

Network Video Recorders

User Manual

Manual Version: V1.00

Thank you for purchasing our product. If you have any questions or requests, please do not hesitate to contact your dealer. Please read this document carefully as it contains critical information regarding proper use of your device.

Notice



CAUTION!

The default password is intended for your first login. To ensure account security, please change the password immediately after your first login. A strong password (with no less than eight characters) is recommended.

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- The illustrations in this manual are for reference only and may vary depending on the version or model.
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Conventions

Document Conventions

Convention	Description
Boldface font	Commands, keywords, parameters and GUI elements such as window, tab, dialog box, menu, button, etc.
<i>Italic font</i>	Variables for which you supply values.
>	Separate a series of menu items, for example, Device Management > Add Device .

Symbols

Symbol	Description
 WARNING!	Contains important safety instructions and indicates situations that could cause bodily injury.
 CAUTION!	Means reader be careful and improper operations may cause damage 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).

This manual applies to the following models.

Series	Model
NVR201 series	NVR201-04E/08E NVR201-04EP/08EP NVR201-04L/08L NVR201-04LP/08LP
NVR202 series	NVR202-08EP/16EP NVR202-08E/16E/32E
NVR204 series	NVR204-16E/32E
NVR208 series	NVR208-16/32
NVR304 series	NVR304-16E/32E
NVR308 series	NVR308-32E/64E

Part I 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.
	<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 playback for 30 seconds when the playback toolbar is closed. ⏪/⏩: Variable-speed forward or rewind when the playback toolbar is closed.
	Confirm an operation, or start/pause the playback.
	When logged in, press and hold this button for around 3 seconds till a confirmation message is displayed on the monitor. Click OK to shut down the NVR.

Table 1-3 Front Panel Buttons 2

Button	Description
	When logged in, press and hold this button for around 3 seconds till a confirmation message is displayed on the monitor. Click OK to shut down the NVR.
	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.

Button	Description
	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.
	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 playback for 30 seconds when the playback toolbar is closed. • /: Variable-speed forward or rewind when the playback toolbar is closed. • : Confirm an operation; or start or pause playback.

2 Initial Configuration

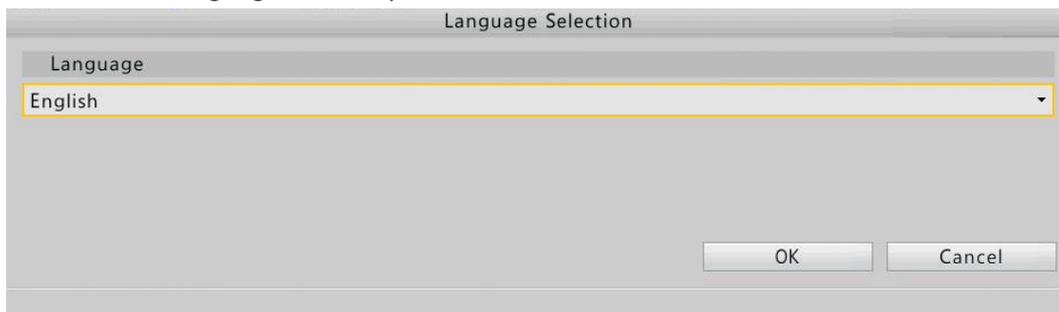
Preparation

- 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**.



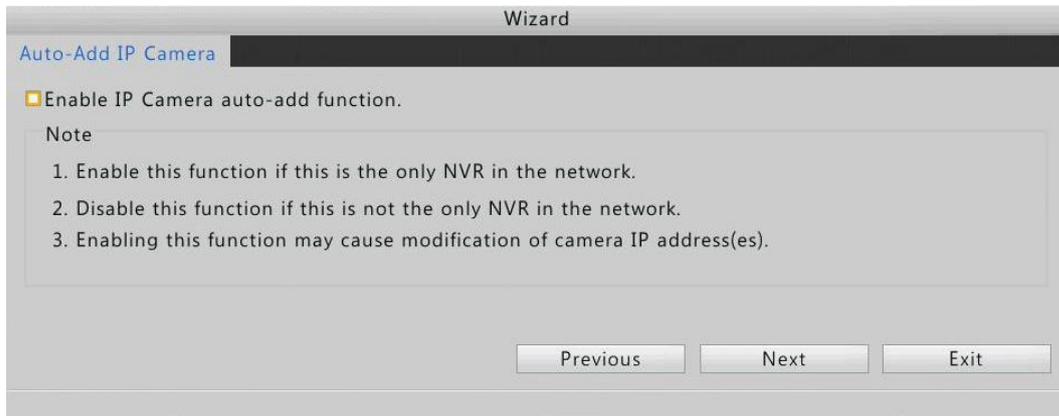
2. Enable or disable the startup wizard as needed and then click **Next**.



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

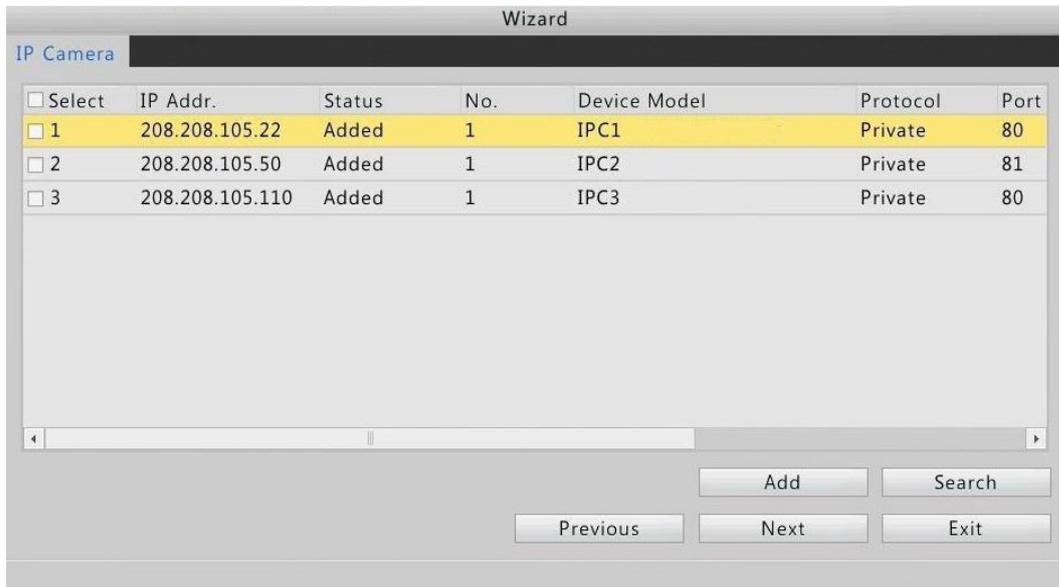
Working Mode	Multi-address
Select NIC	NIC1
Enable DHCP	<input type="checkbox"/>
IPv4 Address	208 .208 .105 .45
IPv4 Subnet Mask	255 .255 .255 .0
IPv4 Default Gateway	208 .208 .105 .1
MAC Address	48:ea:63:00:00:00
MTU(Bytes)	1500
Preferred DNS Server	8 .8 .8 .8
Alternate DNS Server	8 .8 .4 .4
Default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



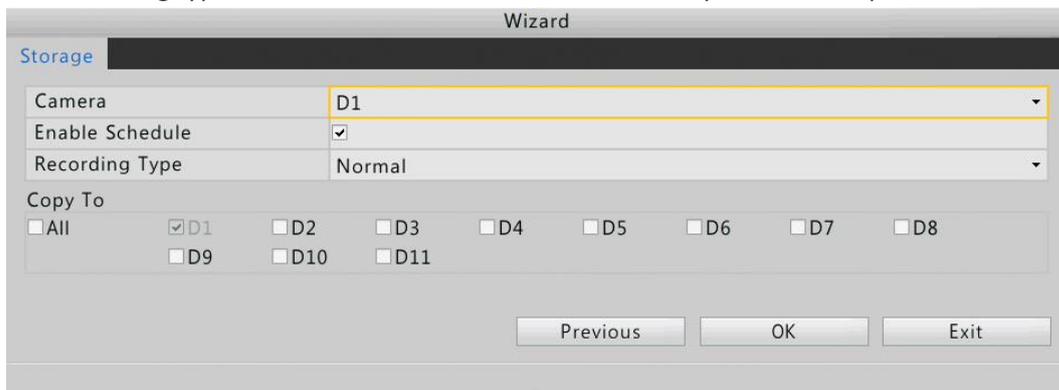
NOTE!

- 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**.



8. A 24x7 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.

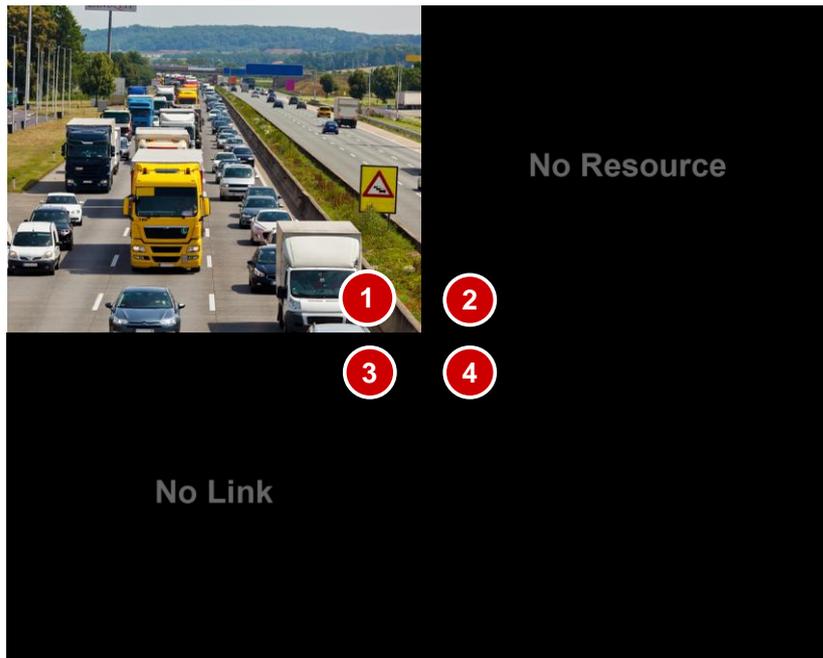


Table 3-2 Window Status Description

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



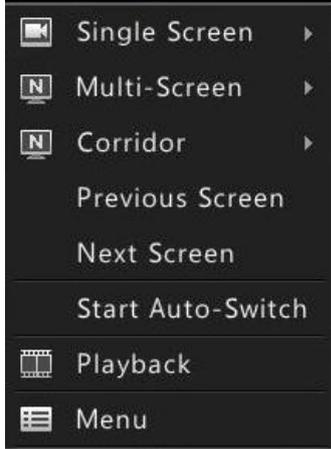
Table 3-3 Preview Window Toolbar Description

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  .
	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 .
	Manual Capture	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 Screen	Select the desired camera for live video in full screen.	
Multi-Screen	Select the desired screen layout.	
Corridor	Click to view video in corridor mode in a variety 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	Switch to the previous or next screen.	
Next Screen		
Start Auto-Switch	Start or stop auto-switching one or multiple preview windows.	
Stop Auto-Switch		
Playback	Display the playback window.	
Menu	Display the main menu.	

Example of Auto-Switch Operation

Auto-switch requires you to configure the screen layout, windows, the linked cameras, and the auto-switch interval.

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

1. Right-click anywhere in the preview window, and then click **Multi-Screen > 4 Screens**. Four windows are displayed.



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 Auto-Switch**. Auto-switch 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 auto-switch interval is eight seconds, which 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.

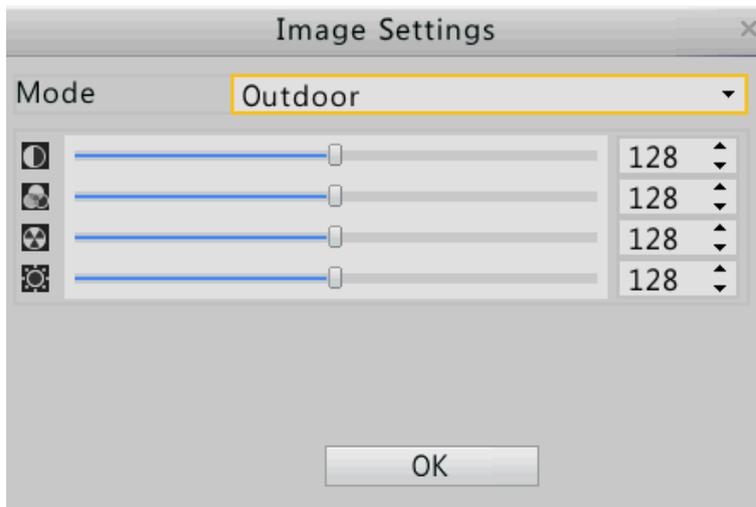
1. Click the desired preview window and then click  on the toolbar.
2. In the small window in the lower right corner, click and drag your mouse to specify an area to zoom in on.



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

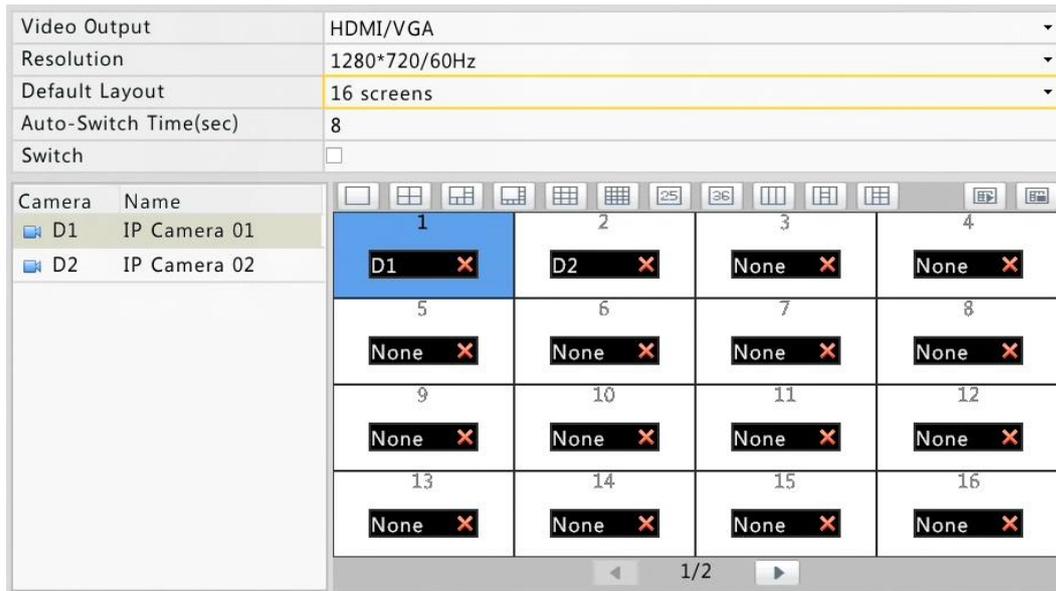
Icon	Meaning	Description
	Contrast	Defines the degree of difference between the lightest (white) and darkest (black) parts of an image. Setting a greater value increases contrast.
	Hue	Purity of colors in an image.
	Saturation	The amount of color in a specified hue.
	Brightness	Brightness of images.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

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

Preview Configuration

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.

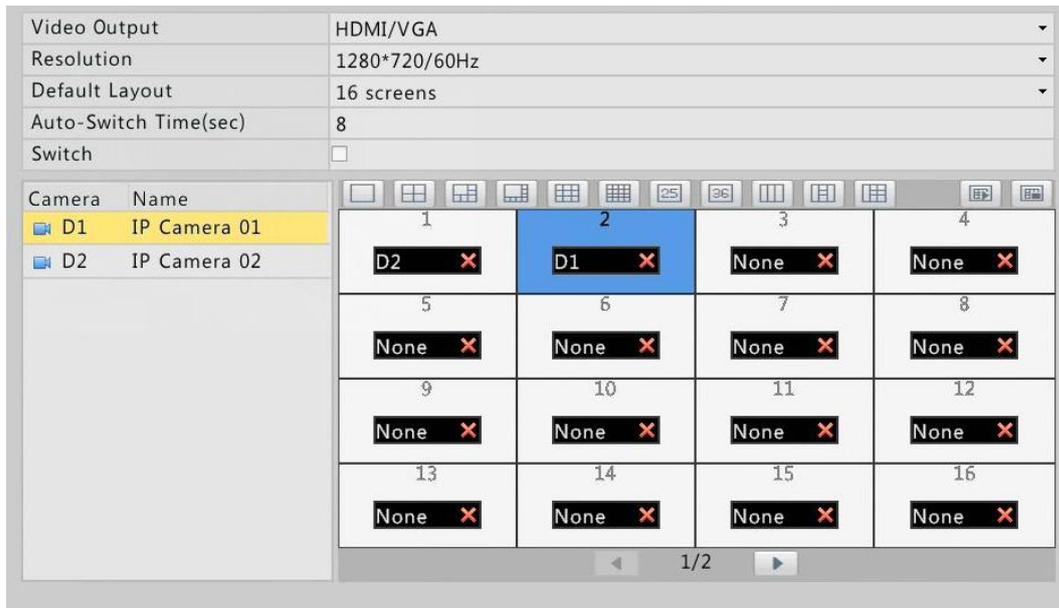
Step 1: Click window 1 on the right to select it, and then click D2 in the **Camera** column on the left. Now **D2** appears in window 1, and **None** appears in window 2.



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.

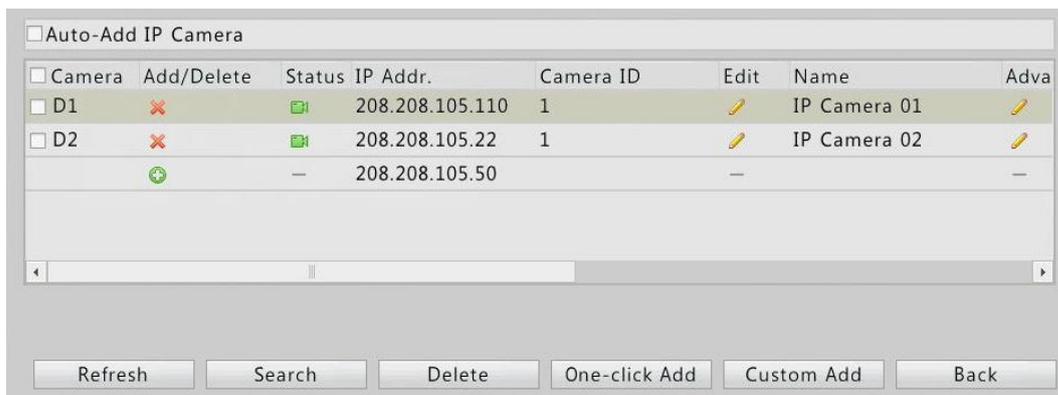
Option 1



NOTE!

Normally, all the IP devices discovered can be added, and  appears in the **Status** column to indicate that a device is added successfully. 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	Adva
<input type="checkbox"/> D1			208.208.105.110	1		IP Camera 01	
<input type="checkbox"/> D2			208.208.105.22	1		IP Camera 02	
		—	208.208.105.50		—		—

Buttons: 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.

- 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**.

- 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.

No.	IP Addr.	Status	Number of Camera	Model
1	208.208.105.22	Added	1	IPC1
2	208.208.105.50	Added	1	IPC2
3	208.208.105.110	Added	1	IPC3

Camera IP	208 . 208 . 105 . 22
Protocol	Private
Port	80
Username	admin
Password	*****
Number of Camera	1

Buttons: Search, Add, Back



NOTE!

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

Select Camera ID

<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input checked="" type="checkbox"/> 8
	<input checked="" type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12	<input checked="" type="checkbox"/> 13	<input checked="" type="checkbox"/> 14	<input checked="" type="checkbox"/> 15	<input checked="" type="checkbox"/> 16

Buttons: OK, Cancel

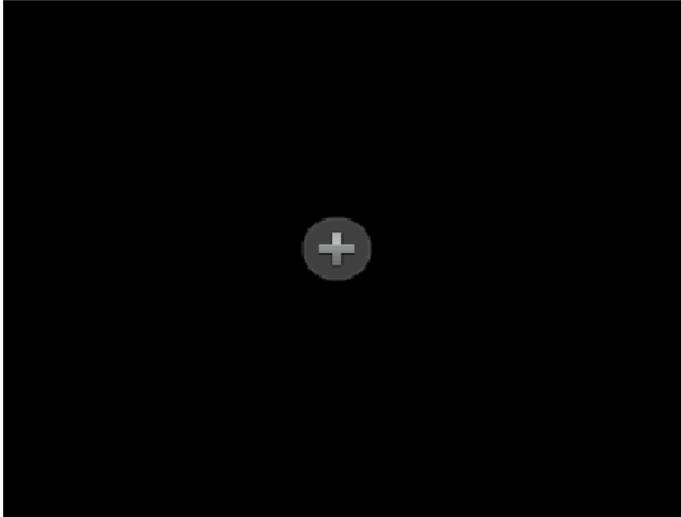
Option 2



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 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	—

Refresh Search Delete One-click Add Custom Add Back



NOTE!

- If a camera added via ONVIF is offline, click for the camera, set **Add Mode** to **Manual**, and then change its username and password to the actual one.
- 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**.

Edit

Camera IP	208 . 208 . 105 . 110
Protocol	Private ▾
Port	80
Username	admin
Password	*****



NOTE!

To link a channel to another IP device, change the current IP address into that of the desired IP device, modify other settings as appropriate, and then click **OK**.

Delete an IP device

- To delete an IP device, click . A confirmation message appears. Click **OK** to proceed.
- To delete multiple IP devices at a time, select them and then click **Delete**. A confirmation message appears. Click **OK** to delete the selected IP devices.



NOTE!

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

Use the advanced function

The **Advanced** function is mainly used to change the IP address of an IP device that is online (with displayed) and connected to your NVR via the private protocol.

To change the IP address of an IP device, click for the device in the **Advanced** column, and then modify its IP address. Edit other settings as needed.

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 **Advanced** function is not intended for a DVS. Its IP address can be modified on the Web interface.

Upgrade an IP camera

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

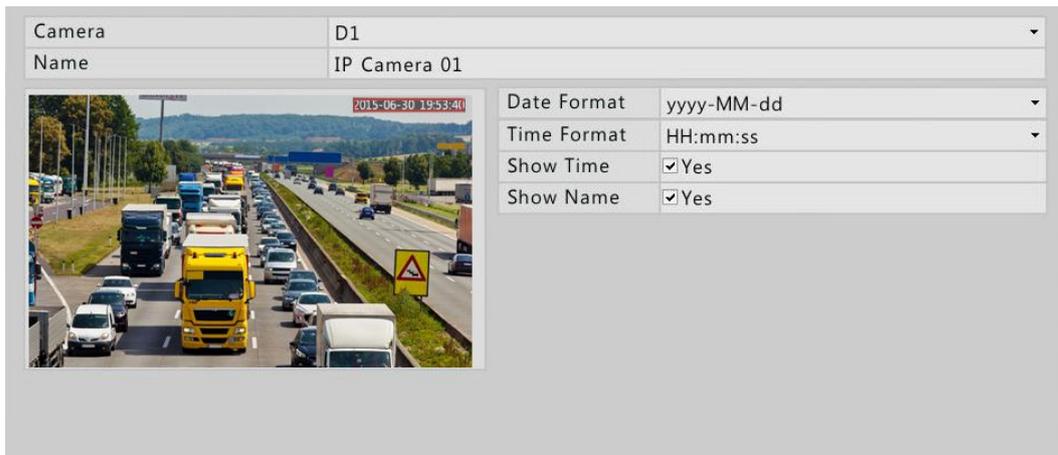
- Cloud upgrade: Select the desired IP camera and then click . A confirmation message appears. Click **OK** to start upgrade.

- 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 **OK** to start 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.

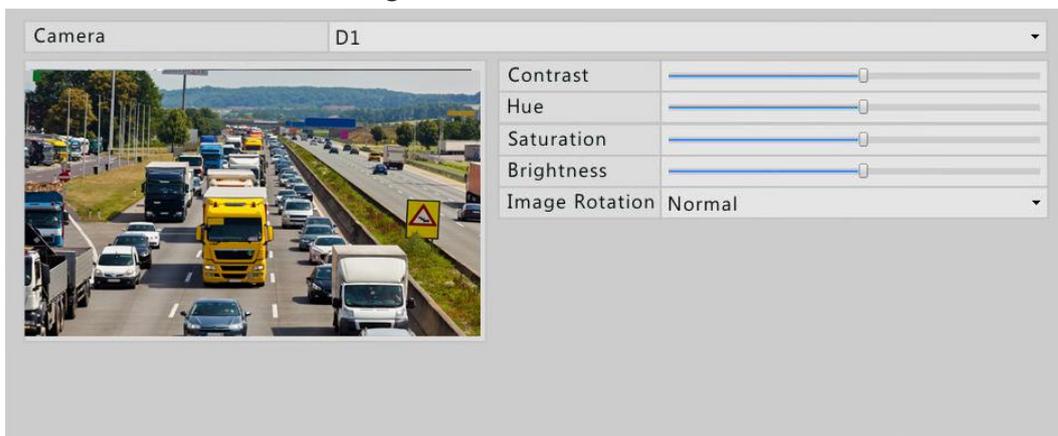
- Click **Menu > Camera > OSD**.
- Select the desired camera and enter a name for the camera.
- Configure OSD by selecting the desired date and time formats and enabling time and/or name display. To change the OSD position on the screen, use the mouse to drag it in the preview window on the left.



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

Image Configuration

- Click **Menu > Camera > Image**.



- Select the desired camera and then drag the sliders to adjust settings.



NOTE!

- The **Image Rotation** parameter is used to change image orientation and sometimes to achieve corridor mode. For example, you can rotate images 90 degrees clockwise by selecting **90° CW**, or rotate images 90 degrees counterclockwise by selecting **90° CCW**.
- In corridor mode, operations to areas of interest (such as zoom and motion detection areas) also work in corridor mode.
- The changed image settings apply to both live and recorded videos.

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

Privacy Mask Configuration

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!

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.

Using the PTZ Toolbar

1. Click the desired preview window and then click  on the toolbar.
2. Operate the PTZ camera using the PTZ toolbar. For details about how to use the PTZ toolbar, see [PTZ Toolbar Buttons](#).



Table 5-1 PTZ Toolbar 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.

Button	Description
	<ul style="list-style-type: none"> • Turn on/off the light. • Turn on/off the wiper. • Use 3D positioning. <p>Note:</p> <ul style="list-style-type: none"> • Make sure the camera supports 3D positioning before you use this function. • Zoom in or out on the image by dragging your mouse in the 3D positioning window. Dragging from the top down will zoom in. Dragging from the down top will zoom out.
	Preset button.
	<ul style="list-style-type: none"> • Save a preset, including the current position and status of the camera. • Call a preset so the PTZ camera goes to the preset position. <p>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.</p>
	Patrol route button.
	Start or stop patrol.

Configuring and Calling a Preset

1. Click the desired preview window and then click  on the toolbar.
2. Click **Set**. The **PTZ Management** window is displayed.



3. Configure presets.
 - a. Use the directional buttons to rotate the PTZ camera to the desired position, select a preset number that is not in use, and then click  to save the preset.
 - b. To add more presets, repeat the above operations.
4. To call a preset, click  for the desired preset number. The camera rotates to the preset position.

Configuring and Calling a Patrol Route



NOTE!

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

1. Click the desired preview window and then click  on the toolbar.
2. Click **Set**. The **PTZ Management** window is displayed.

3. 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 the rotation speed as required, and then click **OK**. Repeat this step to add all the key points for the patrol route.

4. Click  for the desired patrol route to start patrol. To stop patrol, click .



NOTE!

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

6 Recording

You can record video after finishing the basic configuration as described in [Initial Configuration](#).

Encoding Settings

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

Camera	D1	
Storage Mode	Main Stream	
Image Format	1080P@30	
Stream	Normal	Sub Stream
Video Compression	H264	H264
Resolution	1920*1080(1080P)	720*576(D1)
Bitrate Type	CBR	CBR
Bit Rate(Kbps)	4096	1024
Range	128~16384(Kbps)	128~16384(Kbps)
Frame Rate(fps)	30	25
Image Quality	Highest	Highest
I Frame Interval	30	25
I Frame Range	10~250	10~250

2. Select the desired camera and stream type, and then complete other settings. Three stream types are provided:
- **Normal:** main stream intended for scheduled recording.
 - **Event:** main stream intended for manual recording and recording triggered by specified events such as alarm inputs or motion detection alarms. Encoding settings for this stream type also apply to manual recording.
 - **Sub Stream:** intended for low resolution video in scenarios such as local monitoring or remote monitoring on a mobile device.



NOTE!

- By default the main stream is intended for storage. To choose the sub stream for storage, select **Sub Stream** from the **Storage Mode** drop-down list.
- Bitrate types include Constant Bit Rate (CBR) and Variable Bit Rate (VBR). Image quality is adjustable only when **Bitrate Type** is set to **VBR**.
- The parameters and options displayed in this window may vary with the camera model.

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

Scheduled Recording

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

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

Camera	D1
Enable Schedule	<input checked="" type="checkbox"/>
Pre-Record(sec)	5
Post-Record(sec)	60

	0	3	6	9	12	15	18	21	24
Mo	Normal								
Tu	Normal								
We	Normal								
Th	Normal								
Fr	Normal								
Sa	Normal								
Su	Normal								

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 then select **Enable Schedule** (which is selected by default).
 - b. Click **Edit**.
3. Set recording period(s) as needed, and make sure you select **Normal** from the **Type** drop-down list(s).

Edit Schedule

Select Day Monday ▼

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

Copy To All Mon Tue Wed Thu Fri Sat Sun



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. If you select any other 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. After you have completed the configuration, click **OK**.

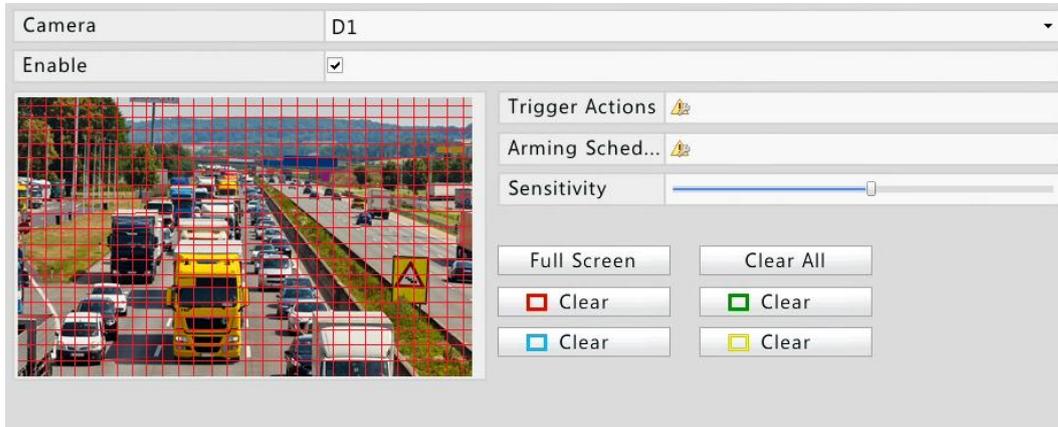


NOTE!

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

Motion Detection Recording

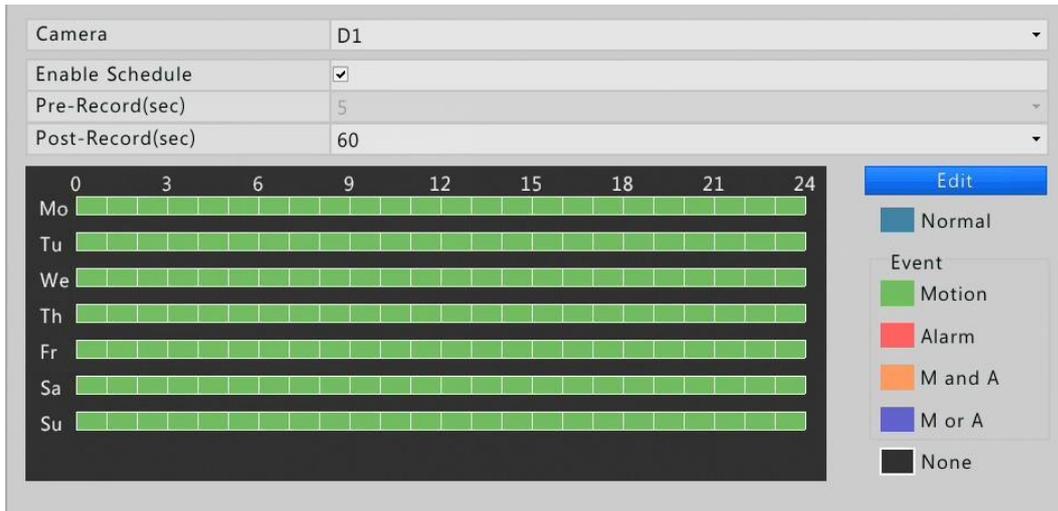
1. Click **Menu > Alarm > Motion**.
2. Select the desired camera, and then select the check box to enable motion detection.



NOTE!

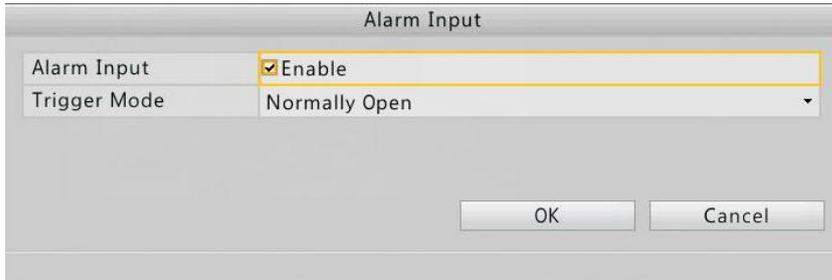
By default, motion detection applies to the whole area covered by the camera lens when enabled, and motion detection recording will be triggered for the camera when a motion detection alarm occurs. If a motion detection area and motion detection recording have been configured before, they will still be effective when you enable motion detection in step 2.

3. Click and drag the mouse to specify a motion detection area. Adjust detection sensitivity by dragging the slider.
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](#). Make sure **Recording Type** is set to **Motion**. After being set, the recording schedule appears in green color that specifically stands for motion detection recording in the system. The following figure shows an example.



Alarm Triggered Recording

1. Click **Menu > Alarm > Input/Output**.
2. Configure alarm input: select the desired camera, click , select **Enable**, select a trigger mode, and then click **OK**.



Alarm Input	
Alarm Input	<input checked="" type="checkbox"/> Enable
Trigger Mode	Normally Open

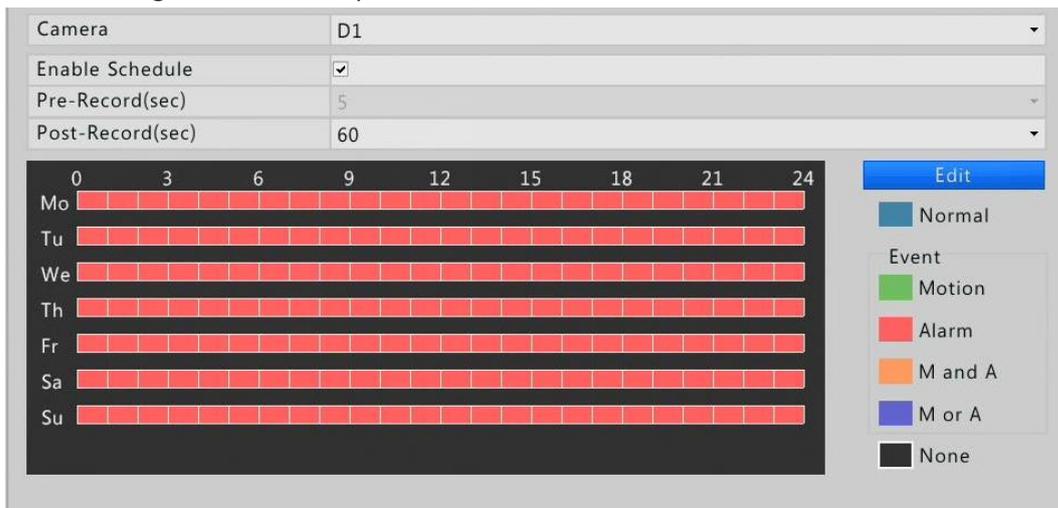
OK Cancel



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  right to **Trigger Actions**, 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](#). Make sure **Recording Type** is set to **Alarm**. After being set, the recording schedule appears in red color that specifically stands for alarm-triggered recording. The following shows an example.



Camera	D1
Enable Schedule	<input checked="" type="checkbox"/>
Pre-Record(sec)	5
Post-Record(sec)	60

0 3 6 9 12 15 18 21 24

Mo
Tu
We
Th
Fr
Sa
Su

Edit

Normal

Event

- Motion
- Alarm
- M and A
- M or A
- None

Manual Recording

Two options are available:

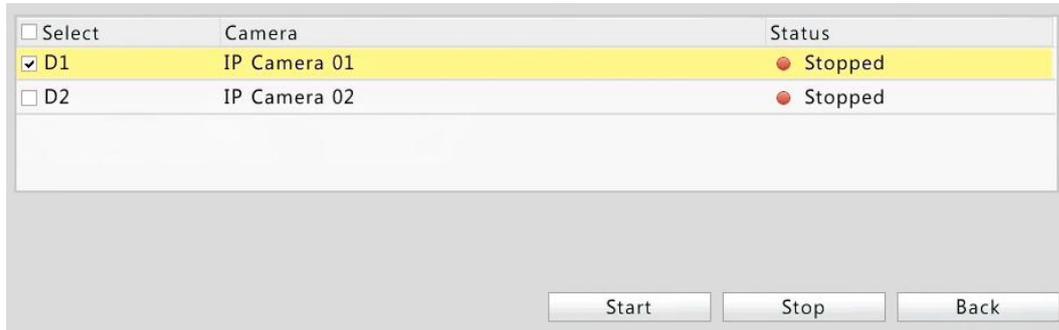
- Option 1

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

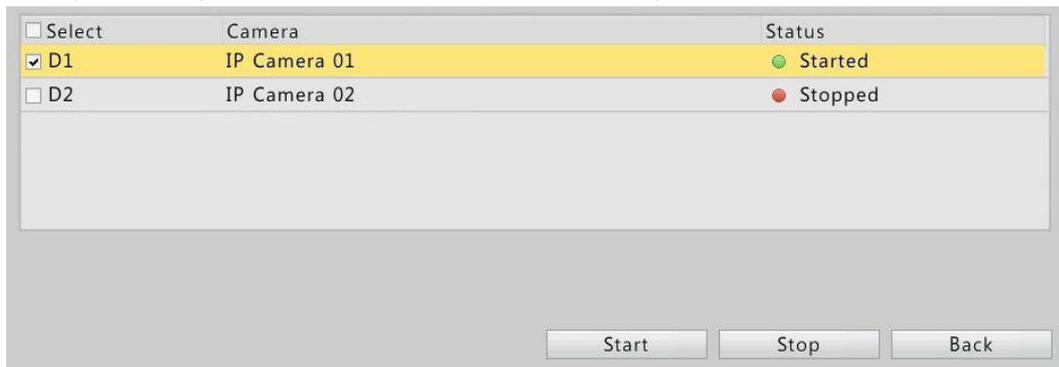
Click  to stop.

- Option 2

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



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



Other Recording Types

Other recording types:

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

For more details, see [Motion Detection Recording](#).

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			—	—



NOTE!

The **Hard Disk** tab displays disk information such as total capacity, free space, and disk status.

2. Manage hard disks.

- Set disk properties: Click and then select **Read/Write** or **Read Only** as needed.
- Format a hard disk: Click for the desired disk and then confirm to proceed. You may select multiple hard disks and then click **Format** to format in batch.



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 five and a half minutes. 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.



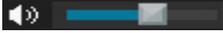
Playback Toolbar

Figure 7-1 Playback Toolbar



Table 7-1 Playback Toolbar

Button	Description
	Show playback progress. Note: After playback starts, you may drag the slider to start directly from a desired point.
	Timeline.
	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.

Button	Description
	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 retrieved 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.



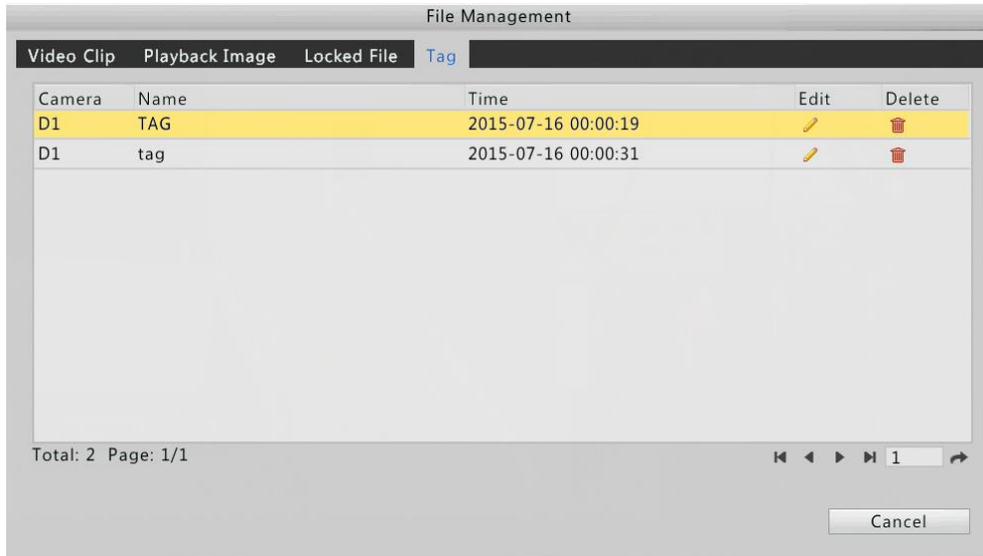
Playback by Tag

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.

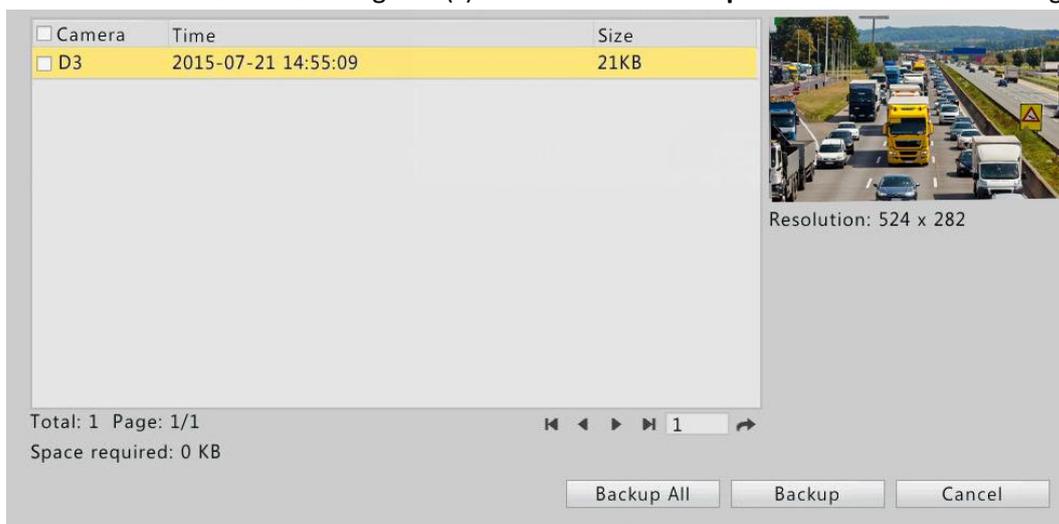


File Management

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!

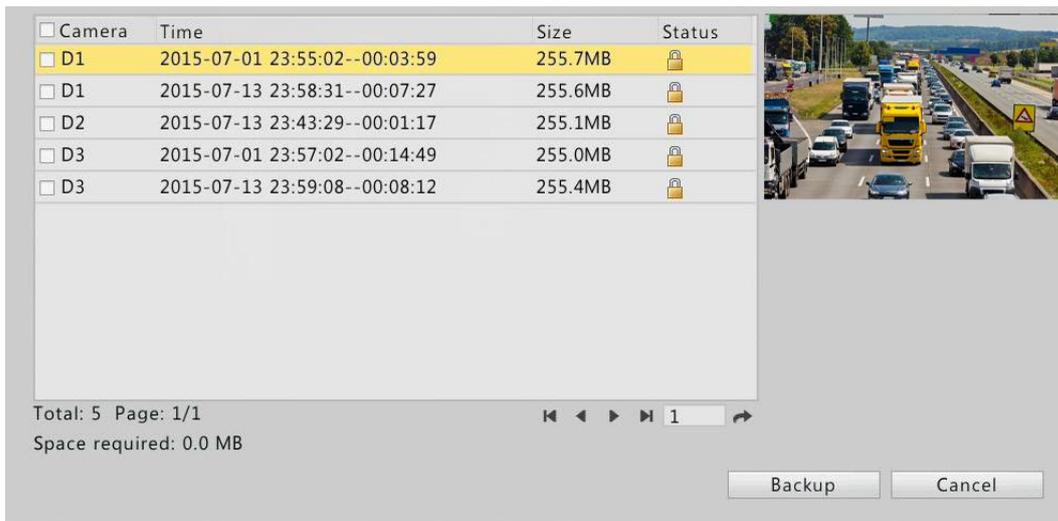
The image resolution depends on the resolution from the output interface and the number of windows displayed when the snapshot is taken.

2. Lock files.

- 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 > Normal**.

<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

Search Back



NOTE!

All cameras are selected by default.

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

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		

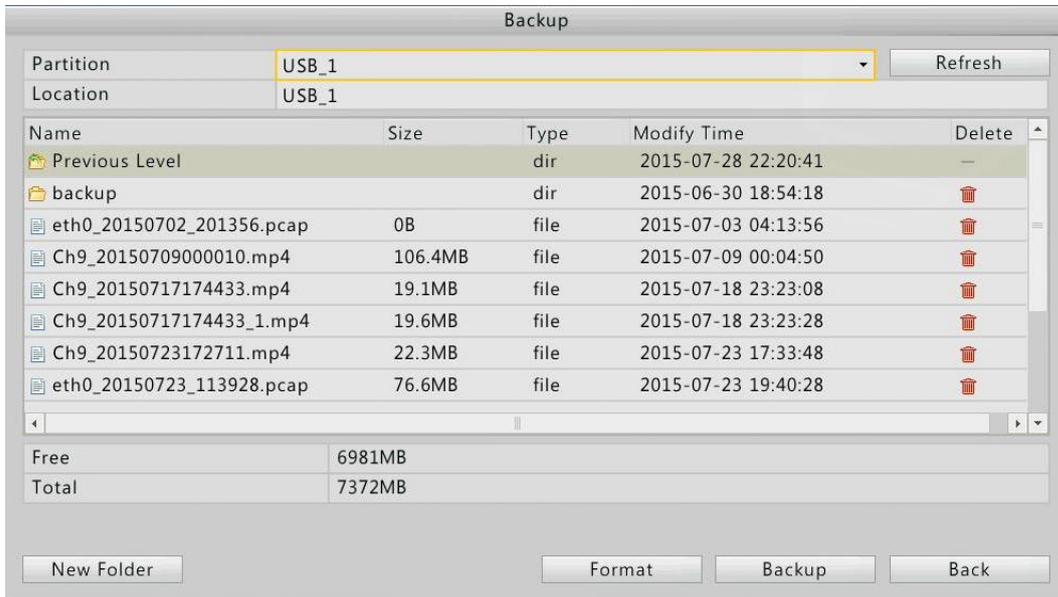
Total: 99 Page: 1/1
Space required: 0.0 MB
Backup Cancel



NOTE!

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

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



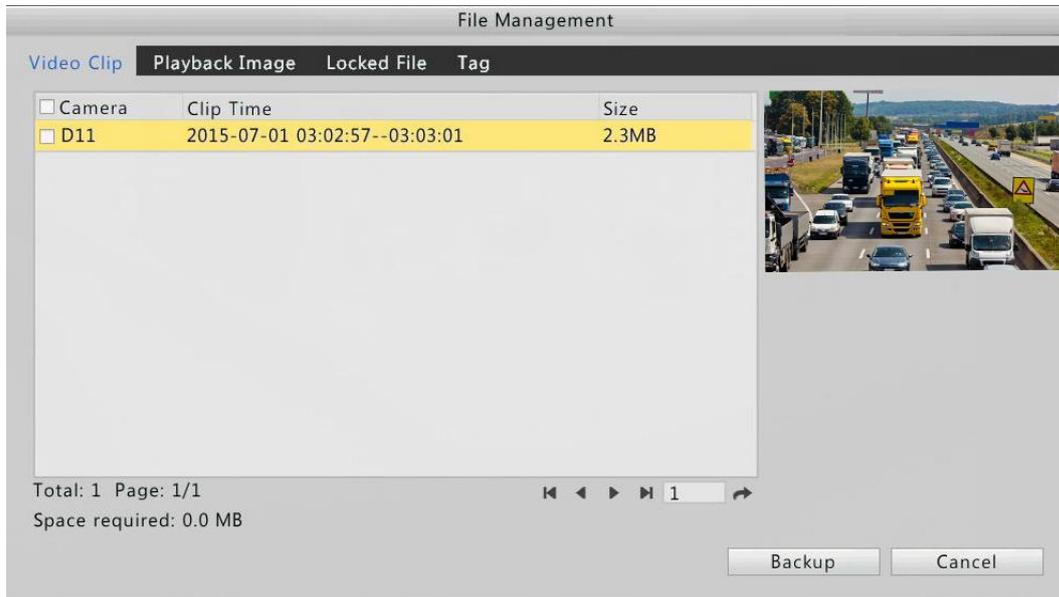
NOTE!

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

Video Clip Backup

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

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



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

Image Backup



NOTE!

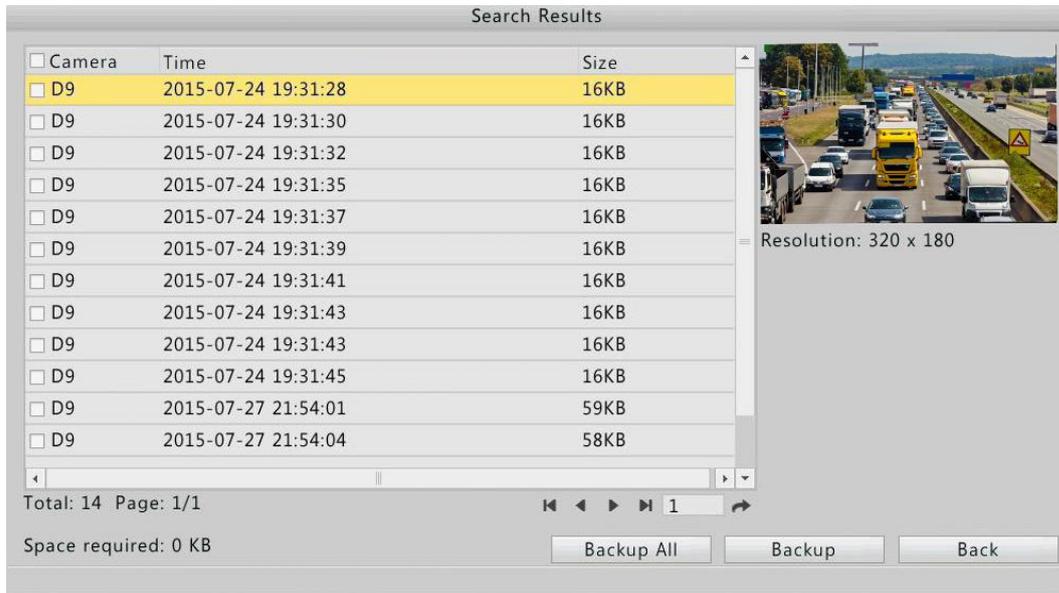
The default format of image backup is JPEG.

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

<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					

Buttons: Search, Back

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.

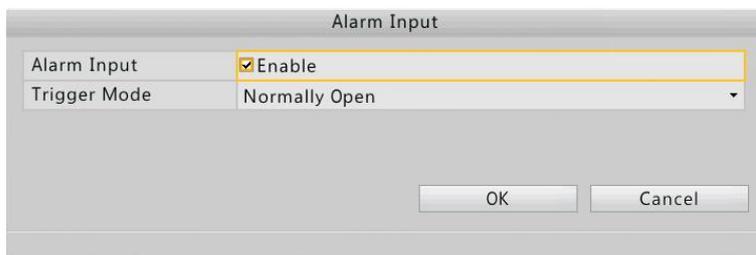
3. Select the desired file(s) and then click **Backup**.
4. Select a destination in the USB storage device and then click **Backup**. The selected files are saved to the specified directory.

9 Alarm

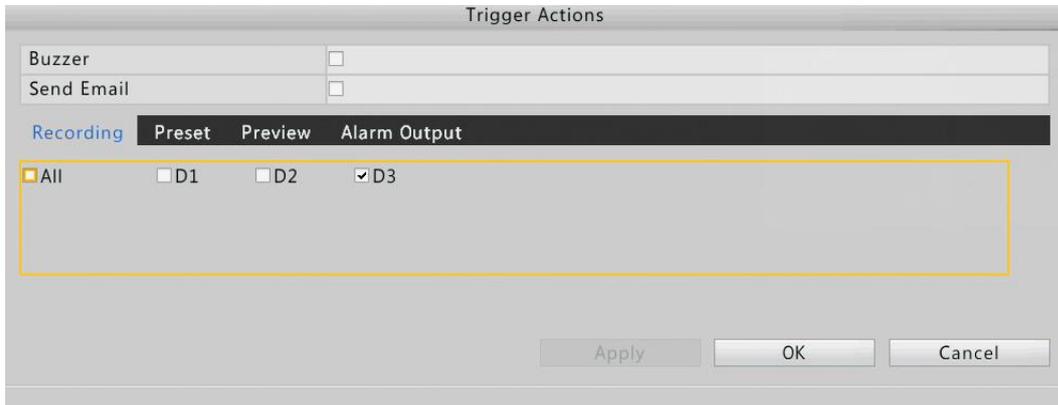
Alarm Input and Output

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**.



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



Trigger Actions

Buzzer

Send Email

Recording Preset Preview Alarm Output

All D1 D2 D3

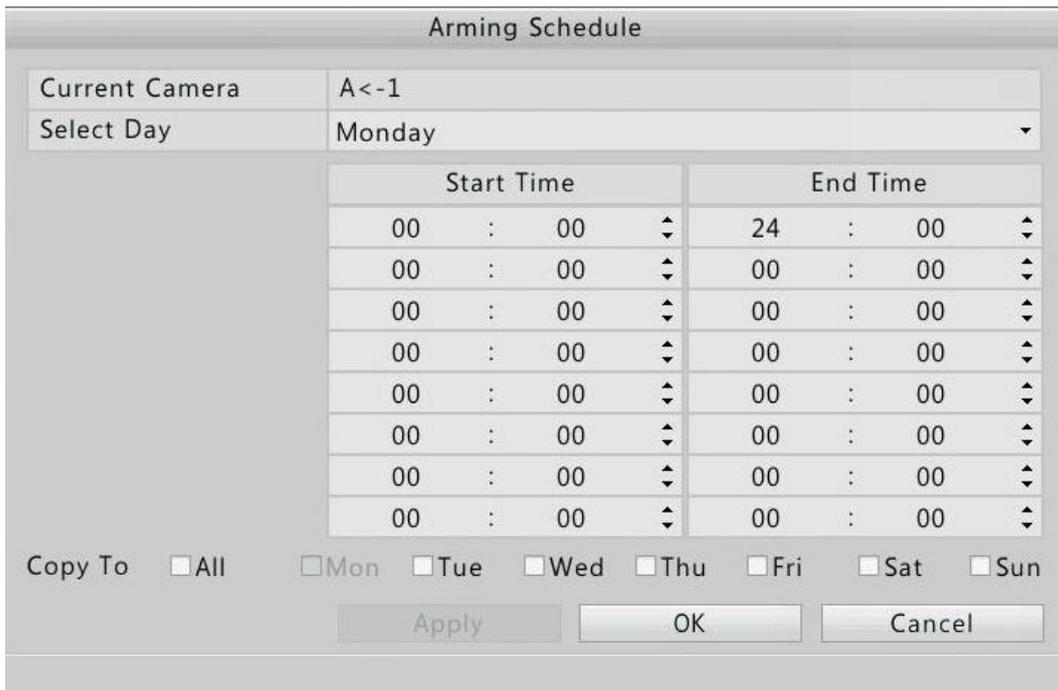
Apply OK Cancel



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.

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



Arming Schedule

Current Camera A<-1

Select Day Monday

Start Time	End Time
00 : 00	24 : 00
00 : 00	00 : 00
00 : 00	00 : 00
00 : 00	00 : 00
00 : 00	00 : 00
00 : 00	00 : 00
00 : 00	00 : 00
00 : 00	00 : 00

Copy To All Mon Tue Wed Thu Fri Sat Sun

Apply OK Cancel



NOTE!

- The default schedule is 24x7. You may modify it as needed and set up to eight 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** and then select the cameras.

Alarm Output

1. 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	

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



NOTE!

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

Motion Detection

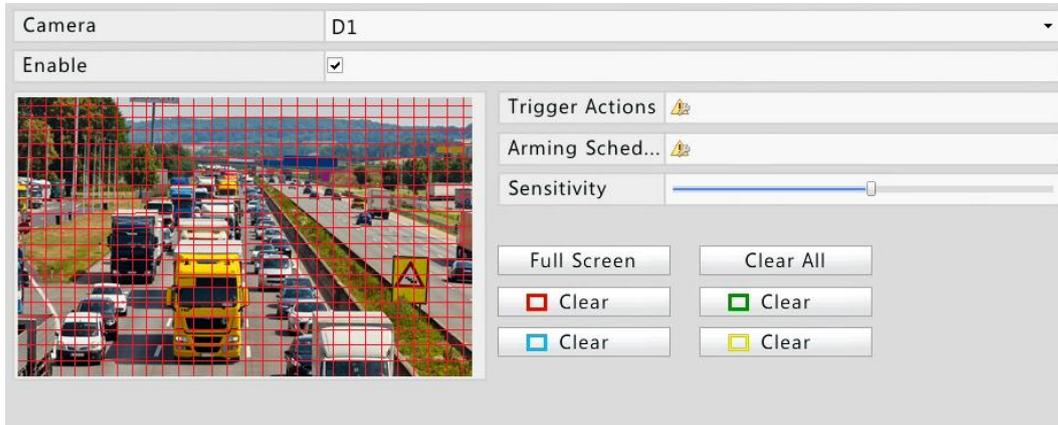
A motion detection alarm occurs when an object inside the detection area moves to certain extent.



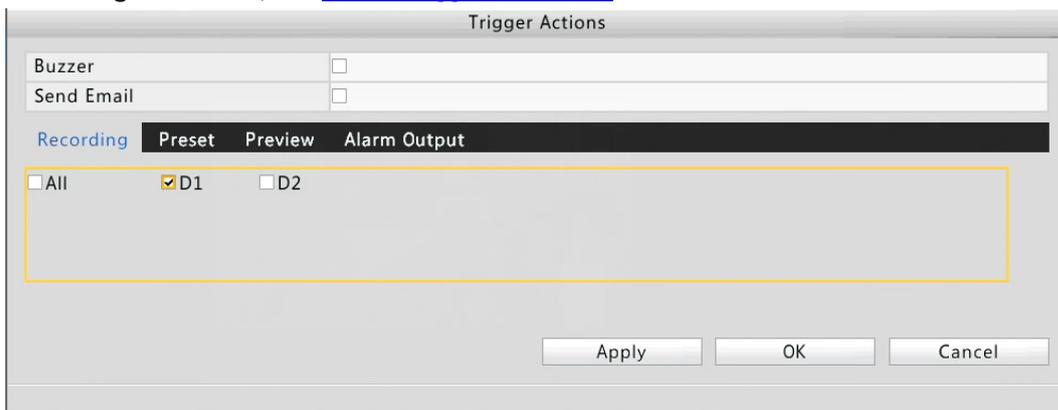
NOTE!

By default, motion detection applies to the whole area covered by the camera lens when enabled, and motion detection recording will be triggered for the camera when a motion detection alarm occurs. If a motion detection area and motion detection recording have been configured before, they will still be effective when you enable motion detection in Step 2.

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



3. Use the mouse to draw a detection area, and drag the slider to set detection sensitivity.
4. 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.

Arming Schedule

Current Camera	D1					
Select Day	Monday					
	Start Time			End Time		
	00	:	00	24	:	00
	00	:	00	00	:	00
	00	:	00	00	:	00
	00	:	00	00	:	00
	00	:	00	00	:	00
	00	:	00	00	:	00
	00	:	00	00	:	00

Copy To All Mon Tue Wed Thu Fri Sat Sun



NOTE!

- The default schedule is 24x7. You may modify it as needed and set up to eight 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.

Camera	D1
Enable	<input checked="" type="checkbox"/>
	Trigger Actions Arming Sched... Sensitivity

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 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.

The NVR provides three working modes:

- 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

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"/>
Register Code	NVRVRWQWUXU8J87J9I976I65H
Device Status	Offline: The device is unreachable. Please make sure network settings (s...
myCloud Protocol	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 your NVR connects to the public network through PPPoE, you may use Dynamic DNS (DDNS) to access your NVR. Simply put, you can access your NVR through a Web client by visiting the domain name linked to its IP address.

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



NOTE!

- 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

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

Port

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

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@qq.com	
Password	*****	
SMTP Server	smtp.qq.com	
SMTP Port	25	
Enable SSL	<input type="checkbox"/>	
Sender Name	123	
Sender Address	123@qq.com	
Select Recipient	Recipient 1	
Recipient Name	456	
Recipient Address	456@qq.com	<input type="button" value="abc"/>



NOTE!

- Enter a valid SMTP server address and port number, and then select **Enable SSL** if required.
- Select **Attach Image** if you want to send snapshots via email. Only some NVR models support image attachment.

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.

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.

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**.

Username	User Group	Edit	Delete
admin	Administrator		—

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**.

Modify/Add User

Username	user1
User Group	Operator
Password	*****
Confirm	*****

System Permissions

Configure
 Upgrade
 Export Log
 Restart

Camera Permissions: PTZ Control

All
 D1
 D2
 D3

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

System Prompt

 Delete the user?

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

Modify/Add User

Username	user1
User Group	Operator
Password	*****
Confirm	*****

System Permissions

Configure
 Upgrade
 Export Log
 Restart

Camera Permissions PTZ Control

All
 D1
 D2
 D3



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	
Device Model	NVR
Serial Number	210235T0E51234567890
Firmware Version	B2212P10

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		

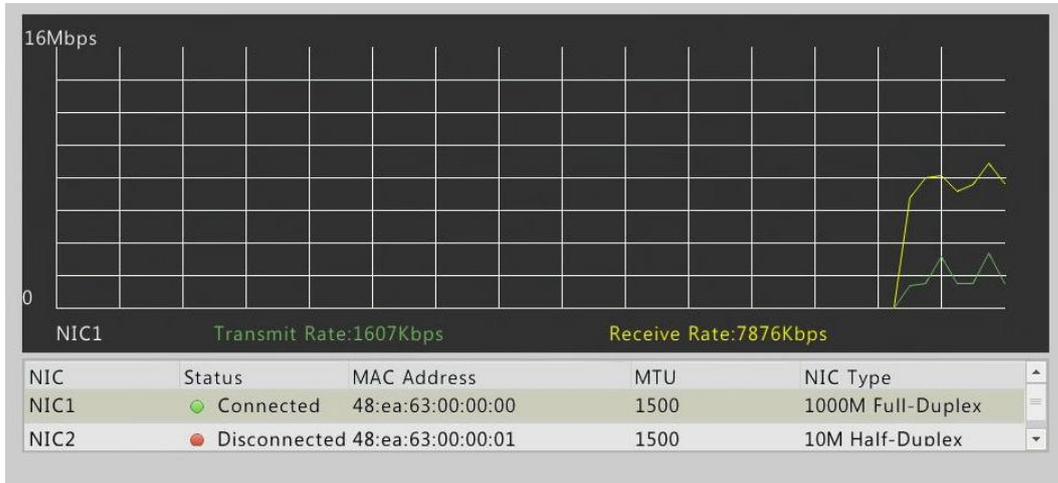
Total Capacity(GB)	1863.02
Free Space(GB)	0.00

Back

Network Detection

Traffic

Click **Menu > Maintain > Net Detect** 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	208 . 208 . 105 . 12	Test
Test Result	The destination is unreachable.	

To capture and save packets, follow these steps:

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

Network Packet Export

Device Name	USB_1	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	208.208.105.47	
NIC2	193.168.0.1	
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.

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

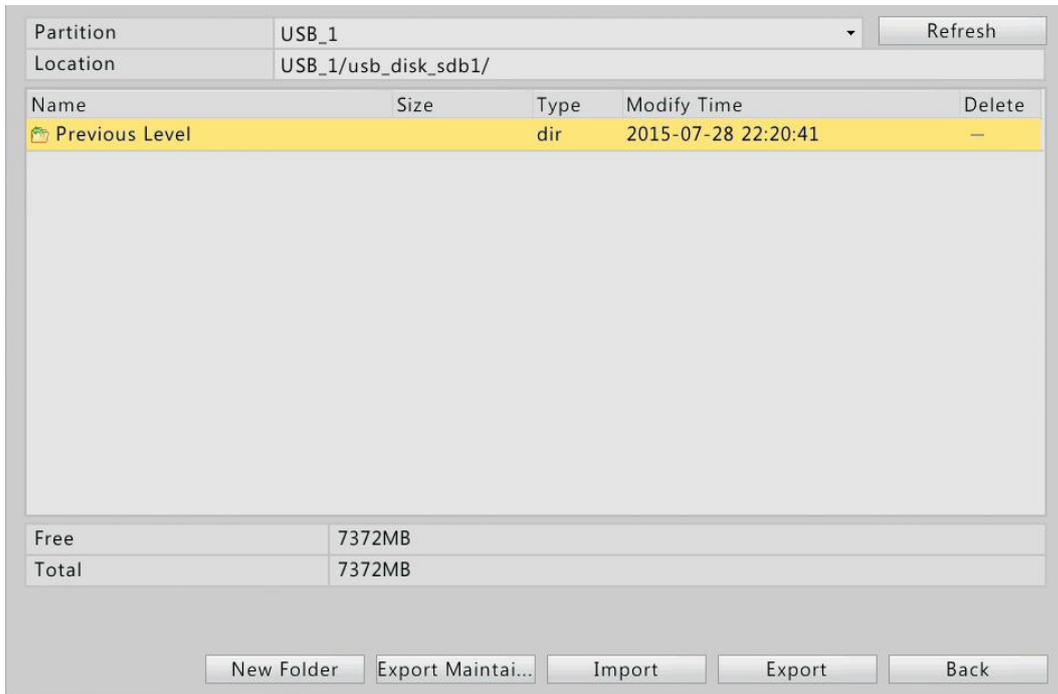
[Query](#) [Back](#)

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.

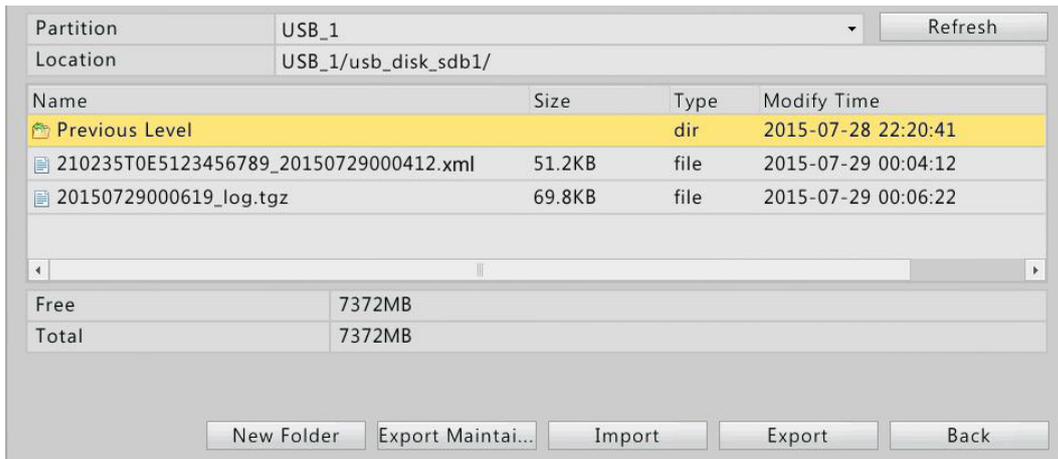
Only admin can perform these operations.

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.

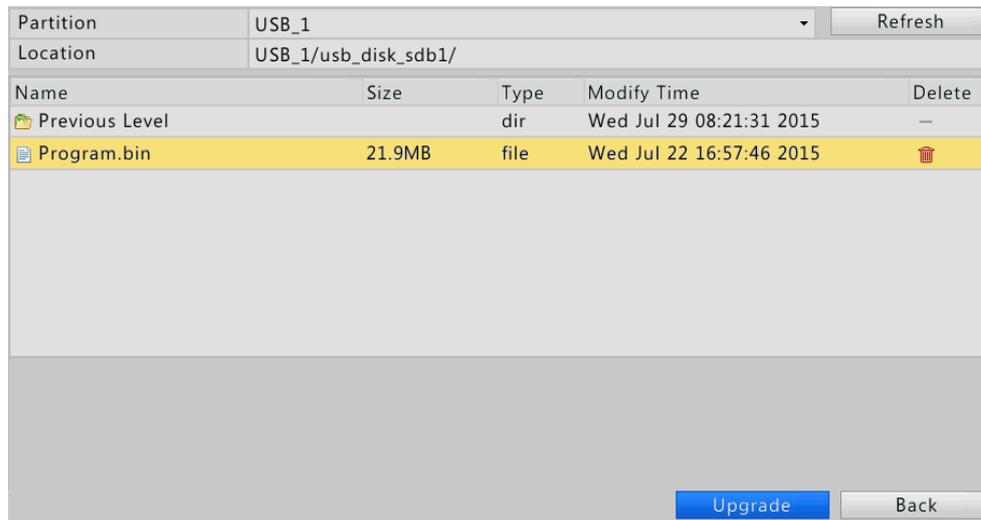


CAUTION!

- Maintain a normal power supply during upgrade. Use an Uninterrupted Power Supply (UPS) if necessary.
- The NVR restarts automatically to load the new system when the upgrade is completed.

Local upgrade:

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



Cloud upgrade



CAUTION!

- Verify that the DNS server is fully functional before you start. DNS settings can be 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!

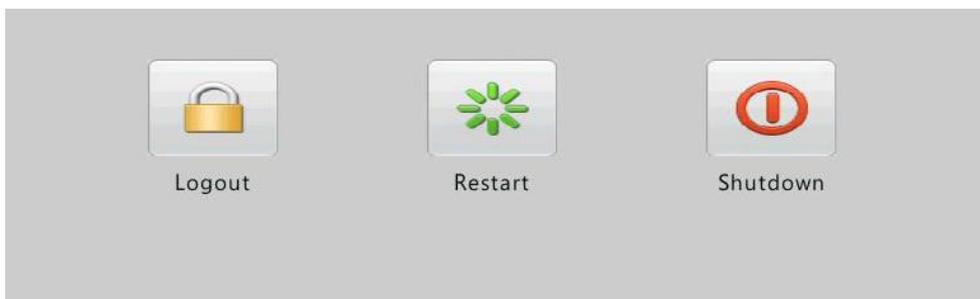
Evaluation statuses include Healthy, Failure, and Bad Sectors. It is recommended to replace the disk if the status is Failure. For further information about hard disks, contact your local dealer.

13 Shutdown

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

Proper shutdown operations is 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 and hold the power button on the front panel for around three seconds, 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

The figures are for illustration purpose only and may vary with the NVR model.



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.

2 Login

1. Open a Web browser on your computer, input the IP address (**192.168.0.30** by default) in the address bar and then press **Enter**.
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.

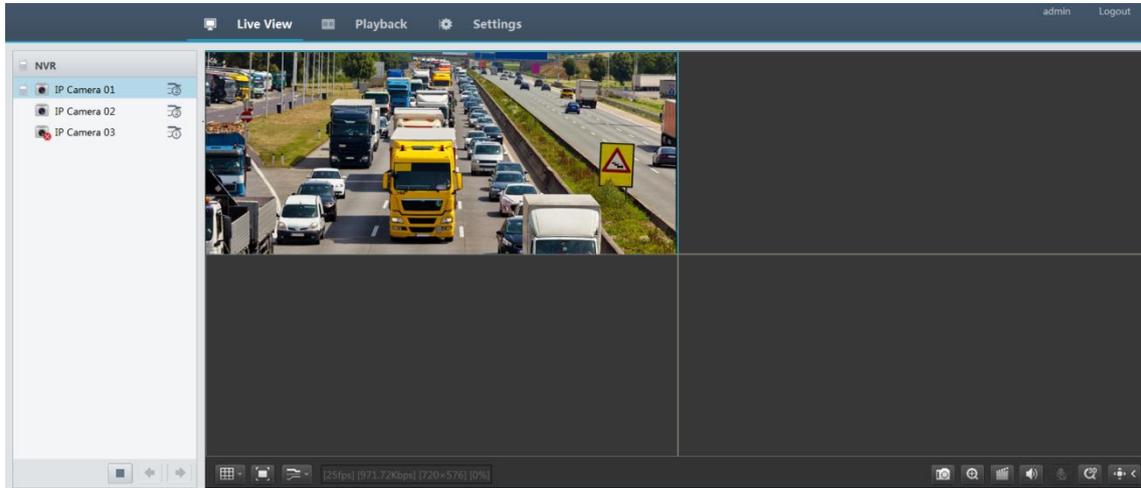


Table 3-1 Live View Window Control Buttons

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 is named in this format: *IP address_camera ID_snapshot time*.file extension, where the snapshot time is in *YYYYMMDDHHMMSSMS* format, for example, 192.168.0.30_D1_20150711102123239.jpg.
- 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*.file extension. The recording start and end times are in *hh-mm-ss* format.
- By default, local recordings are saved in this directory: *C:\Users\username\Surveillance\Record\system date*. The system date is in *yyyy-mm-dd* format.

4 Playback

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

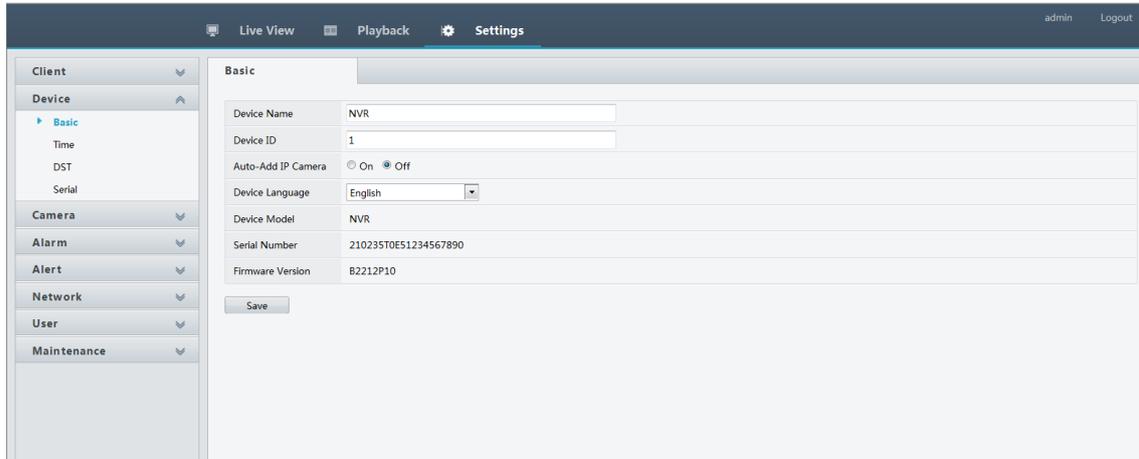


Table 4-1 Playback Control Buttons

Button	Description	Button	Description
	Play, pause, or stop		Rewind or forward by frame
	Slow down or speed up		Rewind or forward 30 seconds
	Previous or next period		Clip video/pause
	Save video clip		Take a snapshot
	Zoom		Adjust sound volume; turn on or off sound

5 Configuration

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



Appendix A Technical Specifications

Table 5-1 NVR201-04E/08E

	NVR201-04E	NVR201-08E
Video		
IP Video Input	4-ch	8-ch
VGA Output	1-ch	
HDMI Output	1-ch	
Sync Playback	4-ch	8-ch
Audio		
Output	1-ch, RCA	
Two-way Talk	1-ch input, 1-ch output (reuse the audio output channel), RCA	
Storage		
HDD	1 SATA interface	
Capacity	Up to 6TB capacity for each HDD	
External Interface		
Network Interface	1 RJ45 10M/100M/1000M adaptive Ethernet interface	

	NVR201-04E	NVR201-08E
USB Interface	1 USB2.0 interface, 1 USB3.0 interface	
Network		
Incoming bandwidth	32 Mbps	64 Mbps
Outgoing bandwidth	96 Mbps	
Decoding		
Live view/Playback	6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	18-ch@D1, 9-ch@720P, 4-ch@1080P	
General		
Power Supply	12 VDC, 2 A	
Consumption	≤8 W (without disk) ≤24 W (fully loaded with disks)	
Working Environment	-10 °C to +55 °C(10 °F to 131 °F) 10% to 90% RH	
Weight	<1.5 Kg (3.3 lb) (without disk) <2 Kg (4.4 lb) (fully loaded with disks)	
Dimensions (W×D×H)	360.0 mm×254.3 mm×43.6 mm (14.17"×10.01"×1.72")	

Table 5-2 NVR201-04EP/08EP

	NVR201-04EP	NVR201-08EP
Video		
IP Video Input		8-ch
VGA Output	1-ch	
HDMI Output	1-ch	
Sync Playback	4-ch	8-ch
Audio		
Output	1-ch, RCA	
Two-way Talk	1-ch input, 1-ch output (reuse the audio output channel), RCA	
Hard Disk Driver		
HDD	1 SATA interface	
Capacity	Up to 6TB capacity for each HDD	

	NVR201-04EP	NVR201-08EP
External Interface		
Network Interface	1 RJ45 10M/100M/1000M adaptive Ethernet interface	
PoE Interface	4 RJ45 10M/100M PoE+ interface (802.3at)	8 RJ45 10M/100M PoE+ interface (802.3at)
USB Interface	1 USB2.0 interface, 1 USB3.0 interface	
Network		
Incoming bandwidth	32 Mbps	64 Mbps
Outgoing bandwidth	96 Mbps	
Decoding		
Live view/Playback	6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	18-ch@D1, 9-ch@720P, 4-ch@1080P	
General		
Power Supply	48 VDC, 1.8 A	52 VDC, 1.8 A
Consumption	≤8 W (without disk)	
PoE	Max 30 W for single port Max 64 W in total (8 W for each)	
Working Environment	-10 °C to 55 °C(10 °F to 131 °F) 10% to 90% RH	
Weight	<1.5 Kg (3.3 lb)(without disk) <2.1 Kg (4.6 lb)(fully loaded with disks)	
Dimensions (W×D×H)	360.0 mm×254.3 mm×43.6 mm (14.17"×10.01"×1.72")	

Table 5-3 NVR201-04L/08L

	NVR201-04L	NVR201-08L
Video		
IP Video Input	4-ch	8-ch
VGA Output	1-ch	
HDMI Output	1-ch	
Sync Playback	4-ch	8-ch
Audio		
Output	1-ch, RCA	

	NVR201-04L	NVR201-08L
Two-way Talk	1-ch input, 1-ch output (reuse the audio output channel), BNC	
Storage		
HDD	1 SATA interfaces	
Capacity	Up to 6TB capacity for each HDD	
External Interface		
Network Interface	1 RJ45 10M/100M adaptive Ethernet interface	
USB Interface	1 USB2.0 interface, 1 USB3.0 interface	
Network		
Incoming bandwidth	32 Mbps	64 Mbps
Outgoing bandwidth	64 Mbps	
Decoding		
Live view/Playback	6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	18-ch@D1, 9-ch@720P, 4-ch@1080P	
General		
Power Supply	12 VDC, 2 A	
Consumption	≤4 W (without disk) ≤8 W (fully loaded with disks)	
Working Environment	-10 °C to +55 °C(14 °F to 131 °F) 10% to 90% RH	
Weight	<1.5 Kg (3.3 lb)(without disk) <2 Kg (4.4 lb)(fully loaded with disks)	
Dimensions (W×D×H)	205.0 mm×205.0 mm×41.8 mm (8.1"×8.1"×1.6")	

Table 5-4 NVR201-04LP

	NVR201-04LP
Video and Audio	
IP Video Input	4-ch
VGA Output	1-ch
HDMI Output	1-ch
Audio Output	1-ch RCA
2-Way Audio	1-ch input, 1-ch output (reuse the audio output channel), RCA

NVR201-04LP	
Sync Playback	4-ch
Hard Disk Driver	
Interface Type	1 SATA interface
Capacity	Up to 6TB capacity for each HDD
External Interface	
Network Interface	1 RJ45 10M/100M adaptive Ethernet interface
PoE Interface	4 RJ45 10M/100M PoE interfaces
USB Interface	1 USB2.0 interface, 1 USB3.0 interface
Network	
Incoming bandwidth	32 Mbps
Outgoing bandwidth	64 Mbps
Decoding	
Live view/Playback	6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30
Capability	18-ch@D1, 9-ch@720P, 4-ch@1080P
General	
Power Supply	48 VDC, 1.25 A
Consumption	≤40 W (fully loaded with disks)
PoE	Max 30 W for single port Max 64 W in total (8 W for each)
Working Temperature	-10 °C to +55 °C (14 °F to 131 °F)
Working Humidity	10% to 90%
Dimensions (W×D×H)	205.0 mm×205.0 mm×41.8 mm (8.1"×8.1"×1.6")

Table 5-5 NVR201-08LP

NVR201-08LP	
Video and Audio	
IP Video Input	8-ch
VGA Output	1-ch
HDMI Output	1-ch
Audio Output	1-ch RCA

	NVR201-08LP	
2-Way Audio	1-ch input, 1-ch output (reuse the audio output channel), RCA	
Sync Playback	8-ch	
Hard Disk Driver		
Interface Type	1 SATA interface	
Capacity	Up to 6TB capacity for each HDD	
External Interface		
Network Interface	1 RJ45 10M/100M adaptive Ethernet interface	
PoE Interface	8 RJ45 10M/100M PoE interfaces	
USB Interface	1 USB2.0 interface, 1 USB3.0 interface	
Network		
Incoming bandwidth	64 Mbps	
Outgoing bandwidth	64 Mbps	
Decoding		
Live view/Playback	8MP@25, 6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	32-ch@D1, 16-ch@720P, 6-ch@1080P	
General		
Power Supply	52 VDC, 1.25 A	
Consumption	≤40 W (fully loaded with disks)	
PoE	Max 30 W for single port Max 64 W in total (8 W for each)	
Working Temperature	-10 °C to +55 °C (14 °F to 131 °F)	
Working Humidity	10% to 90%	
Dimensions (W×D×H)	270.0 mm×205.0 mm×41.8 mm (10.6"×8.1"×1.6")	

Table 5-6 NVR202-08EP/16EP

	NVR202-08EP	NVR202-16EP
Video		
IP Video Input	8-ch	16-ch
VGA Output	1-ch	
HDMI Output	1-ch	

	NVR202-08EP	NVR202-16EP
Sync Playback	8-ch	16-ch
Audio		
Output	1-ch, RCA	
Two-way Talk	1-ch input, 1-ch output (reuse the audio output channel), RCA	
Hard Disk Driver		
HDD	2 SATA interfaces	
Capacity	Up to 6TB capacity for each HDD	
External Interface		
Network Interface	1 RJ45 10M/100M/1000M adaptive Ethernet interface	
PoE Interface	8 RJ45 10M/100M PoE+ interfaces (802.3at)	
USB Interface	1 USB2.0 interface, 1 USB3.0 interface	
Network		
Incoming bandwidth	64 Mbps	128 Mbps
Outgoing bandwidth	96 Mbps	
Decoding		
Live view/Playback	8MP@25, 6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	32-ch@D1, 16-ch@720P, 6-ch@1080P	
General		
Power Supply	52 VDC, 1.8 A	
Consumption	≤8 W (without Disk)	
PoE	Max 30 W for single port Max 64 W in total (8 W for each)	
Working Environment	-10 °C to 55 °C(10 °F to 131 °F) 10% to 90% RH	
Weight	<1.5 Kg (3.3 lb) (without disk) <3 Kg (6.6 lb)(fully loaded with disks)	
Dimensions (W×D×H)	360.0 mm×254.3 mm×43.6 mm (14.17"×10.01"×1.72")	

Table 5-7 NVR202-08E/16E/32E

	NVR202-08E	NVR202-16E	NVR202-32E
Video			

	NVR202-08E	NVR202-16E	NVR202-32E
IP Video Input	8-ch	16-ch	32-ch
VGA Output	1-ch		
HDMI Output	1-ch		
Sync Playback	8-ch	16-ch	
Audio			
Output	1-ch, RCA		
Two-way Talk	1-ch input, 1-ch output (reuse the audio output channel), RCA		
Hard Disk Driver			
HDD	2 SATA interfaces		
Capacity	Up to 6TB capacity for each HDD		
External Interface			
Network Interface	1 RJ45 10M/100M/1000M adaptive Ethernet interface		
USB Interface	1 USB2.0 interface, 1 USB3.0 interface		
Network			
Incoming bandwidth	64 Mbps	128 Mbps	200 Mbps
Outgoing bandwidth	96 Mbps		
Decoding			
Live view/Playback	6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	8MP@25, 6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	18-ch@D1, 9- ch@720P, 4- ch@1080P	32-ch@D1, 16-ch@720P, 6-ch@1080P	
General			
Power Supply	12 VDC, 2 A		
Consumption	≤8 W (without disk) ≤24 W (fully loaded with disks)		
Working Environment	-10 °C to 55 °C(10 °F to 131 °F) 10% to 90% RH		
Weight	<1.5 Kg (3.3 lb) (without disk) <3 Kg (6.6 lb) (fully loaded with disks)		

	NVR202-08E	NVR202-16E	NVR202-32E
Dimensions (W×D×H)	360.0 mm×254.3 mm×43.6 mm (14.17"×10.01"×1.72")		

Table 5-8 NVR204-16E/32E

	NVR204-16E	NVR204-32E
Video		
IP Video Input	16-ch	32-ch
VGA Output	1-ch	
HDMI Output	1-ch	
Sync Playback	16-ch 720P	
Audio		
Output	1-ch, RCA	
Two-way Talk	1-ch input, 1-ch output (reuse the audio output channel), RCA	
Storage		
HDD	4 SATA interfaces	
Capacity	Up to 6TB capacity for each HDD	
External Interface		
Network Interface	2 RJ45 10M/100M/1000M adaptive Ethernet interfaces	
USB Interface	2 USB2.0 interfaces, 1 USB3.0 interface	
Serial Interface	1 RS-485	
Alarm I/O	8/2	
Network		
Incoming bandwidth	128 Mbps	200 Mbps
Outgoing bandwidth	96 Mbps	
Decoding		
Live view/Playback	8MP@25, 6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	32-ch@D1, 16-ch@720P, 6-ch@1080P	
General		
Power Supply	12 VDC, 5 A	
Consumption	8 W (without disk) 34 W (fully loaded with disks)	

	NVR204-16E	NVR204-32E
Working Environment	-10 °C to 55 °C(10 °F to 131 °F) 10% to 90% RH	
Weight	<3 Kg (6.6 lb) (without disk) <6 Kg (13.2 lb) (fully loaded with disks)	
Dimensions (W×D×H)	440.0 mm×341.0 mm×44.0 mm (17.30"×13.47"×1.73")	

Table 5-9 NVR208-16/32

	NVR208-16	NVR208-32
Video		
IP Video Input	16-ch	32-ch
VGA Output	1-ch	
HDMI Output	1-ch	
Sync Playback	16-ch 720P	
Audio		
Output	1-ch, RCA	
Two-way Talk	1-ch input, 1-ch output (reuse the audio output channel), RCA	
Storage		
HDD	8 SATA interfaces	
Capacity	Up to 6TB capacity for each HDD	
External Interface		
Network Interface	2 RJ45 10M/100M/1000M adaptive Ethernet interfaces	
USB Interface	2 USB2.0 interfaces, 1 USB3.0 interface	
Serial Interface	1 RS-232, 1 RS-485	
Alarm I/O	8/2	
Network		
Incoming bandwidth	128 Mbps	200 Mbps
Outgoing bandwidth	96 Mbps	
Decoding		
Live view/Playback	8MP@25, 6MP@25, 4MP@30, 3MP@30, 1080P@30, 720P@30	
Capability	32-ch@D1, 16-ch@720P, 6-ch@1080P	

	NVR208-16	NVR208-32
General		
Power Supply	100 V–240 V AC	
Consumption	15 W (without disk) 80 W (fully loaded with disks)	
Working Environment	-10 °C to +55 °C (10 °F to 131 °F) 10% to 90% RH	
Weight	<5.5 Kg (12.1 lb) (without disk) <11 Kg (24.3 lb) (fully loaded with disks)	
Dimensions (W×D×H)	442.0 mm×421.0 mm×86.1 mm (17.40"×16.57"×3.39")	

Appendix B 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
IPC	IP Camera
JPEG	Joint Photographic Experts Group
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

Acronym	Description
P2P	Peer-to-Peer
PTZ	Pan, Tilt, Zoom
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