

Network Video Recorders

User Manual

Manual Version: V1.01

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

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CAUTION!

The default password is used for your first login. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).

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

- This manual is a guide for multiple product models and so it is not intended for any specific product.
- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Symbols

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

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

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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 IP's address and log in to the system 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



CAUTION!

- Use the default username **admin** and password **123456** for your first login.
 - The default password **123456** is intended only for your first login. To ensure security, please change the password immediately when you are logged in.
-

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 the correct 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. See [Mouse Operations](#) for details.

Mouse Operations

In this manual, mouse operations are performed by the right hand.

Table 1-1 Mouse Operations

Name	Action	Description
Left button	Click	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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 the NVR model.

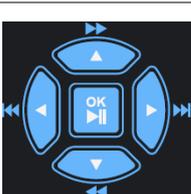
Table 1-2 Front Panel Buttons 1

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
	<ul style="list-style-type: none"> ▲/▼/◀/▶: 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.
	<p>Press this button to start up or shut down the NVR.</p> <p>To shut down, press this button and hold for at least 3 seconds till a message appears on your monitor. Click Yes.</p> <p>Note:</p> <p>This shutdown operation can be performed only when you have logged in to the system.</p>

Table 1-3 Front Panel Buttons 2

Button	Description
	<p>Press this button to start up or shut down the NVR.</p> <p>To shut down, press this button and hold for at least 3 seconds till a message appears on your monitor. Click Yes.</p> <p>Note:</p> <p>This shutdown operation can be performed only when you have logged in to the system.</p>
	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.
	<ul style="list-style-type: none"> ///: 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	<p>Press this button to start up or shut down the NVR.</p> <p>To shut down, press this button and hold for at least 3 seconds till a message appears on your monitor. Click Yes.</p> <p>Note: <i>This shutdown operation can be performed only when you have logged in to the system.</i></p>
DEV	This button is for reserved functions.

Button	Function
Toolbar	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

Startup Wizard

The startup wizard can guide you to complete the most basic configuration.

1. Choose a language for the system and then click **OK**.



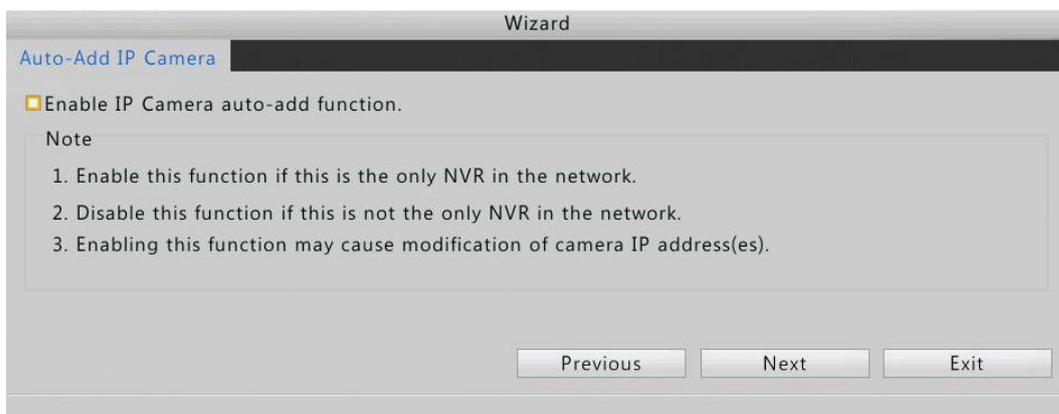
2. Enable or disable the startup wizard as needed and then click **Next**.



NOTE!

When disabled, the startup wizard does not show up as the NVR starts. You may enable or disable the startup wizard later under **Menu > System > Basic**.

3. Enable or disable the **Auto-Add IP Camera** function as needed and then click **Next**.





NOTE!

- NVRs with PoE ports or switching ports do not have the **Auto-Add IP Camera** function.
- The **Auto-Add IP Camera** function can also be enabled or disabled later under **Menu > Camera > Camera**.

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

Admin Password	*****
Change Password	<input checked="" type="checkbox"/>
New Password	***
Confirm	*** 123



CAUTION!

The default password **123456** is intended only for your first login. When you are logged in, please change it immediately to ensure account security. A strong password containing at least eight characters is recommended.

5. Select a time zone, and then complete the date and time settings. Review the settings and then click **Next**.

Wizard	
Time	
Time Zone	(GMT+00:00) Dublin, Edinburgh, London
Date Format	YYYY-MM-DD
Time Format	24-hour
System Time	2015 - 07 - 28 19 : 07 : 25
Enable NTP	<input type="checkbox"/>
NTP Server	0 .0 .0 .0
NTP Port	123
Update Interval(min)	10

6. Set the IP address, subnet mask and default gateway for your NVR. Use the default settings for other parameters unless a modification is necessary. Click **Next** when you are ready.

Wizard

Basic

Working Mode	Multi-address
Select NIC	NIC1
Enable DHCP	<input type="checkbox"/>
IPv4 Address	208 . 208 . 105 . 45
IPv4 Subnet Mask	255 . 255 . 255 . 0
IPv4 Default Gateway	208 . 208 . 105 . 1
MAC Address	48:ea:63:00:00:00
MTU(Bytes)	1500
Preferred DNS Server	8 . 8 . 8 . 8
Alternate DNS Server	8 . 8 . 4 . 4
Default Route	NIC2



NOTE!

- For an NVR with multiple Network Interface Cards (NICs), you can configure the NICs and select one as the default route.
- An internal IPv4 address can be configured if your NVR has PoE ports or switching ports.
- The **Camera** window will not be displayed if the **Auto-Add IP Camera** function has been enabled in step 2.

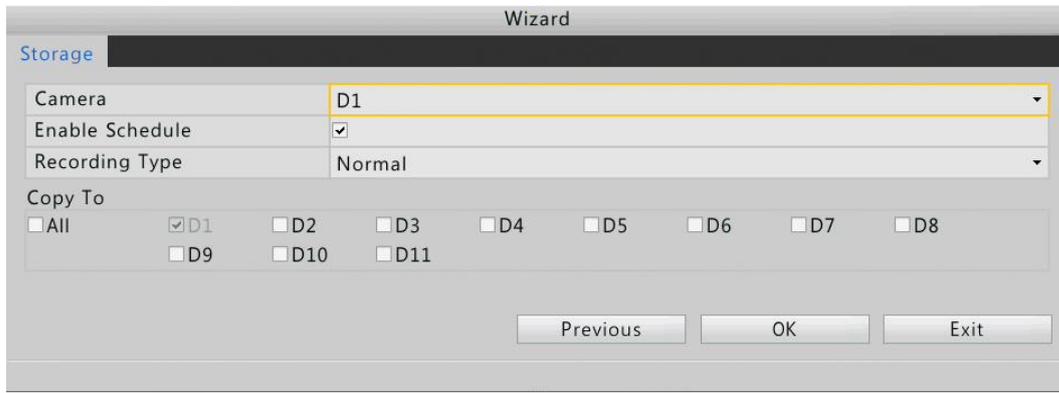
7. Click **Search**. The discovered IP devices are listed. Select the desired IP device and then click **Add**. After the IP device is added successfully, click **Next**.

Wizard

IP Camera

<input type="checkbox"/> Select	IP Addr.	Status	No.	Device Model	Protocol	Port
<input checked="" type="checkbox"/> 1	208.208.105.22	Added	1	IPC1	Private	80
<input type="checkbox"/> 2	208.208.105.50	Added	1	IPC2	Private	81
<input type="checkbox"/> 3	208.208.105.110	Added	1	IPC3	Private	80

8. A 24×7 recording schedule is enabled for all cameras by default, but you may change the recording type for a camera as needed. Click **OK** after you have completed the configuration.



3 Preview

Status Icons in the Preview Window

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

Table 3-1 Preview Window Icons

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

Normally, a preview window displays live video from the linked camera. But sometimes **No Resource**, **No Link**, or nothing is displayed. The following figure shows an example.

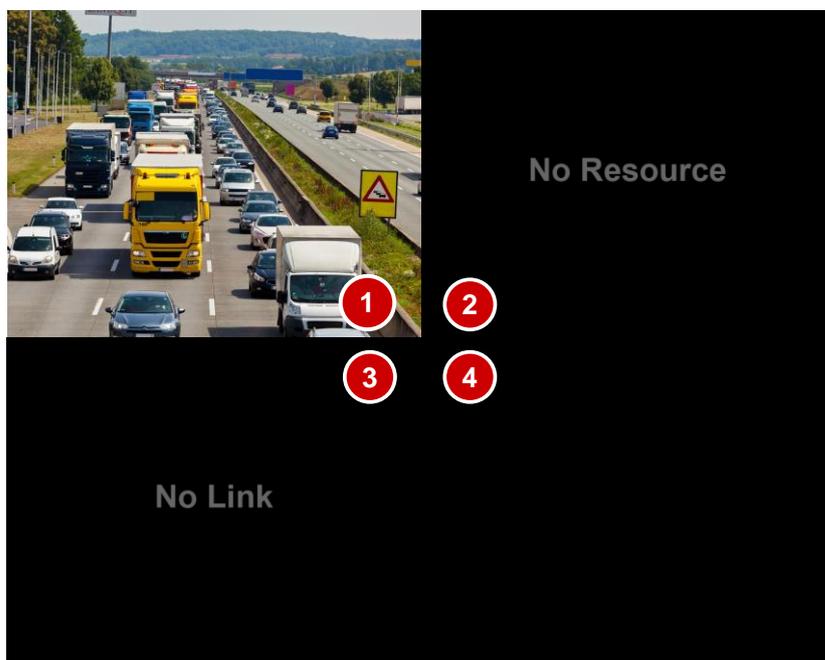


Table 3-2 Window Status Description

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

Preview Window Toolbar

A toolbar appears (see below) when you click in a preview window.

Figure 3-1 Preview Pane Toolbar



Table 3-3 Preview Window Toolbar Description

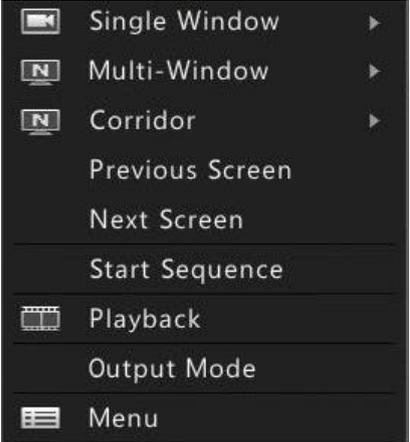
Button	Name	Description
	PTZ Control	Click to display the PTZ control panel for a PTZ camera.
	Manual Recording	Click to start recording live video to the NVR. The button turns into  when recording is started. To stop recording, click  .

Button	Name	Description
	Instant Playback	Click to start playing the recording in 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 configuration can also be made 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 Talk	Click to start two-way audio with a remote device connected to the NVR. To stop, click  .
	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 (see figure in the table below) when you right-click in a preview window.

Table 3-4 Shortcut Menu Description

Menu	Description	Screenshot
Single Window	Select the desired camera for live video in full screen.	
Multi-Window	Select the desired screen layout.	
Corridor	Click to view video in corridor mode in a variety number of windows. 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	Start or stop automatically displaying preview window(s) in sequence.	

Menu	Description	Screenshot
Playback	Display the playback window.	
Output Mode	Select a mode for images. Options are Standard, Soft, Bright, and Vivid.	
Menu	Display the main menu.	

Example of 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-Screen > 4 Windows**. Four windows are displayed on the screen.



NOTE!

Depending on the model of your NVR, the number of windows that can be displayed may vary.

2. Right-click anywhere in the preview window and then click **Start Sequence**. Sequence starts to display 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 modified under **Menu > System > Preview**.

Zoom

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

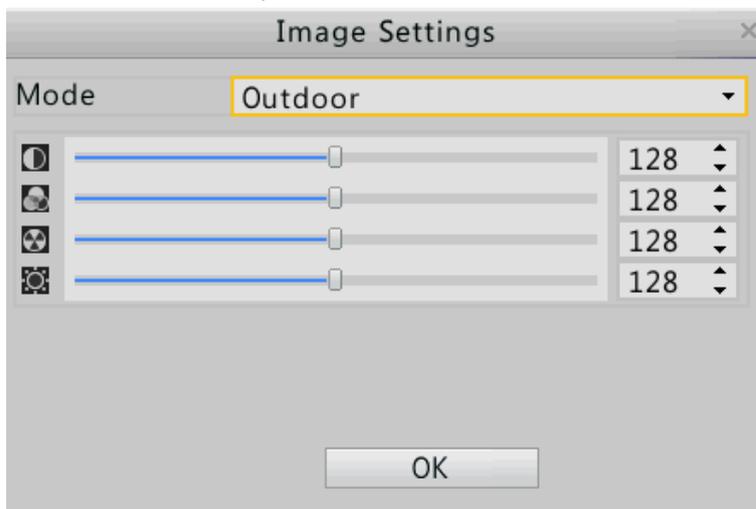
1. Click the desired preview window and then click  on the toolbar.
2. In the small window in the lower right corner, click and drag your mouse to specify an area to zoom in on.



Image Configuration

This function allows you to adjust image settings to capture 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 3-5 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.

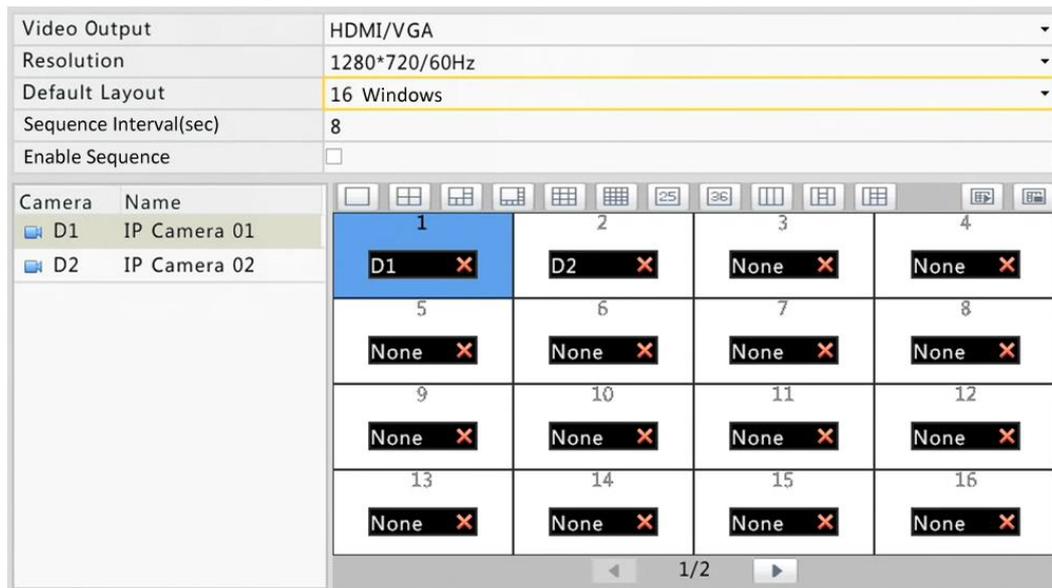
3. Click **OK** to save the settings and exit.

Preview Configuration

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

Normally, you can start live view after completing the configuration by following the startup 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.

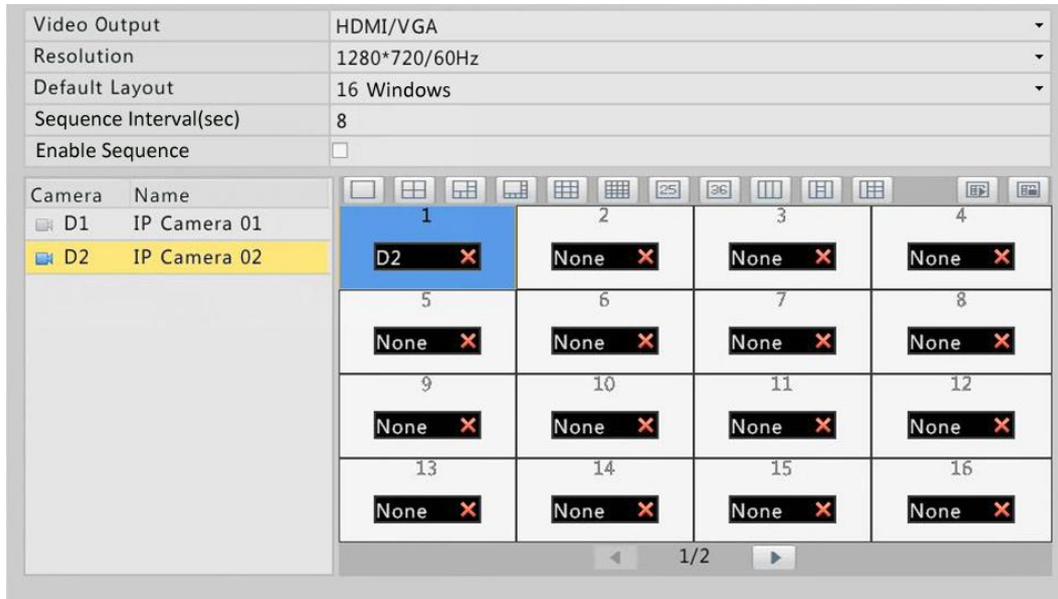


NOTE!

The output interfaces provided and the number of windows supported may vary with the 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 complete the configuration.

4 Channel Configuration

Channel Management

Before you start, make sure the IP device to add is connected to your NVR via network. The IP device mentioned in this manual refers to an IP camera (also known as network camera) or a Digital Video Server (DVS).



CAUTION!

Make sure an 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 not applicable to all NVR models. Choose one as appropriate.

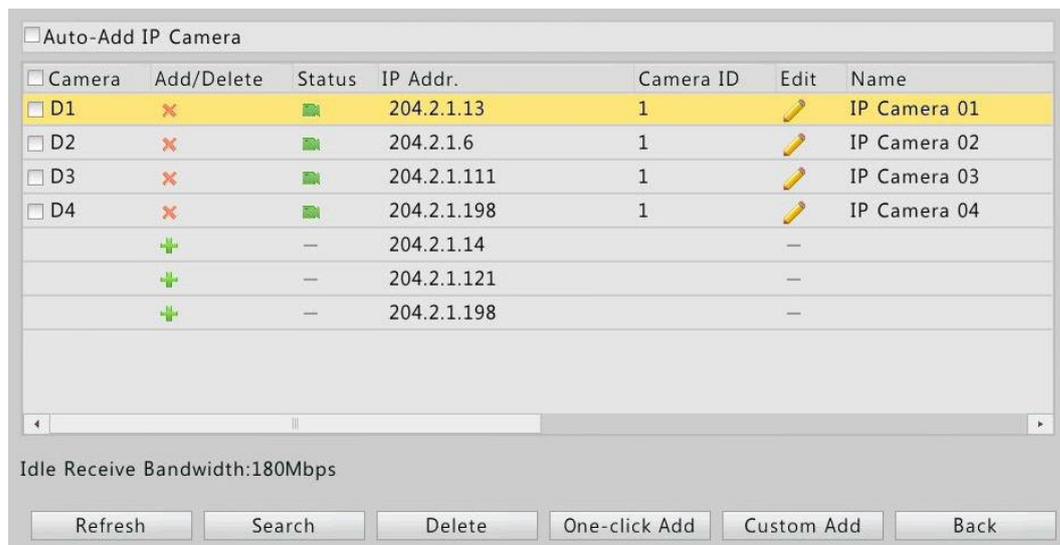
Option 1



NOTE!

Normally, all the IP devices discovered can be added, and  appears in the **Status** column to indicate that the added device is online. In the case of a failure, check network connection and verify that the username and password for the IP device are correct. To modify the username and password for an IP device, click .

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



<input type="checkbox"/> Camera	Add/Delete	Status	IP Addr.	Camera ID	Edit	Name
<input type="checkbox"/> D1	×		204.2.1.13	1		IP Camera 01
<input type="checkbox"/> D2	×		204.2.1.6	1		IP Camera 02
<input type="checkbox"/> D3	×		204.2.1.111	1		IP Camera 03
<input type="checkbox"/> D4	×		204.2.1.198	1		IP Camera 04
	+	—	204.2.1.14		—	
	+	—	204.2.1.121		—	
	+	—	204.2.1.198		—	

Idle Receive Bandwidth:180Mbps

Refresh Search Delete One-click Add Custom Add Back



NOTE!

- With **Auto-Add IP Camera** selected, the NVR can automatically add the discovered IP cameras but may also change their IP addresses. Disable this function if you have more than one NVR on the network.
- The **Auto-Add IP Camera** function is not available to NVRs with PoE ports or switching ports.
- **Idle Receive Bandwidth** indicates the current network bandwidth available for receiving streams. For more details, see [Network Statistics](#).

2. The system automatically performs a quick search. You may click **Refresh** to search and refresh again.



NOTE!

To search for IP devices on 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 upper limit allowed by the NVR.
 - After clicking **Custom Add**, you may:
 - Select a discovered IP device and click **Add** to add it.
 - Complete settings for an IP device manually, including its IP address, and then click **Add** to add it.

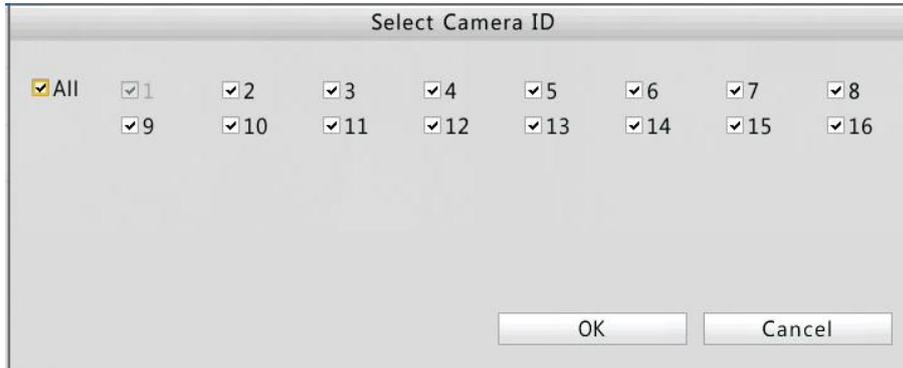
Add/Modify				
No.	IP Addr.	Status	Number of Camera	Model
1	204.2.1.6	Added	1	IPC1
2	204.2.1.13	Added	1	IPC2
3	204.2.1.14	Added	1	IPC3

Protocol	Private
Camera IP	204 · 2 · 1 · 6
Port	80
Username	admin
Password	*****
Number of Camera	1



NOTE!

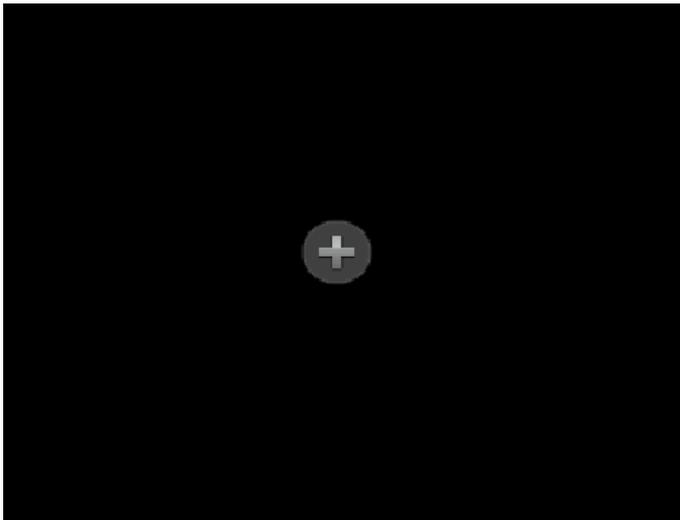
For a multi-channel DVS, select the desired channels and then click **OK** to add cameras connected to the DVS.



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 corresponding 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 directly with a network cable. The NVR automatically connects to the IP camera.
2. Click **Menu > Camera > Camera** and check connection status of the IP camera.

<input type="checkbox"/> Camera	Add/Delete	Status	IP Addr.	Camera ID	Edit	Name	Adva
<input type="checkbox"/> D1	—		193.168.0.2	1		IP Camera 01	—
<input type="checkbox"/> D2	—		193.168.0.3	1		IP Camera 02	—
<input type="checkbox"/> D3	—		193.168.0.4	1		IP Camera 03	—
<input type="checkbox"/> D4	—		193.168.0.5	1		IP Camera 04	—
<input type="checkbox"/> D5	—		193.168.0.6	1		IP Camera 05	—
<input type="checkbox"/> D6	—		193.168.0.7	1		IP Camera 06	—
<input type="checkbox"/> D7	—		193.168.0.8	1		IP Camera 07	—
<input type="checkbox"/> D8	—		193.168.0.9	1		IP Camera 08	—



NOTE!

- To indirectly connect an IP camera to a PoE port or a switching port (for example, via a network switch), click in the **Edit** column for the camera, set **Add Mode** to **Manual**, and then set other parameters correctly.
- For a NVR with PoE ports, appears in the **Status** column if the power output from a PoE port is below or above the rated power of the camera connected to the PoE port.

Managing an IP Device

Click **Menu > Camera > Camera**.

Edit an IP device

Select the channel to edit and then click . Modify the settings as needed and then click **OK**.

Add/Modify

No.	IP Addr.	Status	Number of Camera	Model
1	204.2.1.6	Added	1	IPC1
2	204.2.1.13	Added	1	IPC2
3	204.2.1.14	Added	1	IPC3

Protocol	Private
Camera IP	204 · 2 · 1 · 6
Port	80
Username	admin
Password	*****
Number of Camera	1



NOTE!

- To link the 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 **OK**. 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 follow the prompt to delete the device.
- To delete multiple IP devices at a time, select the devices, click **Delete**, and then follow the prompt to delete the selected devices.



NOTE!

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

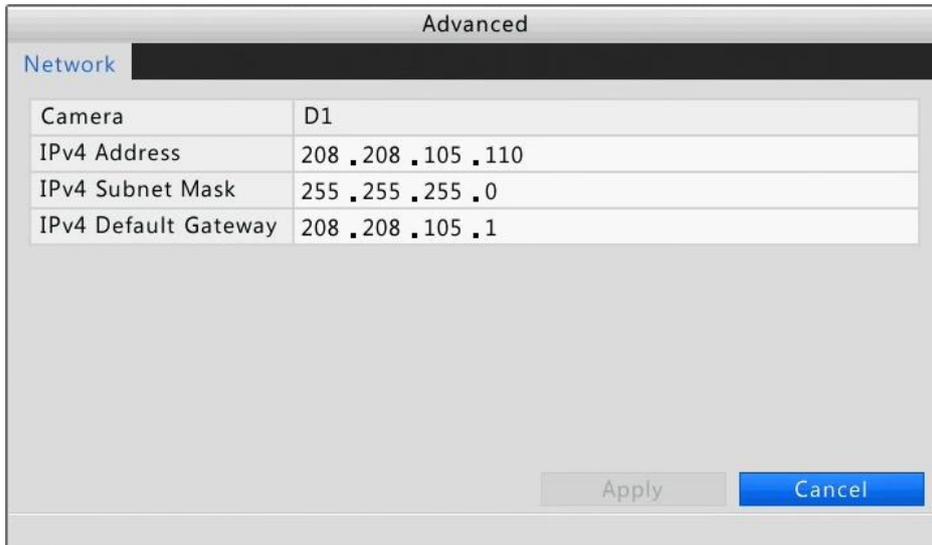
Use the advanced function

Use this function to change the IP address of a connected IP camera. Click in the **Advanced** column for the camera and then modify the settings as appropriate.



NOTE!

- If you see the  icon in the **Advanced** column, it means that the camera does not support this function.
- The IP address of a DVS cannot be modified using this function. To modify the IP address of a DVS, you need to access its Web interface.



Advanced	
Network	
Camera	D1
IPv4 Address	208 . 208 . 105 . 110
IPv4 Subnet Mask	255 . 255 . 255 . 0
IPv4 Default Gateway	208 . 208 . 105 . 1

Apply Cancel



NOTE!

The window displayed may differ with the connected IP device and may be different from the one displayed on your monitor.

Upgrade an IP camera

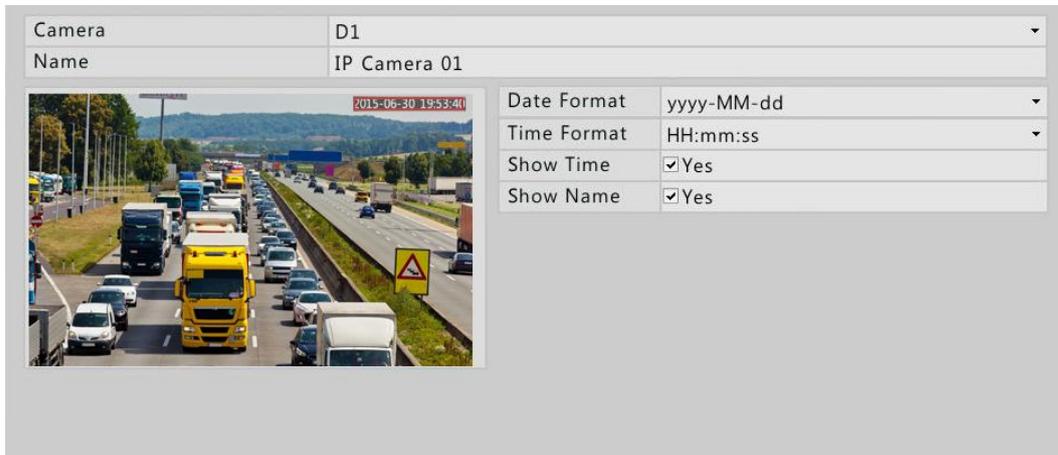
Only online IP cameras (with  displayed in the **Status** column) connected via the private protocol can be upgraded.

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

OSD Configuration

On Screen Display (OSD) are characters that you want to display 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 enter a name for the camera.
3. Configure OSD by selecting the desired date and time formats and enabling time and/or name display. To change the OSD position on the screen, use the mouse to drag it in the preview window on the left.



4. Click **Apply** to complete the configuration.

Image Configuration

1. Click **Menu > Camera > Image**.
2. Select the desired camera and scene.
3. Adjust settings on the tabs as needed for optimal images.

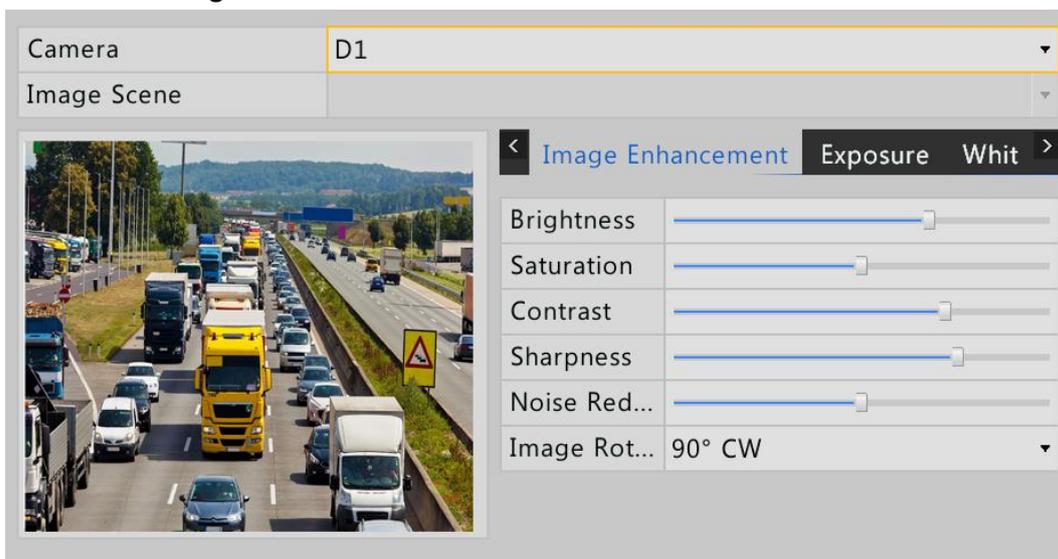


NOTE!

- A scene can be selected only when it is supported by the IP camera.
- To restore default image settings, click the **Default** button 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 settings on this tab for optimal images. 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	<ul style="list-style-type: none"> • 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. <p>Note:</p> <ul style="list-style-type: none"> • <i>The 90° CW and 90° CCW options can be used to achieve corridor mode, depending on the camera installation direction.</i> • <i>In corridor mode, operations to areas of interest (such as zoom and motion detection areas) also work in corridor mode.</i>

Exposure

1. Click the **Exposure** tab.

Camera
D1

Image Scene



< Image Enhancement
Exposure
Whit >

Exposure ...	Manual
Shutter(s)	1/25
Gain(dB)	0
Iris	<input type="range"/>
Slow Shutter	<input type="checkbox"/>
Slowest Sh...	1/8
Compensa...	<input type="range"/>
Day/Night ...	Automatic
Day/Night ...	Medium
Day/Night ...	3
WDR	Off
WDR Level	<input type="range"/>

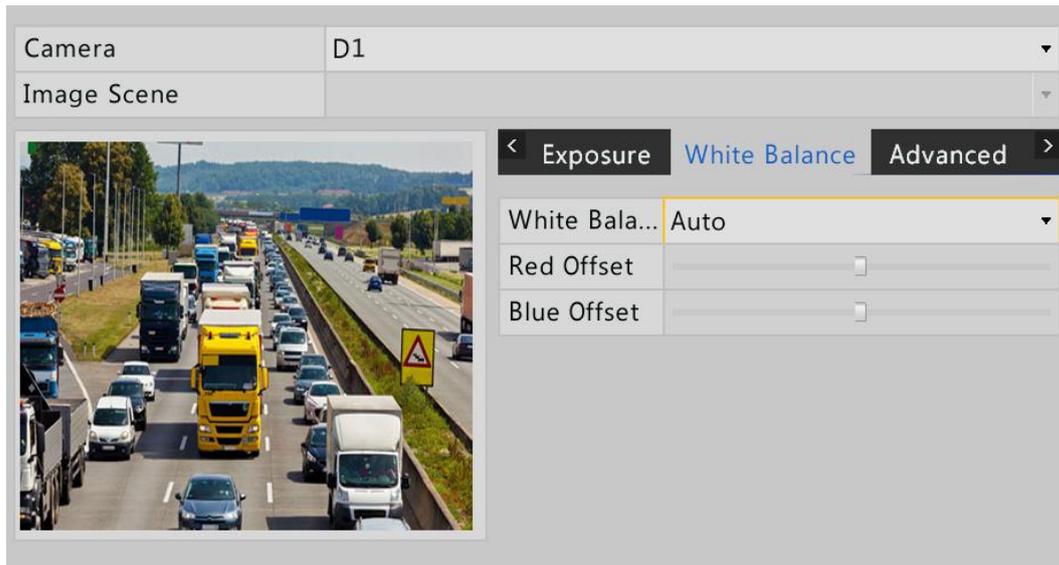
2. Adjust the settings on this tab. Some important parameters are described in the table below.

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	<ul style="list-style-type: none"> 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.
Day/Night	Light threshold for switching between day mode and night mode. A higher

Parameter	Description
Sensitivity	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.

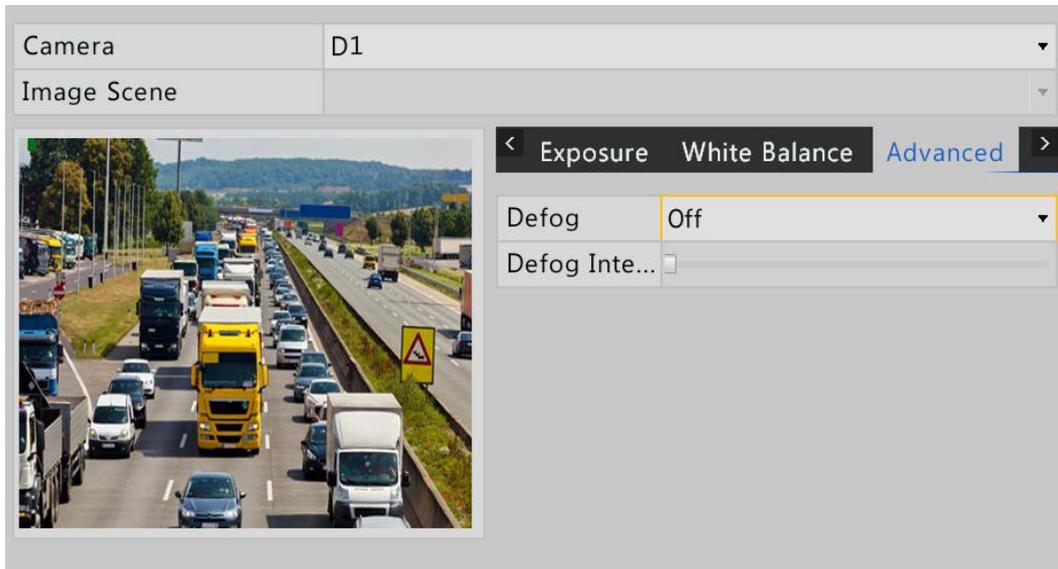


2. Adjust the settings on this tab. Some important parameters are described in the table below.

Parameter	Description
White Balance	Adjust the red or blue offset of the image: <ul style="list-style-type: none"> • 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 the defog feature to improve image quality in fog weather.

Privacy Mask Configuration

A privacy mask is an area of solid color covering certain parts of the monitored area. The purpose of using this function is to protect sensitive parts 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 privacy mask areas, which are marked with different colors.



NOTE!

Currently up to four privacy mask areas are allowed. Clicking a **Clear** button clears the mask area with the same color.

3. Click **Apply** to complete the configuration.

5 PTZ Control

PTZ (means pan, tilt, and zoom) control allows you to control the rotation speed, viewing direction, iris, focus of a PTZ camera and turn on or off its wiper (if applicable) from a remote location. In addition, you can set preset positions (presets for short) for a PTZ camera.



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 details when you use this function.

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 in the **PTZ Control** window as needed. 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.

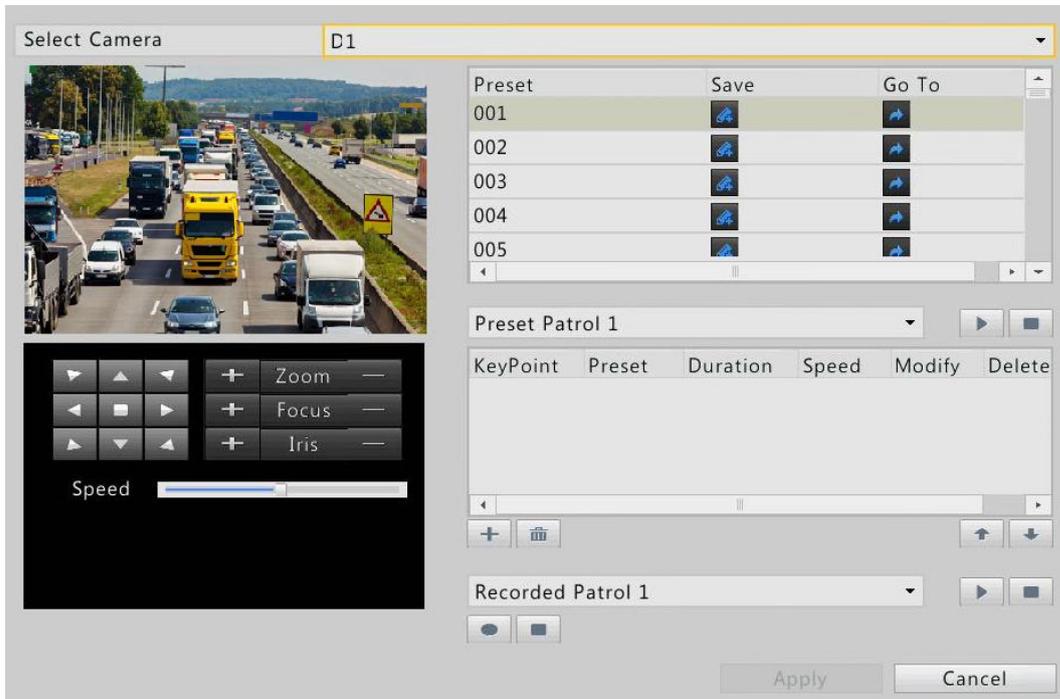


Table 5-1 PTZ Control Window Buttons

Button	Description
	Control the rotation direction of the PTZ camera or stop rotation.
	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.
	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • 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 button.
	Start or stop patrol.

Accessing from the Menu

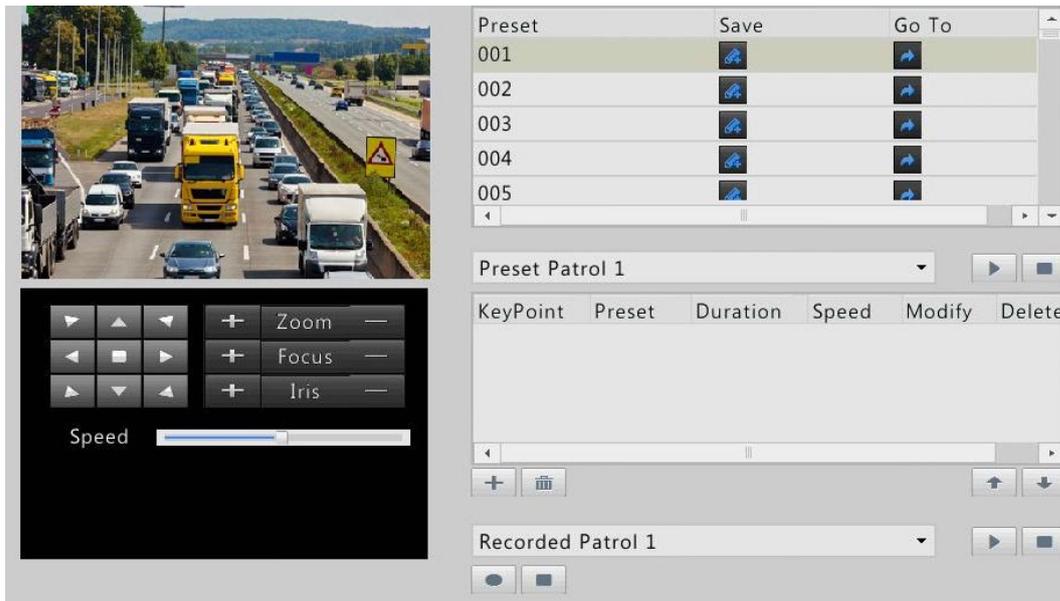
1. Click **Menu > Camera > PTZ**.
2. Select the desired camera from the drop-down list.



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 of the camera as needed.
 - c. Select a preset number that is not in use, and then click .
 - d. To add more presets, repeat the above operations.
3. To call a preset, click  for the desired preset number. The camera rotates to the preset position.



NOTE!

In addition to calling a preset manually, you can also link an alarm type to a preset so the preset will be called when a linked alarm occurs. For more details, see [Alarm-Triggered Actions](#).

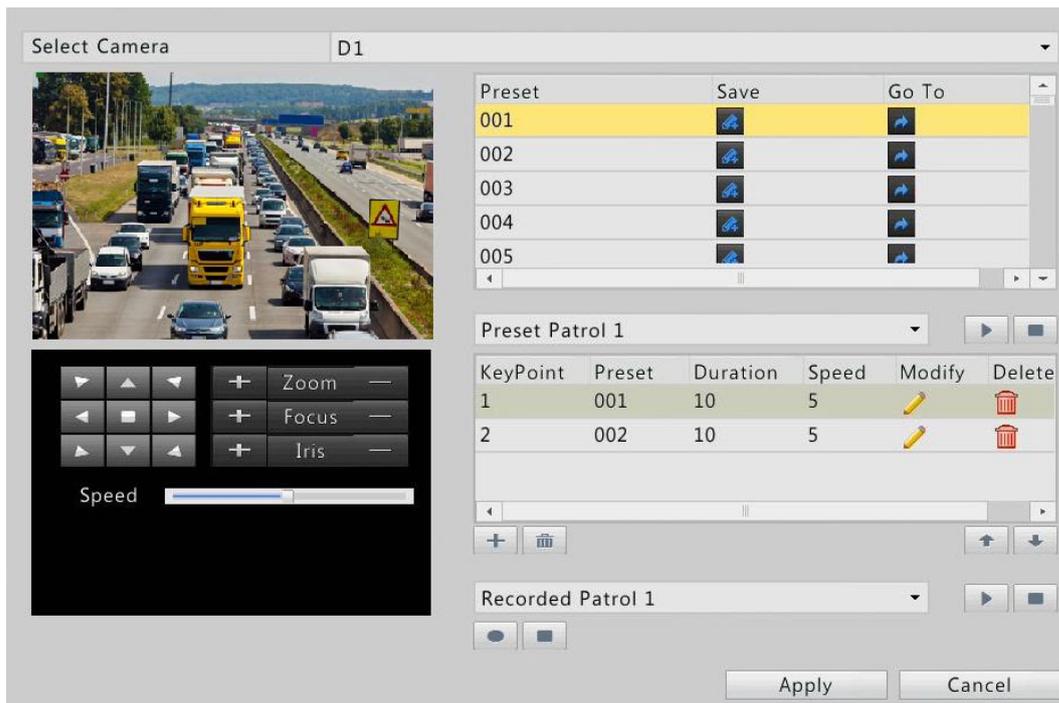
Setting and Starting a Preset Patrol



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](#).



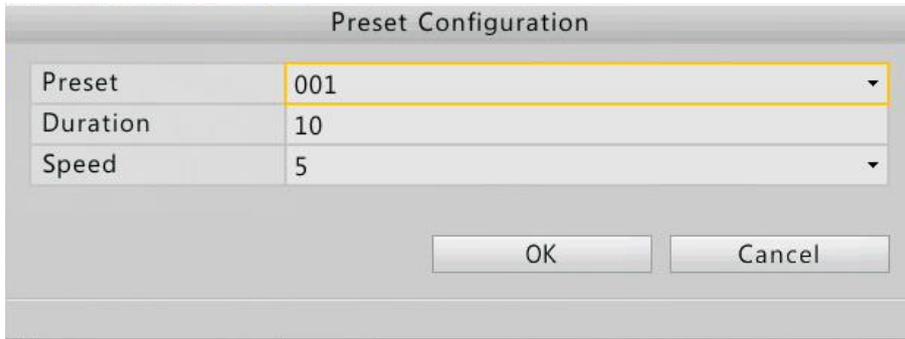
The screenshot shows the PTZ Management window for camera D1. On the left is a live video feed of a highway with a control panel below it containing directional arrows, Zoom, Focus, and Iris buttons, and a Speed slider. On the right, there is a table of presets and a patrol route configuration section.

Preset	Save	Go To
001		
002		
003		
004		
005		

KeyPoint	Preset	Duration	Speed	Modify	Delete
1	001	10	5		
2	002	10	5		

Below the table, there are buttons for adding (+) and deleting (-) key points, and a 'Recorded Patrol 1' section with a play button and a stop button. At the bottom right are 'Apply' and 'Cancel' buttons.

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**.

Camera	D1	
Storage Mode	Main Stream	
Image Format	1080P@60	
Stream	Normal	Sub Stream
Video Compression	H264	H264
Resolution	1920*1080(1080P)	1920*1080(1080P)
Bitrate Type	CBR	CBR
Bit Rate(Kbps)	4096	4096
Range	128~16384(Kbps)	128~16384(Kbps)
Frame Rate(fps)	25	25
Image Quality	Highest	Highest
I Frame Interval	25	25
I Frame Range	10~250	10~250
Smooth	<input type="checkbox"/>	<input type="checkbox"/>

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	<ul style="list-style-type: none"> Main Stream Sub Stream By default, the main stream is used for storage.
Image Format	Combinations of resolutions and frame rates. Note: <i>This parameter is effective only when the camera is connected to the NVR via the private protocol.</i>
Stream	<ul style="list-style-type: none"> 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. The listed options depend on the standards supported by the camera.
Resolution	Image resolution.
Bitrate Type	<ul style="list-style-type: none"> 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

Parameter	Description
	and may decrease significantly with increased motion in the scene. <ul style="list-style-type: none"> 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.
Smooth	Use the slider to control the sudden increase of bit rate.



NOTE!

The parameters and options displayed may vary with the camera model.

3. Click **Apply** to complete the configuration.

Snapshot

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

Camera	D1		
Snapshot Type	Schedule	▼	Event
Resolution	704*576(4CIF)	▼	704*576(4CIF)
Image Quality	Medium	▼	High
Snapshot Interval	5s	▼	2s



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 complete the configuration.

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 24x7 recording schedule is enabled by default and may be edited as needed to record video in specified periods only.

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

Camera	D1
Enable Schedule	<input checked="" type="checkbox"/>
Pre-Record(sec)	10
Post-Record(sec)	60

Timeline (0-24 hours):

- Mon: [Recording]
- Tue: [Recording]
- Wed: [Recording]
- Thu: [Recording]
- Fri: [Recording]
- Sat: [Recording]
- Sun: [Recording]
- Holiday: [Recording]

Event Legend:

- Normal (Blue)
- Motion (Green)
- Alarm (Red)
- M and A (Orange)
- M or A (Purple)
- None (Black)

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.

Monday

All Day	<input checked="" type="checkbox"/>	Type	Normal		
00 : 00	↕	24 : 00	↕	Type	Normal
00 : 00	↕	00 : 00	↕	Type	Normal
00 : 00	↕	00 : 00	↕	Type	Normal
00 : 00	↕	00 : 00	↕	Type	Normal
00 : 00	↕	00 : 00	↕	Type	Normal
00 : 00	↕	00 : 00	↕	Type	Normal
00 : 00	↕	00 : 00	↕	Type	Normal

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

OK Cancel



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 complete configuration for the current camera.



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**.

The screenshot displays the 'Snapshot' configuration window for camera 'D1'. At the top, there is a dropdown menu for 'Camera' set to 'D1' and an 'Enable Schedule' checkbox which is currently unchecked. Below this is a grid for scheduling snapshots. The grid has columns for time intervals (0, 3, 6, 9, 12, 15, 18, 21, 24) and rows for days of the week (Mon, Tue, Wed, Thu, Fri, Sat, Sun) and a 'Holiday' row. All cells in the grid are filled with a blue bar, indicating that snapshots are scheduled for the entire 24-hour period on all days. To the right of the grid is a legend for 'Event' types: Normal (blue), Motion (green), Alarm (red), M and A (orange), M or A (purple), and None (black). An 'Edit' button is located to the right of the grid.

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**.

Edit Plan

Select Day Monday

All Day	<input checked="" type="checkbox"/> All Day	Type	Normal
00 : 00	24 : 00	Type	Normal
00 : 00	00 : 00	Type	Normal
00 : 00	00 : 00	Type	Normal
00 : 00	00 : 00	Type	Normal
00 : 00	00 : 00	Type	Normal
00 : 00	00 : 00	Type	Normal
00 : 00	00 : 00	Type	Normal
00 : 00	00 : 00	Type	Normal

Copy To All Mon Tue Wed Thu Fri Sat Sun Holiday



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 complete configuration for the current camera.



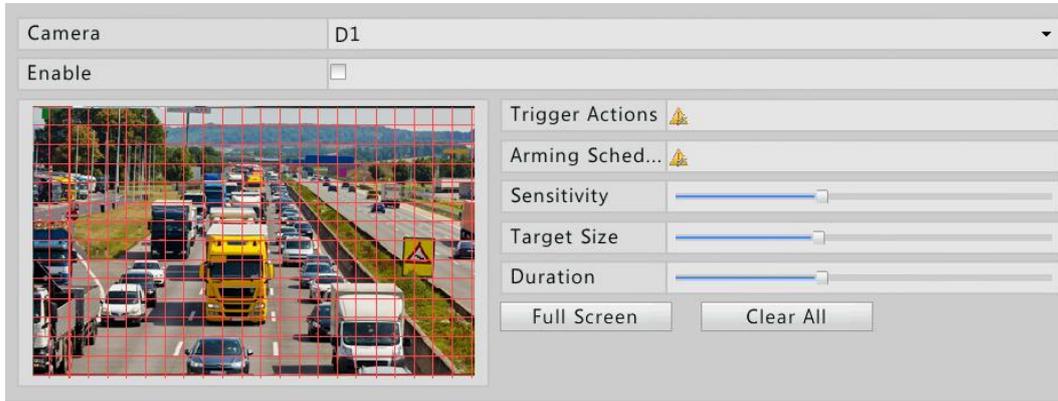
NOTE!

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

Motion Detection Recording and Snapshot

Motion Detection Recording

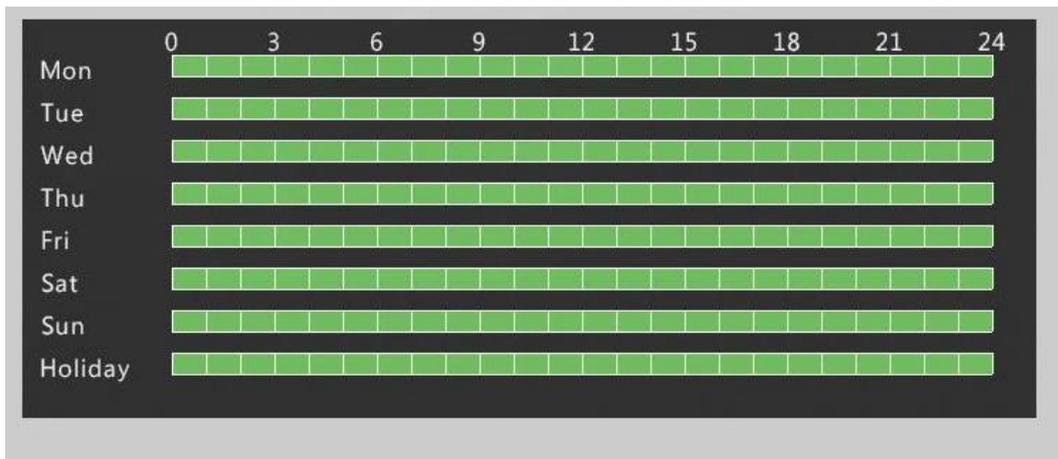
1. Click **Menu > Alarm > Motion**.
2. Select the desired camera, and then select the check box to enable motion detection.



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.

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 recording schedule under **Menu > Storage > Recording**. For the detailed steps, see [Scheduled Recording and Snapshot](#). Make sure **Type** is set to **Motion**. After the configuration is completed, the recording schedule appears in green, which specifically stands for motion detection recording in the system. The following figure shows an example.

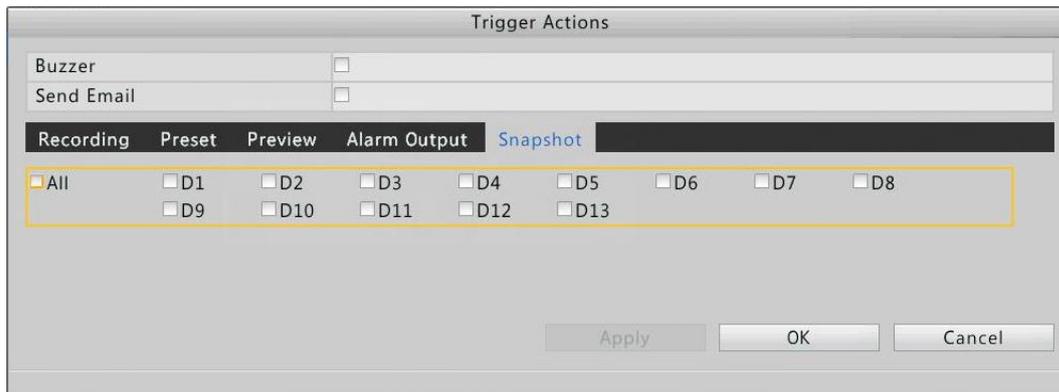


Motion Detection Snapshot

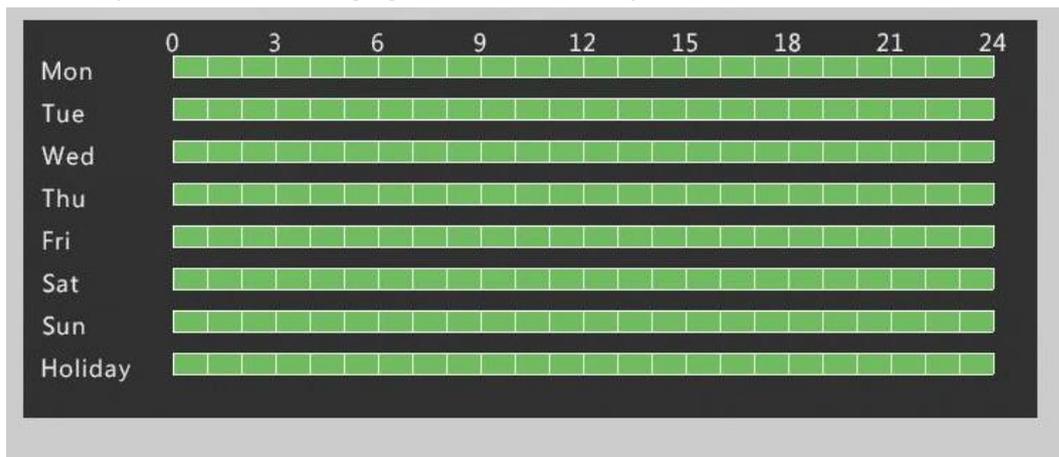
You need to enable motion detection before configuring motion detection snapshot. For the detailed steps to enable motion detection, see steps 1 to 3 in [Motion Detection Recording](#).

Follow these steps after you have enabled motion detection:

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



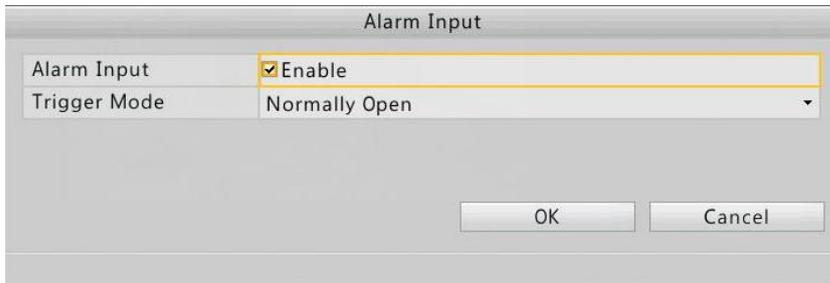
2. Set a snapshot schedule under **Menu > Storage > Snapshot**. For the detailed steps, see [Scheduled Snapshot](#). Make sure **Type** is set to **Motion**. After the configuration is completed, the snapshot schedule appears in green, which specifically stands for motion detection snapshot in the system.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



Alarm Triggered Recording and Snapshot

Alarm Triggered Recording

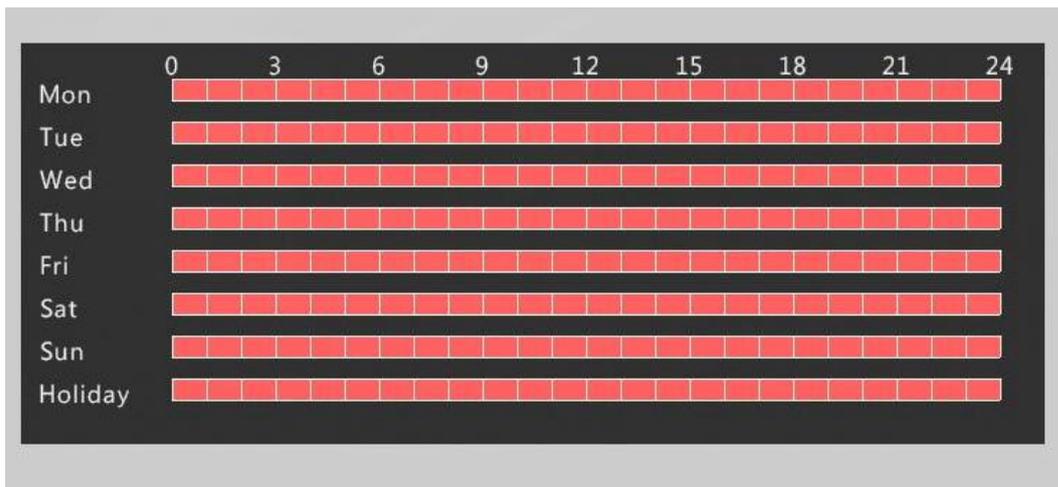
1. Click **Menu > Alarm > Input/Output**.
2. Configure alarm input: click  for the desired camera. In the window displayed, select **Enable**, select the correct trigger mode from the drop-down list, and then click **OK**.



NOTE!

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

3. Configure 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 recording schedule under **Menu > Storage > Recording**. For the detailed steps, see [Scheduled Recording and Snapshot](#). Make sure **Type** is set to **Alarm**. After the configuration is completed, the recording schedule appears in red, which specifically stands for alarm-triggered recording. The following shows an example.

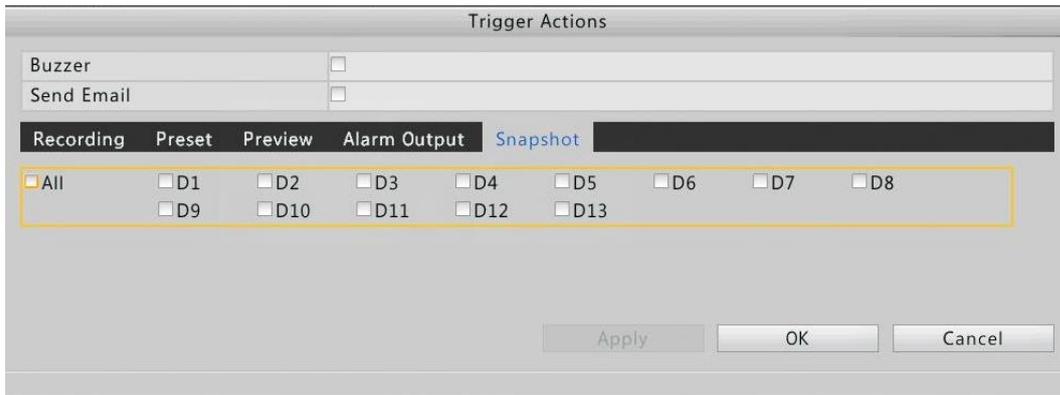


Alarm Triggered Snapshot

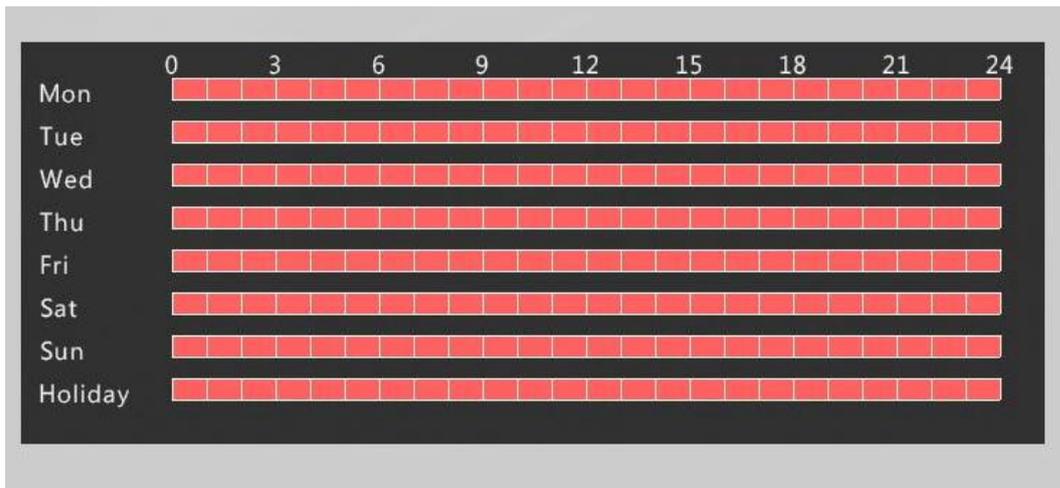
You need to enable alarm input before configuring alarm input snapshot. For the detailed steps to enable alarm input, see steps 1 to 2 in [Alarm Triggered Recording](#).

Follow these steps after you have enabled alarm input:

1. Configure 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**.



- Set a snapshot schedule under **Menu > Storage > Snapshot**. For the detailed steps, see [Scheduled Snapshot](#). Make sure **Type** is set to **Alarm**. After the configuration is completed, the snapshot schedule appears in red, which specifically stands for alarm-triggered snapshot. The following shows an example.



Manual Recording and Snapshot

Manual Recording

Two options are available:

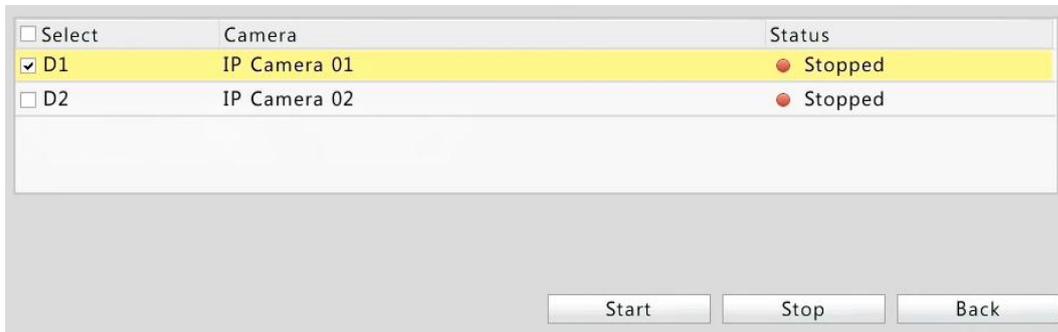
- Option 1

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

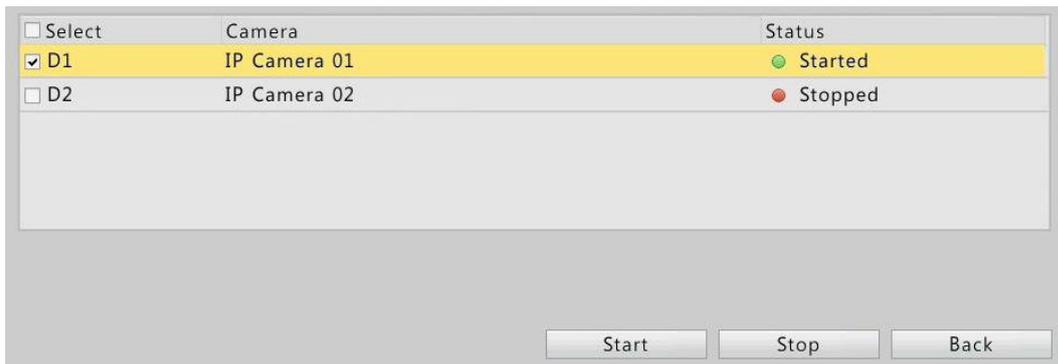
Click  to stop.

- Option 2

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

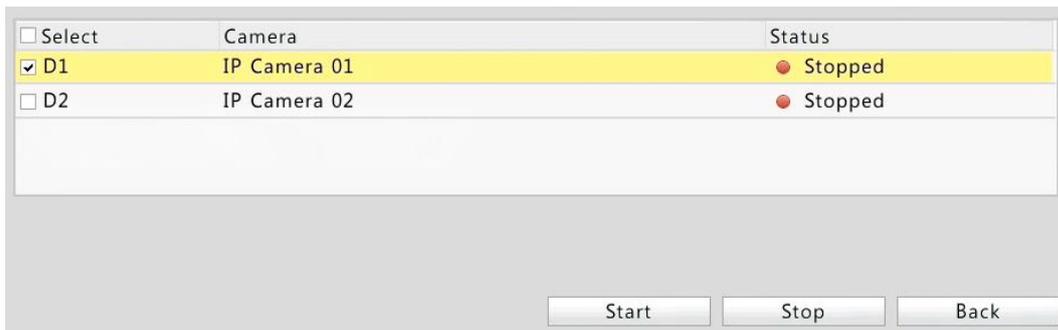


To stop, select the camera and then click **Stop**.



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**.

<input type="checkbox"/> Select	Camera	Status
<input checked="" type="checkbox"/> D1	IP Camera 01	● Started
<input type="checkbox"/> D2	IP Camera 02	● Stopped

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**.

<input type="checkbox"/> No.	Status	Holiday Name	Start Date	End Date	Re

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

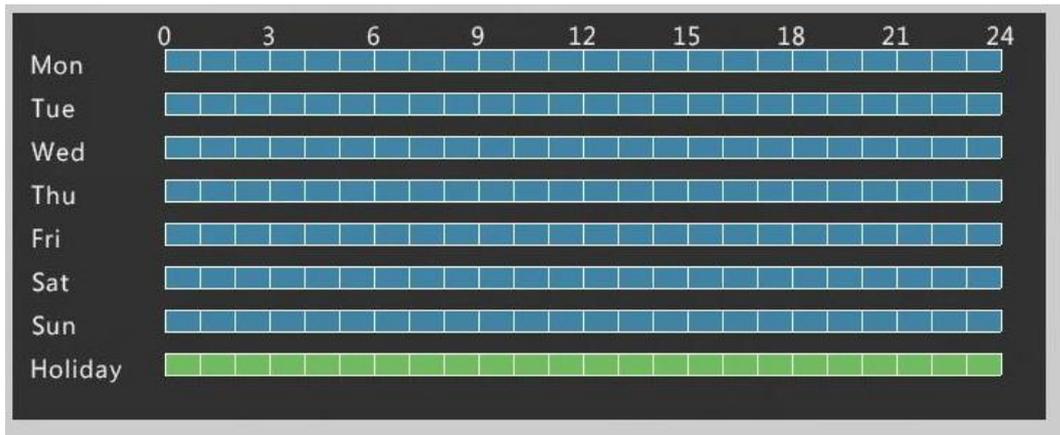
Holiday

Holiday Name	Holiday1 123		
Status	<input checked="" type="checkbox"/> Enable	<input type="checkbox"/> Disable	
Repeat	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	
Mode	<input checked="" type="checkbox"/> By Day	<input type="checkbox"/> By Week	
Start Date	2014	01	10
End Date	2014	01	10

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

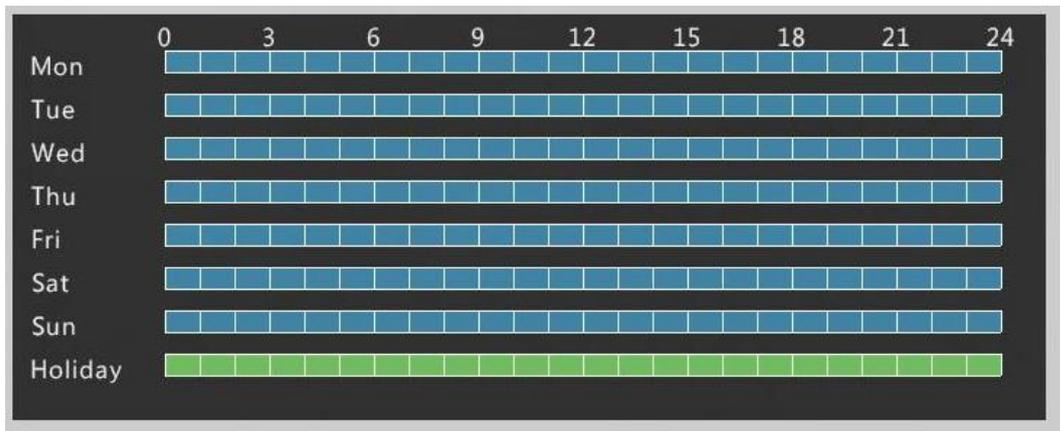
No.	Status	Holiday Name	Start Date	End Date	Re
<input type="checkbox"/> 1	<input checked="" type="radio"/> Enabled	Holiday1	2014-01-10	2014-01-10	N

- 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 6.2.2 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 recording types. The following shows an example.



Other Recording and Snapshot Types

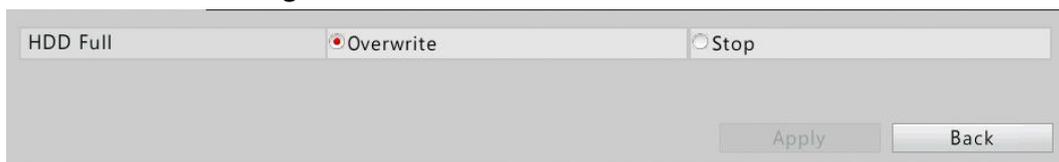
Other recording and snapshot types:

- 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](#).

Advanced Configuration

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



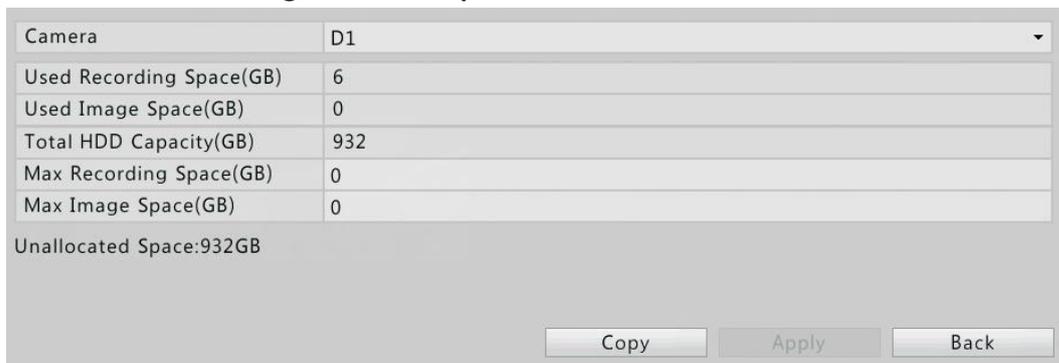
HDD Full Overwrite Stop

Apply Back

2. Set the policy that the NVR will follow when space is used up.
 - Overwrite: When space on all the hard disk(s) are used up, recording will continue, and the oldest recordings will be overwritten first.
 - Stop: When space on all the hard disk(s) are used up, recording will stop, so that important recordings will not be overwritten.
3. Click **Apply** to complete the configuration.

Space Allocation

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



Camera	D1
Used Recording Space(GB)	6
Used Image Space(GB)	0
Total HDD Capacity(GB)	932
Max Recording Space(GB)	0
Max Image Space(GB)	0

Unallocated Space:932GB

Copy Apply Back

2. Select the desired camera, and then allocate space for recordings and snapshots respectively.
3. Click **Apply** to complete the configuration.



NOTE!

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

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**.

<input type="checkbox"/> Disk ...	Total Capacity(...)	Free Space(GB)	Status	Vendor	Property	Edit	Format
1	0.00	0.00	No Disk			--	--
<input type="checkbox"/> 2	1863.02	0.00	Normal	WDC	Read/Write		
3	0.00	0.00	No Disk			--	--
4	0.00	0.00	No Disk			--	--
5	0.00	0.00	No Disk			--	--
6	0.00	0.00	No Disk			--	--
7	0.00	0.00	No Disk			--	--
8	0.00	0.00	No Disk			--	--

Refresh Format Back



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 desired 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. It erases all the data on it.

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. 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.

Button	Description
	Zoom out or zoom in.
	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.
	Add a default or custom tag.
	Manage files.
	Zoom in on images. For more details, see Zoom .
	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 for Playback** will select the maximum number of cameras allowed by the NVR. The playback performance varies with the NVR model.

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



NOTE!

- You may also select a date and then click  to start playing 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, . If a camera has event type recording on a date, the date has a red flag on the calendar, for example, . A date with no flag, for example, , 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.

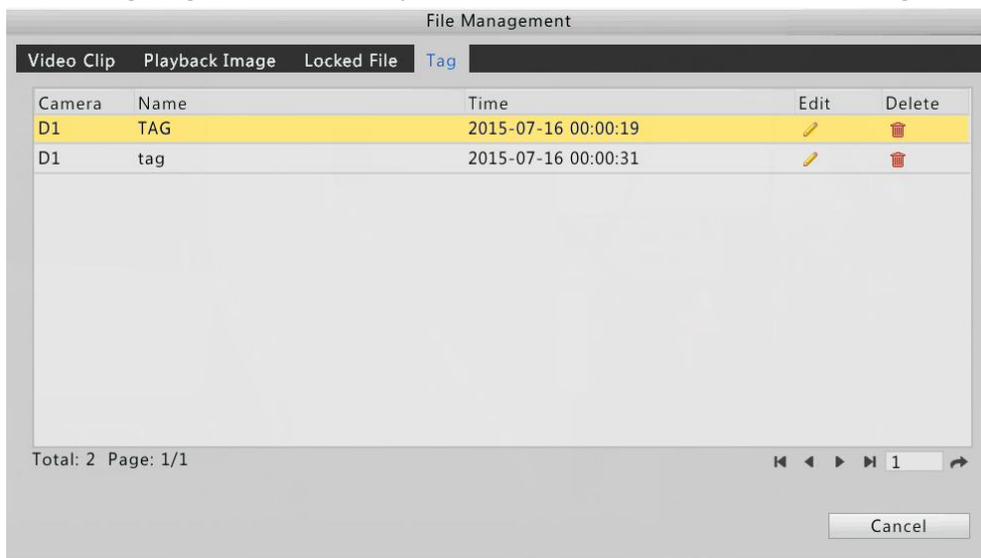


Playback by Tag

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 color, 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.

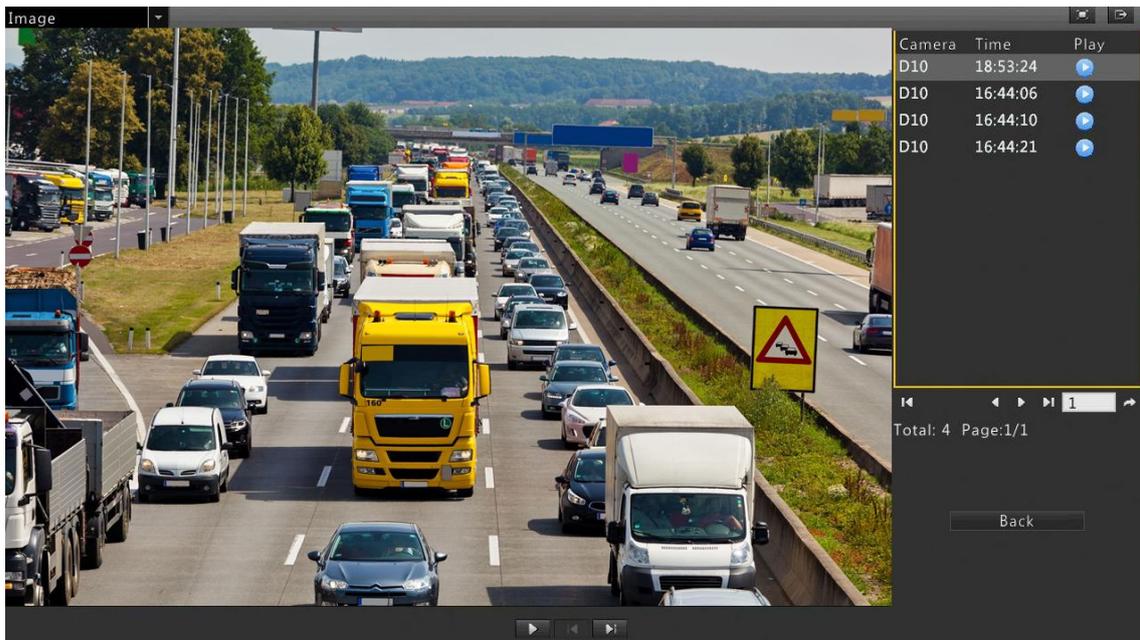
1. In the playback window, select **External File** from the drop-down list in the upper left corner.
2. Click **Refresh** and then wait for the NVR to read the external storage device.
3. Select the desired recording file and then click  to start playback.



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. Select the desired file and then click  to start.

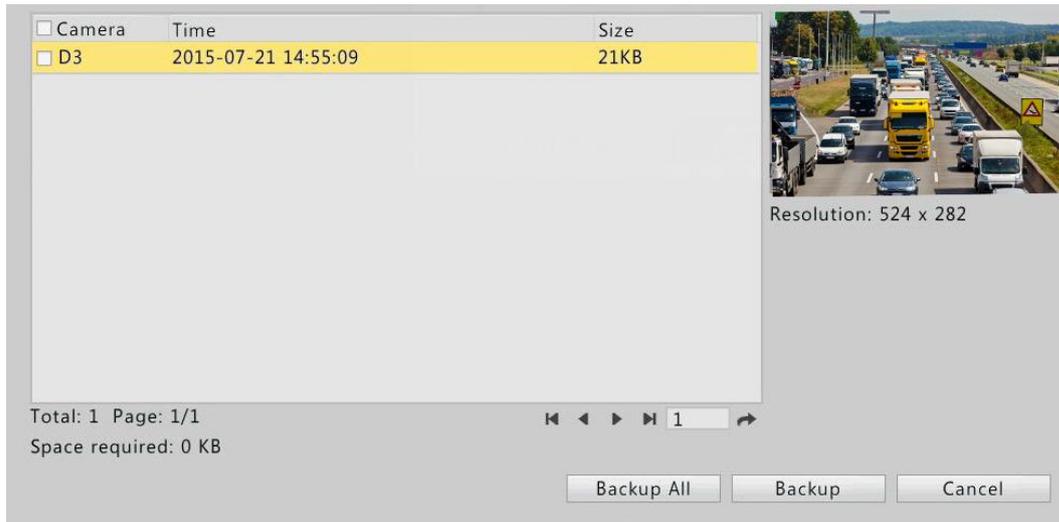


File Management

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.



NOTE!

The recording containing the locked part 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 . If  changes to , the file is unlocked.

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

<input type="checkbox"/> Camera	Time	Size	Status
<input checked="" type="checkbox"/> D1	2015-07-01 23:55:02--00:03:59	255.7MB	
<input type="checkbox"/> D1	2015-07-13 23:58:31--00:07:27	255.6MB	
<input type="checkbox"/> D2	2015-07-13 23:43:29--00:01:17	255.1MB	
<input type="checkbox"/> D3	2015-07-01 23:57:02--00:14:49	255.0MB	
<input type="checkbox"/> D3	2015-07-13 23:59:08--00:08:12	255.4MB	

Total: 5 Page: 1/1
Space required: 0.0 MB

Navigation: ⏪ ⏩ 1 ⏪ ⏩

Buttons: Backup Cancel



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**.

<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> D1	<input checked="" type="checkbox"/> D2	<input checked="" type="checkbox"/> D3	<input checked="" type="checkbox"/> D4	<input checked="" type="checkbox"/> D5	<input checked="" type="checkbox"/> D6	<input checked="" type="checkbox"/> D7	<input checked="" type="checkbox"/> D8		
	<input checked="" type="checkbox"/> D9	<input checked="" type="checkbox"/> D10	<input checked="" type="checkbox"/> D11	<input checked="" type="checkbox"/> D12	<input checked="" type="checkbox"/> D13	<input checked="" type="checkbox"/> D14	<input checked="" type="checkbox"/> D15	<input checked="" type="checkbox"/> D16		
	<input checked="" type="checkbox"/> D17	<input checked="" type="checkbox"/> D18	<input checked="" type="checkbox"/> D19	<input checked="" type="checkbox"/> D20	<input checked="" type="checkbox"/> D21	<input checked="" type="checkbox"/> D22	<input checked="" type="checkbox"/> D23	<input checked="" type="checkbox"/> D24		
	<input checked="" type="checkbox"/> D25	<input checked="" type="checkbox"/> D26	<input checked="" type="checkbox"/> D27	<input checked="" type="checkbox"/> D28	<input checked="" type="checkbox"/> D29	<input checked="" type="checkbox"/> D30	<input checked="" type="checkbox"/> D31	<input checked="" type="checkbox"/> D32		
Recording Type	All									
File Type	All									
Start Time	2015	-	07	-	27	00	:	00	:	00
End Time	2015	-	07	-	27	23	:	59	:	59



NOTE!

All cameras are selected by default.

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

<input type="checkbox"/> Camera	Time	Size	Status	Play
<input checked="" type="checkbox"/> D1	2015-07-28 00:00:00--00:00:18	4.9MB		
<input type="checkbox"/> D1	2015-07-28 00:00:21--00:18:12	255.4MB		
<input type="checkbox"/> D1	2015-07-28 00:18:15--00:36:06	255.6MB		
<input type="checkbox"/> D1	2015-07-28 00:36:09--00:54:00	255.4MB		
<input type="checkbox"/> D1	2015-07-28 00:54:03--01:11:54	255.4MB		
<input type="checkbox"/> D1	2015-07-28 01:11:57--01:29:48	255.5MB		
<input type="checkbox"/> D1	2015-07-28 01:29:51--01:47:42	255.5MB		
<input type="checkbox"/> D1	2015-07-28 01:47:45--02:06:30	255.5MB		
<input type="checkbox"/> D1	2015-07-28 02:06:33--02:24:24	255.4MB		
<input type="checkbox"/> D1	2015-07-28 02:24:27--02:42:18	255.5MB		
<input type="checkbox"/> D1	2015-07-28 02:42:21--03:00:12	255.5MB		
<input type="checkbox"/> D1	2015-07-28 03:00:15--03:18:06	255.4MB		

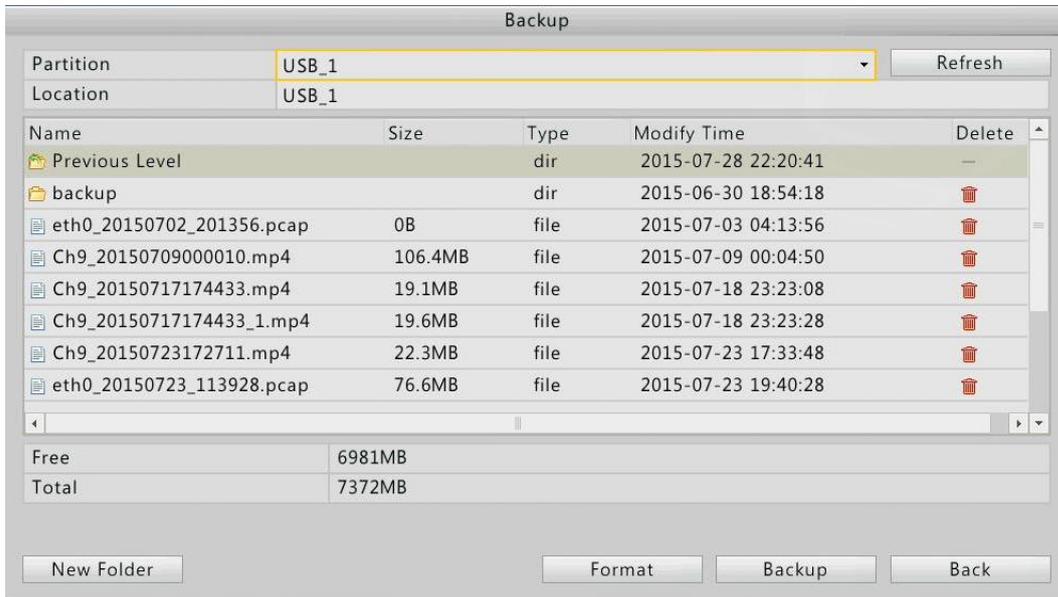
Total: 99 Page: 1/1
Space required: 0.0 MB



NOTE!

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

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



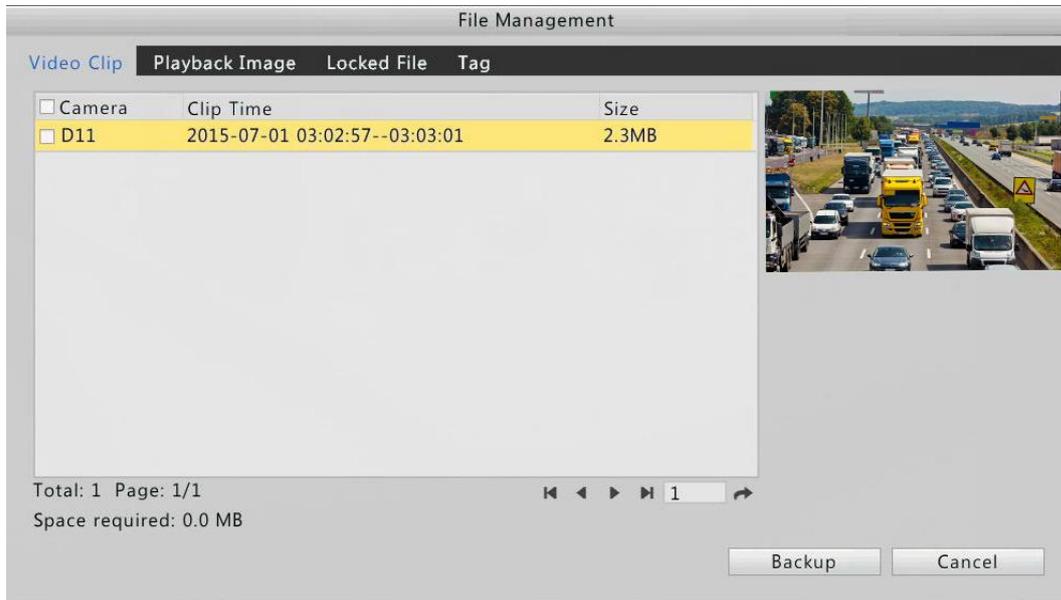
NOTE!

- 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



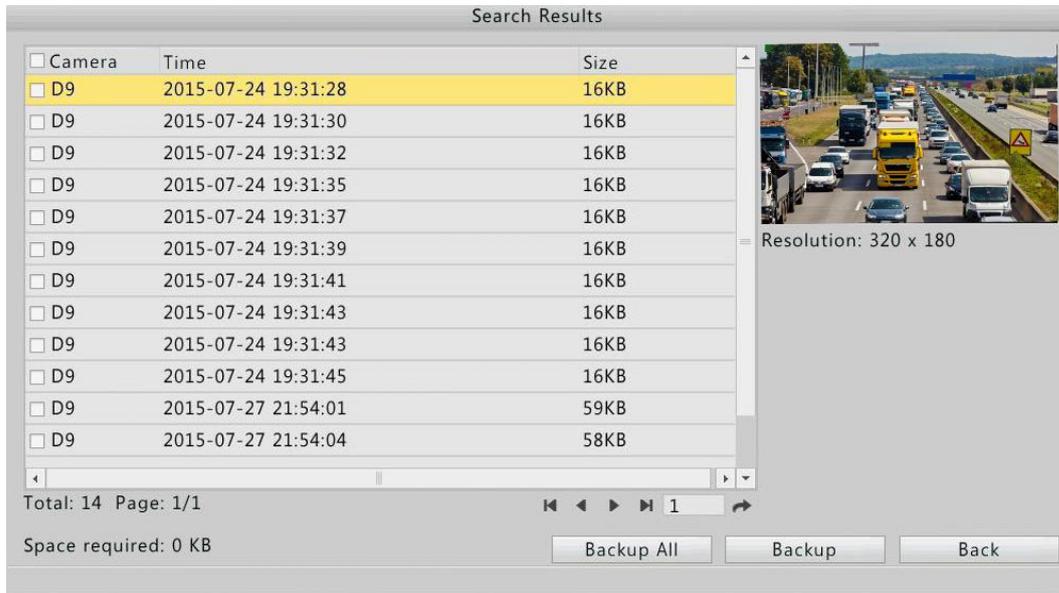
NOTE!

The default format of image backup is JPEG.

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

<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> D1	<input checked="" type="checkbox"/> D2	<input checked="" type="checkbox"/> D3	<input checked="" type="checkbox"/> D4	<input checked="" type="checkbox"/> D5	<input checked="" type="checkbox"/> D6	<input checked="" type="checkbox"/> D7	<input checked="" type="checkbox"/> D8				
	<input checked="" type="checkbox"/> D9	<input checked="" type="checkbox"/> D10	<input checked="" type="checkbox"/> D11	<input checked="" type="checkbox"/> D12	<input checked="" type="checkbox"/> D13	<input checked="" type="checkbox"/> D14	<input checked="" type="checkbox"/> D15	<input checked="" type="checkbox"/> D16				
	<input checked="" type="checkbox"/> D17	<input checked="" type="checkbox"/> D18	<input checked="" type="checkbox"/> D19	<input checked="" type="checkbox"/> D20	<input checked="" type="checkbox"/> D21	<input checked="" type="checkbox"/> D22	<input checked="" type="checkbox"/> D23	<input checked="" type="checkbox"/> D24				
	<input checked="" type="checkbox"/> D25	<input checked="" type="checkbox"/> D26	<input checked="" type="checkbox"/> D27	<input checked="" type="checkbox"/> D28	<input checked="" type="checkbox"/> D29	<input checked="" type="checkbox"/> D30	<input checked="" type="checkbox"/> D31	<input checked="" type="checkbox"/> D32				
Image Type	All											
Start Time	2015	-	07	-	28	↓	00	:	00	:	00	↓
End Time	2015	-	07	-	28	↓	23	:	59	:	59	↓

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.

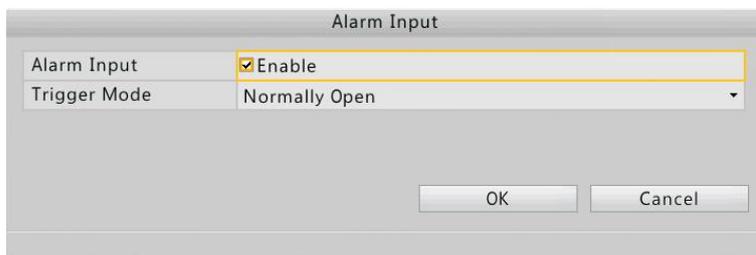
3. Select the desired file(s) and then click **Backup**.
4. Select a destination in the USB storage device and then click **Backup**. The selected files are saved to the specified directory.

9 Alarm

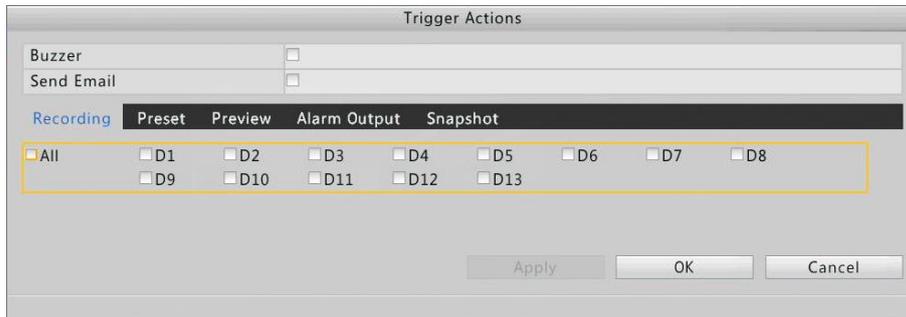
Alarm Input and Output

Alarm Input

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



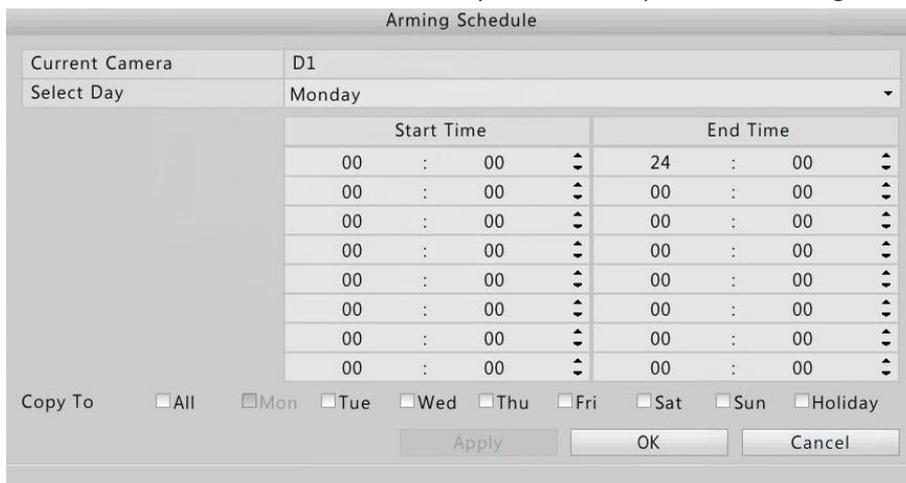
- Click  in the **Trigger Actions** column. The **Trigger Actions** window appears. Configure action(s) to trigger. For more details, see [Alarm-Triggered Actions](#).



NOTE!

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

- Click  in the **Arming Schedule** column. The **Arming Schedule** window appears. Set an arming schedule as needed. Click **OK** after you have completed the configuration.



NOTE!

- The default schedule is 24x7. You may modify it as needed and set up to eight different periods for each day. Overlapping time periods are not allowed.
- 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

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

Serial No.	Default Status	Duration(sec)	Edit
A->1	Normally Open	30	
A->2	Normally Open	30	
D1->1	Normally Close	30	

- 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

A motion detection alarm occurs when an object inside the detection area moves to certain extent.



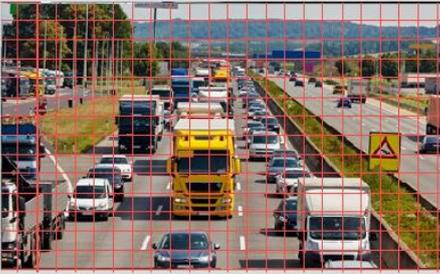
NOTE!

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.

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

Camera: D1

Enable:



Trigger Actions 

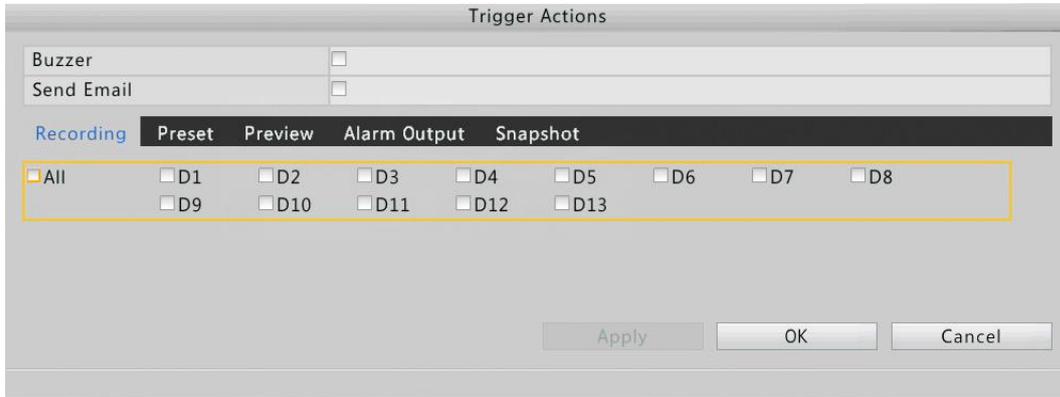
Arming Sched... 

Sensitivity

Target Size

Duration

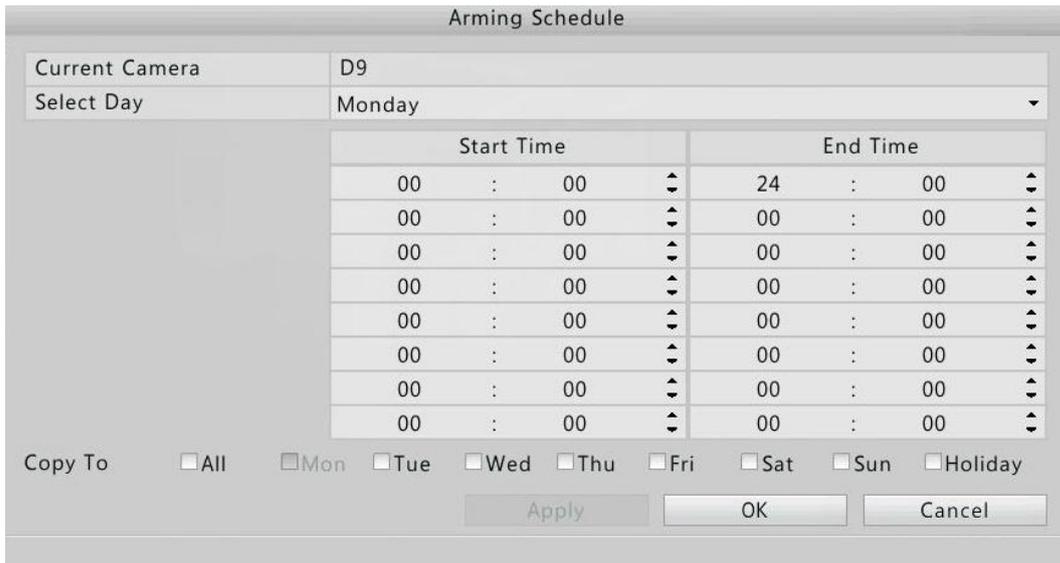
- Use the mouse to draw a detection area, and drag the slider to set detection sensitivity, target object size, and duration.
- Click  right to **Trigger Actions** and configure action(s) to trigger. For the detailed steps to configure actions, see [Alarm-Triggered Actions](#).



NOTE!

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

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



NOTE!

- The default schedule is 24x7. You may modify it as needed and set up to eight different periods for each day. Overlapping time periods are not allowed.
- To apply the same arming schedule to other days, select the intended days right to **Copy To**.

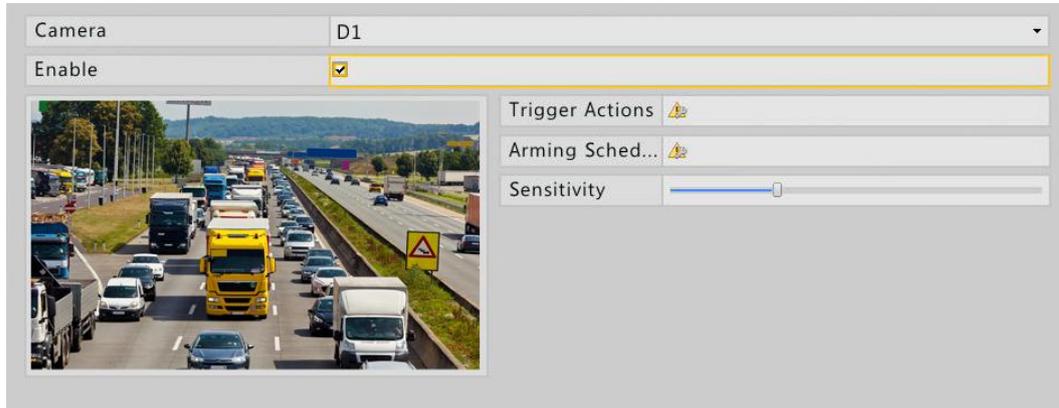
6. Click **Apply** to complete the configuration.

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 configure action(s) to trigger. For the detailed steps to configure actions, see [Alarm-Triggered Actions](#).
4. Click  right to **Arming Schedule** and then set an arming schedule as needed.
5. Click **Apply** to complete the configuration.

Video Loss

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

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

By default, video loss alarm is enabled for every channel. To disable it, click , and the icon changes to .

Camera	Status	Trigger Actions	Arming Schedule
D1	 Enabled		
D2	 Enabled		
D3	 Enabled		

2. Click  right to **Trigger Actions** and configure action(s) to trigger. For more details, see [Alarm-Triggered Actions](#).



NOTE!

The following actions are not supported for the current channel: recording, preset and preview.

3. Click  right to **Arming Schedule** and then set an arming schedule as needed.
4. Click **Apply** to complete the configuration.

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 addresses.

Perform the following steps to configure an alert:

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

Alert Type	Storage Error
Buzzer	<input type="checkbox"/> Enable
Send Email	<input type="checkbox"/> Enable
Trigger Alarm Output	<input type="checkbox"/> All
Select	Alarm Output No.
<input type="checkbox"/>	A-> 1
<input type="checkbox"/>	A-> 2
<input type="checkbox"/>	D1-> 1

3. Click **Apply** to complete the configuration.

Alarm-Triggered Actions

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

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.

Working Mode	Multi-address	▼
Select NIC	NIC1	▼
Enable DHCP	<input type="checkbox"/>	
IPv4 Address	208 . 208 . 105 . 45	
IPv4 Subnet Mask	255 . 255 . 255 . 0	
IPv4 Default Gateway	208 . 208 . 105 . 1	
MAC Address	48:ea:63:00:00:00	
MTU(Bytes)	1500	
Preferred DNS Server	8 . 8 . 8 . 8	
Alternate DNS Server	8 . 8 . 4 . 4	
Default Route	NIC2	▼

3. Click **Apply** to complete the configuration.



NOTE!

- If a DHCP server is available on the network, you can enable DHCP so the NVR automatically obtains an IP address from the DHCP server.
 - 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**.

Connection	
PPPoE	<input type="checkbox"/>
Username	
Password	

IP Info	
Address	
Subnet Mask	
Gateway	

2. Select **PPPoE**, and then enter the username and password provided by your Internet Service Provider (ISP). The network information will appear 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 complete the configuration.

MyCloud

The NVR allows access through the myCloud website or from the EZview app. You need to sign up for an account first before using this function.

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

Enable myCloud	<input checked="" type="checkbox"/>
Domain Name	en.mycloud.uniview.com
Register Code	0123456789012345678901234
Device Status	Offline: The device has not been added to the cloud website. Please ad...
Service Agreement	http://mycloud.uniview.com/doc/termsofservice.html



NOTE!

Scan the QR code to download the app to your cell phone. If it is already on your cell phone, open the app and scan the QR code to obtain the registration code.

3. Click **Apply** to complete the configuration.

DDNS

If you set your NVR to connect to the Internet through PPPoE, the IP address of the network will be changed every time it connects to the ISP server, and you will not be informed of the changed IP address. This is inconvenient when you remotely access your NVR with an IP address. To overcome this issue, you can register with a DDNS server to obtain a domain name for your NVR and then access your NVR by visiting the domain name (<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 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).

Enable DDNS	<input checked="" type="checkbox"/>
DDNS Type	DynDNS
Server Address	members.dyndns.org
Port	80
Domain Name	NVR.dyndns.com
Username	admin
Password	*****
Confirm	***** 123

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

Enable DDNS	<input checked="" type="checkbox"/>
DDNS Type	EzDDNS
Server Address	en.mycloud.uniview.com
Port	80
Domain Name	1234567
Device Status	Online
Device Address	en.mycloud.uniview.com/1234567

3. Click **Apply** to complete the configuration.

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 ports as planned.

HTTP Port	80
RTSP Port	554
Media Port	7070
SDK Port	6060
HTTPS Port	443
ONVIF Port	82



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 complete the configuration.

Port Mapping

Two port mapping methods are available: Universal Plug and Play (UPnP) and manual mapping. UPnP enables the NVR to discover other devices on the network and establish network services such as data sharing and communication.

This section describes how to use UPnP for port mapping. You may also configure port mapping manually with UPnP disabled. 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.

Enable UPnP	<input checked="" type="checkbox"/>			
Mapping Type	Auto			
HTTP Port	50080			
RTSP Port	50554			
Media Port	57070			
SDK Port	56060			
HTTPS Port	50443			
ONVIF Port	50082			
Port Type	Mapping IP	External Port	Internal Port	Status
HTTP Port	N/A	N/A	80	Inactive
RTSP Port	N/A	N/A	554	Inactive
Media Port	N/A	N/A	7070	Inactive
SDK Port	N/A	N/A	6060	Inactive
HTTPS Port	N/A	N/A	443	Inactive
ONVIF Port	N/A	N/A	82	Inactive



NOTE!

If your NVR has multiple NICs, port mapping will be implemented through the NIC specified as the default route.

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

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.

Server Authentication	<input checked="" type="checkbox"/>
Username	123@outlook.com
Password	*****
SMTP Server	smtp.live.com
SMTP Port	25
Enable TLS	<input checked="" type="checkbox"/> If TLS is enabled, use 25 first, and 587 as an alternative.
Sender Name	123
Sender Address	123@outlook.com
Select Recipient	Recipient 1 ▼
Recipient Name	456
Recipient Address	456
Attach Image	<input checked="" type="checkbox"/>
Snapshot Interval	2s ▼



NOTE!

- Enter a valid SMTP server address and port number, and then select **Enable TLS** if required.
- Select **Attach Image** if you want to send snapshots via email. Only some NVR models support image attachment.
- For the SMTP port, if TLS is enabled, use 25 as the first option, 587 as the second, and 465 as the third. Contact your email service provider if the test email still cannot be sent if you have tried with these port numbers.

3. Click **Test**. The test result will appear, no matter the test succeeds or fails. In the case of a failure, please review the settings and check the network status.

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**.

Enable IP Control	<input checked="" type="checkbox"/>			
Control Type	Blacklist			
Start IP	208 . 208 . 105 . 1			
End IP	208 . 208 . 105 . 10			
Add				
No.	Start IP	End IP	Edit	Delete
1	208.208.105.1	208.208.105.10		

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 complete the configuration.

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 when the NVR is connected to it.

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

Enable	<input type="checkbox"/>
Server	
IP Address	
Port	21
Anonymous	<input type="checkbox"/>
Username	admin
Password	
Remote Directory	
Upload Interval(s)	30
Range(s)	5~600
<input type="button" value="Test"/>	
Schedule	
Camera	D1
Upload Schedule	
Copy	

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.

Upload Schedule							
Select Day	Monday		Alarm	Motion	Normal	Video Loss	
Period 1	00 : 00	24 : 00	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Period 2	00 : 00	00 : 00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Copy To	<input type="checkbox"/> All	<input checked="" type="checkbox"/> Mon	<input type="checkbox"/> Tue	<input type="checkbox"/> Wed	<input type="checkbox"/> Thu	<input type="checkbox"/> Fri	<input type="checkbox"/> Sat <input type="checkbox"/> Sun
				<input type="button" value="OK"/>	<input type="button" value="Cancel"/>		



NOTE!

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

5. Click **Apply** to complete the configuration.



NOTE!

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

11 System Configuration

Basic Configuration

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

Device Name	NVR
Device ID	1
Language	English ▾
Enable Audio Output	<input type="checkbox"/>
Enable Startup Wizard	<input type="checkbox"/>
Enable Password	<input checked="" type="checkbox"/>
Auto Logout(min)	5 ▾

3. Click **Apply** to complete the configuration.



NOTE!

- Only admin can set **Enable Password**.
- If **Enable Password** is not selected, no password is required for login to the NVR. However, a username and password is required for a re-login after a logout.

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 by selecting the check box, and then set the IP address and port number of the NTP server and an update interval.

Time Zone	(GMT+00:00) Dublin, Edinburgh, London ▾
Date Format	YYYY-MM-DD ▾
Time Format	24-hour ▾
System Time	2015 - 07 - 28 ▾ 11 : 54 : 40 ▾
Enable NTP	<input type="checkbox"/>
NTP Server	0 .0 .0 .0
NTP Port	123
Update Interval(min)	10

4. Click **Apply** to complete the configuration.

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.

Enable DST	<input checked="" type="checkbox"/>			
From	Apr	1st	Sun	2
To	Oct	last	Sun	2
DST Bias	60 Minutes			

3. Click **Apply** to complete the configuration.

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.

Serial No.	1
Type	RS485
Baud Rate	9600
Data Bit	8
Stop Bit	1
Check Bit	None
Port Usage	Keyboard



NOTE!

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

3. Click **Apply** to complete the configuration.

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 three user types in the system:

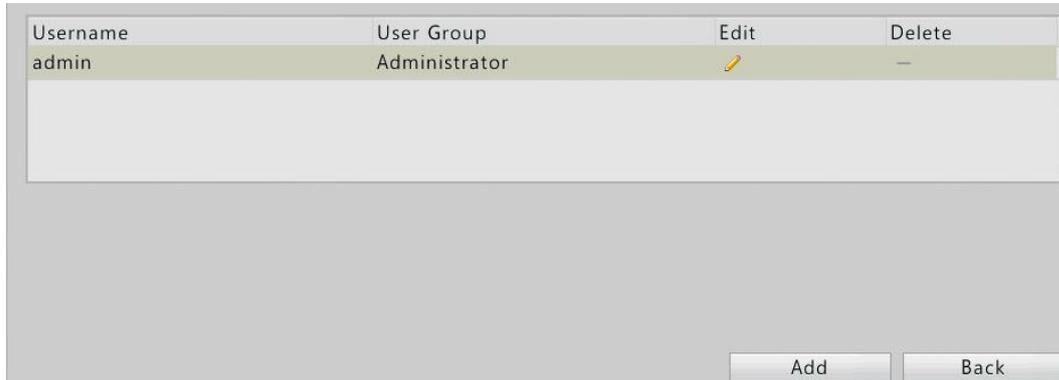
- Admin: The default super administrator in the system and has full permissions. The initial password for admin is 123456.
- Operator: By default an operator has basic permissions and access to cameras.
- Guest: By default a guest has access to cameras.



NOTE!

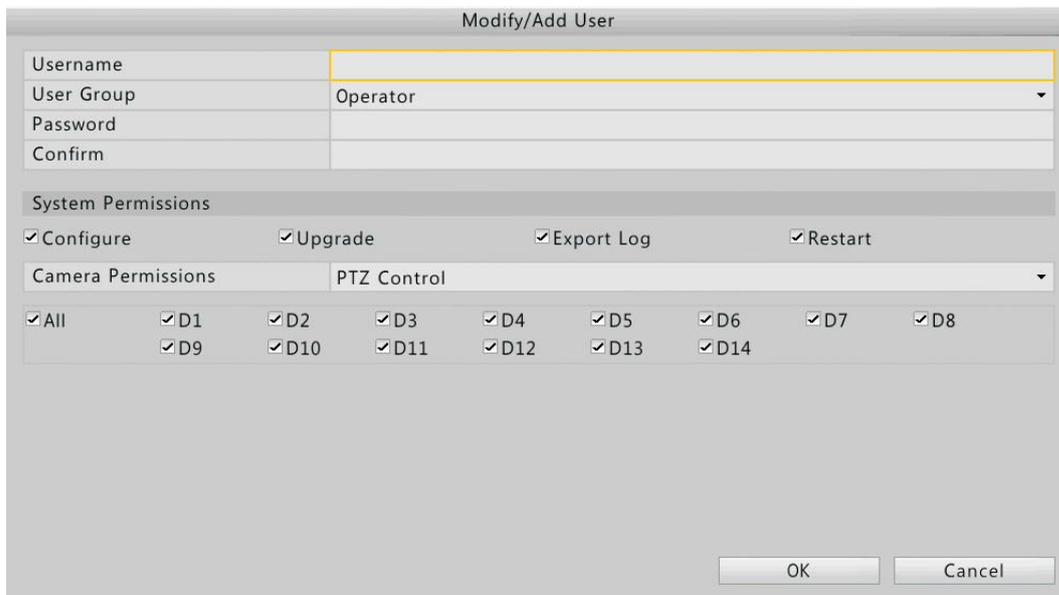
Only admin can add, delete and modify users.

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

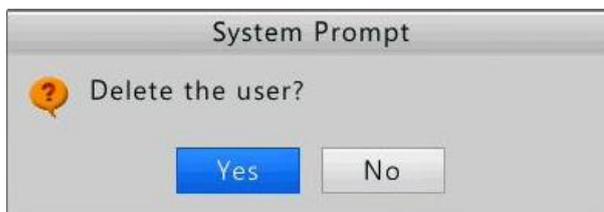


2. User configuration

- Add a user.
 - a. Click **Add**.
 - b. Set the username, password, user group and permissions.
 - c. After you have completed the configuration, click **OK**.



- Delete a user: Click . A confirmation message appears. Click **Yes** to proceed.



- Modify a user: Click . You can modify the password, user group, and permissions. Click **OK** to save the modification.

Modify/Add User

Username	
User Group	Operator
Password	*****
Confirm	*****

System Permissions

Configure
 Upgrade
 Export Log
 Restart

Camera Permissions PTZ Control

<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> D1	<input checked="" type="checkbox"/> D2	<input checked="" type="checkbox"/> D3	<input checked="" type="checkbox"/> D4	<input checked="" type="checkbox"/> D5	<input checked="" type="checkbox"/> D6	<input checked="" type="checkbox"/> D7	<input checked="" type="checkbox"/> D8
	<input checked="" type="checkbox"/> D9	<input checked="" type="checkbox"/> D10	<input checked="" type="checkbox"/> D11	<input checked="" type="checkbox"/> D12	<input checked="" type="checkbox"/> D13	<input checked="" type="checkbox"/> D14		



NOTE!

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

12 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

Camera Info

Click the **Camera Info** tab for information about the added IP devices.

NO.	Camera	Vendor	Model	Firmware Version
1	D1		IPC1	IPC_Q2102-20150714
2	D2		IPC2	IPC_D1201-20150505

Recording

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

Camera	Name	Type	Status	Diagnosis	Stream Type	Frame R
D1	IP Camera 01	Manual	Ongoing	Normal	Main Stream	10
D2	IP Camera 02	Normal	Ongoing	Normal	Main Stream	8
D3	IP Camera 03	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.

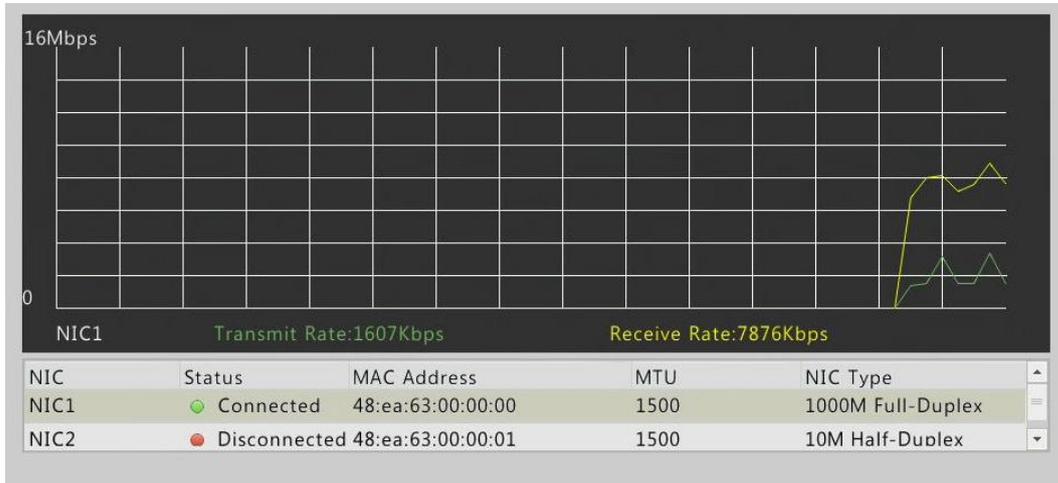
Disk No.	Total Capacity(GB)	Free Space(GB)	Status	Vendor	Property
1	0.00	0.00	No Disk		
2	1863.02	0.00	Normal	WDC	Read/Write
3	0.00	0.00	No Disk		
4	0.00	0.00	No Disk		
5	0.00	0.00	No Disk		
6	0.00	0.00	No Disk		
7	0.00	0.00	No Disk		
8	0.00	0.00	No Disk		
Total Capacity(GB)		1863.02			
Free Space(GB)		0.00			

Back

Network Detection

Traffic

Click **Menu > Maintain > 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**.
2. Enter the test address 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.

Network Delay and Packet Loss Test	
Test Address	204 · 2 · 1 · 46
Test Result	Delay: 0.098ms, Packet Loss: 0.000%

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.

Network Packet Export		
Device Name		Refresh
Select Port	<input checked="" type="checkbox"/> All <input type="checkbox"/> Specified	
Select IP	<input checked="" type="checkbox"/> All <input type="checkbox"/> Specified	
NIC	IP Address	Export
NIC1	204.2.1.46	
NIC2	192.168.1.30	
Loopback Port	127.0.0.1	

Note: Packets are exported to the root directory of the storage device.

Open



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.

Network Statistics

1. Click **Menu > Maintain > 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.

Start Time	2015 - 07 - 27	00 : 00 : 00
End Time	2015 - 07 - 27	23 : 59 : 59
Main Type	All	
Sub Type	All Types	

Username	Operation Time	IP	Camera	Main Ty..	Sub Type
admin	2015-07-27 20:25:17	127.0.0.1		Operation	Modify User
admin	2015-07-27 20:23:02	127.0.0.1		Operation	Add User
admin	2015-07-27 20:21:48	208.208.105.12		Operation	Playback/Download
admin	2015-07-27 20:21:36	127.0.0.1		Operation	Delete User
admin	2015-07-27 20:21:04	208.208.105.12		Operation	Login
admin	2015-07-27 20:19:35	127.0.0.1		Operation	Set IP Control
admin	2015-07-27 20:18:56	127.0.0.1		Operation	Add IP Camera by N
admin	2015-07-27 20:18:54	127.0.0.1		Operation	Quick Add IP Camer
admin	2015-07-27 20:18:47	127.0.0.1		Operation	Set Email

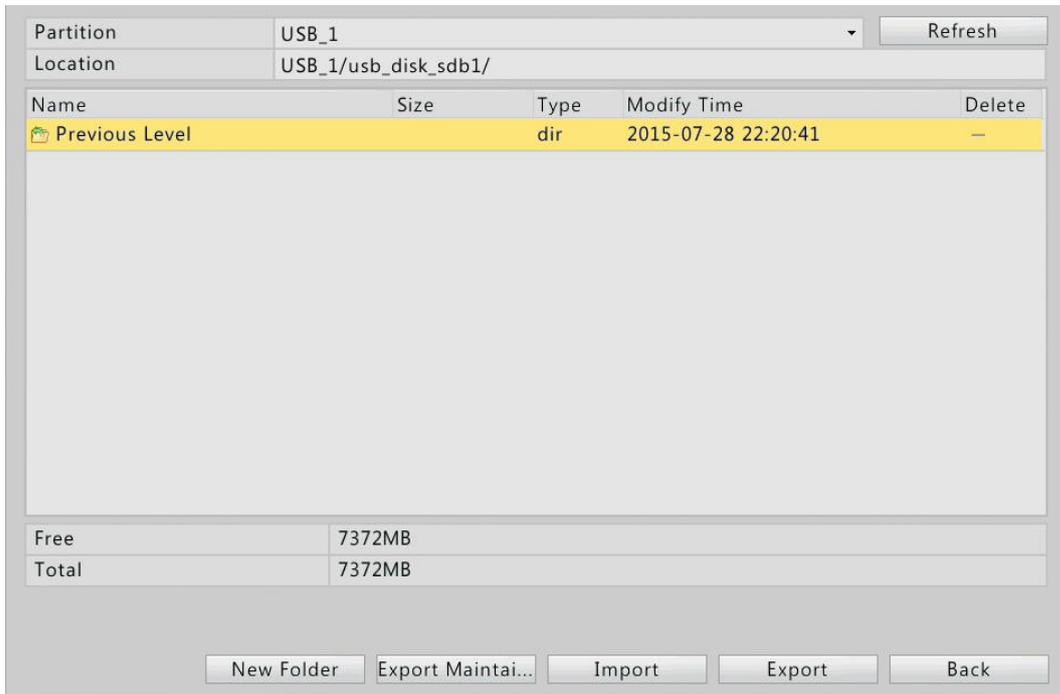
1 / 42

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.

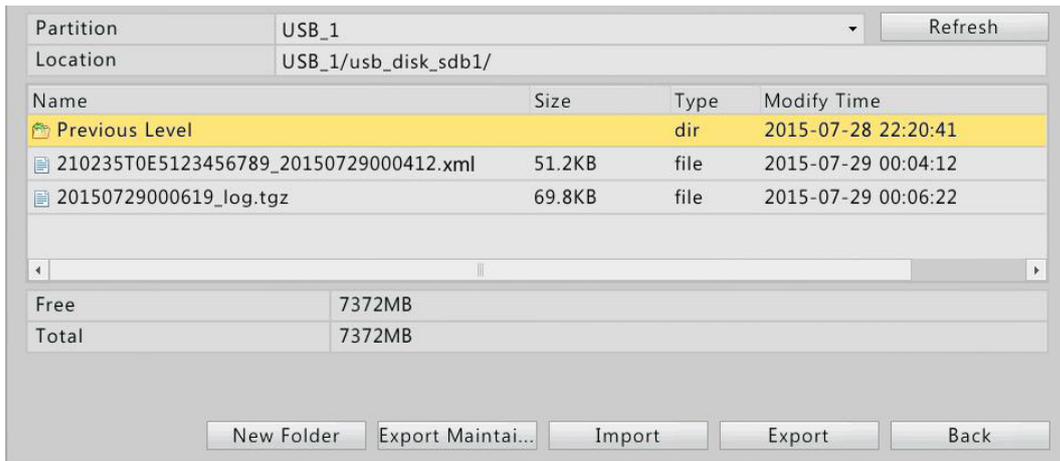
Only admin can perform these operations.

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 settings to factory defaults:

1. Click **Menu > Maintain > Restore**.
2. Choose a way as needed:
 - Click **Default** to reset all settings except the following to factory defaults: network settings, user settings, and time settings (including DST).
 - Click **Factory Default** to reset all settings to factory defaults.
3. Click **OK** to proceed.

The NVR will restart automatically to restore factory default settings.

Default	Keep network, user, time and DST settings
Factory Default	Default all settings



NOTE!

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

Auto-Maintain

Set the NVR to restart as scheduled and delete files as needed. Only admin can perform this operation.

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

Auto-Restart	Tuesday	02:00
Auto-Delete File	Never	1 day(s) ago



CAUTION!

Files that are deleted automatically cannot be recovered.

System Upgrade

Choose an option to upgrade the NVR system:

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

The NVR will restart to load the new system after the upgrade is completed.

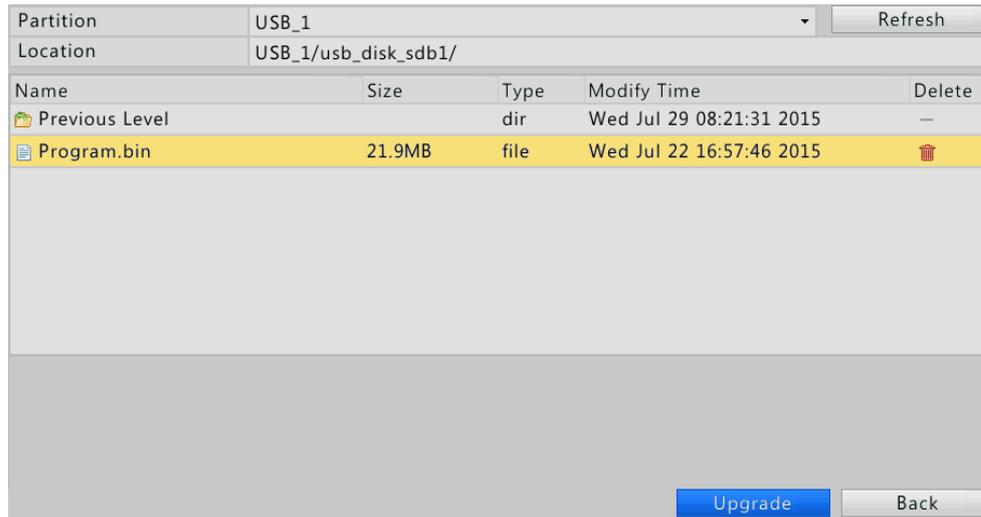


CAUTION!

Maintain a normal power supply 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 the NVR has a network connection to the DNS server, and the DNS server is fully functional. DNS settings are configured under **Menu > System > Network > Basic**.
- Cloud upgrade speed is affected by network connectivity.

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.

S.M.A.R.T. Info

The NVR supports S.M.A.R.T. and can check the head, platter, motor, and circuit of hard disks to evaluate their health status.

Select Disk	Slot2						
Vendor	WDC						
Model	WDC WD20EURS-63S80.0						
Disk Temperature(°C)	38						
Operation Time(day)	274						
Evaluation	Healthy						
ID	Attribute Name	Status	Flag	Threshold	Value	Worst	Raw Valu
1	Raw_Read_Error_Rate	Healthy	0x002f	51	200	200	0
3	Spin_Up_Time	Healthy	0x0027	21	174	173	4275
4	Start_Stop_Count	Healthy	0x0032	0	100	100	306
5	Reallocated_Sector_Count	Healthy	0x0033	140	200	200	0
7	Seek_Error_Rate	Healthy	0x002e	0	200	200	0
9	Power_On_Hours	Healthy	0x0032	0	91	91	6585
10	Spin_Retry_Count	Healthy	0x0032	0	100	100	0
11	Calibration_Retry_Count	Healthy	0x0032	0	100	100	0
12	Power_Cycle_Count	Healthy	0x0032	0	100	100	306
192	Power-Off_Retract_Count	Healthy	0x0032	0	200	200	305
193	Load Cycle Count	Healthy	0x0032	0	200	200	0



NOTE!

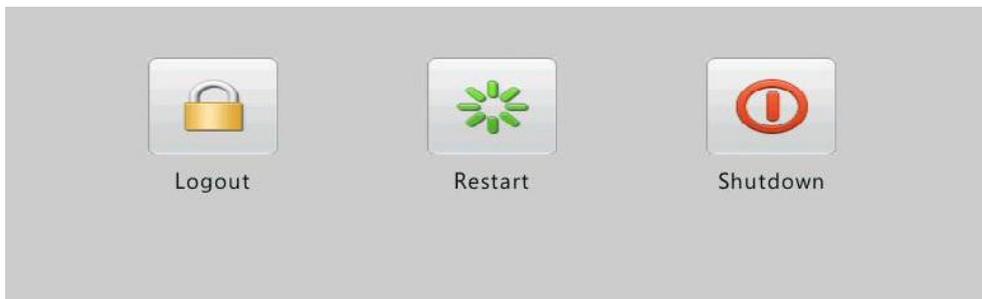
Evaluation statuses include Healthy, Failure, and Bad Sectors. It is recommended to replace the disk if the status is Failure. For further information about hard disks, contact your local dealer.

13 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 the NVR model.
 - The figures are for illustration purpose only and may vary with the 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 **123456** is intended only for your first login and should be changed immediately after login to ensure account security.

3 Live View

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

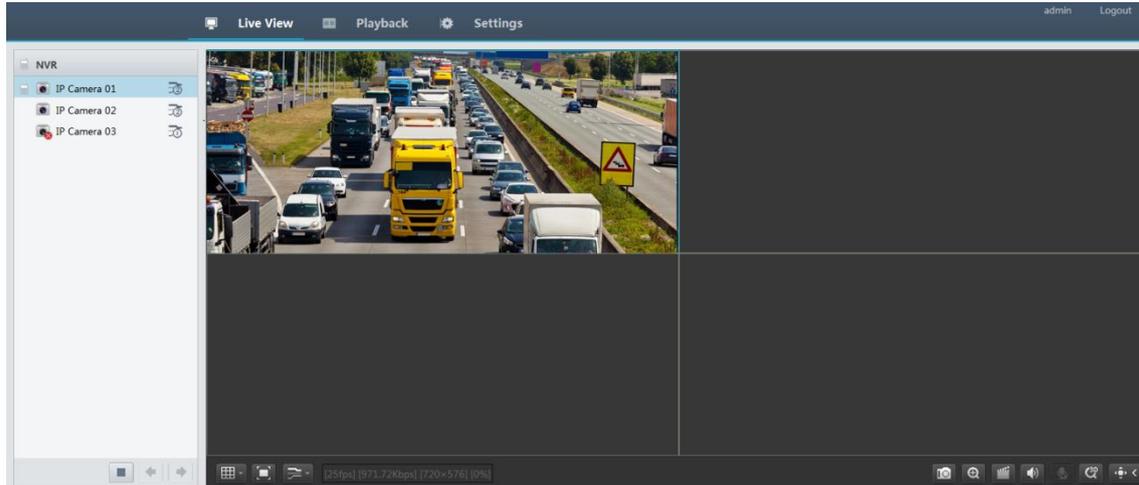


Table 3-1 Live View Window Control Buttons

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		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 name is in the format of *IP address_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*, where *the system date* is in *yyyy-mm-dd* format.
- A local recording is named in this format: *IP address_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 *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.

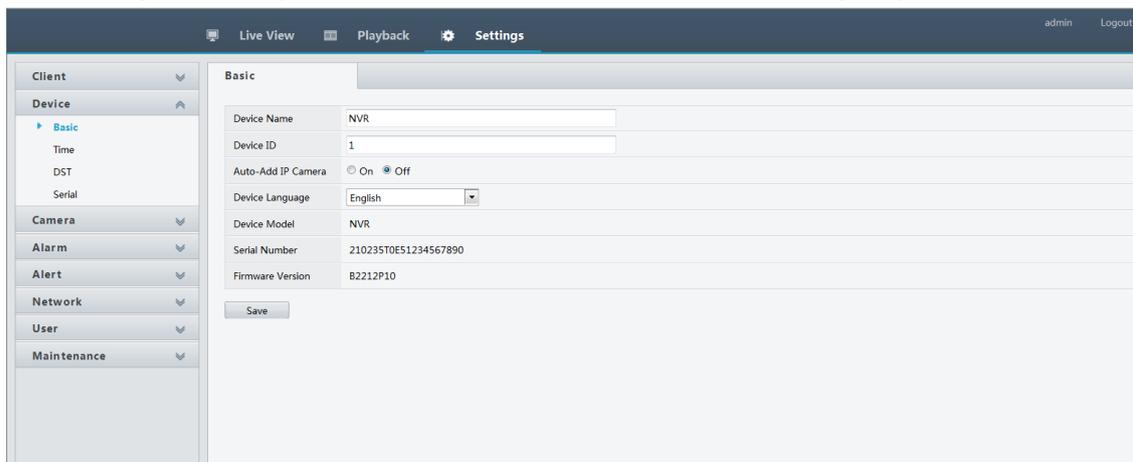


Table 4-1 Playback Control Buttons

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
	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 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