5 are supported. You need two hard disks for RAID 1, and 3-8 disks for RAID5.

Enable RAID before you start configuration.

1. Click **Menu** > **Storage** > **Array**.
2. Select the check box to enable RAID. A confirmation message appears. Click **Yes**.

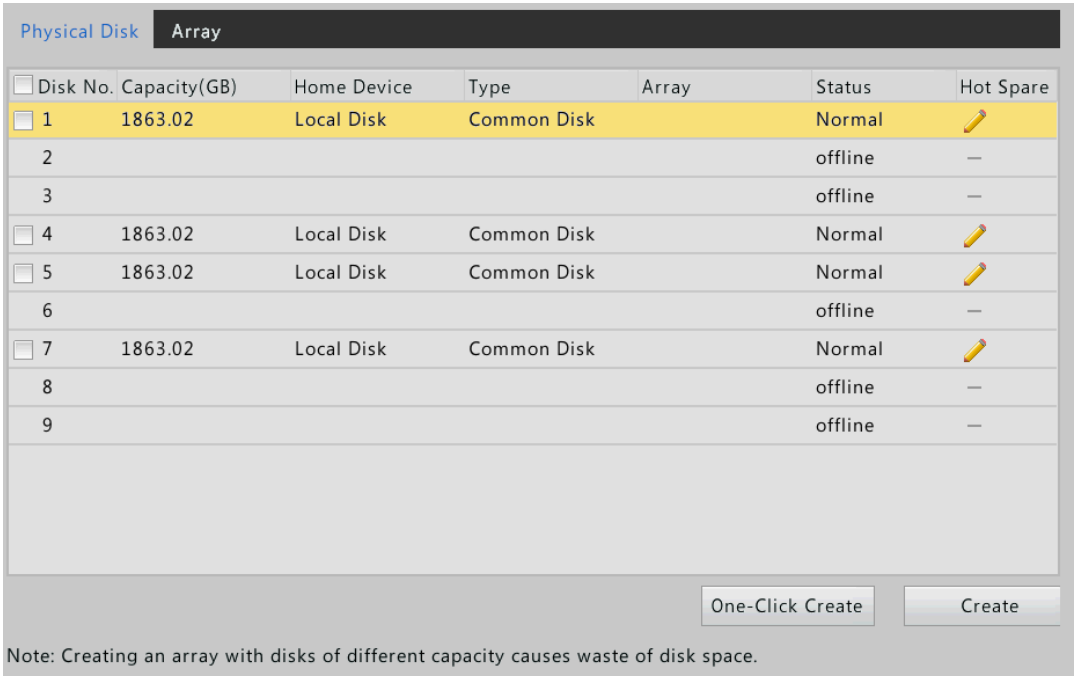
Creating an Array

It is recommended to configure a hot spare disk to ensure reliable system operation and successful rebuilding in case an array fails.

Creating an Array by Clicking One-click Create

Perform this step to quickly create an array.

1. Click **Menu** > **Storage** > **Array > Physical Disk**.



2. Click **One-click Create**, and an array will be created automatically.

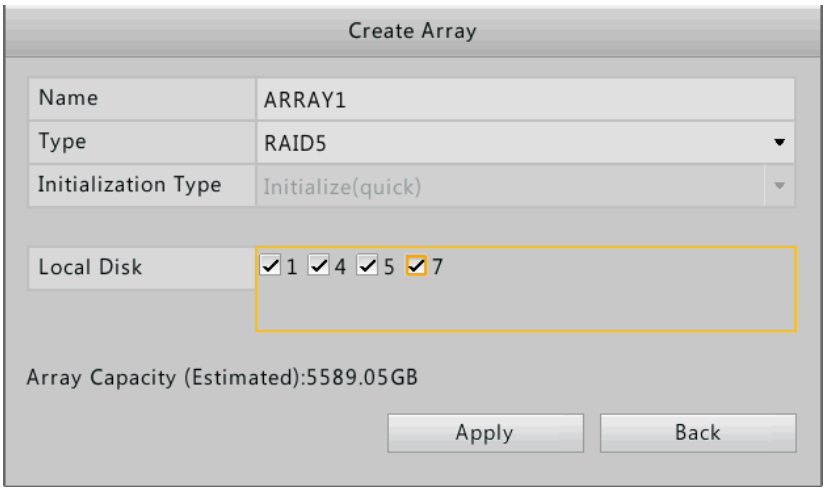
NOTE!

- There is no need to select disks. The system identifies all usable disks.
- RAID 1 is created when two disks are available.
- When three or more disks are available, RAID 5 is created. If more than four disks are available, a global hot spare disk will be created.
- Arrays created in this way are named ARRAYX, for example, ARRAY1, ARRAY2.

Creating an Array Manually

Perform the following steps to create an array manually. The following procedure takes RAID 5 as an example.

1. Click **Menu** > **Storage** > **Array > Physical Disk**.
2. Select the desired disks and then click **Create**. In the window displayed, enter the array name, select the array type, and select local disks.



3. Click **OK** to complete the setup.

NOTE!

No hot spare disk will be created automatically in this procedure.

Rebuilding an Array

By checking array status you can determine whether maintenance is necessary. An array is in one of four statuses: normal, degraded, damaged, rebuild. The status is normal if no physical disk is lost. When the number of physical disks lost reaches the specified value, the array is considered damaged. The status between normal and damaged is degraded. A degraded array can be recovered to normal status if you rebuild it.

NOTE!

Take RAID 5 that consists of 4 disks as an example. The array is degraded when one disk is lost. And when two disks are lost, the array is damaged.

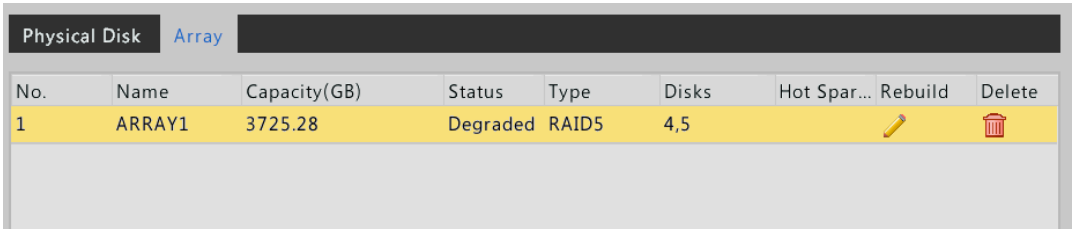
Rebuild Automatically

After an array becomes degraded, it can be rebuilt automatically within ten minutes if a hot spare disk is available, and if the capacity of the hot spare disk is not less than that of any disk in the array.

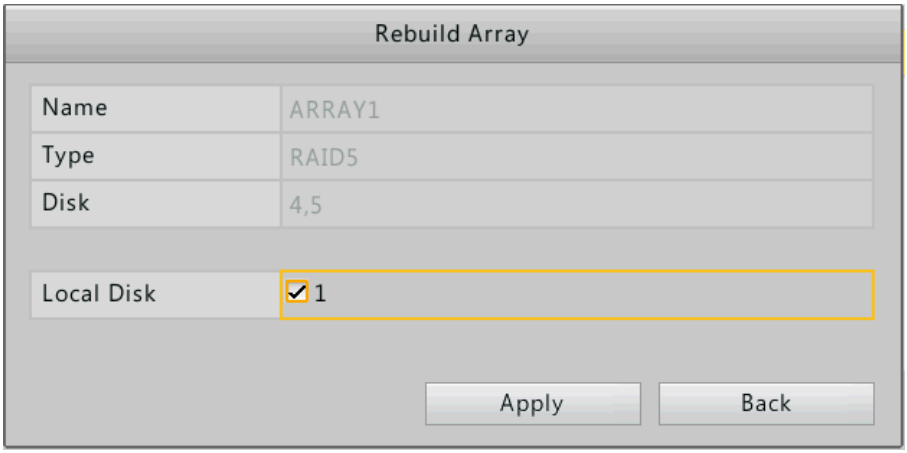
Rebuild Manually

A degraded array without a hot spare disk can only be rebuilt manually.

1. Click **Menu** > **Storage** > **Array > Array**.



2. Click  for the array to rebuild.



3. Select a local disk and then click **Apply**.

NOTE!

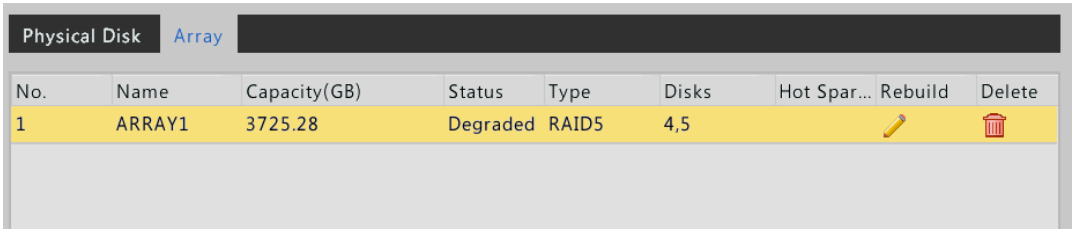
By default the first local disk that satisfies requirements is selected.

Deleting an Array

CAUTION!

Deleting an array will erase all data on it.

1. Click **Menu** > **Storage** > **Array** > **Array**.



2. Click  for the array to delete. A prompt message appears. Click **OK**.

12 System Configuration

Basic Configuration

1. Click **Menu** > **System** > **Basic**.
2. Configure the parameters.

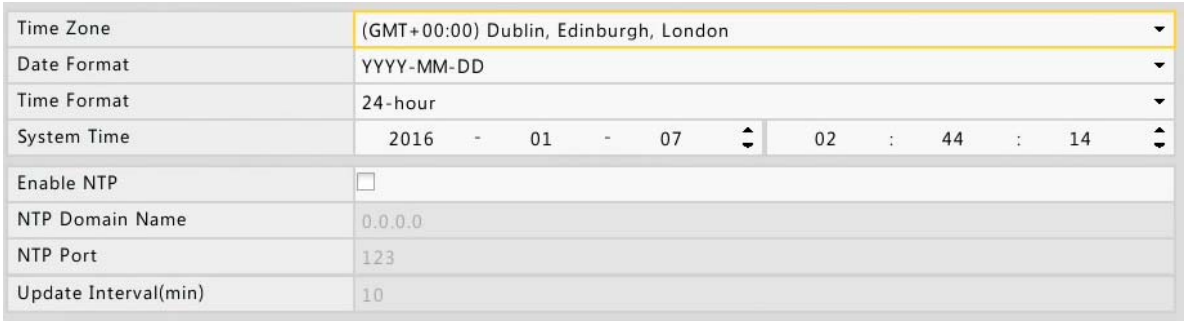
3. Click **Apply** to save the settings.

NOTE!

- Only admin can set **Enable Password**.
- If **Enable Password** is not selected, no password is required for local login at system startup. However, a username and password are still required when you log in after a logout.
- You may also set startup Wizard here by clicking **Wizard**.

Time Configuration

1. Click **Menu** > **System** > **Time > Time**.
2. Select the correct time zone, and then set date and time formats and the system time.
3. To use Network Time Protocol (NTP), enable NTP, and then set the domain name, port number and update interval.

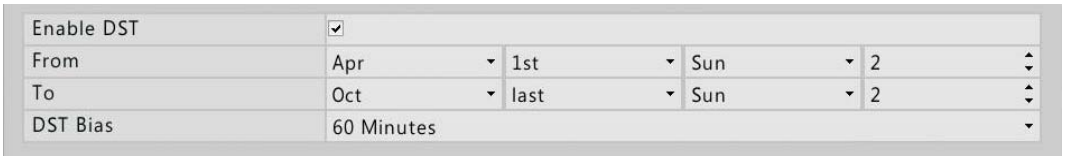


4. Click **Apply** to save the settings.

DST Configuration

1. Click **Menu** > **System** > **Time** > **DST**.

2. Enable DST by selecting the check box, and then set the start time, end time, and DST bias correctly. The following shows an example.

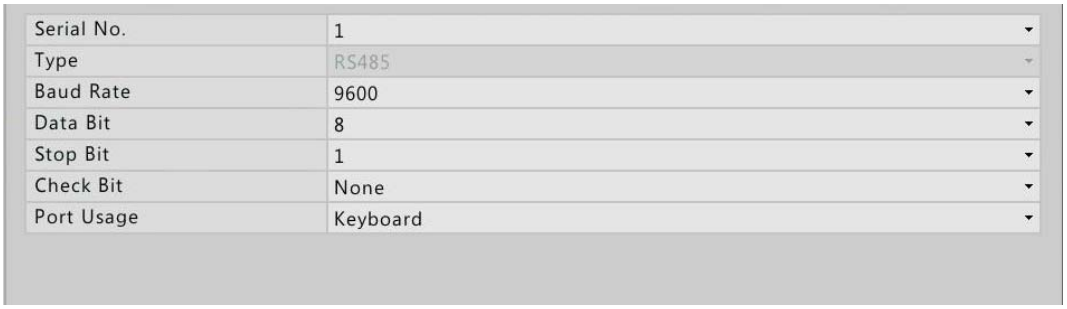


3. Click **Apply** to save the settings.

Serial Port Configuration

Serial port settings in the NVR should be consistent with those in the connected serial device. Serial port configuration is required for PTZ control.

1. Click **Menu** > **System** > **Serial**.
2. Configure the parameters for the serial port.



NOTE!

You may set **Port Usage** to **Keyboard** to control a PTZ camera with a specialized surveillance keyboard.

3. Click **Apply** to save the settings.

User Configuration

A user group is a collection of operation permissions in the system. When a user group is assigned to a user, this user has all the permissions specified for the user group.

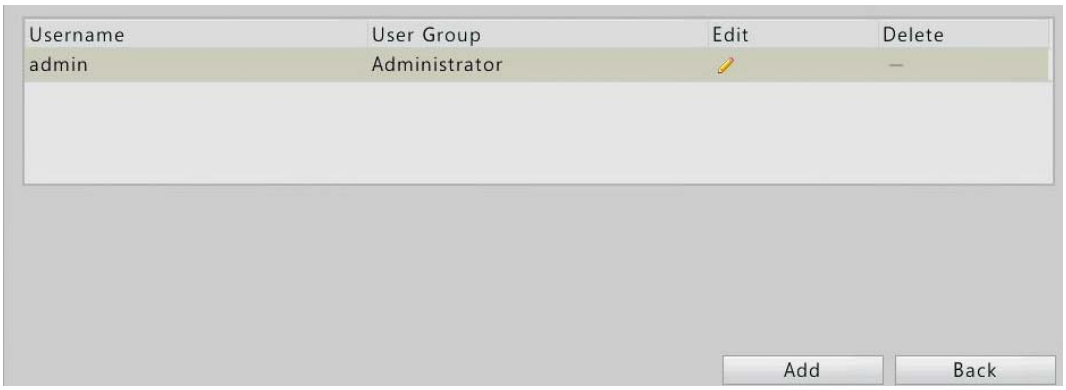
There are four user types in the system:

- Admin: Default super administrator in the system. Admin has full access in the system and its initial password is **123456**.
- Default: Default user reserved in the system. The default user cannot be created or deleted, and it can only be configured by admin. The default user only has access to live view and two-way audio.
- Operator: By default, an operator has basic permissions and access to cameras.
- Guest: By default, a guest has access to cameras.

NOTE!

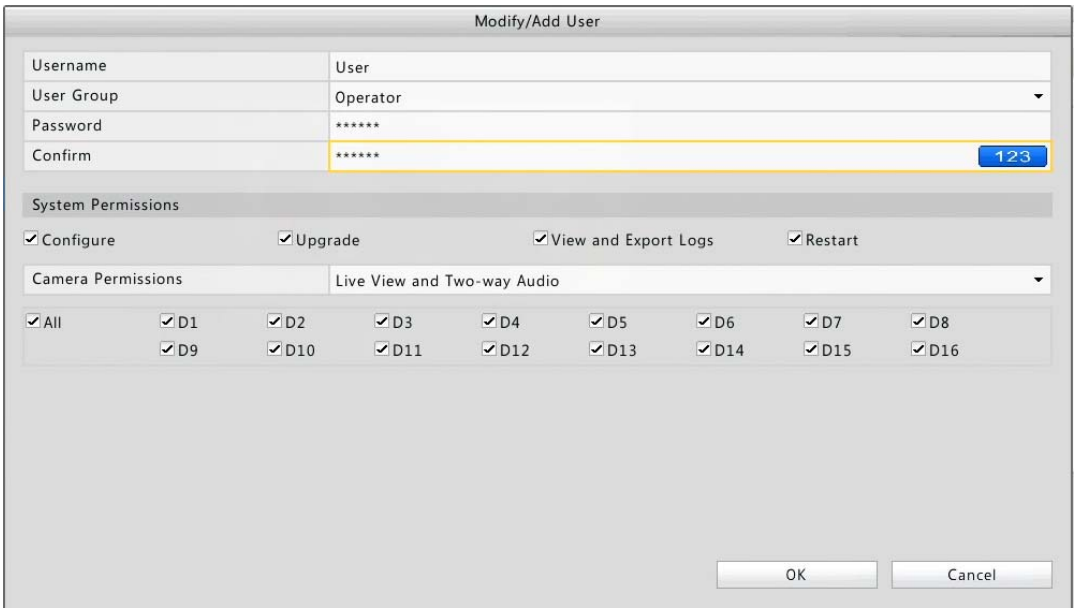
- Only admin can add and delete users and modify permissions for other users.
- When a default user is denied access to live view and two-way audio, the corresponding channel is locked when no user is logged in, and appears in the window.

1. Click **Menu** > **System** > **User**.



2. User configuration

- Add a user.
  a. Click **Add**.
  b. Set the username, password, user group and permissions. The username is required.
  c. Click **OK**.



- Delete a user: Click . A confirmation message appears. Click **Yes**.
- Modify a user: Click and then change the password, user group, and permissions. Click **OK** to save the modification.

NOTE!

The new password takes effect at the user's next login.

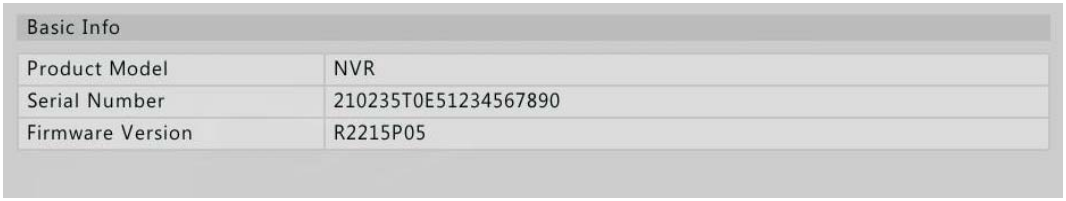
13 System Maintenance

System Information

Click **Menu** > **Maintain** > **System Info** to view the basic NVR information for maintenance purpose.

System Info

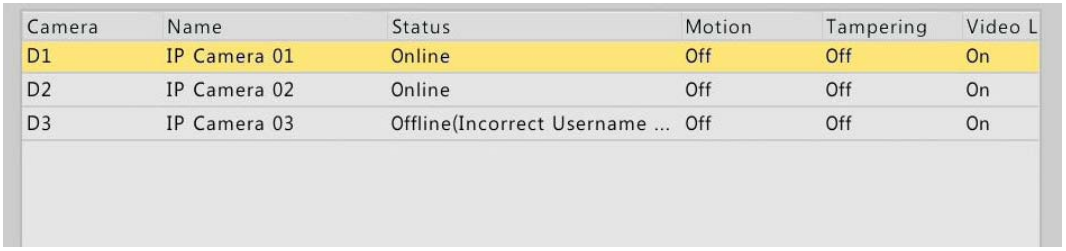
View the basic information such as the device model, serial number, and firmware version.



Basic Info	
Product Model	NVR
Serial Number	210235T0E51234567890
Firmware Version	R2215P05

Camera

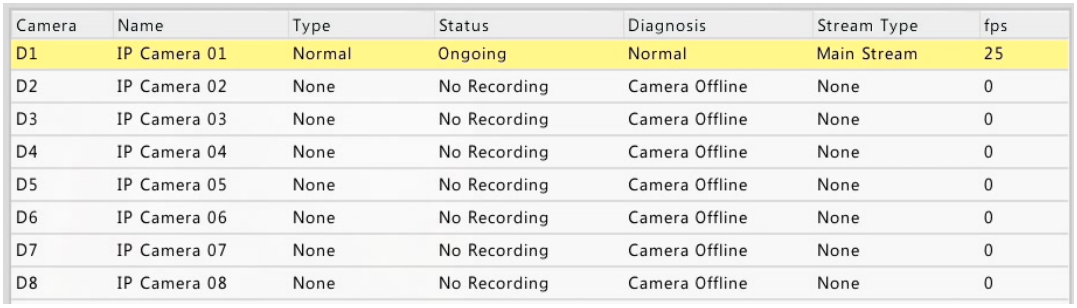
Click the **Camera** tab to view camera status.



Camera	Name	Status	Motion	Tampering	Video L
D1	IP Camera 01	Online	Off	Off	On
D2	IP Camera 02	Online	Off	Off	On
D3	IP Camera 03	Offline(Incorrect Username ...	Off	Off	On

Recording

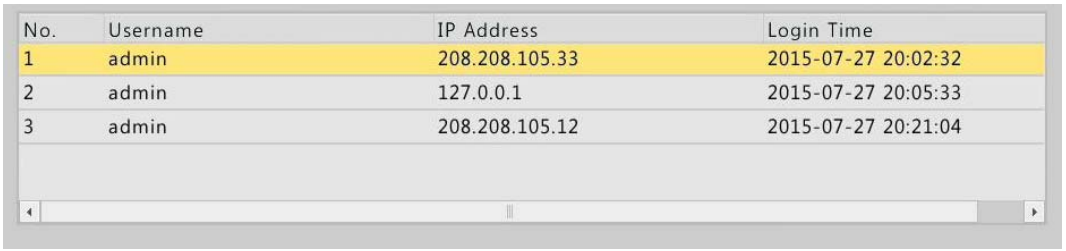
Click the **Recording** tab to view recording status and stream settings.



Camera	Name	Type	Status	Diagnosis	Stream Type	fps
D1	IP Camera 01	Normal	Ongoing	Normal	Main Stream	25
D2	IP Camera 02	None	No Recording	Camera Offline	None	0
D3	IP Camera 03	None	No Recording	Camera Offline	None	0
D4	IP Camera 04	None	No Recording	Camera Offline	None	0
D5	IP Camera 05	None	No Recording	Camera Offline	None	0
D6	IP Camera 06	None	No Recording	Camera Offline	None	0
D7	IP Camera 07	None	No Recording	Camera Offline	None	0
D8	IP Camera 08	None	No Recording	Camera Offline	None	0

Online User

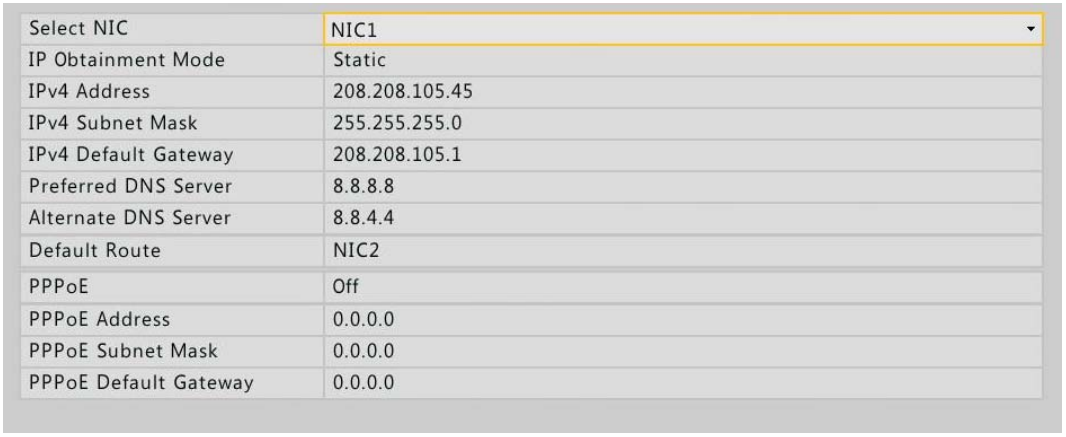
Click the **Online User** tab for information about users who are currently logged in.



No.	Username	IP Address	Login Time
1	admin	208.208.105.33	2015-07-27 20:02:32
2	admin	127.0.0.1	2015-07-27 20:05:33
3	admin	208.208.105.12	2015-07-27 20:21:04

Network

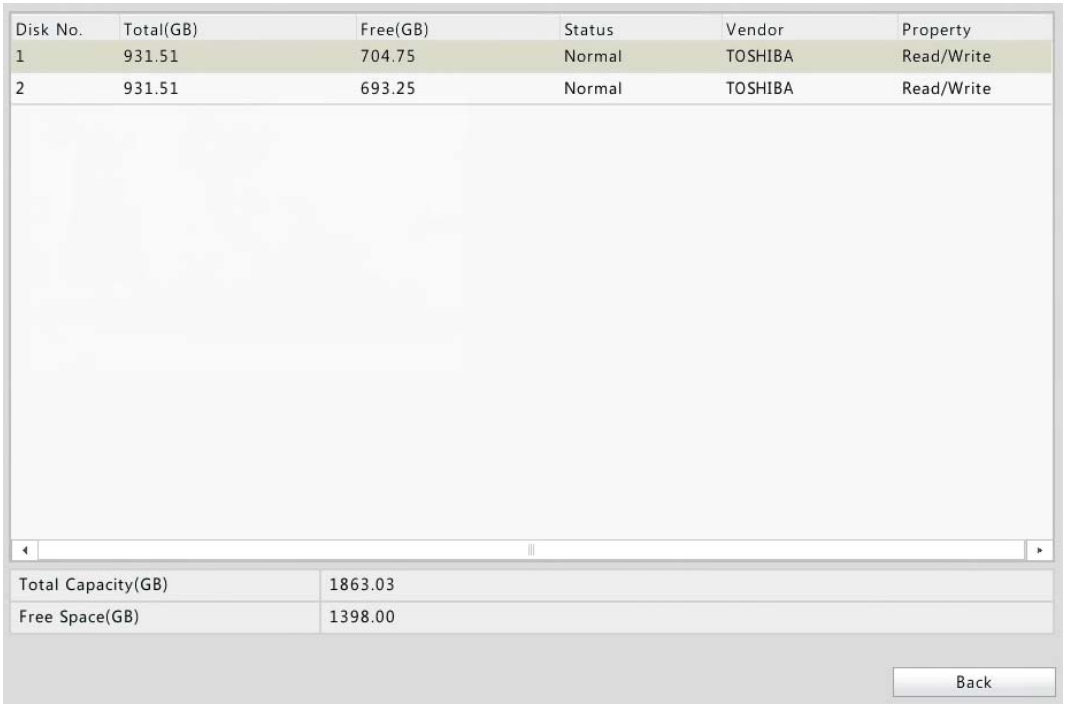
Click the **Network** tab to view network settings.



Select NIC	NIC1
IP Obtainment Mode	Static
IPv4 Address	208.208.105.45
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	208.208.105.1
Preferred DNS Server	8.8.8.8
Alternate DNS Server	8.8.4.4
Default Route	NIC2
PPPoE	Off
PPPoE Address	0.0.0.0
PPPoE Subnet Mask	0.0.0.0
PPPoE Default Gateway	0.0.0.0

Disk

Click the **Disk** tab to view the hard disk status and disk properties.



Disk No.	Total(GB)	Free(GB)	Status	Vendor	Property
1	931.51	704.75	Normal	TOSHIBA	Read/Write
2	931.51	693.25	Normal	TOSHIBA	Read/Write

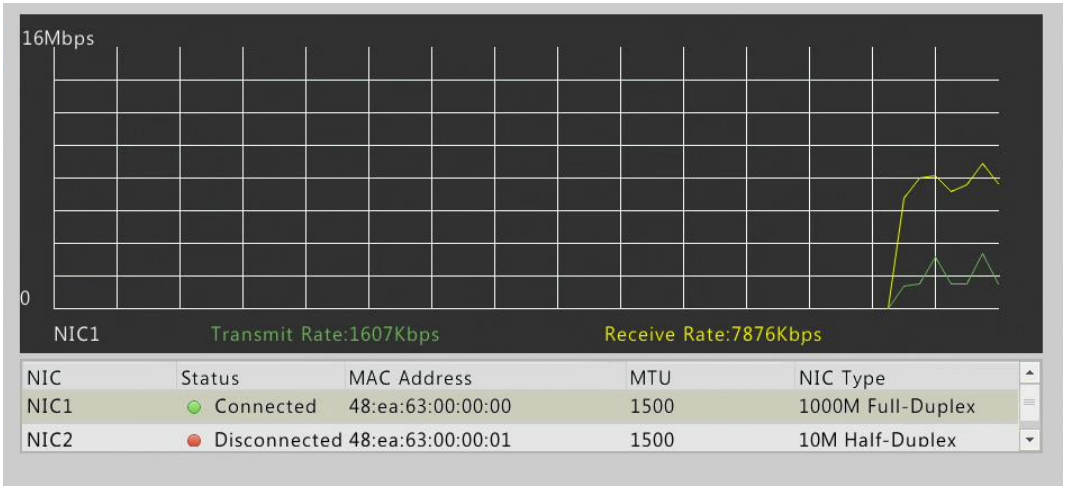
Total Capacity(GB)	1863.03
Free Space(GB)	1398.00

Back

Network Detection

Traffic

Click **Menu** > **Maintain** > **Net Detect** > **Traffic** to view network traffic information.

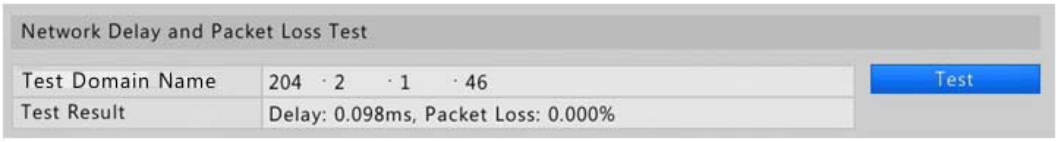


Net Detect

To test network delay and packet loss rate, follow these steps:

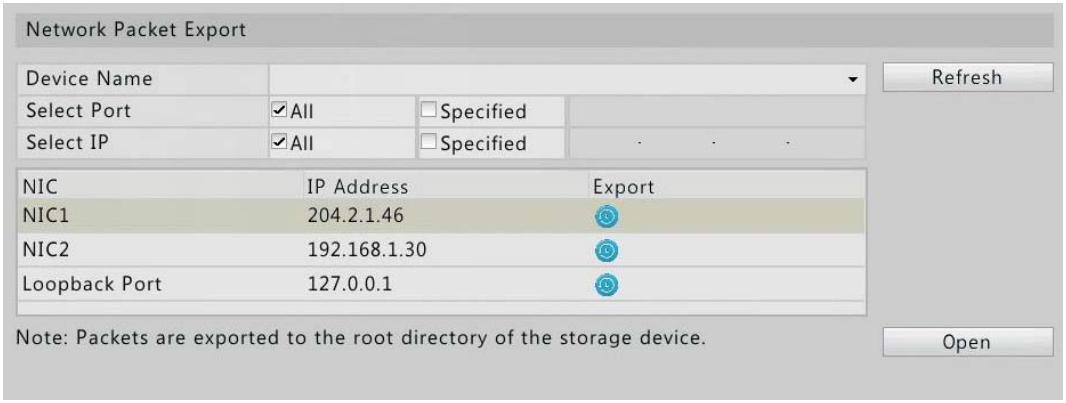
1. Click **Menu** > **Maintain** > **Net Detect** > **Net Detect**.
2. Enter the domain name and then click **Test**.

- If the test succeeds, test results including average delay and packet loss rate are displayed.
- If the test fails, it indicates that the destination is unreachable.



To capture and save packets, follow these steps:

1. Click **Menu** > **Maintain** > **Net Detect**.
2. Select the USB storage device and specify the port number and IP address.
3. Click right to the desired NIC to start capturing packets. Click **Cancel** to stop.



NOTE!

- The backup file of the captured packets is named in *NIC name_time*.pcap format and is saved in the root directory of the USB storage device. Click **Open** to view the file.
- Packets cannot be captured if it is already started on the Web interface.
- If you use PPPoE, a virtual NIC will appear in the list after the dial-up succeeds, and you may capture packets sent to and from this NIC.

Network Statistics

1. Click **Menu** > **Maintain** > **Net Detect** > **Network Statistics**. Bandwidth usage statistics are displayed.

Type	Bandwidth
IP Camera	20Mbps
Remote Live View	0bps
Remote Playback	0bps
Idle Receive Bandwidth	180Mbps
Idle Send Bandwidth	96Mbps

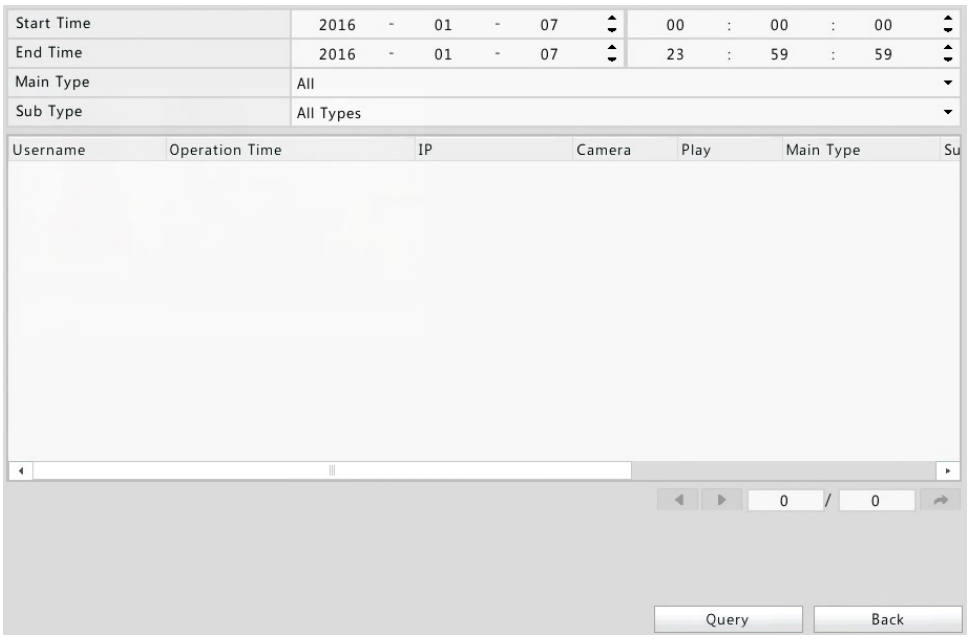
NOTE!

- Insufficient receiving bandwidth (**Idle Receive Bandwidth**) may cause the connected cameras to be offline.
- When the sending bandwidth (**Idle Send Bandwidth**) is sufficient, remote live view, playback or download may fail on the NVR.

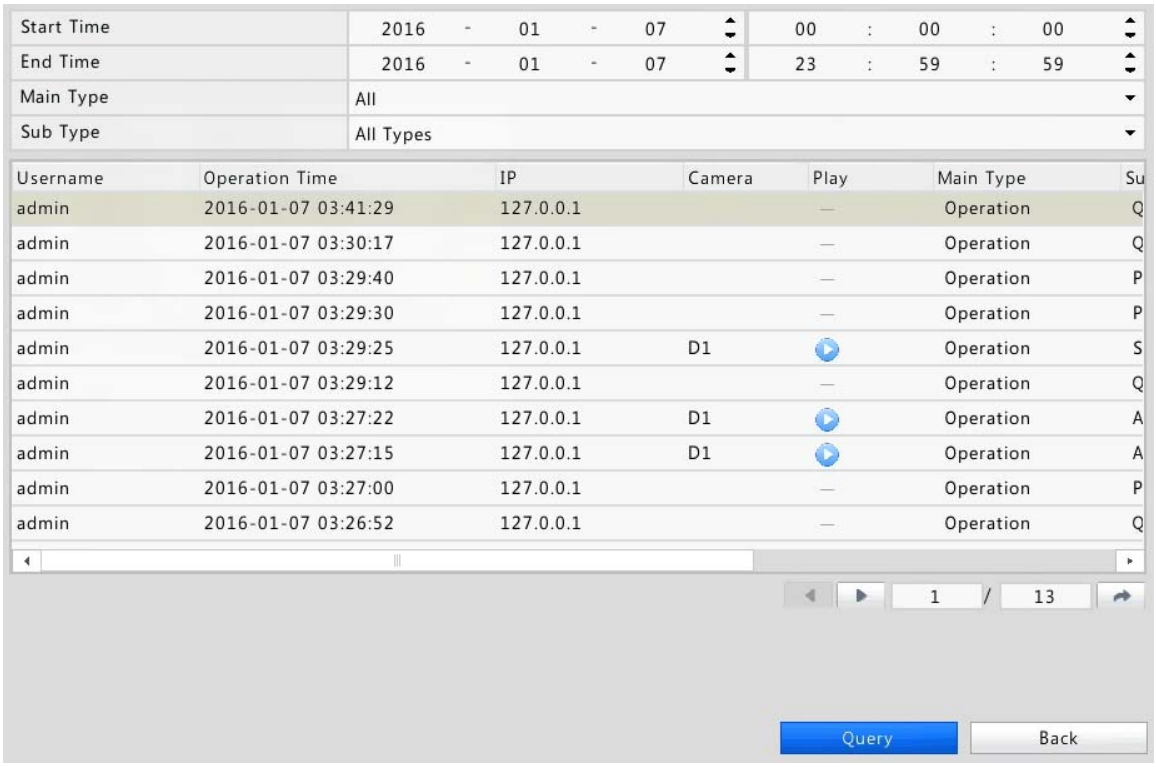
Log Query

Logs contain information about user-performed operations and device status. By analyzing logs, you can keep track of device operation status and view detailed alarm information.

1. Click **Menu** > **Maintain** > **Log**.



2. Set query condition, including the start time and end time, main log type and sub type.
3. Click **Query** to view results.



4. If  is displayed in the **Play** column, you may click it to view the video recorded at the log time.

NOTE!

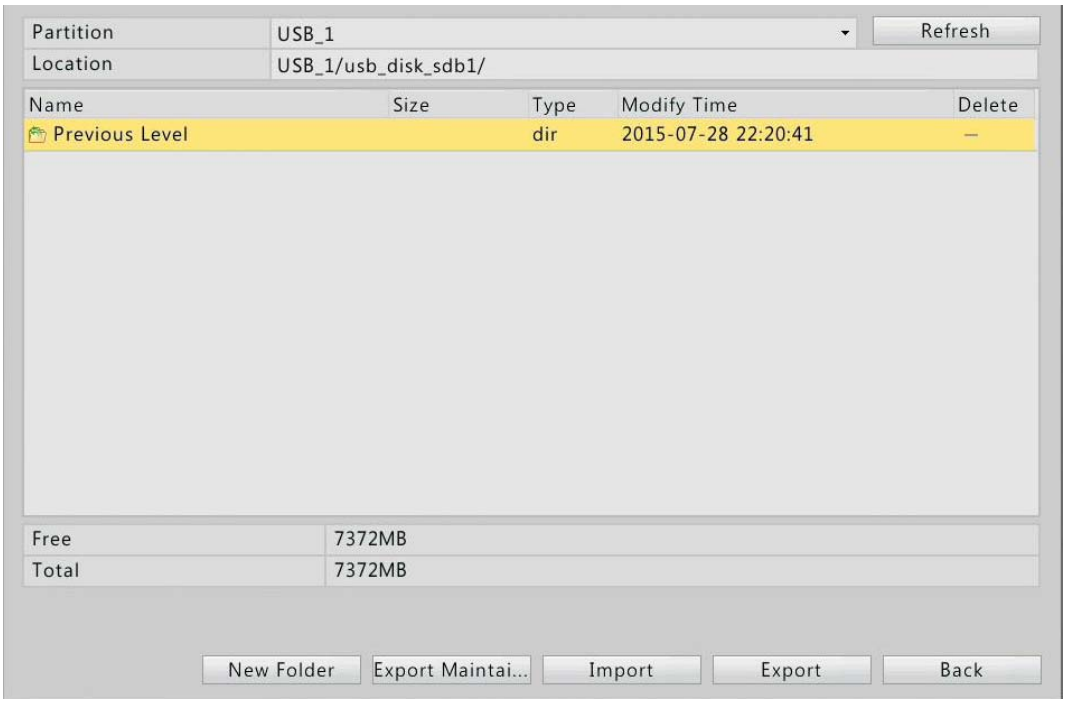
- This playback function is not available for some logs.
- The video played in this way starts from one minute before the alarm time and ends at ten minutes after the alarm time.

Import/Export

Configurations and maintenance information can be exported to a storage device and saved as files for backup. A configuration file can also be imported to the NVR to restore configurations. The configuration file of an NVR can be imported to multiple NVRs of the same model if you want them to have the same settings. If the imported configuration file contains camera information, the related camera will be added to all the NVRs.

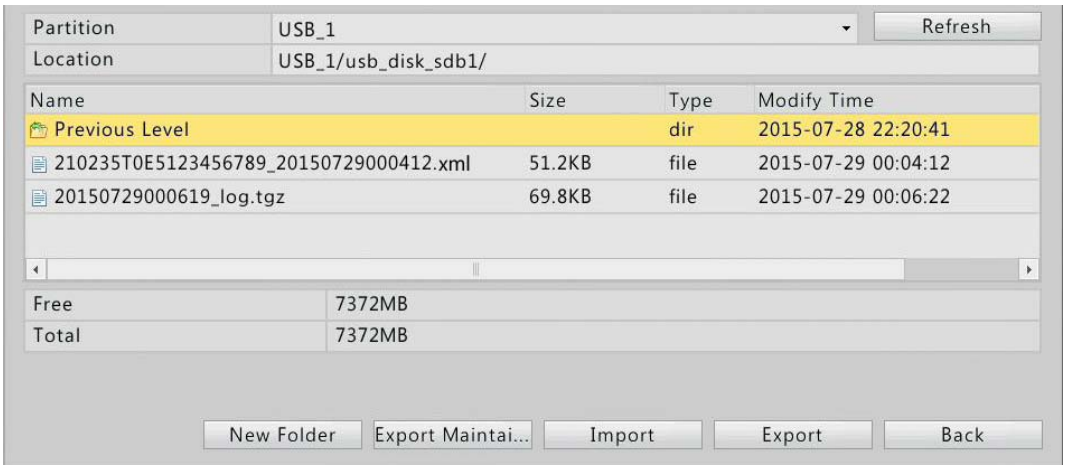
Only admin can perform these operations.

1. Click **Menu** > **Maintain** > **Backup**.



2. Import or export configurations.

- To export device configurations, click **Export**. A .xml file will be created in the specified directory when export is completed.
- To export maintenance information, click **Export Maintain Info**. A .tgz file will be created in the specified directory when export is completed.



- To import device configurations, double-click the target folder containing the .xml file, select the file, and then click **Import**.

CAUTION!

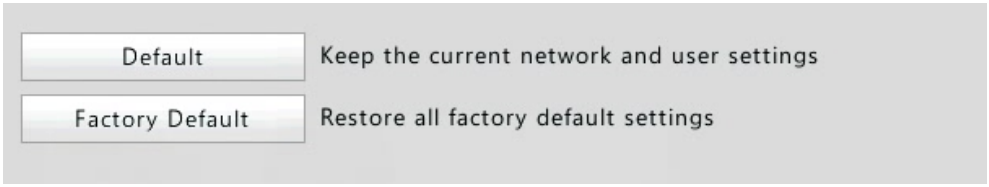
Delete files with caution. The delete operation is irreversible.

System Restoration

Use this function to restore some or all factory default settings. The NVR will restart automatically.

1. Click **Menu** > **Maintain** > **Restore**.
2. Choose a way as needed, and then click **OK** to proceed.

- Click **Default** to restore all factory default settings except network, user, and time settings (including DST).
- Click **Factory Default** to restore all factory default settings.



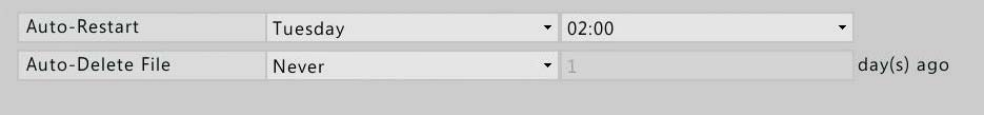
NOTE!

Restoring the system in either way does not delete recordings or operation logs in the NVR.

Automatic Maintenance

Set the NVR to restart as scheduled and delete files (including recordings and snapshots) as needed. Only admin can perform this operation.

1. Click **Menu** > **Maintain** > **Auto-Function**.
2. Set a time for auto-restart, and choose a way to delete files automatically.



CAUTION!

Files that are deleted automatically cannot be recovered.

System Upgrade

Choose an option to upgrade the NVR system. The NVR will restart automatically to complete the upgrade.

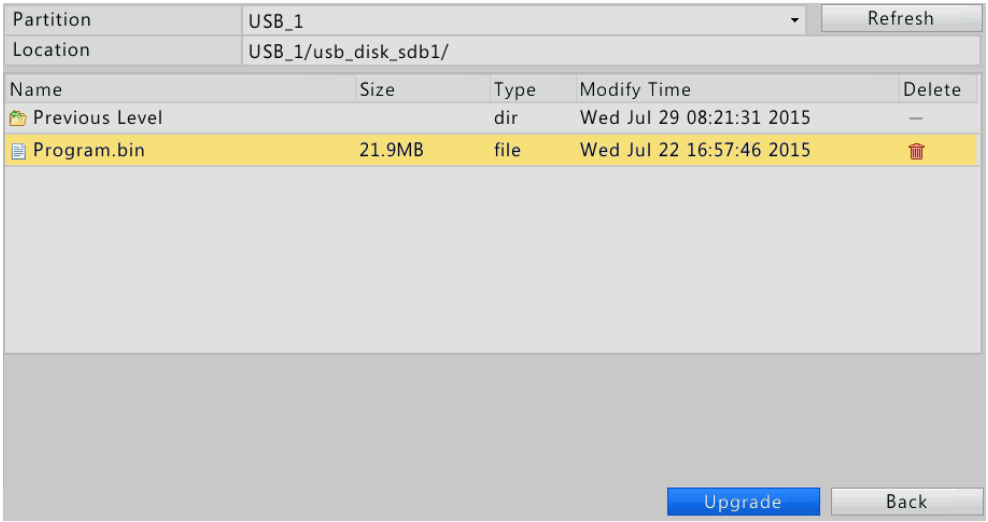
- Local upgrade: upgrade using an upgrade file saved in a USB storage device.
- Upgrade by cloud: upgrade through a cloud server.

CAUTION!

Make sure power is not interrupted during upgrade. Use an Uninterrupted Power Supply (UPS) if necessary.

Local upgrade:

1. Click **Menu** > **Maintain** > **Upgrade**.
2. Select the upgrade file in the USB storage device, and then click **Upgrade**.



Cloud upgrade

NOTE!

- Ensure that the NVR has a network connection to the DNS server, and that the DNS server is fully functional. DNS settings are configured under **Menu** > **System** > **Network** > **Basic**.
- The time that an upgrade takes is affected by network speed.

1. Click **Menu** > **Maintain** > **Upgrade**.

2. Click **Check** to check for a new version.

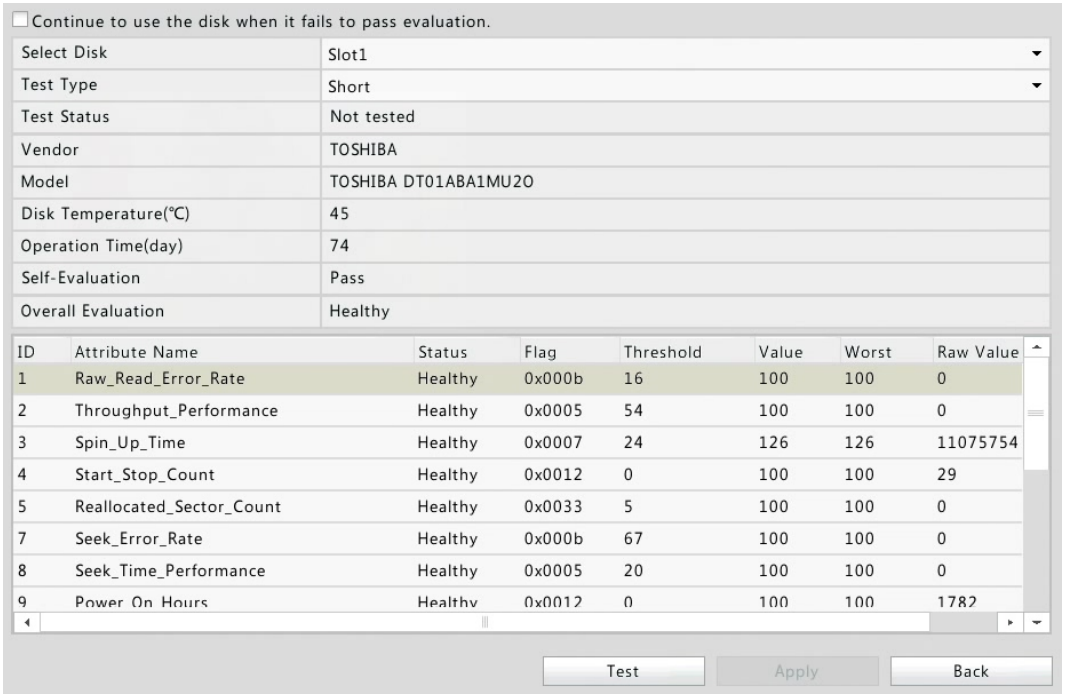
- If a new version is detected, the version number and build date will be displayed. Click **Upgrade** to proceed.
- If the current version is up to date, a message will appear to notify you.

Hard Disk Detection

S.M.A.R.T. Test

S.M.A.R.T. checks the head, platter, motor, and circuit of hard disks to evaluate their health status.

Click **Menu** > **Maintain** > **HDD** > **S.M.A.R.T. Test**.



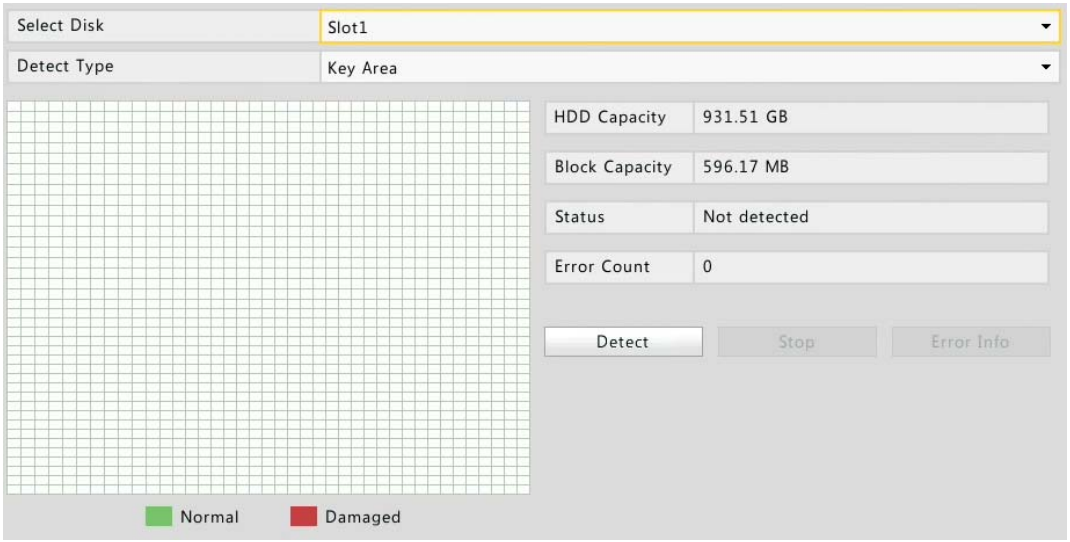
NOTE!

- Some hard disks only support some of the test items.
- Evaluation status includes **Healthy**, **Failure**, and **Bad Sectors**. It is recommended to replace the disk immediately if the status is **Failure**. For further information about hard disks, contact your local dealer.

Bad Sector Detection

Bad sector detection checks for bad sectors in hard disks.

1. Click **Menu** > **Maintain** > **HDD** > **Bad Sector Detect**.



2. Select the desired disk and detection type, and then click **Detect** to start detection. Click **Stop** if you want to stop.

CAUTION!

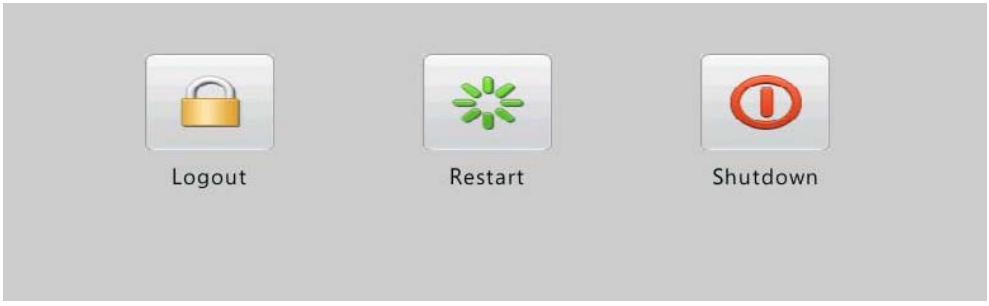
The detection stops automatically when the error count reaches 100.

14 Shutdown

You can log out of, restart or shut down the NVR in the **Shutdown** window.

Proper shutdown operations are vital to your NVR's life span. In addition, it is recommended that the NVR is disconnected from power if it is not in use for a long time.

1. Click **Menu** > **Shutdown**.
2. Click the button as needed.



You may also press the power button on the front panel and hold for at least 3 seconds till a message appears, and then click **Yes** to shut down the NVR.

CAUTION!

Unsaved settings will be lost if the NVR is shut down unexpectedly, for example, due to a power failure. An incorrect shutdown during a system upgrade may cause startup failures.

Part II Web-Based Operations

1 Before You Begin

You may access and manage your NVR remotely through the Web interface. Check the following before you begin:

- Access will be authenticated during login, and operation permissions will be required.
- The client PC is operating properly and has a network connection to the NVR.
- The client PC uses the Windows XP, Windows 7 or Windows 8 operating system.
- A Web browser has been installed on the client PC. Microsoft Internet Explorer 8.0 or higher is recommended. Chrome and Opera browsers are also supported.
- A 32-bit Web browser is still required even if you are using a 64-bit operating system.

NOTE!

- The parameters that are grayed out on the Web GUI cannot be modified. The parameters and values displayed may vary with NVR model.
- The figures are for illustration purpose only and may vary with NVR model.

2 Login

1. Open a Web browser on your computer and browse to the login page by entering the IP address (**192.168.0.30** by default) of your NVR.

   You may need to install a plug-in as prompted at your first login. Close the Web browser when the installation starts.
2. In the login dialog box, enter the correct username and password (**123456** for admin) and then click **Login**.

CAUTION!

The default password is intended only for the first login. Please change it immediately after your first login to ensure security

3 Live View

The **Live View** page is displayed when you are logged in. The following figure shows an example.

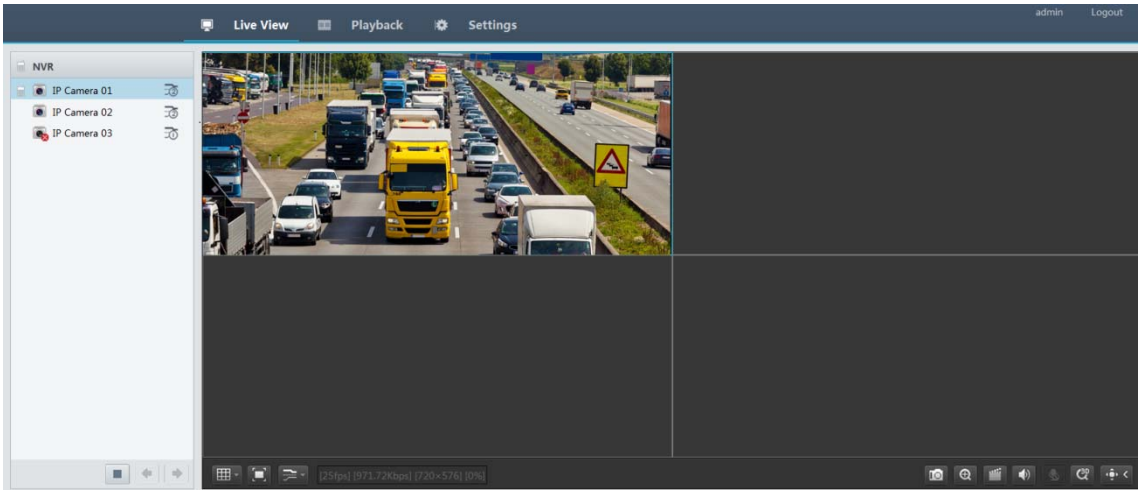


Table 3-1 Live View Window Control Buttons

Button	Description	Button	Description
	Two-way audio	/	Main/Sub stream
/	Start or stop live view in all windows	/	Previous and next screen
	Switch screen layout		Full screen
	Select stream type	[25fps] [3.96Mbps] [1920×1088] [0%]	Shows the current frame rate, bit rate, resolution, and packet loss rate
	Take a snapshot		Start zoom
	Local recording	/	Turn on or off audio; adjust sound volume.
/	Adjust MIC volume		3D positioning
/	Open or close the control panel	–	–

NOTE!

- A snapshot file is named in this format: *IP_camera ID_snapshot time*. For example, 192.168.0.30_D1_20150711102123239.jpg. The snapshot time is in *YYYYMMDDHHMMSSMS* format.
- By default, snapshots are saved in this directory: C:\Users*username*\Surveillance\Snap*system date*. The system date is in *yyyy-mm-dd* format.
- A local recording is named in this format: *IP_camera ID*_S *recording start time* E *recording end time*. The recording start and end times are in *hh-mm-ss* format.
- By default, local recordings are saved in this directory: C:\Users*username*\Surveillance\Record*system date*. The system date is in *yyyy-mm-dd* format.

4 Playback

Click **Playback** on the top to show the **Playback** page. The following figure shows an example.

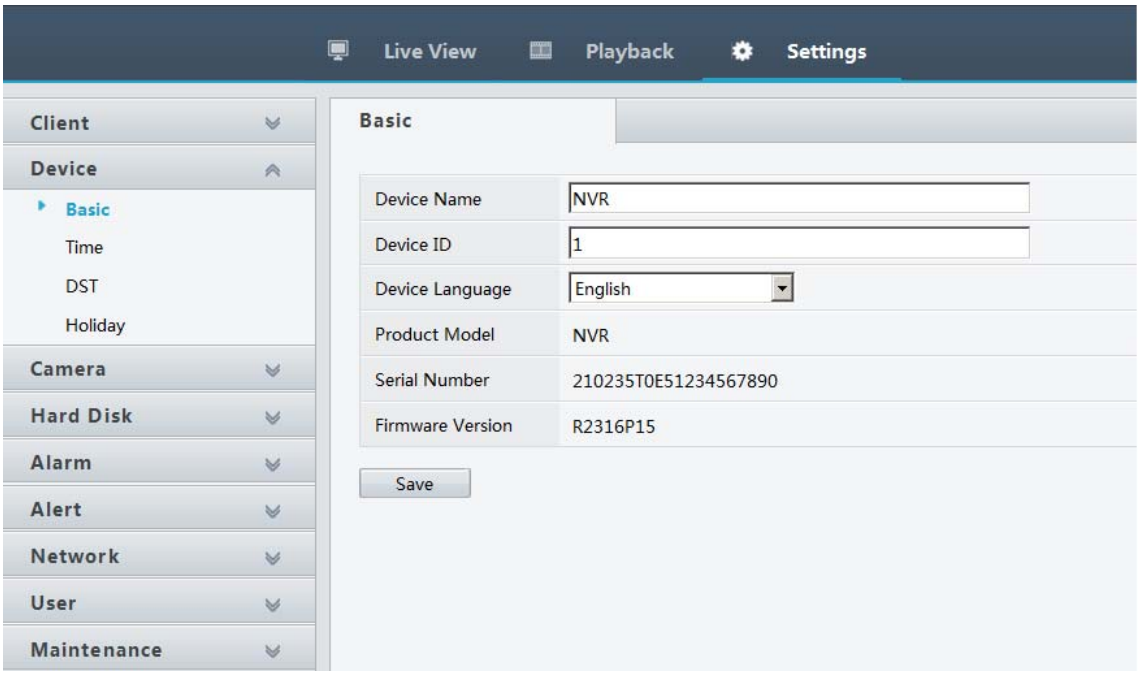
Table 4-1 Playback Control Buttons

Button	Description	Button	Description
/ /	Play, pause, or stop	/	Rewind or forward by frame
/	Slow down or speed up	/	Rewind or forward 30 seconds
/	Previous or next period	/	Clip video/pause
	Save video clip		Take a snapshot

Button	Description	Button	Description
	Zoom		Adjust sound volume; turn on or off sound

5 Configuration

Click **Settings** on the top, and then click the menus on the left to configure parameters.



Appendix A Acronyms

Acronym	Description
CBR	Constant Bit Rate
DDNS	Dynamic Domain Name Service
DHCP	Dynamic Host Configuration Protocol
DST	Daylight Saving Time
DVS	Digital Video Server
FTP	File Transfer Protocol
HDMI	High Definition Multimedia Interface
HTTPS	Hypertext Transfer Protocol Over Secure Sockets Layer
IPC	IP Camera
JPEG	Joint Photographic Experts Group
MTU	Maximum Transfer Unit
NAT	Network Address Translation
NIC	Network Interface Card
NTP	Network Time Protocol
NVR	Network Video Recorder
ONVIF	Open Network Video Interface Forum
PoE	Power over Ethernet
PPPoE	Point-to-Point Protocol over Ethernet
P2P	Peer-to-Peer
PTZ	Pan, Tilt, Zoom
RTSP	Real-Time Streaming Protocol
SDK	Software Development Kit
S.M.A.R.T.	Self-Monitoring, Analysis and Reporting Technology
UPnP	Universal Plug-and-Play
USB	Universal Serial Bus
VGA	Video Graphics Array
VBR	Variable Bit Rate

Appendix B FAQs

Problem	Possible Cause and Solution
The Web plugin (ActiveX) cannot be loaded.	• Close your web browser when the installation starts. • Disable the firewall and close the anti-virus program on your computer. • Enable your Internet Explorer(IE) to check for newer versions of the stored pages every time you visit the webpage (**Tools** > **Internet Options** > **General** > **Settings**). • Add your NVR's IP address to the trusted sites in your IE (**Tools** > **Internet Options** > **Security**). • Add your NVR's IP address to the Compatibility View list in your IE (**Tools** > **Compatibility View Settings**). • Clear your IE's cache.
No images are displayed in live view on the Web interface.	Check if the bit rate is 0Mbps in the live view window. • If yes, check if the firewall has been disabled, and the anti-virus program has been stopped on your computer. • If not, maybe it is because the graphics card driver on your computer is not working properly. Try installing the driver again.
A camera is offline, and No Link is displayed.	Click **Menu** > **Maintain** > **System Info** > **Camera**. The cause is displayed in the **Status** column. Common causes include disconnected network, incorrect username or password, insufficient bandwidth, and failed stream request. • Check network connection and network configurations. • If it indicates incorrect username or password, check that the camera password set in the NVR is the one used to access the camera's Web interface. • If it indicates failed stream request, log in to the camera's Web interface and stop unnecessary streams. • If it indicates insufficient bandwidth, delete other online cameras in the NVR.
The NVR displays live video for some cameras and **No Resource** for others.	• Set the camera to encode the sub stream, and decrease its resolution to D1. • Set the NVR to use the sub stream first for live view.
A camera goes online and offline repeatedly.	• Check if network connection is stable. • Upgrade the firmware for the camera and the NVR. Contact

Problem	Possible Cause and Solution
	your dealer for the latest versions.
Live view is normal, but the recording cannot be found.	• Check that a recording schedule has been properly configured. • Check if the time and time zone configured in the NVR are correct. • Check if the hard disk storing the recording has been damaged. • Check if the desired recording has been overwritten.
Motion detection is not effective.	• Check that motion detection is enabled, and the motion detection area is properly configured. • Check that triggers, including sensitivity, target size, and duration, are properly configured for motion detection. • Check that the arming schedule is properly configured.
A hard disk cannot be identified by the NVR.	• Use the power adapter delivered with your NVR. • Power down the NVR and then mount the hard disk again. • Try another disk slot. • The disk is not compatible with your NVR. Contact your dealer for a list of compatible disk models.
The mouse does not work.	• Use the mouse delivered with your NVR. • Make sure no cable is extended.