



# **Network Video Recorder**

**User Manual**

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The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website ( <https://www.hikvision.com/> ).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

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## Network Video Recorder User Manual

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### FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

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This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: <http://www.recyclethis.info>.



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## **Industry Canada ICES-003 Compliance**

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

## Applicable Model




This manual is applicable to the following models.

**Table 1-1 Applicable Model**

Series	Model
DS-7600NI-K1/4G	DS-7604NI-K1/4G
	DS-7608NI-K1/4G
DS-7608NI-K1/8P/4G	DS-7608NI-K1/8P/4G
DS-7600NI-K2/4G	DS-7608NI-K2/4G
	DS-7616NI-K2/4G
DS-7600NI-K2/P/4G	DS-7608NI-K2/8P/4G
	DS-7616NI-K2/16P/4G

## Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 <b>Danger</b>	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
 <b>Caution</b>	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 <b>Note</b>	Provides additional information to emphasize or supplement important points of the main text.

## Safety Instruction

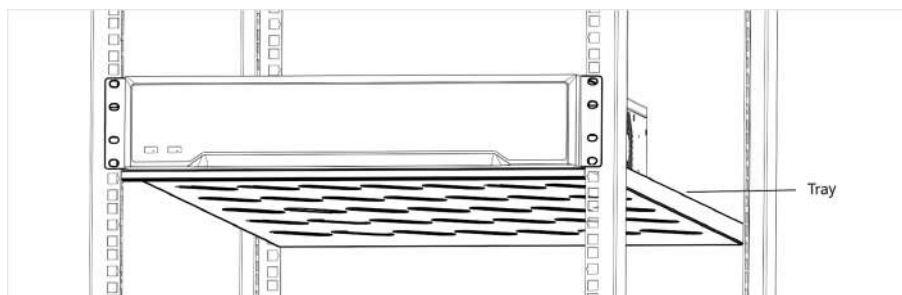
- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 100 VAC to 240 VAC or 12 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause overheating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rises from the device, turn off the power at once and unplug the power cable, and then please contact the service center.



## Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure recorder is installed in a well-ventilated, dust-free environment.
- Recorder is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure recorder is properly secured to a rack or shelf. Major shocks or jolts to the recorder as a result of dropping it may cause damage to the sensitive electronics within the recorder.
- Use the device in conjunction with an UPS if possible.
- Power down the recorder before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.
- When installing the device into a cabinet over 2U height, it is suggest to use rack shelf to bear the weight. If the cabinet height is over 4U, it is suggested to use slide rails or rack shelf to bear the weight.



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# Chapter 1 Get Started

## 1.1 Startup and Activation

### 1.1.1 Startup, Shutdown and Reboot

Proper startup and shutdown procedures are crucial to expand the life of your device.

#### Startup Your Device

Ensure the voltage of the extra power supply satisfies the requirement, and the ground connection is working properly.

Plug the power supply into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) is used in conjunction with the device.

Press the power button on the panel. The power indicator LED would be lighted up which indicating the device begins to start up.

#### Shut Down Your Device

Go to **Menu** → **Shutdown** . Click **Shutdown**, and click **Yes**.

If your device has a power button on the front panel, you can also hold the power button for 3 seconds, and then enter the admin user name and password to shut down your device.

---

#### Note

Do not press the POWER button again when the system is shutting down.

---

#### Reboot Your Device

Go to **Menu** → **Shutdown** . Click **Reboot**, and your device will restart.



Figure 1-1 Startup, Shutdown and Reboot

## 1.1.2 Activate Your Device

For the first-time access, you need to activate the device by setting an admin password. No operation is allowed before activation. You can also activate the device via Web Browser, SADP or Client Software.

### Steps

1. Enter the password in **Create New Password** and **Confirm New Password**.

---

#### **Warning**

We highly recommend you create a strong password of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

---



**Figure 1-2 Set Admin Password**

2. Enter the password in **IP Camera Activation** to activate the IP camera(s) connected to the device.
3. **Optional:** Check Reserved E-mail for future password resetting.

### What to do next

- Export the GUID file to the USB flash driver for the future password resetting.
- If you have enabled **Reserved E-mail**, continue to set the reserved email for the future password resetting.

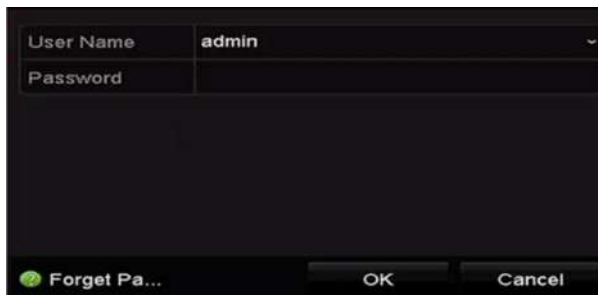
## 1.1.3 Login and Logout

### User Login

You have to log in to the device before operating the menu and other functions.

#### Steps

1. Select a user account.
2. Enter the password for the selected user.
3. Click **Login**.



**Figure 1-3 Login**

- For the admin, if you have entered the wrong password for 7 times, the account will be locked for 60 seconds.
- For the operator, if you have entered the wrong password for 5 times, the account will be locked for 60 seconds.

### User Logout

After logging out, the monitor turns to the live view mode and if you want to perform any operations, you need to enter user name and password log in again.

Go to **Menu** → **Shutdown** . Click **Logout**.



**Figure 1-4 Logout**

## 1.1.4 Set Unlock Pattern

For the admin user, you can set the unlock pattern for device login after it is activated.

### Steps

1. Use mouse to draw a pattern among the 9 dots on the screen. Release the mouse when the pattern is done.

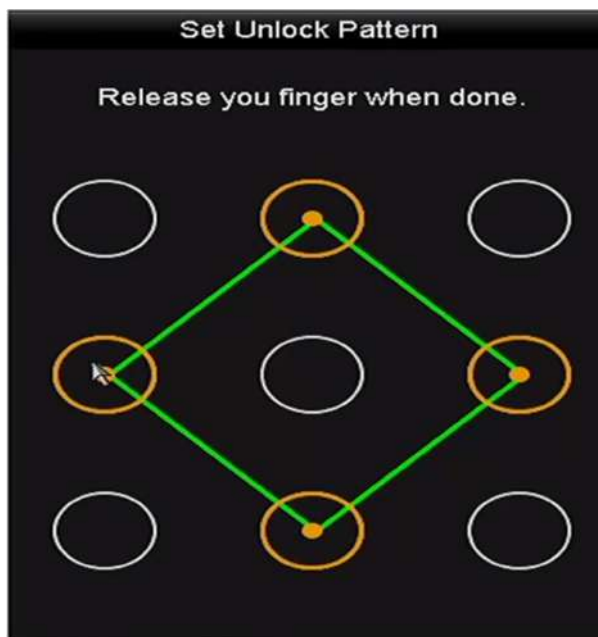


Figure 1-5 Set Unlock Pattern

---


### Note

- The pattern shall have 4 dots at least.
- Each dot can be connected for once only.

2. Draw the same pattern again to confirm it.

---

### Note

You can go to **Menu → Configuration → User** , and click  to edit or disable the unlock pattern.

---

## 1.2 Add Network Cameras

### 1.2.1 Activate the IP Camera

Before adding the camera, make sure the IP camera to add is in active status.

## Steps

1. Select the **Add IP Camera** option from the right-click menu in live view mode or click **Menu → Camera → Camera** to enter the IP camera management interface.

### Note

For the IP camera detected online in the same network segment, the Password status shows whether it is active or inactive.



Figure 1-6 IP Camera Management Interface

2. Click the inactive icon of the camera to enter the following interface to activate it. You can also select multiple cameras from the list and click the **One-touch Activate** to activate the cameras in batch.
3. Set the password of the camera to activate it.

### Use IP Camera Activation Password

The camera(s) will use the password which you have set during the device activation.

### Create New Password

If **IP Camera Activation Password** is not used, you shall create a new password for the camera.

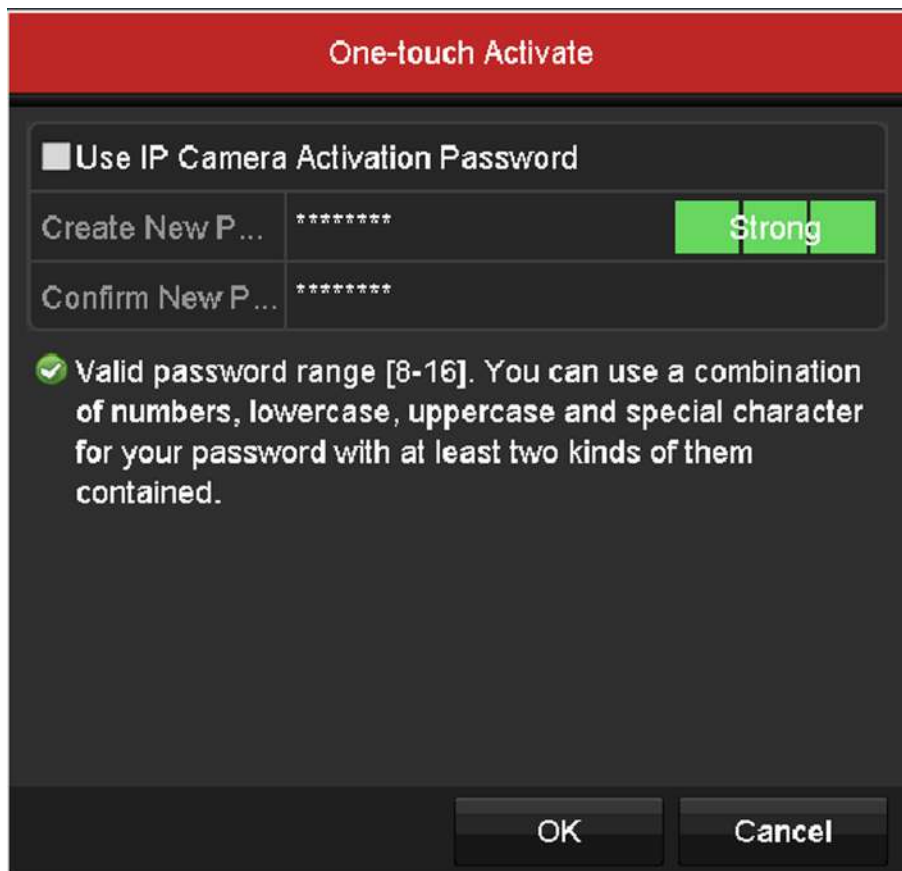


Figure 1-7 Set New Password

---

 **Warning**

Strong Password recommended—We highly recommend you create a strong password of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

---

4. Click **OK**.

The security status of camera will be changed to **Active**.

### 1.2.2 Add the Online IP Cameras

The main function of the NVR is to connect the network cameras and record the video got from it. So before you can get a live view or record of the video, you should add the network cameras to the connection list of the device.

## Before You Start

Ensure the network connection is valid and correct. For detailed checking and configuring of the network.

## Steps

### 1. Adding the IP Cameras.

#### - OPTION 1

- a. Click to select an idle window in the live view mode.
- b. Click the **+** in the center of the window to pop up the adding IP camera interface.
- c. Select the detected IP camera and click the **Add** button to add it directly, and you can click the **Search** button to refresh the online IP camera manually. Or you can choose to custom add the IP camera by editing the parameters in the corresponding textfield and then click the **Add** button to add it.




Figure 1-8 Quick Adding IP Camera Interface

#### - OPTION 2

- a. Select the **Add IP Camera** option from the right-click menu in live view mode or click **Menu** → **Camera** → **Camera** to enter the IP camera management interface.



**Figure 1-9 Adding IP Camera Interface**

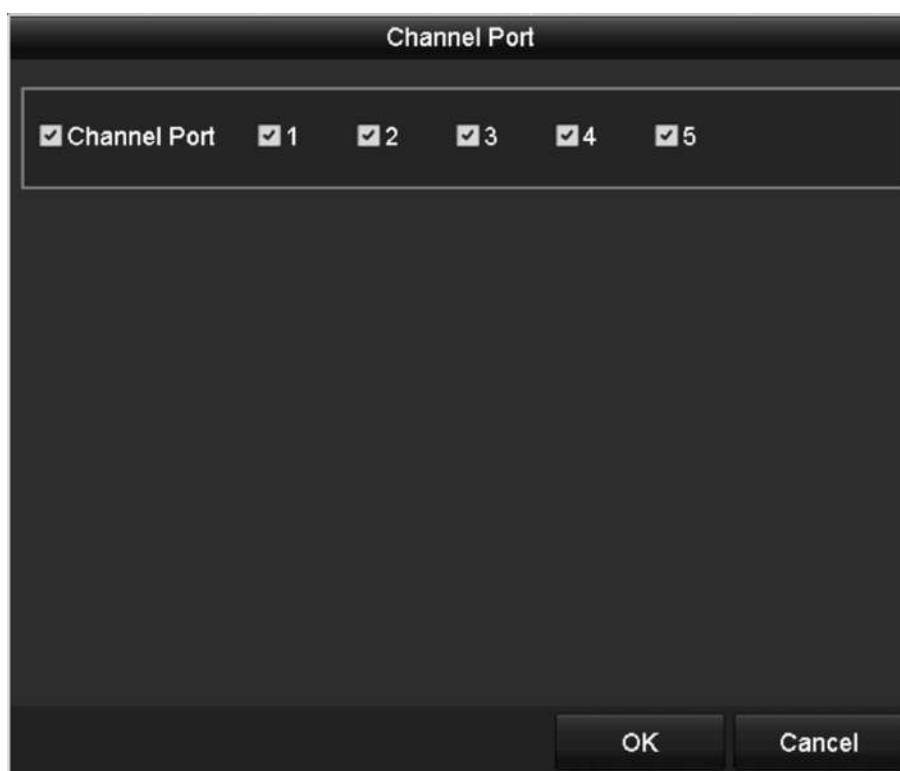
- b. The online cameras with same network segment will be detected and displayed in the camera list.
- c. Select the IP camera from the list and click  the button to add the camera. Or you can click the **One-touch Adding** button to add all cameras (with the same login password) from the list.

 **Note**

Make sure the camera to add has already been activated.

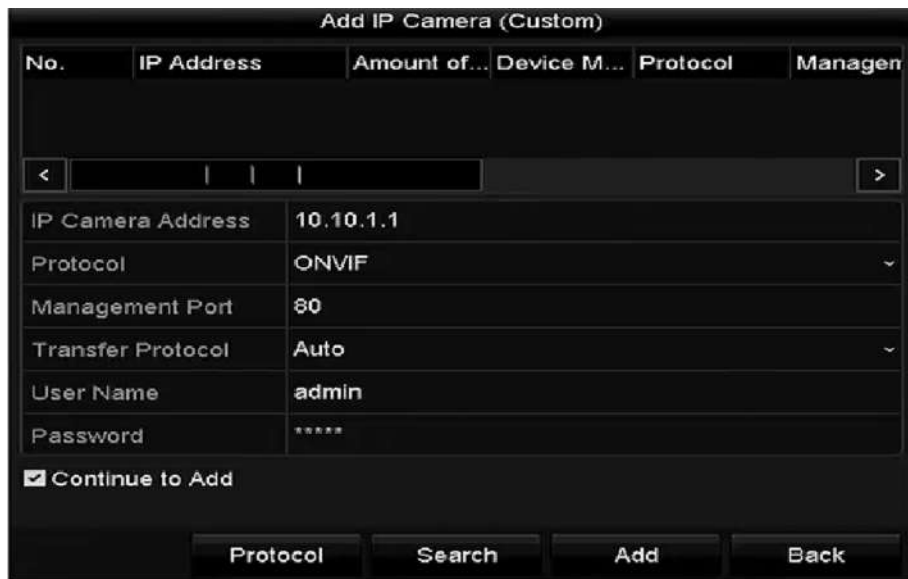
- d. (For the encoders with multiple channels only) check the **Channel Port** checkbox in the pop-up window, as shown in the following figure, and click **OK** to add multiple channels.





**Figure 1-10 Selecting Multiple Channels**

- OPTION 3
  - a. On the IP Camera Management interface, click the **Custom Adding** button to pop up the Add IP Camera (Custom) interface.



**Figure 1-11 Custom Adding IP Camera Interface**








- b. You can edit the IP address, protocol, management port, and other information of the IP camera to be added.

 **Note**

If the IP camera to add has not been activated, you can activate it from the IP camera list on the camera management interface.

- c. Check the checkbox of **Continue to Add** to add other IP cameras.
- d. Click **Add** to add the camera. The successfully added cameras are listed in the interface.

**Table 1-1 Description of Icons**

Icon	Description	Icon	Description
	Edit basic parameters of the camera.		Add the detected IP camera.
	The camera is disconnected; you can click the icon to get the exception information of camera.		Delete the IP camera.
	Play the live video of the connected camera.		Advanced settings of the camera.
	Upgrade the connected IP camera.	Security	Show the security status of the camera to be active/inactive or the password strength (strong/medium/weak/risk)

## Note

For the added IP cameras, the Security status shows the security level of the password of camera: strong password, weak password and risk password.

---

### 1.2.3 Enable the Password of IP Camera Visible

For the admin login user account, you can check the checkbox of **Show Password of IP Camera** to enable the show the passwords of the successfully added IP cameras in the list.

You must enter the admin password to confirm permission.


### 1.2.4 Enable the H.265 Stream Access

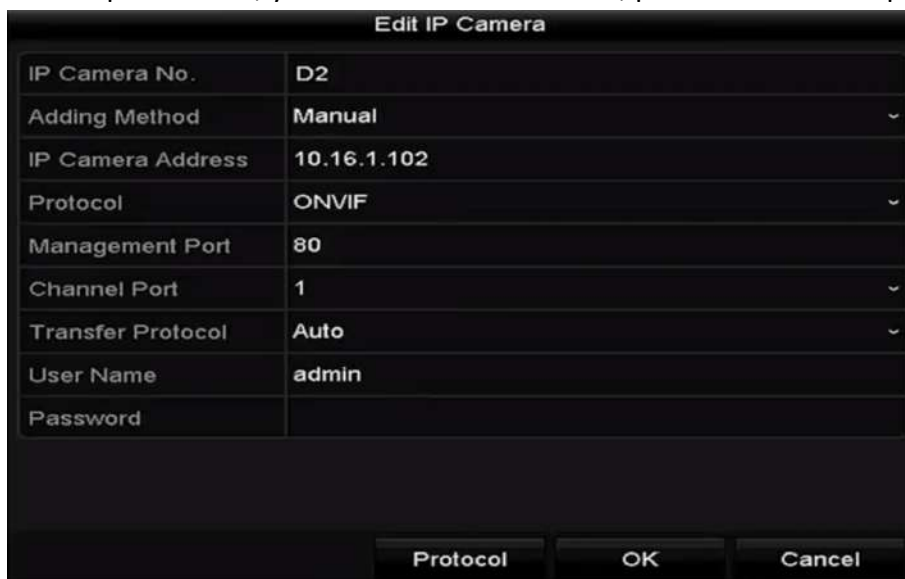
You can check the checkbox of **Enable H.265**, the NVR can automatically switch to the H.265 stream of IP camera (which supports H.265 video format) for the initial access.

### 1.2.5 Edit the Connected IP Cameras and Configure Customized Protocols

After the adding of the IP cameras, the basic information of the camera lists in the page, you can configure the basic setting of the IP cameras.

#### Steps

1. Click  to edit the parameters; you can edit the IP address, protocol and other parameters.




Edit IP Camera	
IP Camera No.	D2
Adding Method	Manual
IP Camera Address	10.16.1.102
Protocol	ONVIF
Management Port	80
Channel Port	1
Transfer Protocol	Auto
User Name	admin
Password	

Figure 1-12 Edit the Parameters

Channel Port

If the connected device is an encoding device with multiple channels, you can choose the channel to connect by selecting the channel port No. in the dropdown list.

2. Click **OK** to save the settings and exit the editing interface.
3. Edit advanced parameters.
  - 1) Drag the horizontal scroll bar to the right side and click .



**Figure 1-13 Parameters Configuration of the Camera**

- 2) You can edit the network information and the password of the camera.
- 3) Click **OK** to save the settings and exit the interface.



### Note

To connect the network cameras which are not configured with the standard protocols, you can configure the customized protocols for them.

---

4. Configuring the customized protocols.
  - 1) Click **Protocol** in the custom adding IP camera interface to enter the protocol management interface.

Protocol Management		
Custom Protocol	Custom Protocol 1	
Protocol Name	ipc1	
Stream Type	Main Stream	Substream
Enable Substream		<input checked="" type="checkbox"/>
Type	RTSP	RTSP
Transfer Protocol	Auto	Auto
Port	554	554
Path		
Example: [Type]://[IP Address]:[Port]/[Path] rtsp://192.168.0.1:554/ch1/main/av_stream		
<input type="button" value="Apply"/> <input type="button" value="OK"/> <input type="button" value="Cancel"/>		

Figure 1-14 Protocol Management Interface

 **Note**

There are 16 customized protocols provided in the system, you can edit the protocol name; and choose whether to enable the sub-stream.

- 2) Choose the protocol type of transmission and choose the transfer protocols.

 **Note**

Before customizing the protocol for the network camera, you have to contact the manufacturer of the network camera to consult the URL (uniform resource locator) for getting main stream and sub-stream.

The format of the URL is: [Type]://[IP Address of the network camera]:[Port]/[Path].  
 Example: rtsp://192.168.1.55:554/ch1/main/av\_stream.

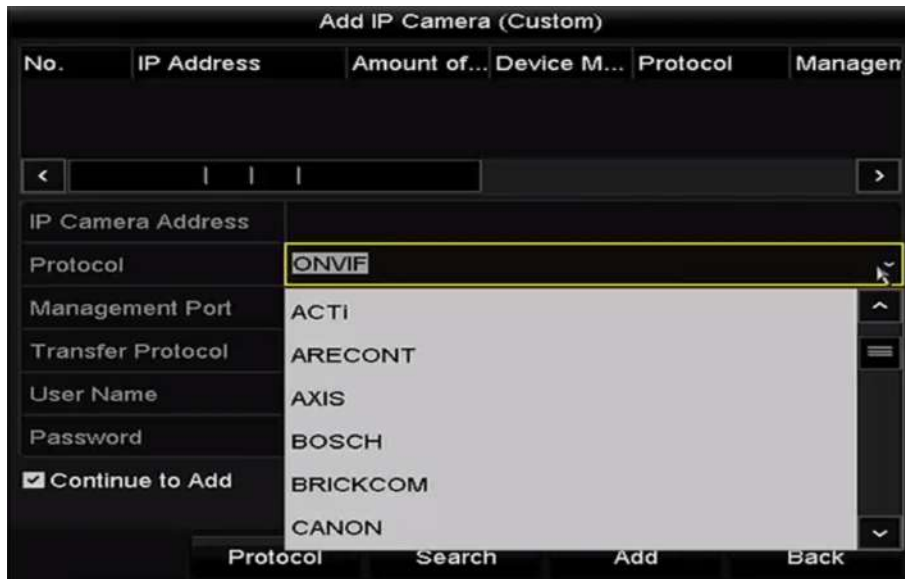
- Protocol Name: Edit the name for the custom protocol.
- Enable Substream: If the network camera does not support sub-stream or the sub-stream is not needed leave the checkbox empty.
- Type: The network camera adopting custom protocol must support getting stream through standard RTSP.
- Transfer Protocol: Select the transfer protocol for the custom protocol.
- Port: Set the port No. for the custom protocol.
- Path: Set the resource path for the custom protocol. E.g., ch1/main/av\_stream.

 **Note**

The protocol type and the transfer protocols must be supported by the connected network camera.

---

After adding the customized protocols, you can see the protocol name.



**Figure 1-15 Protocol Setting**

- 3) Choose the protocols you just added to validate the connection of the network camera.

## 1.3 Manage Cameras for PoE Device

Power over Ethernet provides power to a network device via the same cable as used for the network connection. This is very useful for IP-surveillance and remote monitoring applications in places where it may be too impractical or expensive to power the device from a power outlet.

The PoE interface supports the Plug-and-Play function. You can manually disable PoE function. After PoE function is disabled, the PoE channel becomes a normal channel, and online network camera can be added.

 **Note**

This chapter is only applicable for the models with PoE interfaces.

---

### 1.3.1 Add PoE Cameras


#### Steps

1. Connect PoE cameras to device PoE interfaces with network cables.
2. Go to **Camera → Camera → IP Camera** to view camera image and information.

## 1.3.2 Add Non-PoE IP Cameras

You can manually disable PoE function. After PoE function is disabled, the PoE channel becomes a normal channel, and online network camera can be added.

### Steps

1. Go to **Camera → Camera → IP Camera** .
2. You can add non-PoE IP camera to PoE channel by two ways.
  - Manually edit PoE channel parameters.
  - a. Click  of the PoE channel.
  - b. Select **Adding Method** as **Manual**.

### Plug-and-Play

The camera is physically connected to the PoE interface. Its parameters cannot be edited. You can go to **System → Network → TCP/IP** to change IP address of PoE port.

### Manual

Add IP camera without physical connection via network.

- c. Manually set the parameters, including **IP address, user name, password**, etc.



Edit IP Camera	
IP Camera No.	D1
Adding Method	Manual
IP Camera Address	192.168.254.2
Protocol	ONVIF
Management Port	80
Channel Port	1
Transfer Protocol	Auto
User Name	admin
Password	

Figure 1-16 Edit PoE Channel Parameter

- d. 4) Click OK.

- Configure PoE channel as normal channel.
  - a. Click **Resource Management for PoE Channel**.
  - b. Disable the PoE channel(s) as your desire. Disabling PoE channel will increase the channel for adding online IP camera.



**Figure 1-17 Manage PoE Channel**

- c. Click **Apply**.
- d. Add non-PoE camera(s) as online IP camera. Refer to for details.

### 1.3.3 Configure PoE Interface

When it requires long-distance PoE transmission (100 to 300 m), you can configure the PoE channel to the long network cable mode.

#### Steps

1. Go to **Menu → Camera → Camera → PoE Settings**.
2. Switch on and off each PoE channel as your desire.



### ON

Long-distance (100 - 300 meters) network transmissions via POE interface.

### OFF

Short-distance (< 100 meters) network transmission via POE interface.



**Figure 1-18 Configure PoE Interface**

---

### Note

- The PoE is enabled with the short network cable mode (OFF) by default.
- The bandwidth of IP camera connected to the PoE via long network cable (100 - 300 meters) cannot exceed 6 MP.
- The allowed max. long network cable may be less than 300 meters depending on different IP camera models and cable materials
- When the transmission distance reaches 100 to 250 meters, you must use the CAT5E or CAT6 network cable to connect with the PoE interface.
- When the transmission distance reaches 250 to 300 meters, you must use the CAT6 network cable to connect with the PoE interface.

---

### Note

You can check the connecting status and power information of PoE channel on the interface.

---

1. Click **Back** to finish the settings.

### 1.4 Configure Hik-Connect

Hik-Connect provides mobile phone application and platform service to access and manage your connected devices, which enables you to get a convenient remote access to the surveillance system.

#### Steps

1. Go to **Menu → Configuration → Network → Platform Access** .
  2. Check **Enable**. The service terms will pop up.
    - 1) Enter the verification code in **Verification Code**.
    - 2) Scan the QR code to read the service terms and privacy statement.
    - 3) Check **The Hik-Connect service will require internet access. Please read Service Terms and Privacy Statement before enabling the service** if you agree the service terms and privacy statement.
    - 4) Click **OK** to save the settings.
- 

#### **Note**

- Hik-Connect is disabled by default.
  - The verification code is empty by default. It must contain 6 to 12 letters or numbers, and it is case sensitive.
- 

3. **Optional:** Check **Custom** to enter the server address as your desire.
  4. **Optional:** Check **Enable Stream Encryption**, verification code is required for remote access and live view.
  5. Check **Hik-Connect Server Time Sync** to sync the system time via Hik-Connect server.
- 

#### **Note**

Enabling Hik-Connect server time sync will disable NTP.

---

6. Click **Unbind** if the device requires to unbind with the current Hik-Connect account.
7. Click **Apply**.

#### What to do next

After configuration, you can access and manage your devices through Hik-Connect app or website.





## Chapter 2 Introduction of Live View

Live view shows you the video image getting from each camera in real time. The NVR automatically enters Live View mode when powered on. It is also at the very top of the menu hierarchy, thus pressing the ESC many times (depending on which menu you're on) brings you to the Live View mode.

### Live View Icons

In the live view mode, there are icons at the upper-right of the screen for each channel, showing the status of the record and alarm in the channel, so that you can know whether the channel is recorded, or whether there are alarms occur as soon as possible.

**Table 2-1 Description of Live View Icons**

Icons	Description
	Alarm (video loss, video tampering, motion detection, VCA and sensor alarm)
	Record (manual record, schedule record, motion detection, VCA and alarm triggered record)
	Alarm and Record
	Event/Exception (motion detection, VCA, sensor alarm or exception information, appears at the lower-left corner of the screen. Please refer to <b><i>Set Alarm Response Actions</i></b> for details.)

## Chapter 3 Operations in Live View Mode

In live view mode, there are many functions provided.

The functions are listed below.

### Single Screen

showing only one screen on the monitor.

### Multi-screen

showing multiple screens on the monitor simultaneously.

### Auto-switch

the screen is auto switched to the next one. And you must set the dwell time for each screen on the configuration menu before enabling the auto-switch.

### Start Recording

continuous record and motion detection record are supported.

### Output Mode

select the output mode as Standard, Bright, Gentle or Vivid.

### Add IP Camera

the shortcut to the IP camera management interface.

### Playback

playback the recorded videos for current day.

### Aux Monitor

the NVR checks the connection of the output interfaces to define the main and auxiliary output interfaces. The priority level for the main and aux output is HDMI > VGA.

When both the HDMI and VGA are connected, the HDMI is used as main output and the VGA is used as the aux output.

When the aux output is enabled, the main output cannot perform any operation, and you can do some basic operation on the live view mode for the Aux output.

### 3.1 Use the Mouse in Live View

Table 3-1 Mouse Operation in Live View

Name	Description
Common Menu	Quick access to the sub-menus which you frequently visit.
Menu	Enter the main menu of the system by right clicking the mouse.

Name	Description
Single Screen	Switch to the single full screen by choosing channel number from the dropdown list.
Multi-screen	Adjust the screen layout by choosing from the dropdown list.
Previous Screen	Switch to the previous screen.
Next Screen	Switch to the next screen.
Start/Stop Auto-switch	Enable/disable the auto-switch of the screens.
Start Recording	Start continuous recording or motion detection recording of all channels.
Add IP Camera	Enter the IP Camera Management interface, and manage the cameras.
Playback	Enter the playback interface and start playing back the video of the selected channel immediately.
PTZ	Enter the PTZ control interface.
Output Mode	Four modes of output supported, including Standard, Bright, Gentle and Vivid.
Aux Monitor	Switch to the auxiliary output mode and the operation for the main output is disabled.

 **Note**

- The dwell time of the live view configuration must be set before using **Start Auto-switch**.
  - If you enter Aux monitor mode and the Aux monitor is not connected, the mouse operation is disabled; you need to switch back to the Main output with the MAIN/AUX button on the front panel or remote.
  - If the corresponding camera supports intelligent function, the Reboot Intelligence option is included when right-clicking mouse on this camera.
-

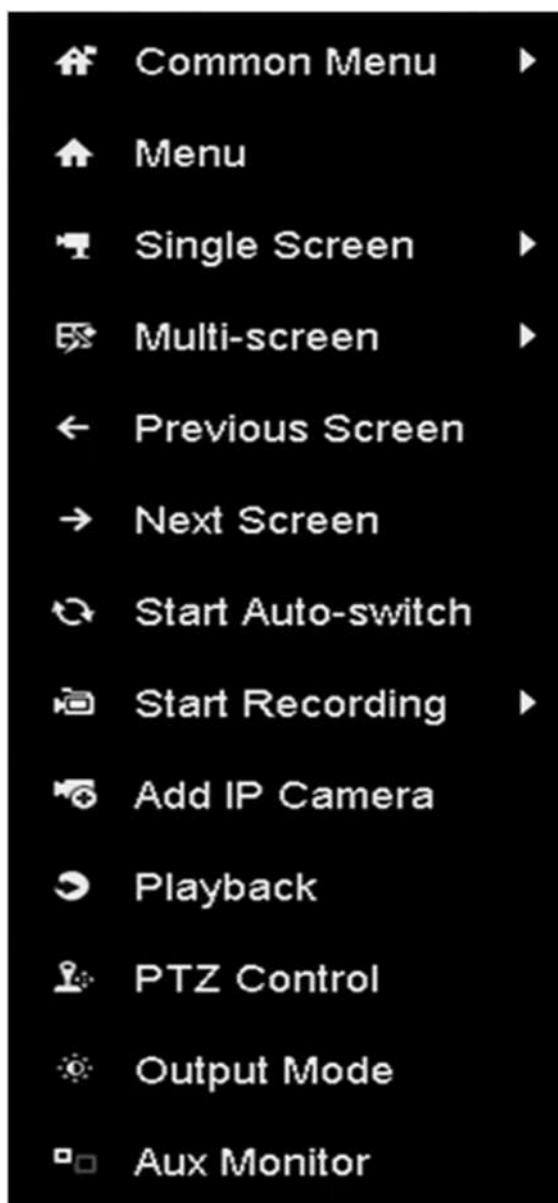


Figure 3-1 Right-click Menu

### 3.2 Use an Auxiliary Monitor

Certain features of the Live View are also available while in an Aux monitor.

These features include:

- Single Screen: Switch to a full screen display of the selected camera. Camera can be selected from a dropdown list.
- Multi-screen: Switch between different display layout options. Layout options can be selected from a dropdown list.

- Next Screen: When displaying less than the maximum number of cameras in Live View, clicking this feature will switch to the next set of displays.
- Playback: Enter into Playback mode.
- PTZ Control: Enter PTZ Control mode.
- Main Monitor: Enter Main operation mode.

---

 **Note**

In the live view mode of the main output monitor, the menu operation is not available while Aux output mode is enabled.

---

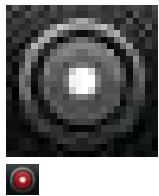







### 3.3 Quick Setting Toolbar in Live View Mode


On the screen of each channel, there is a quick setting toolbar which shows when you single click the mouse in the corresponding screen.






**Figure 3-2 Quick Setting Toolbar**

**Table 3-2 Description of Live View Icons**


Icon	Description	Icon	Description	Icon	Description
	Enable/Disable Manual Record		Instant Playback		Mute/Audio on
	Capture		PTZ Control		Digital Zoom
	Image Settings		Live View Strategy		Information
	Main/Sub-Stream		Close		

 Instant Playback only shows the record in last five minutes. If no record is found, it means there is no record during the last five minutes.

 Digital Zoom is for zooming in the live image. You can zoom in the image to different proportions (1 to 16X) by moving the sliding bar from  to . You can also scroll the mouse wheel to control the zoom in/out.



**Figure 3-3 Digital Zoom**

 Image Settings icon can be selected to enter the Image Settings menu. You can set the image parameters like brightness, contrast, saturation and hue according to the actual demand.



**Figure 3-4 Image Settings- Customize**

 Live View Strategy can be selected to set strategy, including Real-time, Balanced, Fluency.



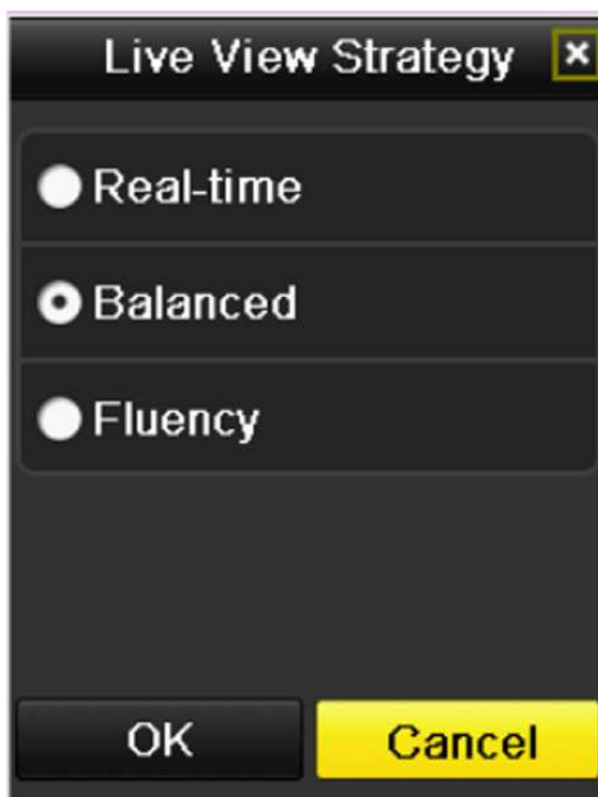


Figure 3-5 Live View Strategy



Face detection function can be used to detect the human faces in live view mode and save in HDD. When there are human faces with the specified size detected in the front of the camera, the device will capture the human face and save in HDD.


 Move the mouse onto the icon to show the real-time stream information, including the frame rate, bitrate, resolution and stream type.



Figure 3-6 Information

## Chapter 4 Adjust Live View Settings

Live View settings can be customized according to different needs. You can configure the output interface, dwell time for screen to be shown, mute or turning on the audio, the screen number for each channel, etc.

### Steps

1. Enter the Live View Settings interface. Go to **Menu → Configuration → Live View** .

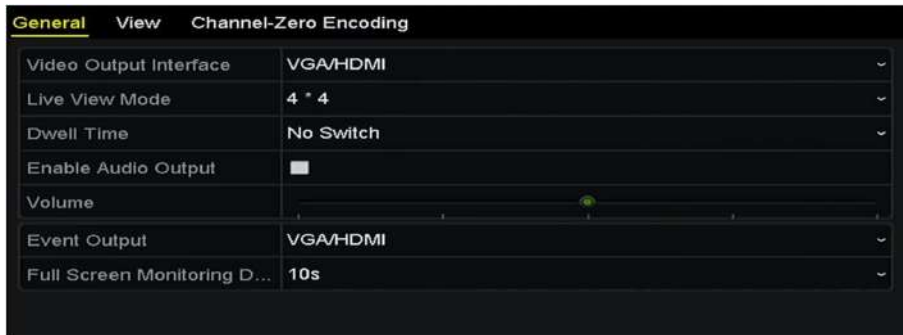


Figure 4-1 Live View-General

The settings available in this menu include:

#### Video Output Interface

Select the video output to configure the live view parameters.

#### Live View Mode

Select the display mode to be used for live view.

#### Dwell Time

The time in seconds to dwell between switching of channels when enabling auto-switch in Live View.

#### Enable Audio Output

Enables/disables audio output for the selected video output.

#### Volume

Adjust the volume of live view, playback and two-way audio for the selected output interface.

#### Event Output

Designates the output to show event video.




#### Full Screen Monitoring Dwell Time

The time in seconds to show alarm event screen.

2. Set cameras order.



**Figure 4-2 Live View-Camera Order**

- 1) Select a View mode in  , including 1/4/6/8/16-window division modes are supported depending on different models.
- 2) Select the small window, and double-click on the channel number to display the channel on the window.
- 3) You can click  button to start live view for all the channels and click  to stop all the live view.
- 4) click **Apply** to save the setting.

---

 **Note**

You can also click-and-drag the camera to the desired window on the live view interface to set the camera order.

---

3. Set the stream type for live view of camera.
  - 1) Click **More Settings** to enter the more settings interface.
  - 2) Select the camera to configure from the list.
  - 3) Select the stream type as main stream, sub-stream or Auto.



**Figure 4-3 Stream Type Settings**

- 4) Click **Apply** to save the settings.
- 5) **Optional:** You can click **Copy** to copy the stream type settings of the current camera to other camera (s).

## Chapter 5 Channel-zero Encoding

**Purpose:** Sometimes you need to get a remote view of many channels in real time from web browser or CMS (Client Management System) software, in order to decrease the bandwidth requirement without affecting the image quality, channel-zero encoding is supported as an option for you.

### Steps

1. Enter **Live View** Settings interface. Go to **Menu → Configuration → Live View**.
2. Select **Channel-Zero Encoding**.



Figure 5-1 Live View- Channel-Zero Encoding

3. Check **Enable Channel Zero Encoding**.
4. Configure **Frame Rate**, **Max. Bitrate Mode** and **Max. Bitrate**.

### Result

After you set the Channel-Zero encoding, you can get a view in the remote client or web browser of 16 channels in one screen.

## Chapter 6 PTZ Control

Enter a short description of your concept here (optional).

This is the start of your concept.

### 6.1 Configure PTZ Settings

Follow the procedure to set the parameters for PTZ. The configuring of the PTZ parameters should be done before you control the PTZ camera.

#### Steps

1. Enter the PTZ Settings interface. Go to **Menu → Camera → PTZ** .



Figure 6-1 PTZ Settings

2. Click **PTZ Parameters** to set the PTZ parameters.



**Figure 6-2 PTZ- General**

3. Choose the camera for PTZ setting.
4. Enter the parameters of the PTZ camera.

---

 **Note**

All the parameters should be exactly the same as the PTZ camera parameters.

---

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

## 6.2 Set PTZ Presets, Patrols & Patterns

Please make sure that the presets, patrols and patterns should be supported by PTZ protocols.

### 6.2.1 Customize Presets

Follow the steps to set the Preset location which you want the PTZ camera to point to when an event takes place.

#### Steps

1. Enter the PTZ Control interface. Go to **Menu → Camera → PTZ** .





**Figure 6-3 PTZ Settings**

2. Use the directional button to wheel the camera to the location where you want to set preset; and the zoom and focus operations can be recorded in the preset as well.
3. Enter the preset No. (1~255) in the preset text field, and click **Set** to link the location to the preset.  
Repeat the steps2-3 to save more presets.
4. **Optional:** Click **Clear** to clear the location information of the preset, or click **Clear All** to clear the location information of all the presets.

## 6.2.2 Call Presets

This feature enables the camera to point to a specified position such as a window when an event takes place.

### Steps



1. Click **PTZ** in the lower-right corner of the PTZ setting interface, or press the PTZ button on the front panel, or click the PTZ Control icon  in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.
2. Choose **Camera**.
3. Click  to show the general settings of the PTZ control.



Figure 6-4 PTZ Panel - General

4. Click to enter the preset No. in the corresponding text field.
5. Click **Call Preset** to call it.

### 6.2.3 Customize Patrols

Patrols can be set to move the PTZ to different key points and have it stay there for a set duration before moving on to the next key point. The key points are corresponding to the presets. The presets can be set following the steps above in Customizing Presets.

#### Steps

1. Enter the PTZ Control interface. Go to **Menu → Camera → PTZ** .



Figure 6-5 PTZ Settings

2. Select patrol No. in the drop-down list of patrol.
3. Click **Set** to add key points for the patrol.



Figure 6-6 Key point Configuration

4. Configure key point parameters, such as the key point No., duration of staying for one key point and speed of patrol.

**Note**

The key point is corresponding to the preset.

**Key Point No.**

determines the order at which the PTZ will follow while cycling through the patrol.

**Duration**

refers to the time span to stay at the corresponding key point.

**Speed**

defines the speed at which the PTZ will move from one key point to the next.

5. Click **Add** to add the next key point to the patrol, or you can click **OK** to save the key point to the patrol.
6. **Optional:** You can delete all the key points by clicking **Clear** for the selected patrol, or click **Clear All** to delete all the key pints for all patrols.

### 6.2.4 Call Patrols

Calling a patrol makes the PTZ to move according the predefined patrol path.

#### Steps



1. Click **PTZ** in the lower-right corner of the PTZ setting interface, or press the PTZ button on the front panel, or click the PTZ Control icon  in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.
2. Click the  button to show the general settings of the PTZ control.



Figure 6-7 PTZ Panel - General

3. Select a patrol and click **Call Patrol** to call it.
4. You can click **Stop Patrol** to stop calling it.

### 6.2.5 Customize Patterns

Patterns can be set by recording the movement of the PTZ. You can call the pattern to make the PTZ movement according to the predefined path.

#### Steps

1. Go to **Menu** → **Camera** → **PTZ** , and enter the PTZ Control interface.



**Figure 6-8 PTZ Settings**

2. Choose pattern number.
3. Click **Start** and click corresponding buttons in the control panel to move the PTZ camera, and click **Stop** to stop it.

The movement of the PTZ is recorded as the pattern.

## 6.2.6 Call Patterns

Follow the procedure to move the PTZ camera according to the predefined patterns.

### Steps



1. Click **PTZ** in the lower-right corner of the PTZ setting interface, or press the PTZ button on the front panel, or click the PTZ Control icon  in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.
2. Click  to show the general settings of the PTZ control.



Figure 6-9 PTZ Panel - General

3. Click **Call Pattern** to call it.
4. Click **Stop Pattern** to stop calling it.

### 6.2.7 Customize Linear Scan Limit

The Linear Scan can be enabled to trigger the scan in the horizontal direction in the predefined range.

---

#### Note

This function is supported by some certain models.

---

#### Steps

1. Go to **Menu** → **Camera** → **PTZ** , enter the PTZ Control interface.



**Figure 6-10 PTZ Settings**

2. Use the directional button to wheel the camera to the location where you want to set the limit, and click **Left Limit** or **Right Limit** to link the location to the corresponding limit.

---

**Note**

The speed dome starts linear scan from the left limit to the right limit, and you must set the left limit on the left side of the right limit, as well the angle from the left limit to the right limit should be no more than 180°.

---

## 6.2.8 Call Linear Scan

Follow the procedure to call the linear scan in the predefined scan range.

### Before You Start

Make sure the connected camera supports the linear scan and is in HIKVISION protocol.

### Steps



1. Click **PTZ** in the lower-right corner of the PTZ setting interface, or press the PTZ button on the front panel, or click  in the quick setting bar to enter the PTZ setting menu in live view mode.
2. Click  to show the one-touch function of the PTZ control.




Figure 6-11 PTZ Panel - One-touch

3. Click **Linear Scan** to start the linear scan and click the Linear Scan button again to stop it
4. You can click **Restore** to clear the defined left limit and right limit data and the dome needs to reboot to make settings take effect.

### 6.3 PTZ Control Panel

To enter the PTZ control panel, there are two ways supported.

- OPTION 1:  
In the PTZ settings interface, click the **PTZ** button on the lower-right corner which is next to the Back button.
- OPTION 2:  
In the Live View mode, you can press the PTZ Control button on the front panel or on the remote control, or choose , or select the PTZ option in the right-click menu.  
Click **Configuration** on the control panel, and you can enter the PTZ Settings interface.

---

 **Note**

In PTZ control mode, the PTZ panel will be displayed when a mouse is connected with the device. If no mouse is connected, the **PTZ** appears in the lower-left corner of the window, indicating that this camera is in PTZ control mode.





Figure 6-12 PTZ Panel1



Figure 6-13 PTZ Panel2



Figure 6-14 PTZ Panel3

Table 6-1 Description of the PTZ panel icons

Icon	Description	Icon	Description	Icon	Description
	Direction button and the auto-cycle button		Zoom+, Focus+, Iris+		Zoom-, Focus-, Iris-
	The speed of the PTZ movement		Light on/off		Wiper on/off
	3D Positioning		Image Centralization		Menu
	Switch to the PTZ control interface		Switch to the one-touch control interface		Switch to the general settings interface
	Previous item		Next item		Start pattern / patrol
	Stop the patrol / pattern movement		Exit		Minimize windows

## Chapter 7 Recording

### 7.1 Configure Parameters

By configuring the parameters you can define the parameters which affect the image quality, such as the transmission stream type, the resolution and so on.

#### Before You Start

1. Make sure that the HDD has already been installed. If not, please install a HDD and initialize it.  
( **Menu** → **HDD** → **General** )

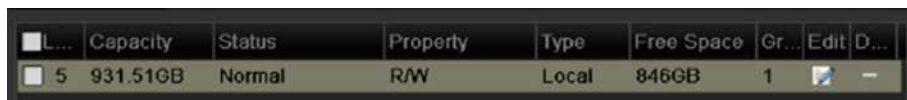


Figure 7-1 HDD-General

2. Check the storage mode of the HDD.
  - If the HDD mode is **Quota**, please set the maximum record capacity and maximum picture capacity. For detailed information, see **Configure Quota Mode** .
  - If the HDD mode is **Group**, you should set the HDD group. For detailed information, see **Configure HDD Group for Recording** .



Figure 7-2 HDD- Advanced

#### Steps

1. Enter the Record settings interface to configure the recording parameters: **Menu** → **Record** → **Parameters** .



Figure 7-3 Recording Parameters

## 2. Set Recording Parameters.

- Select **Record**. You can configure the stream type, the resolution, and other parameters on your demand.

### Video Encode

select the video encoding to H.265 or H.264.

### Enable H.264+ Mode

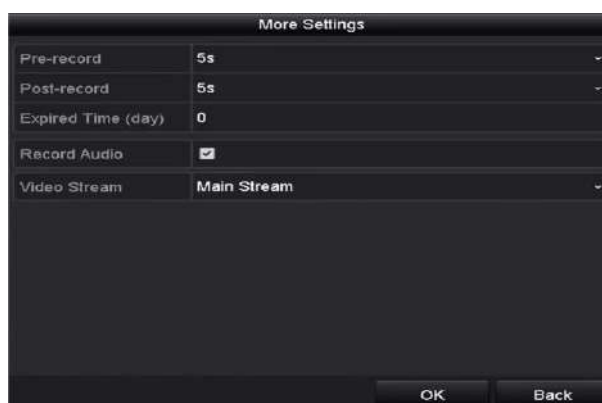
check the checkbox to enable. Once enabled, the **Max. Bitrate Mode**, **Max. Bitrate(Kbps)** and **Max. Bitrate Range Recommend** are not configurable. Enabling it helps to ensure the high video quality with a lowered bitrate.

---

### Note

The H.265 and H.264+ should be supported by the connected IP camera.

- Click **More Settings** to set the advanced parameters for recording and then click **OK** to finish editing.



**Figure 7-4 More Settings**

### **Pre-record**

The time you set to record before the scheduled time or event. For example, when an alarm triggers the recording at 10:00, and if you set the pre-record time as 5 seconds, the camera records at 9:59:55.

### **Post-record**

The time you set to record after the event or the scheduled time. For example, when an alarm triggered recording ends at 11:00, and if you set the post-record time as 5 seconds, it records till 11:00:05.

### **Expired Time**

The expired time is period for a recorded file to be kept in the HDD. When the deadline is reached, the file will be deleted. If you set the expired time to 0, the file will not be deleted. The actual keeping time for the file should be determined by the capacity of the HDD.

### **Redundant Record/Capture**

By enabling redundant record or capture you save the record and captured picture in the redundant HDD. See ***Configure Redundant Recording*** .

### **Record Audio**

Check the checkbox to enable or disable audio recording.

### **Video Stream**

Main stream and sub-stream are selectable for recording. When you select sub-stream, you can record for a longer time with the same storage space.

- c. Click **Apply**.

 **Note**

- The **redundant record/capture** is used when you want to save the record files or captured pictures in the redundant HDD. You must configure the redundant HDD in HDD settings. For detailed information, see **Set HDD Property** .
  - The parameters of **Main Stream (Event)** are read-only.
  - You can enable the ANR (Automatic Network Replenishment) function via the web browser ( **Configuration → Storage → Schedule Settings → Advanced** ) to save the video files in the IP camera when the network is disconnected, and synchronize the files to the NVR when the network is resumed.
- 

### 3. Set Sub-stream Parameters.

- a. Enter the **Substream** tab page.



Record	Substream	Capture
Camera	[D1] Camera 01	
Stream Type	Video	
Resolution (max.: 720P)	704*480(4CIF)	
Bitrate Type	Variable	
Video Quality	Medium	
Frame Rate	Full Frame	
Max. Bitrate Mode	General	
Max. Bitrate (Kbps) (max....	1024	
Max. Bitrate Range Reco...	1152~1920(Kbps)	
Video Encode	H.265	

**Figure 7-5 Sub-stream Parameters**

- b. Configure the parameters of the camera.
- c. Click **Apply**.

## 7.2 Configure Recording Schedule

Set the record schedule, and then the camera automatically starts/stops recording according to the configured schedule.

we take the record schedule procedure as an example, and the same procedure can be applied to configure schedule for both recording and capture. To schedule the automatic capture, you need to choose the Capture tab in **Schedule** interface.

### Steps

1. Enter the Record Schedule interface: **Menu → Record → Schedule** .
2. Configure Record Schedule.
  - a. Select Record Schedule. Different recording types are marked in different color icons.

#### Continuous

Scheduled recording.

## Event

Recording triggered by all event triggered alarm.

## Motion

Recording triggered by motion detection.

## Alarm

Recording triggered by alarm.

## M/A

Recording triggered by either motion detection or alarm.

## M&A

Recording triggered by motion detection and alarm.



### Note

You can delete the set schedule by clicking **None**.

---

- b. Choose the camera you want to configure.
- c. Select the check box after **Enable Schedule**.
- d. Click **Edit** or click on the color icon under the edit button and draw the schedule line on the panel.
  - Edit the schedule.



**Figure 7-6 Recording Schedule Interface**

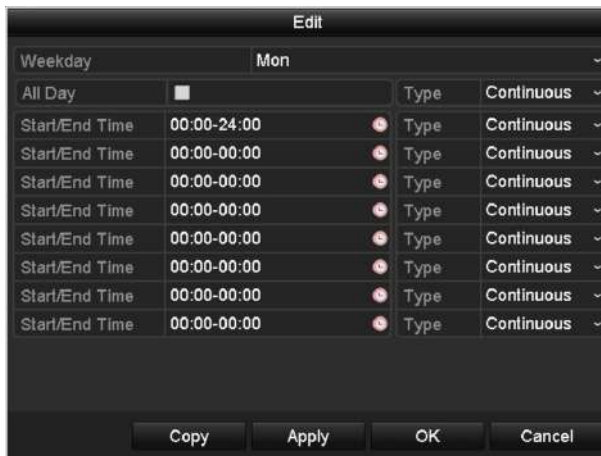



### Note

The all-day continuous recording is configured for the device by factory default.

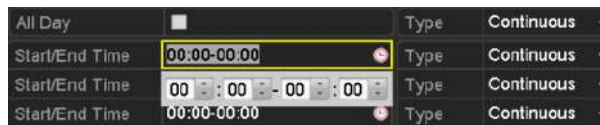
---

- i. In the message box, you can choose the day to which you want to set schedule.



You can click  to set the accurate time of the schedule.

- ii. To schedule an all-day recording, check the checkbox after **All Day**.



**Figure 7-7 Edit Schedule**

- iii. To arrange other schedule, set **Start/End time** for each period.

---

 **Note**

Up to 8 periods can be configured for each day. And the time periods can't be overlapped each other.

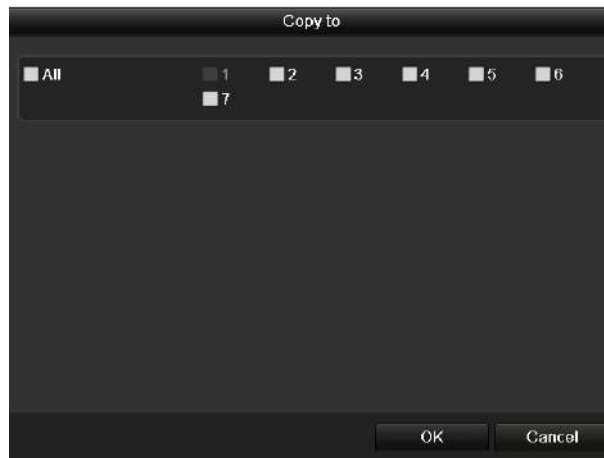
- iv. Select the record type.

---

 **Note**

- To enable **Motion, Alarm, M | A** (motion or alarm), **M & A** (motion and alarm) and VCA (Video Content Analysis) triggered recording and capture, you must configure the motion detection settings, alarm input settings or VCA settings as well. For detailed information, refer to **Set Motion Detection Alarm** and **VCA Alarm**.
- The VCA settings are only available to the smart IP cameras. Repeat the above edit schedule steps to schedule recording or capture for other days in the week. If the schedule can also be applied to other days, click **Copy**.





**Figure 7-8 Copy Schedule to Other Days**

- v. Click **OK** to save setting and back to upper level menu.
- vi. Click **Apply** in the Record Schedule interface to save the settings.
- Draw the schedule.
  - i. Click on the color icons, you can choose the schedule type as continuous or event.



**Figure 7-9 Draw the Schedule**

- ii. Click the **Apply** button to validate the settings.
3. **Optional:** If the settings can also be used to other channels, click **Copy**, and then choose the channel to which you want to copy.
  4. Click **Apply** to save the settings.



Figure 7-10 Copy Schedule to Other Channels

## 7.3 Configure Motion Detection Recording

Follow the steps to set the motion detection. In the live view mode, once a motion detection event takes place, the NVR can analyze it and take alarm response actions. Enabling motion detection function can trigger certain channels to start recording, or trigger full screen monitoring, audio warning, notify the surveillance center and so on. In this chapter, you can follow the steps to schedule a record which triggered by the detected motion.

### Steps

1. Go to **Menu → Camera → Motion** .

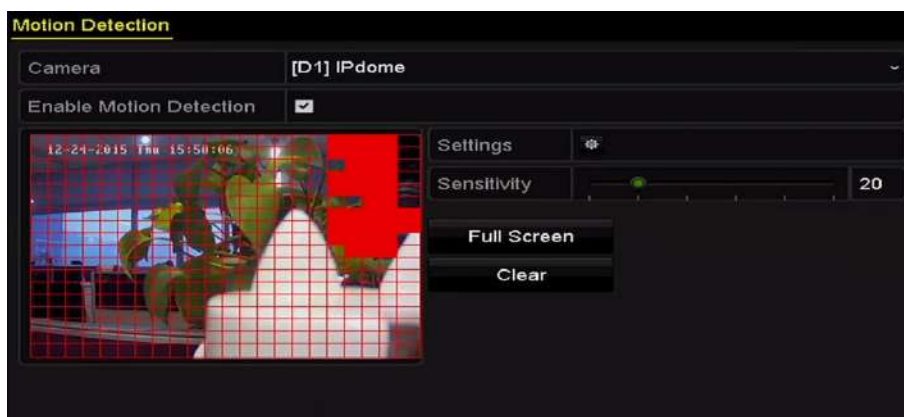


Figure 7-11 Motion Detection

2. Configure Motion Detection.
  - 1) Choose camera you want to configure.
  - 2) Check the checkbox after **Enable Motion Detection**.
  - 3) Drag and draw the area for motion detection by mouse. If you want to set the motion detection for all the area shot by the camera, click **Full Screen**. To clear the motion detection area, click **Clear**.

- 4) Click **Settings**, and the message box for channel information pops up.



**Figure 7-12 Motion Detection Handling**

- a. Select the channels which you want the motion detection event to trigger recording.
  - b. Click **Apply** to save the settings.
  - c. Click **OK** to back to the upper level menu.
  - d. Exit the Motion Detection menu.
3. Edit the Motion Detection Record Schedule. For the detailed information of schedule configuration, see *Configure Recording Schedule* .

## 7.4 Configure Alarm Triggered Recording

Follow the procedure to configure alarm triggered recording.

### Steps

1. Go to **Menu** → **Configuration** → **Alarm** .

The screenshot shows the 'Alarm Settings' interface with three tabs: 'Alarm Status', 'Alarm Input', and 'Alarm Output'. The 'Alarm Input List' table is as follows:

Alarm Input No.	Alarm Name	Alarm Type
Local<-1		N.O
Local<-2		N.O
Local<-3		N.O
Local<-4		N.O
Local<-5		N.O
Local<-6		N.O
Local<-7		N.O

The 'Alarm Output List' table is as follows:

Alarm Output No.	Alarm Name	Dwell Time
Local->1		Manually Clear
Local->2		Manually Clear
Local->3		Manually Clear
Local->4		Manually Clear
172.6.23.105:8000->1		5s

Figure 7-13 Alarm Settings

2. Click **Alarm Input**.

The screenshot shows the 'Alarm Settings- Alarm Input' configuration form with the following fields:

Alarm Input No.	Local<-1
Alarm Name	
Type	N.O
Enable	<input checked="" type="checkbox"/>
Settings	

Figure 7-14 Alarm Settings- Alarm Input

- 1) Select Alarm Input number and configure alarm parameters.
- 2) Choose **N.O** (normally open) or **N.C** (normally closed) for alarm type.
- 3) Check the checkbox.
- 4) Click **Settings**.

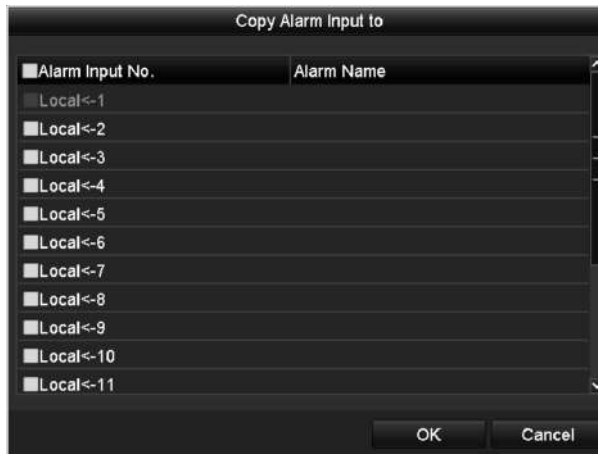
The screenshot shows the 'Settings' dialog box for the 'Trigger Channel' tab. It contains the following options:

<input checked="" type="checkbox"/> IP Camera	<input checked="" type="checkbox"/> D1	<input checked="" type="checkbox"/> D2
---	--	--

At the bottom of the dialog, there are three buttons: 'Apply', 'OK', and 'Cancel'.

Figure 7-15 Alarm Settings

- a. Choose the alarm triggered recording channel.
  - b. Check the checkbox to select channel.
  - c. Click **Apply** to save settings.
  - d. Click **OK** to back to the upper level menu.
- 5) Repeat the above steps to configure other alarm input parameters.
- 6) If the settings can also be applied to other alarm inputs, click **Copy** and choose the alarm input number.



**Figure 7-16 Copy Alarm Input**

3. Edit the Alarm triggered record in the Record/Capture Schedule setting interface. For the detailed information of schedule configuration, see ***Configure Recording Schedule*** .

## 7.5 Configure VCA Event Recording

The event triggered recording can be configured through the menu. Then events include the motion detection, alarm and VCA events (face detection/face capture, line crossing detection, intrusion detection, region entrance detection, region exiting detection, loitering detection, people gathering detection, fast moving detection, parking detection, unattended baggage detection, object removal detection, audio loss exception detection, sudden change of sound intensity detection, and defocus detection).

### Steps

1. Go to **Menu → Camera → VCA** .

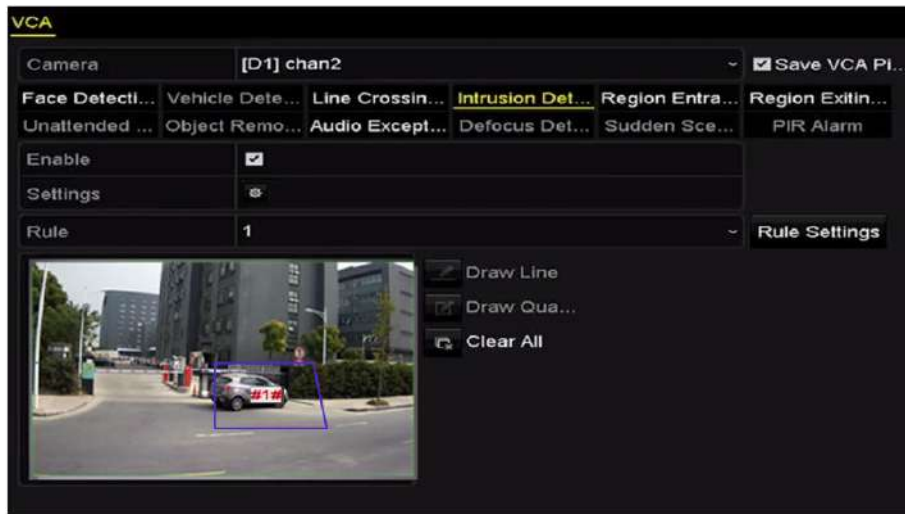


Figure 7-17 VCA Settings


2. Configure the detection rules for VCA events. For details, please refer to .
3. Click  to configure the alarm linkage actions for the VCA events.
4. Select **Trigger Channel** and select one or more channels which will start to record when VCA alarm is triggered.
5. Click **Apply** to save the settings.



Figure 7-18 Set Trigger Camera of VCA Alarm

## Note

The PTZ Linking function is only available for the VCA settings of IP cameras.

6. Go to **Menu** → **Record** → **Schedule** → **Record Schedule** , and then set VCA as the record type. For details, see step 2 in **Configure Recording Schedule** .

## 7.6 Manual Record

Follow the steps to set parameters for the manual recording and continuous capture. Using manual recording and continuous capture, you need to manually cancel the record and capture. The manual recording and manual continuous capture is prior to the scheduled recording and capture.

### Steps

1. Go to **Menu → Manual** .



Figure 7-19 Manual Record

2. Enable the Manual Recording.
  - 1) Select **Record**.
  - 2) Click the status button before camera number to change **OFF** to **ON** .
3. Disable manual record. Click the status button to change **ON** to **OFF** .

---

### Note

**ON** means that the channel is configured the record schedule. After rebooting, all the manual records enabled will be canceled.

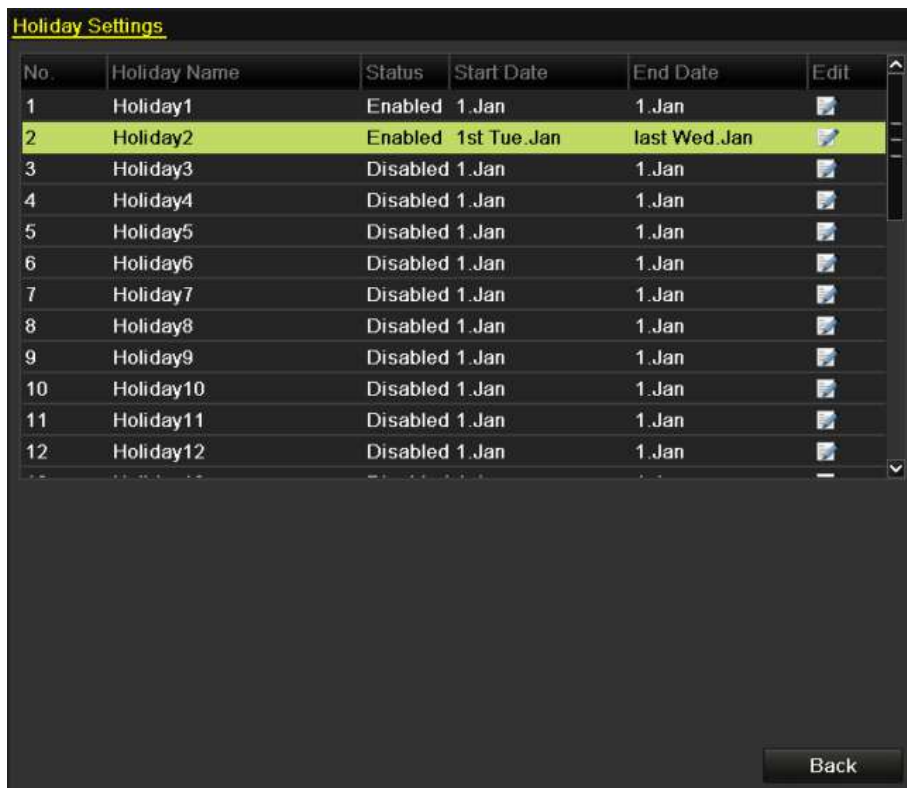
---

## 7.7 Configure Holiday Recording

Follow the steps to configure the record schedule on holiday for that year. You may want to have different plan for recording and capture on holiday.

### Steps

1. Go to **Menu → Record → Holiday** .

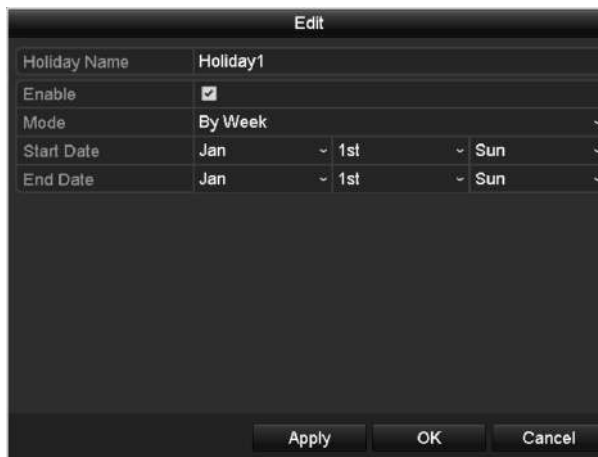


The screenshot shows a 'Holiday Settings' window with a table of holiday entries. The table has columns for 'No.', 'Holiday Name', 'Status', 'Start Date', 'End Date', and 'Edit'. The second row, 'Holiday2', is highlighted in green. A 'Back' button is located at the bottom right of the window.

No.	Holiday Name	Status	Start Date	End Date	Edit
1	Holiday1	Enabled	1.Jan	1.Jan	
2	Holiday2	Enabled	1st Tue.Jan	last Wed.Jan	
3	Holiday3	Disabled	1.Jan	1.Jan	
4	Holiday4	Disabled	1.Jan	1.Jan	
5	Holiday5	Disabled	1.Jan	1.Jan	
6	Holiday6	Disabled	1.Jan	1.Jan	
7	Holiday7	Disabled	1.Jan	1.Jan	
8	Holiday8	Disabled	1.Jan	1.Jan	
9	Holiday9	Disabled	1.Jan	1.Jan	
10	Holiday10	Disabled	1.Jan	1.Jan	
11	Holiday11	Disabled	1.Jan	1.Jan	
12	Holiday12	Disabled	1.Jan	1.Jan	

Figure 7-20 Holiday Settings

2. Enable Edit Holiday schedule.
  - 1) Click to enter the Edit interface.



The screenshot shows an 'Edit' dialog box for 'Holiday1'. It contains the following fields and controls:

- Holiday Name: Holiday1
- Enable:
- Mode: By Week (dropdown menu)
- Start Date: Jan (dropdown), 1st (dropdown), Sun (dropdown)
- End Date: Jan (dropdown), 1st (dropdown), Sun (dropdown)
- Buttons: Apply, OK, Cancel

Figure 7-21 Edit Holiday Settings

- 2) Check the checkbox after **Enable Holiday**.
- 3) Select **Mode** from the dropdown list.
- 4) There are three different modes for the date format to configure holiday schedule.
- 5) Set the start and end date.
- 6) Click **Apply** to save settings.



- 7) Click **OK** to exit the Edit interface.
3. Enter Record/Capture Schedule settings interface to edit the holiday recording schedule. See *Configure Recording Schedule* .

## 7.8 Configure Redundant Recording

Enabling redundant recording, which means saving the record files and captured pictures not only in the R/W HDD but also in the redundant HDD, will effectively enhance the data safety and reliability.

### Steps

1. Go to **Menu → HDD** .



Figure 7-22 HDD General

2. Select the HDD and click to enter the Local HDD Settings interface.
  - 1) Set the HDD property to Redundancy.



Figure 7-23 HDD General-Editing

- 2) Click **Apply** to save the settings.
- 3) Click **OK** to back to the upper level menu.

---

### Note

You must set the Storage mode in the HDD advanced settings to Group before you set the HDD property to Redundant. For detailed information, please refer to *Set HDD Property* . There should be at least another HDD which is in Read/Write status.

---

3. Go to **Menu → Record → Parameters** .
  - 1) Select **Record**.
  - 2) Click **More Settings**.



Figure 7-24 Record Parameters

- 3) Select Camera you want to configure in the drop-down list.
- 4) Check the checkbox of **Redundant Record/Capture**.
- 5) Click **OK** to save settings and back to the upper level menu.
- 6) Repeat the above steps for configuring other channels.

## 7.9 Configure HDD Group for Recording

You can group the HDDs and save the record files and captured pictures in certain HDD group.

### Steps

1. Go to **Menu** → **HDD** .



Figure 7-25 HDD General

2. Select **Advanced** on the left side menu. Check whether the storage mode of the HDD is Group. If not, set it to Group. For detailed information, please refer to **Manage HDD Group** .

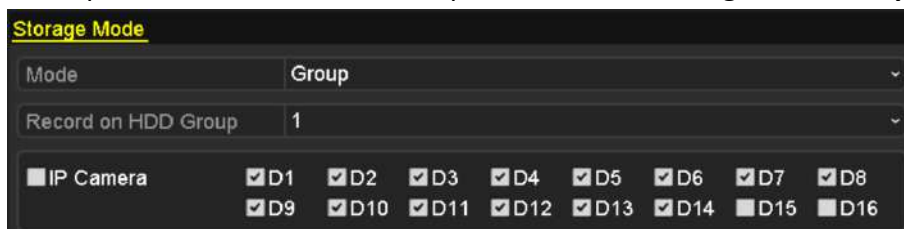


Figure 7-26 Storage Mode

3. Select **General** in the left side menu.
4. Click to enter editing interface.
5. Configuring HDD group.
  - 1) Choose a group number for the HDD group.
  - 2) Click **Apply** and then in the pop-up message box, click **Yes** to save your settings.

- 3) Click **OK** to back to the upper level menu.
- 4) Repeat the above steps to configure more HDD groups.
6. Choose the Channels which you want to save the record files in the HDD group.
  - 1) Select **Advanced** on the left bar.
  - 2) Choose Group number in the dropdown list of **Record on HDD Group**.
  - 3) Check the channels you want to save in this group.
  - 4) Click **Apply** to save settings.

---

## Note

After having configured the HDD groups, you can configure the Recording settings.

---

## 7.10 Files Protection

You can lock the recording files or set the HDD property to Read-only to protect the record files from being overwritten.

### 7.10.1 Lock the Recording Files


#### Lock File when Playback

##### Steps


1. Go to **Menu** → **Playback** .
2. Check the checkbox of channel(s) in the channel list and then double-click to select a date on the calendar.



Figure 7-27 Normal/Smart Playback

3. During playback, click  to lock the current recording file.

## Note

In the multi-channel playback mode, clicking  will lock all the record files related to the playback channels.




4. You can click  to pop up the file management interface. Click the Locked File tab to check and export the locked files.



Figure 7-28 Locked File Management

In the File Management interface, you can also click  to change it to  to unlock the file and the file is not protected.

## Lock File when Export

### Steps

1. Go to Menu → Export .

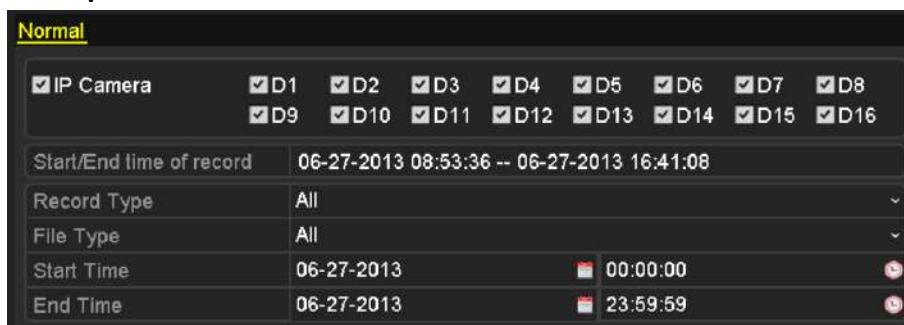


Figure 7-29 Export

2. Select the channels you want to search.
3. Configure the record type, file type start/end time.
4. Click **Search** to show the results.



Figure 7-30 Export- Search Result

5. Protect the record files.

- 1) Find the record files you want to protect, and then click which will turn to , indicating that the file is locked.

---

**Note**

The record files of which the recording is still not completed cannot be locked.

- 2) Click to change it to to unlock the file and the file is not protected.

## 7.10.2 Set HDD Property to Read-only

### Steps

1. Go to Menu → HDD .



Figure 7-31 HDD General

2. Click to edit the HDD you want to protect.



**Figure 7-32 HDD General- Editing**

---

 **Note**

To edit HDD property, you need to set the storage mode of the HDD to Group.

---

3. Set the HDD property to Read-only.
  4. Click **OK** to save settings and back to the upper level menu.
- 

 **Note**

- You cannot save any files in a Read-only HDD. If you want to save files in the HDD, change the property to R/W.
  - If there is only one HDD and is set to Read-only, the NVR can't record any files. Only live view mode is available.
  - If you set the HDD to Read-only when the NVR is saving files in it, then the file will be saved in next R/W HDD. If there is only one HDD, the recording will be stopped.
-

## Chapter 8 Playback

### 8.1 Play Back Record Files

#### 8.1.1 Instant Playback


Play back the recorded video files of a specific channel in the live view mode. Channel switch is supported.

##### Before You Start

Enter the prerequisites here (optional).

Enter the context of your task here (optional).

##### Steps

1. Choose a channel in live view mode.
2. click  in the quick setting toolbar.

---

##### Note

In the instant playback mode, only record files recorded during the last five minutes on this channel will be played back.

---



Figure 8-1 Instant Playback Interface

#### 8.1.2 Play Back by Normal Search

## 8.1.3 Play Back by Smart Search

The smart playback function provides an easy way to get through the less effective information. When you select the smart playback mode, the system will analyze the video containing the motion, line or intrusion detection information, mark it with green color and play it in the normal speed while the video without motion will be played in the 16-time speed. The smart playback rules and areas are configurable.

### Steps

1. Go to **Menu** → **Playback** .
2. Select the **Normal/Smart** in the drop-down list on the top-left side.

### Note

The main stream or sub stream for recording is configurable in **Menu** → **Record** → **Parameters** .

3. Select a camera in the camera list.
4. Select a date in the calendar and click  on the left toolbar to play the video file.



Figure 8-2 Playback by Smart Search







5. Click  radio button to switch to the playback by smart search.
6. Set the rules and areas for smart search of line crossing detection, intrusion detection or motion detection event triggered recording.
  - Line Crossing Detection: Select , and click on the image to specify the start point and end point of the line.
  - Intrusion Detection: Click , and specify 4 points to set a quadrilateral region for intrusion detection. Only one region can be set.
  - Motion Detection: Click , and then hold the mouse on the image to draw the detection area manually. You can also click  to set the full screen as the detection area.
7. **Optional:** You can click  to filter the searched video files by setting the target characters, including the gender and age of the human and whether he/she wears glasses.





Figure 8-3 Set Result Filter

## 8.1.4 Play Back by Event Search

Play back record files on one or several channels searched out by event type (e.g., alarm input, motion detection and VCA).

### Steps

1. Go to **Menu** → **Playback** .
2. Select **Event** in the drop-down list on the top-left side.
3. Select the major type to **Alarm Input**, **Motion**, or **VCA** as the event type.

---


### Note

We take playback by VCA as the example in the following instructions.

---



Figure 8-4 Event Search Interface

4. Select the minor type of VCA from the drop-down list.
5. Select the camera (s) for searching, and set the Start time and End time.
6. Click **Search** to get the search result information. You may refer to the right-side bar for the result.
7. Select a result item and click  to play back the file.

## Note

Pre-play and post-play can be configured.

8. **Optional:** Enter the Synch Playback interface to select the camera (s) for synchronous playback.



Figure 8-5 Synch Playback Interface



9. Enter the playback interface. The toolbar in the bottom part of playback interface can be used to control playing process. You can click  or  to select the previous or next event.



Figure 8-6 Interface of Playback by Event

## 8.1.5 Play Back by Tag

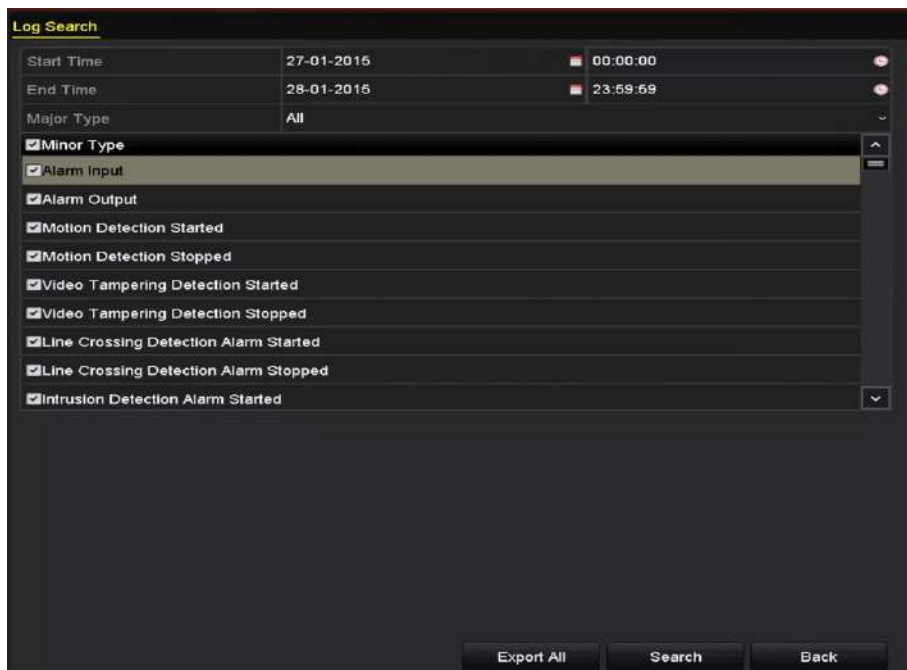
Video tag allows you to record related information like people and location of a certain time point during playback. You can use video tag(s) to search for record files and position time point.

## 8.1.6 Play Back by System Logs


Play back record file(s) associated with channels after searching system logs.

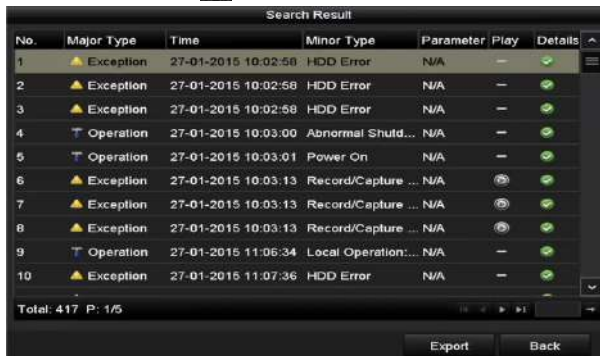
### Steps

1. Go to **Menu** → **Maintenance** → **Log Information** .
2. Click **Log Search** to enter Playback by System Logs.
3. Set search time and type and click **Search**.



**Figure 8-7 System Log Search Interface**

4. Choose a log with record file and click  to enter Playback interface.



**Figure 8-8 Result of System Log Search**

The toolbar in the bottom part of Playback interface can be used to control playing process.



**Figure 8-9 Interface of Playback by Log**



## Before Playing Back by Tag

### Steps

1. Go to **Menu** → **Playback** .
2. Search and play back the record file(s).



Figure 8-10 Interface of Playback by Time

- Click  to add default tag.
- Click  to add customized tag and input tag name.

### Note

Max. 64 tags can be added to a single video file.


3. Tag management. Click  to enter the File Management interface and click **Tag** to manage the tags. You can check, edit, and delete tag(s).



Figure 8-11 Tag Management Interface

## Play Back by Tag

### Steps

1. Select **Tag** from the drop-down list in the Playback interface.
2. Select the stream to Main Stream or Sub Stream.
3. Choose channels, edit start time and end time, and then click **Search** to enter Search Result interface.

---

### Note

You can enter keyword to search the tag on your command.

---

4. Click  to play back the selected tag file.



Figure 8-12 Interface of Playback by Tag

## 8.1.7 Play Back External File


Perform the following steps to look up and play back files in the external devices.

### Steps

1. Go to **Menu** → **Playback** .
2. Select **External File** in the drop-down list on the top-left side.

---

### Note

- The files are listed in the right-side list.
  - You can click  Refresh to refresh the file list.
- 




3. Select and click  to play back it. And you can adjust the playback speed by clicking  and  .






Figure 8-13 Interface of External File Playback

## 8.2 Auxiliary Functions of Playback

### 8.2.1 Play Back Frame by Frame

Play video files frame by frame, in case of checking image details of the video when abnormal events happen.

Go to Playback interface.

- If you choose playback of the record file: click  until the speed changes to Single frame and one click on the playback screen represents playback of one frame.
- If you choose reverse playback of the record file: click  until the speed changes to Single frame and one click on the playback screen represents reverse playback of one frame. It is also feasible to use  in toolbar.

### 8.2.2 Thumbnails View

With the thumbnails view on the playback interface, you can conveniently locate the required video files on the time bar.

#### Steps

1. Enter the playback interface and start to play the video files.

2. Move the mouse to the time bar to get the preview thumbnails of the video files. Select and double click on a required thumbnail to enter the full-screen playback.



**Figure 8-14 Thumbnails View**

---

**Note**

The thumbnail view is supported only in the 1X single-camera playback mode.

---

## 8.2.3 Fast View

You can hold the mouse to drag on the time bar to get the fast view of the video files.

### Steps

1. Enter the playback interface and start to play the video files.
2. Use the mouse to hold and drag through the playing time bar to fast view the video files.
3. Release the mouse to the required time point to enter the full-screen playback.

---




**Note**

The fast view is supported only in the 1X single-camera playback mode.

---

## 8.2.4 Digital Zoom

### Steps

1. Click  on the playback control bar to enter Digital Zoom interface.
2. You can zoom in the image to different proportions (1 to 16X) by moving the sliding bar from  to . You can also scroll the mouse wheel to control the zoom in/out.




**Figure 8-15 Draw Area for Digital Zoom**

3. Right-click the image to exit the digital zoom interface.

## 8.2.5 File Management

You can manage the video clips, captured pictures in playback, locked files and tags you have added in the playback mode.

### Steps

1. Enter the playback interface.
2. Click  on the toolbar to enter the file management interface.



**Figure 8-16 File Management**

3. You can view the saved video clips, lock/unlock the files and edit the tags which you added in the playback mode.
4. If required, select the items and click **Export All** or **Export** to export the clips/pictures/files/tags to local storage device.



## Chapter 9 Backup

### 9.1 Back up Record Files

#### 9.1.1 Quick Export

Export record files to backup device(s) quickly.

##### Steps

1. Go to **Menu** → **Export** → **Normal** .Choose the channel(s) you want to back up and click **Quick Export**.

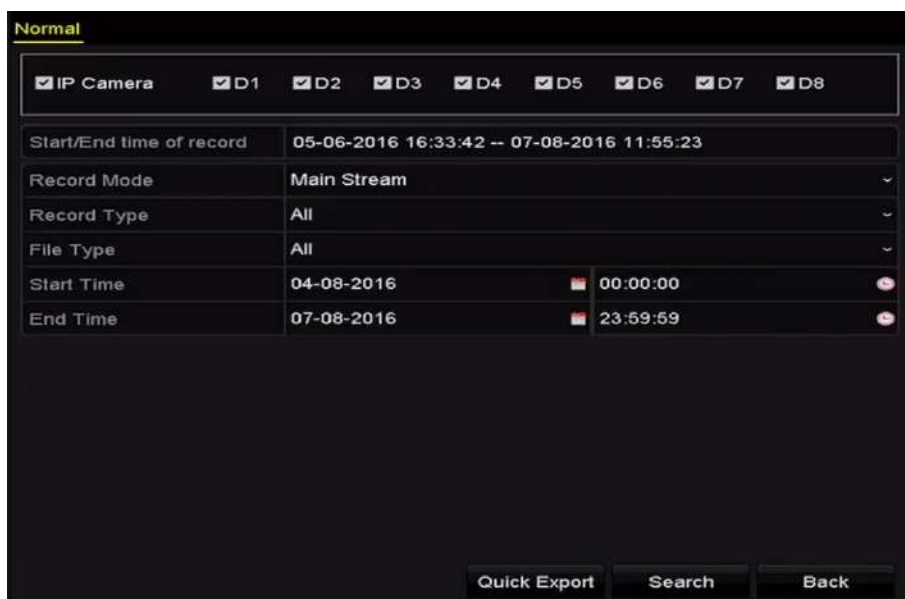


Figure 9-1 Quick Export Interface

---

##### Note

The time duration of record files on a specified channel cannot exceed one day. Otherwise, the message box *Max. 24 hours are allowed for quick export.* will pop up.

2. Select the format of the log files to be exported. Up to 15 formats are selectable.
3. Click **Export** to start exporting.

---

##### Note

Here we use USB Flash Drive and please refer to the next section Normal Backup for more backup devices supported by the NVR.



**Figure 9-2 Quick Export using USB1-1**

- 
4. Check backup result. Choose the record file in Export interface and click to check it.
- 

**Note**

The Player player.exe will be exported automatically during record file export.



**Figure 9-3 Checkup of Quick Export Result Using USB1-1**

---

## 9.1.2 Back up by Normal Video Search

The record files can be backup to various devices, such as USB devices (USB flash drives, USB HDDs, USB writer), or SATA writer.

### Steps

1. Go to **Menu** → **Export** → **Normal** .
2. Select the cameras to search.
3. Set search condition and click **Search** to enter the search result interface. The matched video files or pictures are displayed in Chart or List display mode.



Figure 9-4 Normal Video Search for Backup

4. Select video files or pictures from the Chart or List to export.

**Note**

The size of the currently selected files is displayed in the lower-left corner of the window.



Figure 9-5 Result of Normal Video Search for Backup

5. Export the video files or picture files. Click **Export All** to export all the files. Or you can select recording files you want to back up, and click **Export** to enter Export interface.

**Note**

If the inserted USB device is not recognized:

- Click **Refresh**.
- Reconnect device.
- Check for compatibility from vendor.

You can also format USB flash drives or USB HDDs via the device.



**Figure 9-6 Export by Normal Video Search using USB Flash Drive**

The backup of video files using USB writer or SATA writer has the same operating instructions. Please refer to steps described above.

---

### 9.1.3 Back up by Event Search

Back up event-related record files using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer or eSATA HDD. Quick Backup and Normal Backup are supported.

#### Steps

1. Go to **Menu** → **Export** → **Event** .
2. Select the cameras to search.
3. Select the event type to alarm input, motion, or VCA.



**Figure 9-7 Event Search for Backup**

4. Set the search conditions and click **Search** to enter the search result interface. For the POS event type, you can also set the Keyword and enable the Case Sensitivity (upper case and lower case) to search the video files with the key word contained POS information.
5. The matched video files are displayed in Chart or List display mode. Select video files from the Chart or List interface to export.



Figure 9-8 Result of Event Search

6. Export the video files. Please refer to **Back up by Normal Video Search** .

## 9.1.4 Back up Video Clips

You may also select video clips in playback mode to export directly during Playback, using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer or eSATA HDD.

### Steps





1. Enter Playback interface.
2. During playback, use  or  in the playback toolbar to start or stop clipping record file (s); or use  to capture pictures.
3. Click  to enter the file management interface.



Figure 9-9 Video Clips or Captured Pictures Export Interface

4. Export the video clips or captured pictures in playback. Please refer to **Back up by Normal Video Search** for details.

## 9.2 Manage Backup Devices

Management of USB flash drives, USB HDDs and eSATA HDDs.

### Steps

1. Enter the Export interface.



**Figure 9-10 Storage Device Management**

2. Backup device management.

- Click **New Folder** if you want to create a new folder in the backup device.
- Select a record file or folder in the backup device and click 🗑️ if you want to delete it.
- Click **Erase** if you want to erase the files from a re-writable CD/DVD.
- Click **Format** button to format the backup device.

---

 **Note**

If the inserted storage device is not recognized:

- Click **Refresh**.
  - Reconnect device.
  - Check for compatibility from vendor.
-

## Chapter 10 Event and Alarm

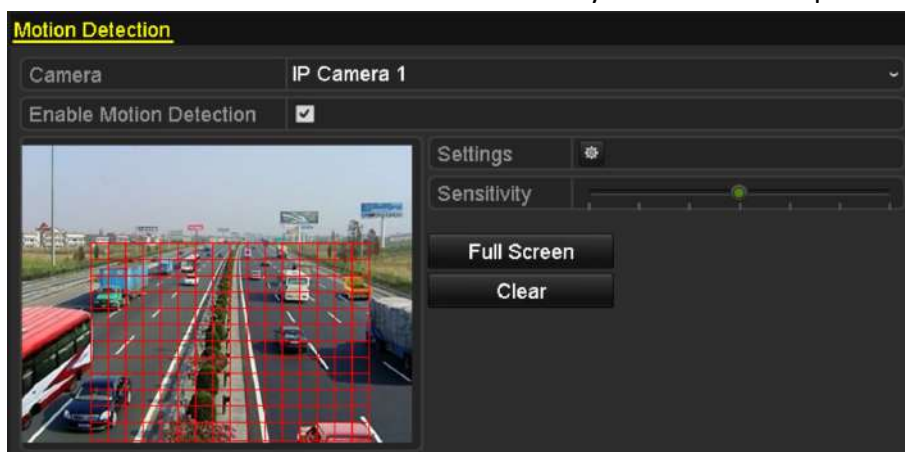
### 10.1 Normal Event Alarm

#### 10.1.1 Set Motion Detection Alarm


Enter a short description of your task here (optional).

##### Steps

1. Go to **Menu** → **Camera** → **Motion** and choose a camera you want to set up motion detection.



**Figure 10-1 Motion Detection Setup Interface**

2. Set up detection area and sensitivity. Tick **Enable Motion Detection**, use the mouse to draw detection area(s) and drag the sensitivity bar to set sensitivity. Click  and set alarm response actions.
3. Click **Trigger Channel** and select one or more channels which will start to record/capture or become full-screen monitoring when motion alarm is triggered, and click **Apply** to save the settings.



**Figure 10-2 Set Trigger Camera of Motion Detection**

4. Set up arming schedule of the channel.
  - 1) Select Arming Schedule tab to set the arming schedule of handling actions for the motion detection.
  - 2) Choose one day of a week and up to eight time periods can be set within each day.
  - 3) Click **Apply** to save the settings.

---

 **Note**

Time periods shall not be repeated or overlapped.



**Figure 10-3 Set Arming Schedule of Motion Detection**

5. Click **Handling** to set up alarm response actions of motion alarm.
6. If you want to set motion detection for another channel, repeat the above steps or just click **Copy** in the Motion Detection interface to copy the above settings to it.

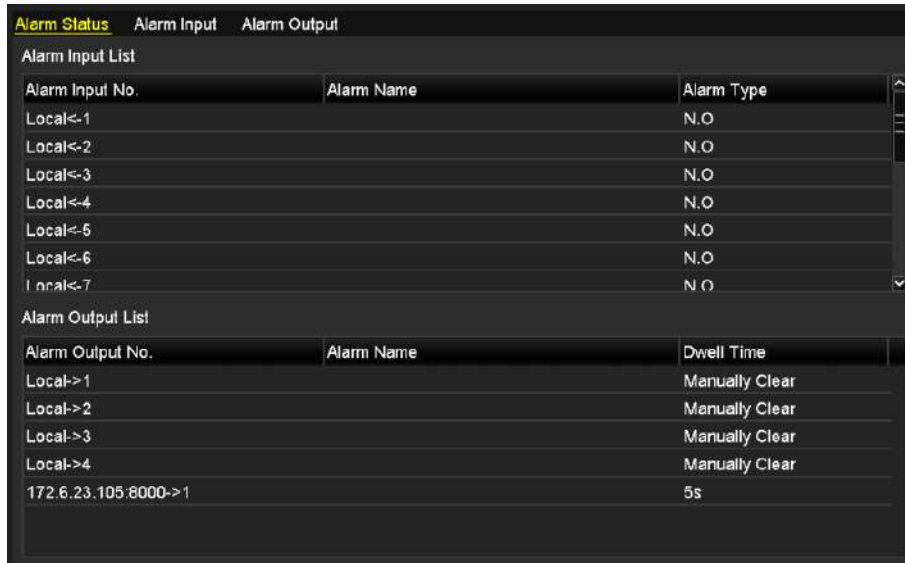
## 10.1.2 Set Sensor Alarms

Set the handling action of an external sensor alarm.



## Steps

1. Go to **Menu → Configuration → Alarm** and select an alarm input..



**Figure 10-4 Alarm Status Interface of System Configuration**

2. Set up the handling action of the selected alarm input. Check **Enable** and click **Settings** to set up its alarm response actions.



**Figure 10-5 Alarm Input Setup Interface**

3. Enable the one-key disarming for local alarm input 1 (Local<-1).
  - 1) Check **Enable One-Key Disarming**.
  - 2) Click **Settings** to enter the linkage action settings interface.
  - 3) Select the alarm linkage action (s) you want to disarm for the local alarm input1. The selected linkage actions include the Full Screen Monitoring, Audible Warning, Notify Surveillance Center, Send Email and Trigger Alarm Output.

---

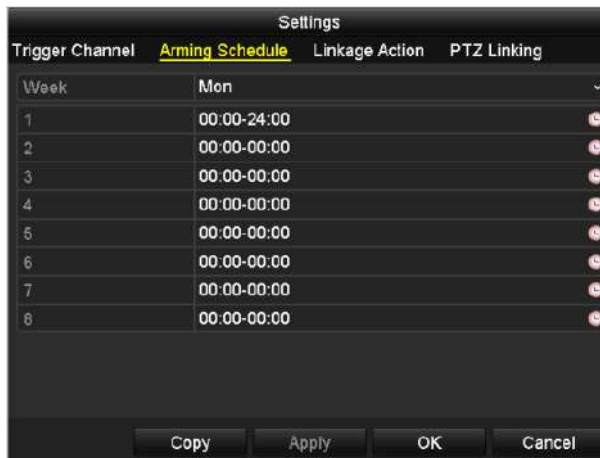
### Note

When the alarm input 1 (Local<-1) is enabled with one-key disarming, the other alarm input settings are not configurable.

---

4. Select **Trigger Channel** and select one or more channels which will start to record/capture or become full-screen monitoring when an external alarm is input, and click **Apply** to save the settings.

5. Select **Arming Schedule** to set the arming schedule of handling actions.



**Figure 10-6 Set Arming Schedule of Alarm Input**

Choose one day of a week and Max. eight time periods can be set within each day, and click **Apply** to save the settings.

 **Note**

Time periods shall not be repeated or overlapped.

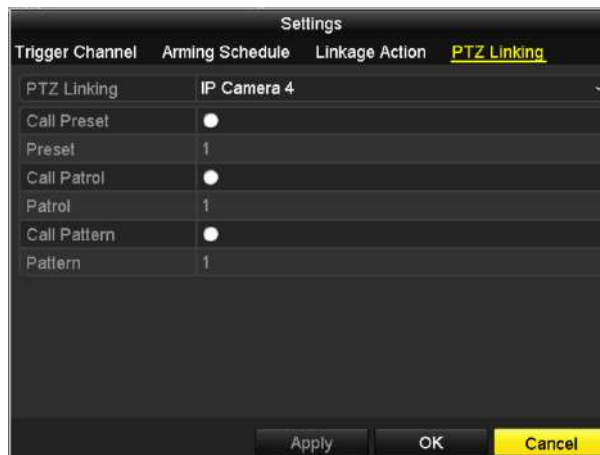
Repeat the above steps to set up arming schedule of other days of a week. You can also use **Copy** to copy an arming schedule to other days.

6. Select **Linkage Action** to set up alarm response actions of the alarm input.

7. **Optional:** Select PTZ Linking tab and set PTZ linkage of the alarm input. Set PTZ linking parameters and click **OK** to complete the settings of the alarm input.

 **Note**

Make sure the PTZ or speed dome connected supports PTZ linkage.



**Figure 10-7 Set PTZ Linking of Alarm Input**

8. If you want to set handling action of another alarm input, repeat the above steps. Or you can click **Copy** on the Alarm Input Setup interface and check the checkbox of alarm inputs to copy the settings to them.



Figure 10-8 Copy Settings of Alarm Input

### 10.1.3 Detect Video Loss Alarm

Detect video loss of a channel and take alarm response action(s).

#### Steps

1. Go to **Menu → Camera → Video Loss**.

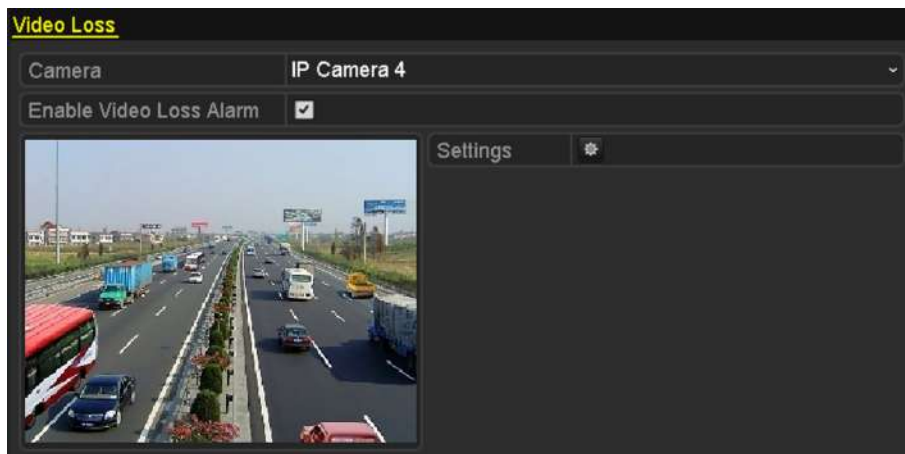
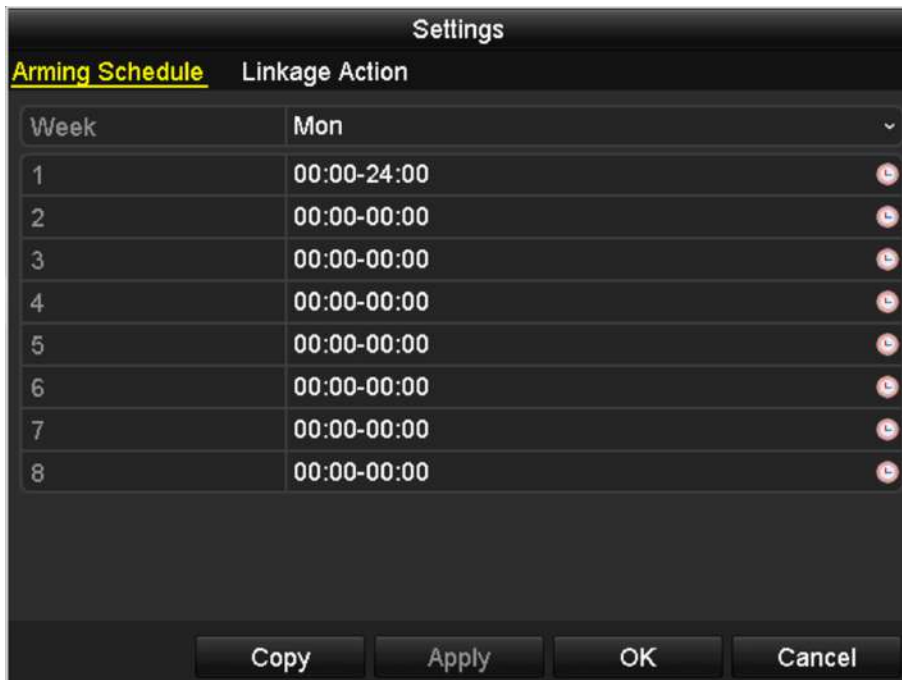


Figure 10-9 Video Loss Setup

2. Select a channel you want to detect.
3. Check **Enable Video Loss Alarm**.
4. Click **Settings** button to set up handling action of video loss.
5. Set up arming schedule of the handling actions.
  - 1) Select **Arming Schedule**.



**Figure 10-10 Set Arming Schedule of Video Loss**

- 2) Choose one day of a week and up to eight time periods can be set within each day.

---

 **Note**

Time periods shall not be repeated or overlapped.

---

- 3) Click **Apply** to save the settings.
6. Select **Linkage Action** to set up alarm response action of video loss (please refer to Setting Alarm Response Actions).
7. Click **OK** to complete the video loss settings of the channel.

### 10.1.4 Detect Video Tampering Alarm

Trigger alarm when the lens is covered and take alarm response action(s).

#### Steps

1. Enter **Menu** → **Camera** → **Video Tampering** .

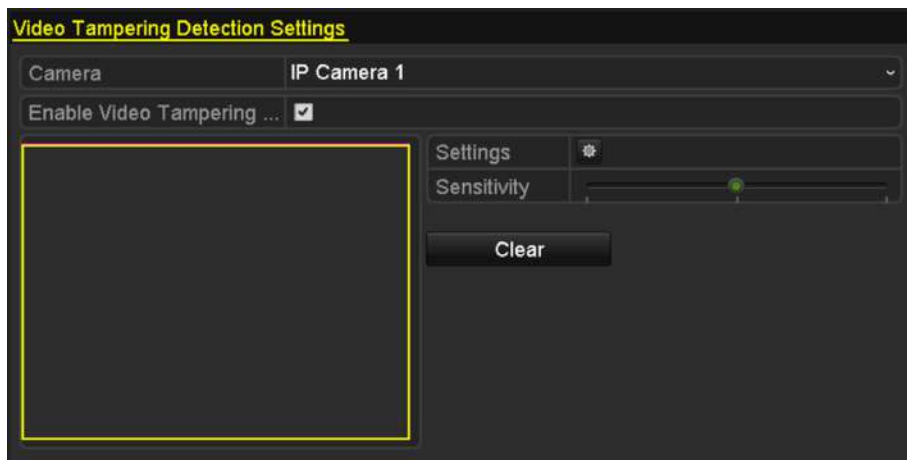


Figure 10-11 Video Tampering Setting

2. Select a channel you want to detect.
3. Check **Enable Video Tampering Detection**.
4. Drag the sensitivity bar to set a proper sensitivity level. Use the mouse to draw an area you want to detect video tampering.
5. Click button to set up handling action of video tampering.
6. Set arming schedule and alarm response actions of the channel.
  - 1) Click **Arming Schedule**.

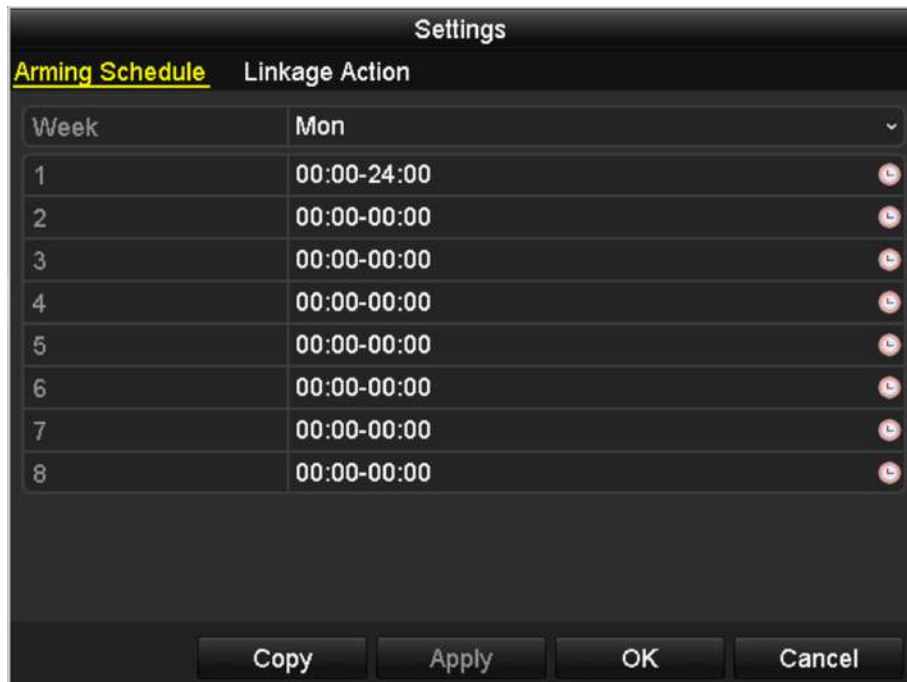


Figure 10-12 Set Arming Schedule of Video Tampering

- 2) Choose one day of a week and Max. eight time periods can be set within each day.

## Note

Time periods shall not be repeated or overlapped.

---

- 3) Click **Apply** to save the settings.
7. Select **Linkage Action** to set up alarm response action of video tampering alarm (please refer to Setting Alarm Response Actions).
8. Click **OK** to complete the video loss settings of the channel.

### 10.1.5 Handle Exceptions Alarm

Exception settings refer to the handling action of various exceptions, e.g.

- HDD Full: The HDD is full.
- HDD Error: Writing HDD error or unformatted HDD.
- Network Disconnected: Disconnected network cable.
- IP Conflicted: Duplicated IP address.
- Illegal Login: Incorrect user ID or password.
- Record/Capture Exception: No space for saving recorded files or captured images.
- Hot Spare Exception: Disconnected with the working device.

#### Steps

1. Go to **Menu → Configuration → Exceptions** .
2. Choose the Alarm trigger methods as you demand.



Figure 10-13 Exceptions Setup

### 10.1.6 Set Alarm Response Actions

Alarm response actions will be activated when an alarm or exception occurs, including Event Hint Display, Full Screen Monitoring, Audible Warning (buzzer), Notify Surveillance Center, Trigger Alarm Output and Send Email.

#### Steps

1. Go to **Menu → Configuration → Exceptions** .
2. Check **Enable Event Hint**.

## Note

When an event or exception happens, a hint can be displayed on the lower-left corner of live view image. And you can click the hint icon to check the details. Besides, the event to be displayed is configurable.

---

3. Set the type of event to be displayed on the image.



Figure 10-14 Event Hint Settings

4. Choose the linkage action.

### Full Screen Monitoring

When an alarm is triggered, the local monitor (VGA, HDMI or BNC monitor) display in full screen the video image from the alarming channel configured for full screen monitoring.

If alarms are triggered simultaneously in several channels, their full-screen images will be switched at an interval of 10 seconds (default dwell time). A different dwell time can be set by going to **Menu → Configuration → Live View** .

Auto-switch will terminate once the alarm stops and you will be taken back to the Live View interface.

## Note

You must select during **Trigger Channel** settings the channel(s) you want to make full screen monitoring.

---

### Audible Warning

Trigger an audible beep when an alarm is detected.

## Notify Surveillance Center

Sends an exception or alarm signal to remote alarm host when an event occurs. The alarm host refers to the PC installed with Remote Client.

---

### Note

The alarm signal will be transmitted automatically at detection mode when remote alarm host is configured.

---

## Send Email

Send an email with alarm information to a user or users when an alarm is detected. Refer to **Configure Email** for details.

## Send SMS (Short Message Service)

Send a text message to a cellphone user when an alarm is detected. Refer to **Configure SMS** for details.

## Trigger Alarm Output

Trigger an alarm output when an alarm is triggered. Refer to **Trigger Alarm Output** for details.

5. Click **OK**.

## Trigger Alarm Output

Trigger an alarm output when an alarm is triggered.

### Steps

1. Go to **Menu → Configuration → Alarm → Alarm Output**.
2. Select an alarm output and set alarm name and dwell time. Click **Schedule** to set the arming schedule of alarm output.

---

### Note

If **Dwell Time** is set as **Manually Clear**, you can clear it only by going to **Menu → Manual → Alarm**.

---



Alarm Status	Alarm Input	Alarm Output
Alarm Output No.	Local->1	▼
Alarm Name		
Dwell Time	5s	▼
Settings		

**Figure 10-15 Alarm Output Setup**

3. Set up arming schedule of the alarm output.  
Choose one day of a week and up to 8 time periods can be set within each day.



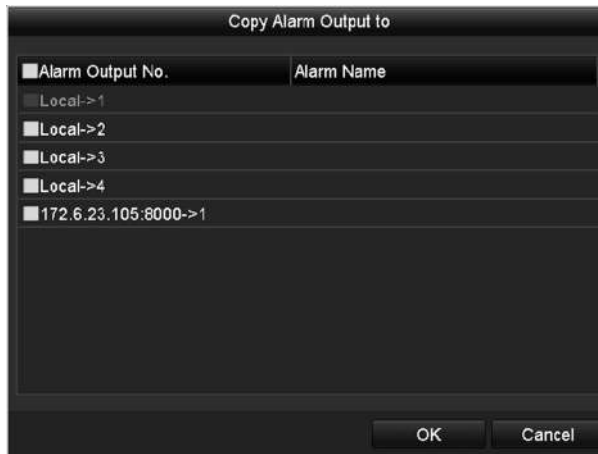
 **Note**

Time periods shall not be repeated or overlapped.



**Figure 10-16 Set Arming Schedule of Alarm Output**

- Repeat the above steps to set up arming schedule of other days of a week. You can also use **Copy** to copy an arming schedule to other days.
- Click **OK** to complete the video tampering settings of the alarm output No..
- You can also copy the above settings to another channel.



**Figure 10-17 Copy Settings of Alarm Output**

## 10.1.7 Trigger or Clear Alarm Output Manually

Sensor alarm can be triggered or cleared manually. If **Manually Clear** is selected in the dwell time of an alarm output, the alarm can be cleared only by clicking **Clear** in the following interface.

### Steps

- Go to **Menu → Manual → Alarm**
- Select the alarm output you want to trigger or clear and make related operations.

- Click **Trigger/Clear** if you want to trigger or clear an alarm output.
- Click **Trigger All** if you want to trigger all alarm outputs.
- Click **Clear All** if you want to clear all alarm output.

### 10.2 VCA Alarm

The NVR supports the VCA detection alarm sent by IP camera. The VCA detection must be enabled and configured on the IP camera settings interface first.



#### Note

- All VCA detection must be supported by the connected IP camera.
  - Please refer to the User Manual of Network Camera for the detailed instructions for the all VCA detection types.
- 

#### 10.2.1 Facial Detection

Facial detection function detects the face appears in the surveillance scene, and some certain actions can be taken when the alarm is triggered.

##### Steps

1. Go to **Menu → Camera → VCA** .
  2. Select the camera to configure the VCA.
- 

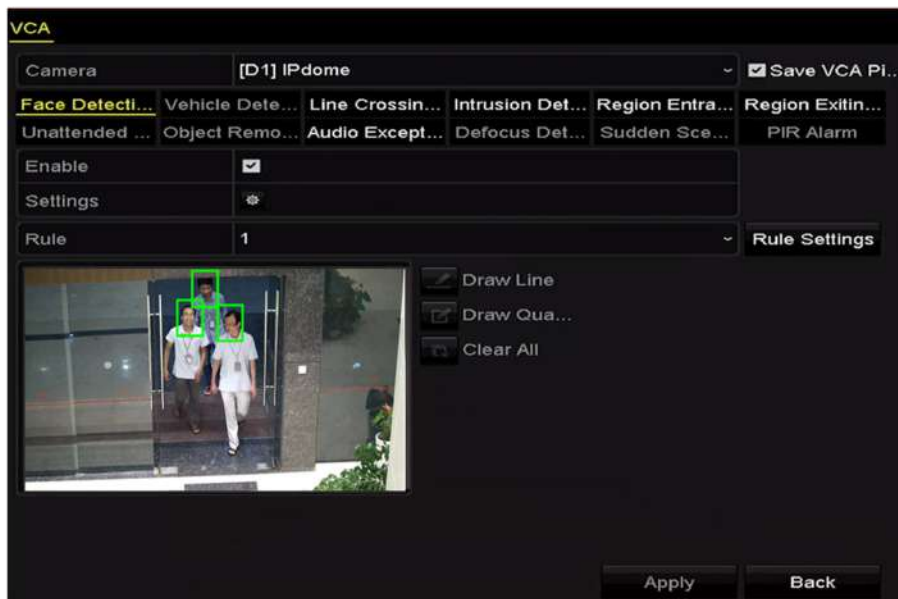


#### Note

You can check **Save VCA Picture** to save the captured pictures of VCA detection.

---

3. Select **VCA detection type** as **Face Detection**.



**Figure 10-18 Facial Detection**

4. Check **Enable**.
5. Click to enter the face detection settings interface. Configure the trigger channel, arming schedule and linkage action for the face detection alarm. Please refer to step3~step5 of Chapter 8.1 Setting Motion Detection Alarm for detailed instructions.
6. Click **Rule Settings** to set the face detection rules. You can click-and-drag the slider to set the detection sensitivity.

#### **Sensitivity**

Range [1-5]. The higher the value is, the more easily the face can be detected.

7. Click **Apply** to activate the settings.

## **10.2.2 Line Crossing Detection**

This function can be used for detecting people, vehicles and objects cross a set virtual line. The line crossing direction can be set as bidirectional, from left to right or from right to left. And you can set the duration for the alarm response actions, such as full screen monitoring, audible warning, etc.

#### **Steps**

1. Enter **Menu → Camera → VCA** .
2. Select the camera to configure the VCA.

---

#### **Note**

You can check **Save VCA Picture** to save the captured pictures of VCA detection.

---

3. Select **VCA detection type** as **Line Crossing Detection**.
4. Check **Enable**.

5. Click to configure the trigger channel, arming schedule and linkage actions for the line crossing detection alarm.
6. Click **Rule Settings** to set the line crossing detection rules.

---

 **Note**

Up to 4 rules can be configured.

---

- 1) Select **Direction** as **A<->B**, **A->B** or **A<-B**.

**A<->B**

Only the arrow on the B side shows; when an object going across the configured line with both direction can be detected and alarms are triggered.

**A->B**

Only the object crossing the configured line from the A side to the B side can be detected.

**B->A**

Only the object crossing the configured line from the B side to the A side can be detected.

- 2) Click-and-drag the slider to set the detection sensitivity.

**Sensitivity**

Range [1-100]. The higher the value is, the more easily the detection alarm can be triggered.

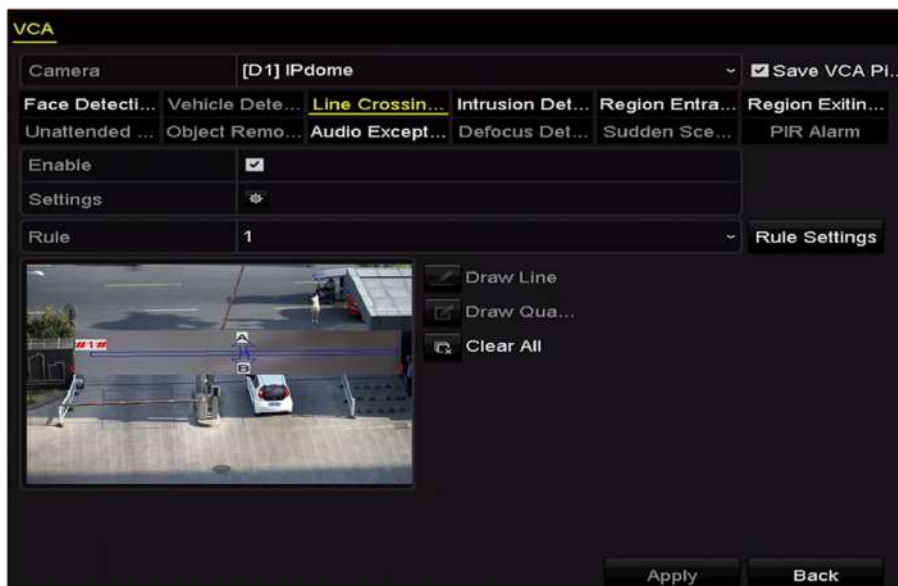
- 3) Click **OK** to save the rule settings and back to the line crossing detection settings interface.

7. Click and set two points in the preview window to draw a virtual line.
- 

 **Note**

You can use the to clear the existing virtual line and re-draw it.

---



**Figure 10-19 Draw Line for Line Crossing Detection**

## 10.2.3 Intrusion Detection

Intrusion detection function detects people, vehicle or other objects which enter and loiter in a pre-defined virtual region, and some certain actions can be taken when the alarm is triggered.

### Steps

1. Enter **Menu** → **Camera** → **VCA** .
2. Select a camera to configure the VCA.



You can check **Save VCA Picture** to save captured pictures of VCA detection.

---

3. Set **VCA detection type** as **Intrusion Detection**.
4. Check **Enable**.
5. Click to configure the trigger channel, arming schedule and linkage actions.
6. Click **Rule Settings** to set the intrusion detection rules. Set the following parameters.



Up to 4 rules can be configured.

---

### Threshold

Range [1s-10s], the threshold for the time of the object loitering in the region. When the duration of the object in the defined detection area is longer than the set time, the alarm will be triggered.

### Sensitivity

Range [1-100]. The value of the sensitivity defines the size of the object which can trigger the alarm. The higher the value is, the more easily the detection alarm can be triggered.

### Percentage

Range [1-100]. Percentage defines the ratio of the in-region part of the object which can trigger the alarm. For example, if the percentage is set as 50%, when the object enters the region and occupies half of the whole region, the alarm is triggered.

7. Click and draw a quadrilateral in the preview window by specifying four vertexes of the detection region, and right click to complete drawing. Only one region can be configured.



You can use the to clear the existing virtual line and re-draw it.

---



Figure 10-20 Draw Area for Intrusion Detection

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

## 10.2.4 Region Entrance Detection

Region entrance detection function detects people, vehicle or other objects which enter a pre-defined virtual region from the outside place, and some certain actions can be taken when the alarm is triggered.

### Steps

1. Enter **Menu** → **Camera** → **VCA** .
2. Select the camera to configure the VCA.

---

### Note

You can check **Save VCA Picture** to save the captured pictures of VCA detection.

---

3. Select **VCA detection type** as **Region Entrance Detection**.
  4. Check **Enable**.
  5. Click to configure the trigger channel, arming schedule and linkage actions.
  6. Click **Rule Settings** to set the face detection rules.
- 

### Note

Up to 4 rules can be configured.

---

### Sensitivity

Range [1-5]. The higher the value is, the more easily the face can be detected.

7. Click and draw a quadrilateral in the preview window by specifying four vertexes of the detection region, and right click to complete drawing. Only one region can be configured. You can use the to clear the existing virtual line and re-draw it.



Figure 10-21 Set Region Entrance Detection

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

## 10.2.5 Region Exiting Detection

Region exiting detection function detects people, vehicle or other objects which exit from a pre-defined virtual region, and some certain actions can be taken when the alarm is triggered.

Refer to **Region Entrance Detection** for operating steps to configure the region exiting detection.

---

### Note

Up to 4 rules can be configured.

---

## 10.2.6 Unattended Baggage Detection

Unattended baggage detection function detects the objects left over in the pre-defined region such as the baggage, purse, dangerous materials, etc., and a series of actions can be taken when the alarm is triggered.

Please refer to **Intrusion Detection** for operating steps to configure the unattended baggage detection.

---

### Note

- **Threshold** [5s-20s] in the Rule Settings defines the time of the objects left over in the region. If you set the value as 10, alarm is triggered after the object is left and stay in the region for 10s. And the **Sensitivity** defines the similarity degree of the background image. Usually, when the sensitivity is high, a very small object left in the region can trigger the alarm.
  - Up to 4 rules can be configured.
-

### 10.2.7 Object Removal Detection

Object removal detection function detects the objects removed from the pre-defined region, such as the exhibits on display, and a series of actions can be taken when the alarm is triggered.

Refer to the *Intrusion Detection* for operating steps to configure the object removal detection.

---



#### Note

- **Threshold** [5s-20s] in the Rule Settings defines the time of the objects removed from the region. If you set the value as 10, alarm is triggered after the object disappears from the region for 10s. And **Sensitivity** defines the similarity degree of the background image. Usually, when the sensitivity is high, a very small object taken from the region can trigger the alarm.
  - Up to 4 rules can be configured.
- 

### 10.2.8 Audio Exception Detection

Audio exception detection function detects the abnormal sounds in the surveillance scene, such as the sudden increase / decrease of the sound intensity, and some certain actions can be taken when the alarm is triggered.

#### Steps

1. Enter **Menu** → **Camera** → **VCA** .
  2. Select the camera to configure the VCA.
- 



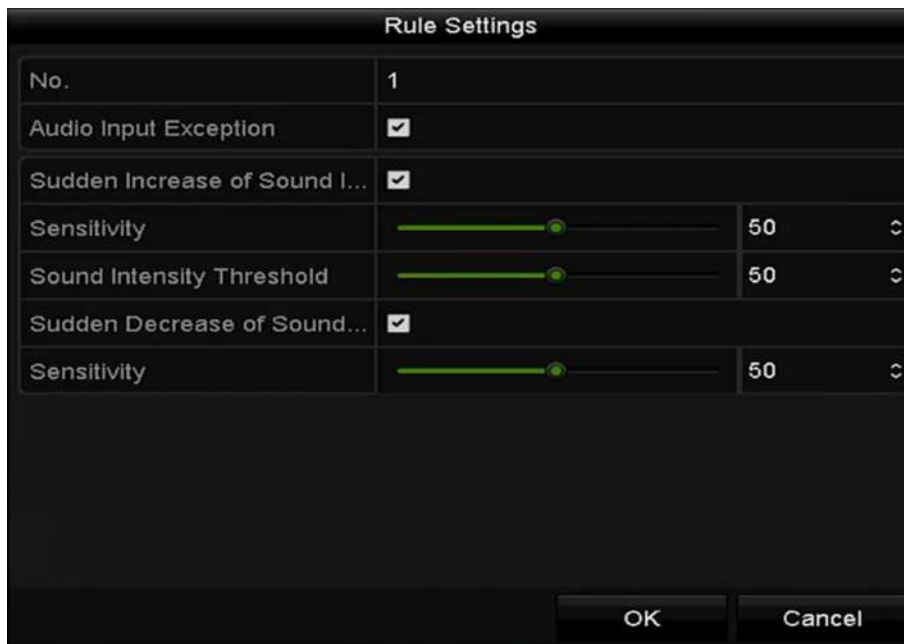
#### Note

You can check **Save VCA Picture** to save the captured pictures of VCA detection.

---

3. Select **VCA detection type** as **Audio Exception Detection**.
4. Click to configure the trigger channel, arming schedule and linkage actions.
5. Click **Rule Settings** to set the audio exception rules.





**Figure 10-22 Set Audio Exception Detection Rules**

- 1) Check **Audio Input Exception** to enable the audio loss detection function.
- 2) Check **Sudden Increase of Sound Intensity Detection** to detect the sound steep rise in the surveillance scene. You can set the detection sensitivity and threshold for sound steep rise.

**Sensitivity**

Range [1-100], the smaller the value is, the more severe the change should be to trigger the detection.

**Sound Intensity Threshold**

Range [1-100], it can filter the sound in the environment, the louder the environment sound, the higher the value should be. You can adjust it according to the real environment.

- 3) Check **Sudden Decrease of Sound Intensity Detection** to detect the sound steep drop in the surveillance scene. You can set the detection sensitivity [1-100] for sound steep drop.

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

**10.2.9 Sudden Scene Change Detection**

Scene change detection function detects the change of surveillance environment affected by the external factors; such as the intentional rotation of the camera, and some certain actions can be taken when the alarm is triggered.

Refer to **Facial Detection** for operating steps to configure the scene change detection.

---

 **Note**

The **Sensitivity** in the Rule Settings ranges from 1 to 100, and the higher the value is, the more easily the change of scene can trigger the alarm.

---

## 10.2.10 Defocus Detection

The image blur caused by defocus of the lens can be detected, and some certain actions can be taken when the alarm is triggered.

Refer to **Facial Detection** for operating steps to configure the defocus detection.

---

 **Note**

The **Sensitivity** in the Rule Settings ranges from 1 to 100, and the higher the value is, the more easily the defocus image can trigger the alarm.

---

## 10.2.11 PIR Alarm

A PIR (Passive Infrared) alarm is triggered when an intruder moves within the detector's field of view. The heat energy dissipated by a person, or any other warm blooded creature such as dogs, cats, etc., can be detected.

### Steps

1. Enter **Menu** → **Camera** → **VCA** .
  2. Select the camera to configure the VCA.
- 

 **Note**

You can check **Save VCA Picture** to save the captured pictures of VCA detection.

---

3. Select **VCA detection type** as **PIR Alarm**.
4. Click to configure the trigger channel, arming schedule and linkage actions.
5. Click **Rule Settings** to set the rules.
6. Click **Apply** to save the settings.

## Chapter 11 VCA Search

With the configured VCA detection, the device supports the VCA search for the behavior analysis, face capture, people counting and heat map results.

### 11.1 Face Search

When there are detected face picture captured and saved in HDD, you can enter the Face Search interface to search the picture and play the picture related video file according to the specified conditions.

#### Steps

1. Enter **Menu** → **VCA Search** → **Face Search** .
2. Select camera(s) for the face search.

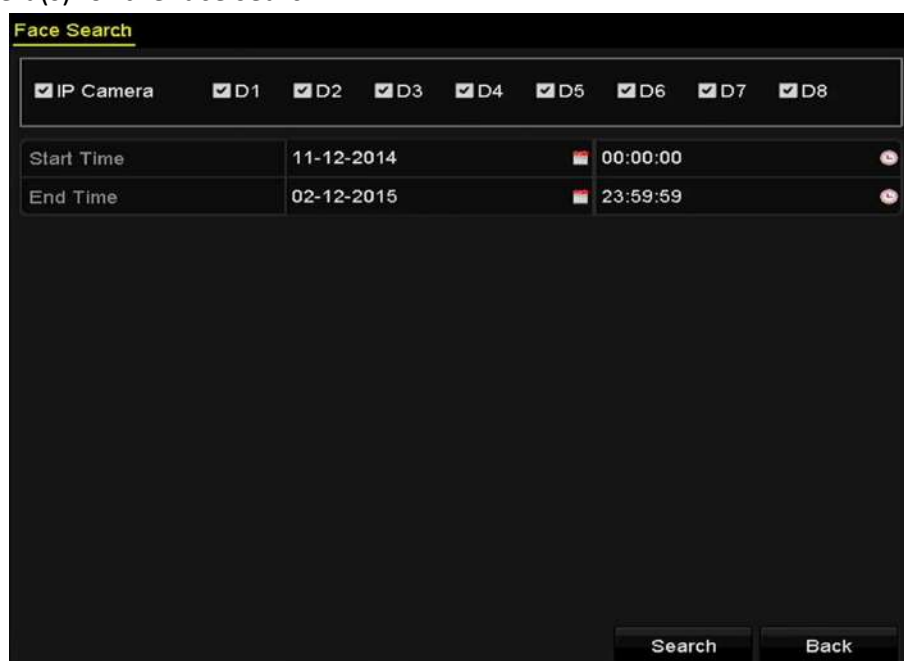
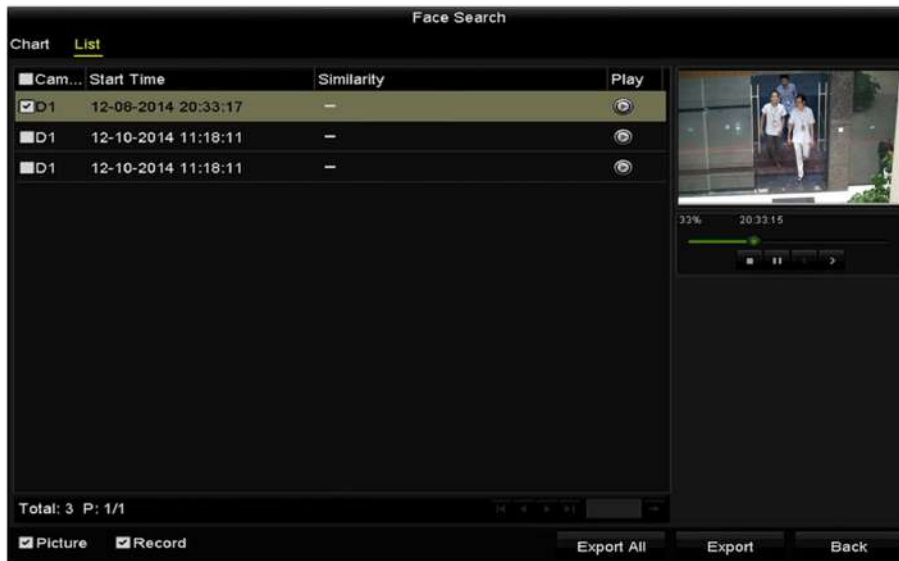


Figure 11-1 Face Search

3. Specify **Start Time** and **End Time** for search the captured face pictures or video files.
4. Click **Search** to start searching.



**Figure 11-2 Face Search Result**

The search results of face detection pictures are displayed in list or in chart.

**5.** Play the face picture related video file.

You can double click on a face picture to play its related video file in the view window on the top right.

**6.** If you want to export the captured face pictures to local storage device, connect the storage device to the device and click **Export All** to enter the Export interface.



**Figure 11-3 Export Files**

## 11.2 Behavior Search

The behavior analysis detects a series of suspicious behavior based on VCA detection, and certain linkage methods will be enabled if the alarm is triggered.

### Steps

1. Enter **Menu** → **VCA Search** → **Behavior Search** .
2. Select camera(s) for the behavior search.

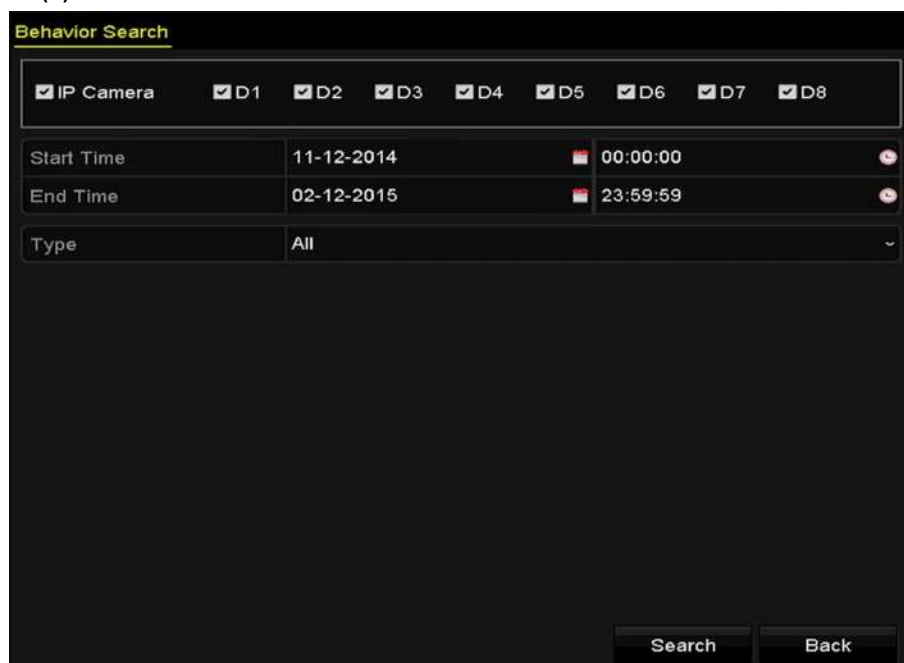
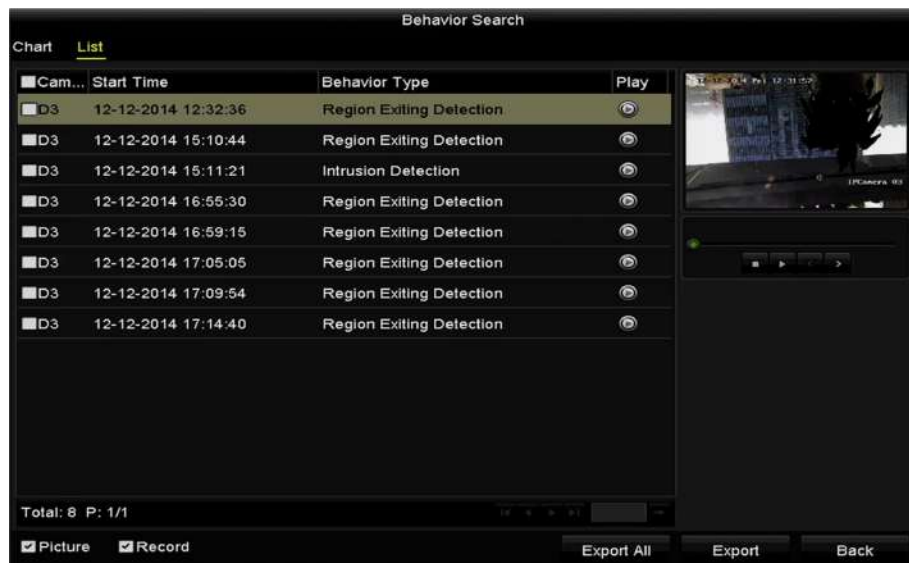


Figure 11-4 Behavior Search

3. Specify **Start Time** and **End Time** for search the matched pictures.
4. Select the VCA detection type.
5. Click **Search** to start searching.



**Figure 11-5 Behavior Search Result**

The search results of pictures are displayed in list or in chart.

**6.** Play the behavior analysis picture related video file.

You can double click on a picture from the list to play its related video file in the view window on the top right.

**7.** If you want to export the captured face pictures to local storage device, connect the storage device to the device and click **Export All** to enter the Export interface.

## Chapter 12 Network Settings

### 12.1 Configure General Settings

Network settings must be properly configured before you operate NVR over network.

#### Steps

1. Go to **Menu → Configuration → Network** .
2. Select **General**.

NIC Type	10M/100M/1000M Self-adaptive		
Enable DHCP	<input type="checkbox"/>		
IPv4 Address...	10 .15 .1 .76	IPv6 Address...	fe80::240:5eff:fe6:3c92/64
IPv4 Subn...	255 .255 .255 .0	IPv6 Address...	
IPv4 Defa...	10 .15 .1 .254	IPv6 Defa...	
MAC Address	00:40:5e:f6:3c:92		
MTU(Bytes)	1500		
Enable Obtain DNS Serv...	<input type="checkbox"/>		
Preferred DNS Server	10.1.7.88		
Alternate DNS Server	10.1.7.77		
Internal NIC IPv4 Address	192 .168 .254 .1		
<input type="button" value="Apply"/> <input type="button" value="Back"/>			

**Figure 12-1 Network Settings**

3. In the General Settings interface, you can configure the following settings: Working Mode, NIC Type, IPv4 Address, IPv4 Gateway, MTU, DNS DHCP and DNS Server.

#### MTU

The valid value range of MTU is 500 - 9676.

#### DHCP

If the DHCP server is available, you can click **DHCP** to automatically obtain an IP address and other network settings from that server.

#### Internal NIC IPv4 Address

For the DS-7600NI-Q1/P and DS-7600NI-Q2/P series NVR, you need to configure the internal NIC address, so that IP addresses are assigned to the cameras connected to the PoE interfaces.

#### Working Mode

Two 10M/100M/1000M NIC cards are provided and it allows the device to work in the Multi-address and Net-fault Tolerance modes.

- **Multi-address Mode:** The parameters of the two NIC cards can be configured independently. You can select LAN1 or LAN2 in the NIC type field for parameter settings. You can select one NIC card as default route. And then the system is connecting with the extranet the data will be forwarded through the default route.
- **Net-fault Tolerance Mode:** The two NIC cards use the same IP address, and you can select the Main NIC to LAN1 or LAN2. By this way, in case of one NIC card failure, the device will automatically enable the other standby NIC card so as to ensure the normal running of the whole system.

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

## 12.2 Configure Advanced Settings

### 12.2.1 Configuring DDNS

You can set the Dynamic DNS (DDNS) for network access. Prior registration with your ISP is required before configuring the system to use DDNS.

#### Steps

1. Go to **Menu → Configuration → Network**.
2. Select **DDNS** to enter the DDNS Settings interface.
3. Check **Enable DDNS** to enable this feature.
4. Select **DDNS Type** as **DynDNS**, **PeanutHull**, or **NO-IP**.
5. Configure **Server Address**, **Device Domain Name**, **User Name**, **User Name**.
6. Click **Apply** to save and exit the interface.

### 12.2.2 Configure PPPoE

Your device also allows access by Point-to-Point Protocol over Ethernet (PPPoE).

#### Steps

1. Go to **Menu → Configuration → Network**.
2. Click **PPPoE**.
3. Check **Enable PPPoE**.
4. Enter the user name and password for PPPoE access.



#### Note

The user name and password should be assigned by your ISP.

---

5. Click **Apply** to save and exit the interface.
6. After successful settings, the system asks you to reboot the device to enable the new settings, and the PPPoE dial-up is automatically connected after reboot.



## Result

You can go to **Menu → Maintenance → System Info → Network** to view the status of PPPoE connection.

## 12.2.3 Configure NTP Server

A Network Time Protocol (NTP) Server can be configured on your NVR to ensure the accuracy of system date/time. If the NVR is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the NVR is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

### Steps

1. Go to **Menu → Configuration → Network → NTP**.
2. Check **Enable NTP**.



### Note

Enabling NTP will disable Hik-Connect server time sync.

---

3. Configure the following NTP settings.

#### Interval

Time interval between the two synchronizing actions with NTP server. The unit is minute. The time synchronization interval can be set from 1 to 10080min, and the default value is 60min.

#### NTP Server

IP address of NTP server.

#### NTP Port

Port of NTP server.

4. Click **Apply**.

## 12.2.4 Configure More Settings

### Steps

1. Go to **Menu → Configuration → Network**.
2. Select **More Settings** to enter the More Settings interface.



Alarm Host IP	192.0.0.10
Alarm Host Port	7200
Server Port	8000
HTTP Port	80
Multicast IP	239.252.2.50
RTSP Port	554

**Figure 12-2 Configure More Settings**

3. Configure the remote alarm host, server port, HTTP port, multicast, RTSP port.

#### Alarm Host IP/Port

With a remote alarm host configured, the device will send the alarm event or exception message to the host when an alarm is triggered. The remote alarm host must have the CMS (Client Management System) software installed. The Alarm Host IP refers to the IP address of the remote PC on which the CMS (Client Management System) software (e.g., iVMS-4200) is installed, and the Alarm Host Port must be the same as the alarm monitoring port configured in the software (default port is 7200).

### **Multicast IP**

The multicast can be configured to realize live view for more than the maximum number of cameras through network. A multicast address spans the Class-D IP range of 224.0.0.0 to 239.255.255.255. It is recommended to use the IP address ranging from 239.252.0.0 to 239.255.255.255. When adding a device to the CMS (Client Management System) software, the multicast address must be the same as the device's multicast IP.

### **RTSP Port**

The RTSP (Real Time Streaming Protocol) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers. The default RTSP port is 554, and you can change it according to different requirements.

### **Server Port and HTTP Port**

The Server Port should be set to the range of 2000-65535 and it is used for remote client software access. The HTTP port is used for remote IE access. The default Server Port is 8000 and the HTTP Port is 80, and you can change them according to different requirements.

4. Click **Apply** to save and exit the interface.

## **12.2.5 Configuring HTTPS Port**

HTTPS provides authentication of the web site and associated web server that one is communicating with, which protects against Man-in-the-middle attacks. Perform the following steps to set the port number of https.

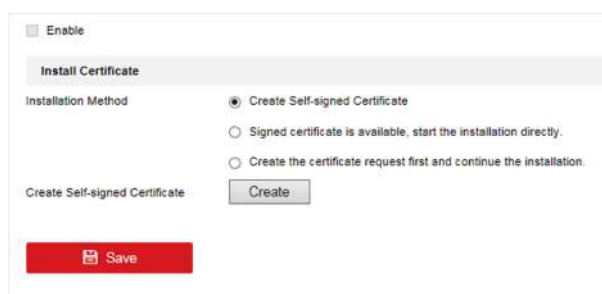


The HTTPS port can be only configured through the web browser.

---

### **Steps**

1. Open web browser, input the IP address of device.
2. Input the correct user name and password, and click **Login** to log in the device.
3. Go to **Configuration** → **Network** → **Advanced Settings** → **HTTPS**



**Figure 12-3 HTTPS Settings**

4. Create the self-signed certificate or authorized certificate.
  - Create the self-signed certificate
    - a. Click **Create** to create the following dialog box.
    - b. Enter the country, host name/IP, validity and other information.
    - c. Click **OK** to save the settings.
  - Create the authorized certificate
    - a. Click **Create** to create the certificate request.
    - b. Download the certificate request and submit it to the trusted certificate authority for signature.
    - c. After receiving the signed valid certificate, import the certificate to the device.
  - Install the available certificate
    - a. Click Browse to locate the certificate file from your local directory.
    - b. Click Install to install the certificate.
    - c. There will be the certificate information after you successfully create and install the certificate.

There will be the certificate information after you successfully create and install the certificate.

5. Check **Enable** to enable the HTTPS function.

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

## 12.2.6 Configure Email

The system can be configured to send an email notification to all designated users if an alarm event is detected, etc., an alarm or motion event is detected or the administrator password is changed.

### Before You Start

NVR must be connected to a local area network (LAN) that maintains an SMTP mail server. The network must also be connected to either an intranet or the Internet depending on the location of the e-mail accounts to which you want to send notification.

### Steps

1. Go to **Menu → Configuration → Network**.
2. Set the IPv4 address, IPv4 subnet mask, IPv4 gateway and the preferred DNS server in the Network Settings menu.
3. Click **Apply** to save the settings.

4. Select the Email tab to enter the Email Settings interface.



The screenshot shows the Email Settings interface with the following fields and values:

Enable Se...	<input type="checkbox"/>	SMTP Ser...	
User Name		SMTP Port	25
Password		Enable SS...	<input type="checkbox"/>
Sender			
Sender's Address			
Select Receivers	Receiver 1		
Receiver			
Receiver's Address			
Enable Attached Picture	<input type="checkbox"/>		
Interval	2s		

**Figure 12-4 Email Settings**

5. Configure the following email settings.

**Enable Server Authentication**

Check it to enable the server authentication feature.

**User Name**

The user name of sender's account registered on the SMTP server.

**Password**

The password of sender's account registered on the SMTP server.

**SMTP Server**

The SMTP Server IP address or host name (e.g., smtp.263xmail.com).

**SMTP Port**

The SMTP port. The default TCP/IP port used for SMTP is 25.

**Enable SSL/TLS**

Click **Enable SSL/TLS** if required by the SMTP server.

**Sender**

The name of sender.

**Sender's Address**

The Email address of sender.

**Select Receivers**

Select the receiver. Up to 3 receivers can be configured.

**Receiver**

The name of user to be notified.

**Receiver's Address**

The Email address of user to be notified.

## Enable Attached Picture

Check **Enable Attached Picture** if you want to send email with attached alarm images. The interval is the time of two adjacent alarm images. You can also set SMTP port and enable SSL here.

## Interval

The interval refers to the time between two actions of sending attached pictures.

6. Click **Apply** to save the email settings.
7. You can click **Test** to test whether your email settings work.

## 12.2.7 Configuring NAT

Two ways are provided for port mapping to realize the remote access via the cross-segment network, UPnP™ and manual mapping.

### Before You Start

If you want to enable the UPnP™ function of the device, you must enable the UPnP™ function of the router to which your device is connected. When the network working mode of the device is set as multi-address, the Default Route of the device should be in the same network segment as that of the LAN IP address of the router.

UPnP™ : Universal Plug and Play (UPnP™) can permit the device seamlessly discover the presence of other network devices on the network and establish functional network services for data sharing, communications, etc. You can use the UPnP™ function to enable the fast connection of the device to the WAN via a router without port mapping.

### Steps

1. Go to **Menu → Configuration → Network → NAT**.

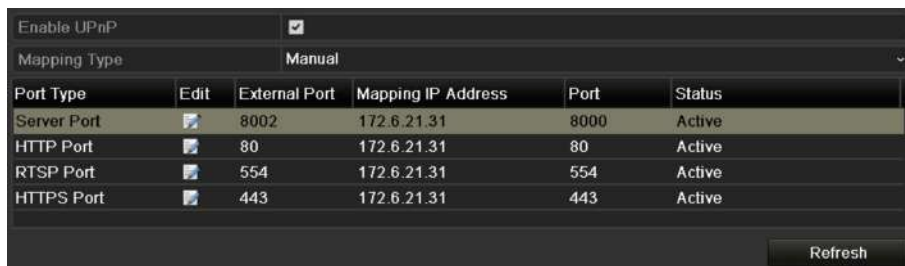


Figure 12-5 UPnP™ Settings

2. Check **UPnP**.
3. Select **Mapping Type** as **Manual** or **Auto**.
  - If you select **Auto**, the Port Mapping items are read-only, and the external ports are set by the router automatically.
  - If you select **Manual** as the mapping type, you can edit the external port on your demand by clicking to activate the External Port Settings dialog box.

## Note

- External Port indicates the port No. for port mapping in the router.
- The value of the RTSP port No. should be 554 or between 1024 and 65535, while the value of the other ports should be between 1 and 65535 and the value must be different from each other. If multiple devices are configured for the UPnP™ settings under the same router, the value of the port No. for each device should be unique.

4. Enter the virtual server setting page of router; fill in the blank of Internal Source Port with the internal port value, the blank of External Source Port with the external port value, and other required contents.

Delete	External Source Port	Protocol	Internal Source IP	Internal Source Port	Application
<input type="checkbox"/>	81	TCP	192.168.251.101	80	HTTP

**Figure 12-6 Setting Virtual Server Item**

- Each item should be corresponding with the device port, including server port, http port, RTSP port and https port.
- The above virtual server setting interface is for reference only, it may be different due to different router manufactures. Please contact the manufacture of router if you have any problems with setting virtual server.

## 12.2.8 Configure Virtual Host

You can directly get access to the IP camera management interface after enabling this function.

## Note

The Virtual host function can be only configured through the web browser.

### Steps

1. Go to **Configuration** → **Network** → **Advanced Settings** → **Other** .

Alarm Host IP	<input type="text"/>
Alarm Host Port	<input type="text" value="0"/>
Multicast Address	<input type="text"/>
<input type="checkbox"/> Enable Virtual Host	
<input type="checkbox"/> Enable Flow Control	
<input type="button" value="Save"/>	

**Figure 12-7 Advanced Settings**

2. Check **Enable Virtual Host**.
3. Click **Save** to save the setting.

## Result

Enter the IP camera management interface of NVR. The Connect column appears on the right-most side of the camera list.

## 12.3 Configure Wireless Settings

### 12.3.1 Configure Wireless Dial

Access to 3G or 4G wireless network via wireless dial.

#### Before You Start

- Install the SIM/UIM card and antenna to the device properly. Refer to *Quick Start Guide* for details.
- Ensure your SIM/UIM card is valid.

#### Steps

1. Go to **Menu → Configuration → Wireless → Dial Settings** .

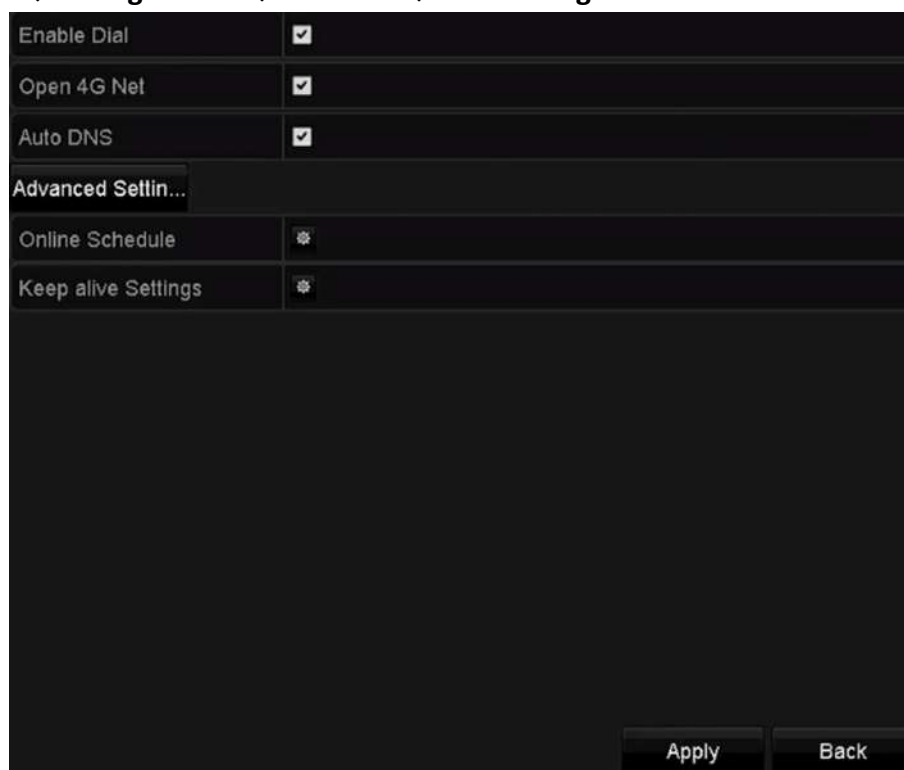




Figure 12-8 Wireless Dial

2. Check **Enable Dial**.
3. **Optional:** Check **Open 4G Net** to enable 4G network. The device will use 3G/2G if **Open 4G Net** is unchecked.

4. **Optional:** Check **Auto DNS**.
5. **Optional:** Click **Advanced Settings** to set specified APN (Access Point Name) network parameters, including **Access Number**, **User Name**, **Password**, etc.
6. Set the online schedule for wireless dial.
  - 1) Click  of **Online Schedule**.
  - 2) Select a day of the week.
  - 3) Set the online period for the day. Up to 8 periods are allowed for a day.
  - 4) Set the online period for other days. You can click **Copy** to copy the period to other days.
  - 5) Click **OK**.
7. Set keep alive parameters. A keep alive (KA) is a message sent by one device to another to check that the link between the two is operating, or to prevent the link from being broken.
  - 1) Click  of **Keep alive Settings**.
  - 2) Check **Enable keep alive**.
  - 3) Set **Test interval(min)**. The interval is the duration between two successive keep alive retransmissions, if acknowledgment to the previous keep alive transmission is not received.
  - 4) Enter server IP address in **Server**.
  - 5) Click **Test** to test if the settings is valid.
  - 6) Click **OK**.
8. Click **Apply**.

### 12.3.2 Configure SMS

When SMS alarm linkage action is enabled, the device will send a text message to a cellphone user if an alarm is detected. Moreover, the SMS self-service enables you to send text messages as commands to turn on/off wireless dial, view dial status, enable/disable SMS alarm linkage action.

#### Steps

1. Go to **Menu** → **Configuration** → **Wireless** → **SMS Settings** .



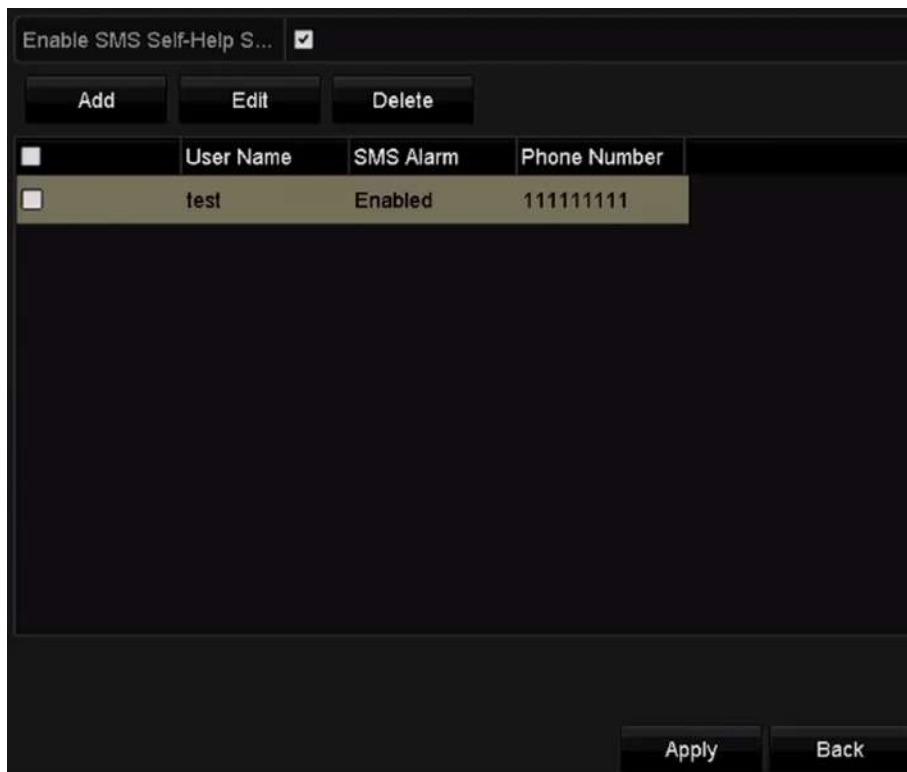


Figure 12-9 SMS Settings

2. Check **Enable SMS Self-Help Service**, it enables you to send text messages as commands to control the wireless dial related functions.

Table 12-1 SMS Self-service Text Message Description

Text Message	Description
101	Enable wireless dial.
102	Disable wireless dial.
103	Get dial status.
201	Enable SMS alarm linkage action.
202	Disable SMS alarm linkage action.

3. Click **Add** to add a SMS user.
  - 1) Enter a user name in **User Name**.
  - 2) Check **SMS Alarm Function**. When SMS alarm linkage action is enabled, the device will send a text message to this user if an alarm is detected..
  - 3) Enter the user phone number in **Phone Number**.
  - 4) Click **Add**.
4. **Optional:** Click **Edit** or **Delete** to edit/delete the selected user.
5. Click **Apply**.

## 12.3.3 View Wireless Network Status

Go to **Menu → Configuration → Wireless → Wireless Network Status**. You can view the SIM/UIM card status, network parameters, etc.

## 12.3.4 Data Monitoring

You can monitor your data usage, and set the data package limit and data warning limit in case your data usage exceeds the limit.

### Steps

1. Go to **Menu → Configuration → Exceptions**.

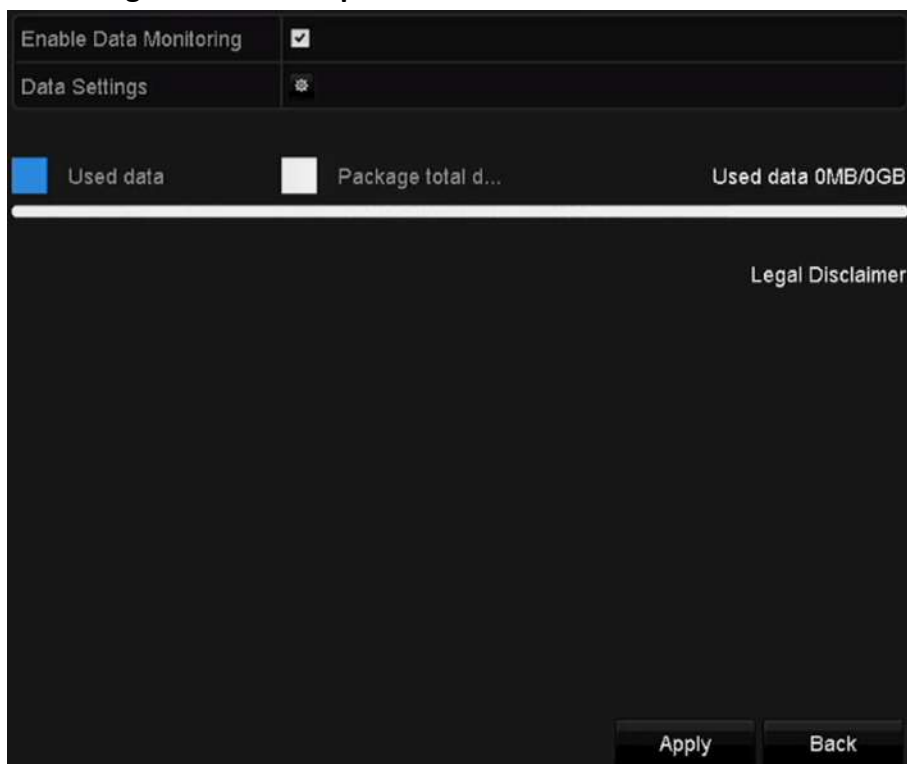



Figure 12-10 Data Monitoring

2. Check **Enable Data Monitoring**.
3. Click  to set the package and limit details.
  - 1) Select a package type.
  - 2) Set the package data limit in **Package Data**.
  - 3) If **Package Type** is **Month Package**, set the start time of your month data package.
  - 4) Select an option for **Data Limit Notification**.

### Turn Off Data and Notify

When the data usage exceeds the limit, the device will turn off wireless dial, and notify you.

## Only Notify

When the data usage exceeds the limit, the device will notify you, but keep wireless dial on.

5) Set the notification method. **Sound Alarm**, **Email**, and **SMS** are available.

6) Set **Data Warning Limit(%)**. When the data usage exceeds the warning limit, it will notify you by the method(s) you have selected, but will not turn off wireless dial.

7) Click **OK**.

4. Click **Apply**.

## 12.4 Check Network Traffic

You can check the network traffic to obtain real-time information of NVR such as linking status, MTU, sending/receiving rate, etc.

### Steps

1. Go to **Menu** → **Maintenance** → **Net Detect** .



Figure 12-11 Network Traffic

2. You can view the sending rate and receiving rate information on the interface. The traffic data is refreshed every 1 second.

## 12.5 Configuring Network Detection

You can obtain network connecting status of NVR through the network detection function, including network delay, packet loss, etc.

### 12.5.1 Test Network Delay and Packet Loss

#### Steps

1. Go to **Menu** → **Maintenance** → **Net Detect** .
2. Enter **Destination Address**.

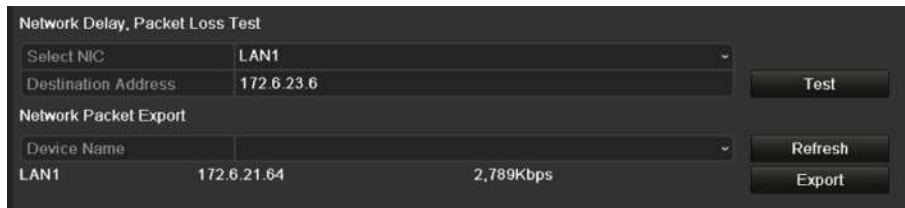


Figure 12-12 Network Detection

3. Click **Test** to start testing network delay and packet loss.

#### Result

The testing result pops up on the window. If the testing is failed, the error message box will pop up as well.

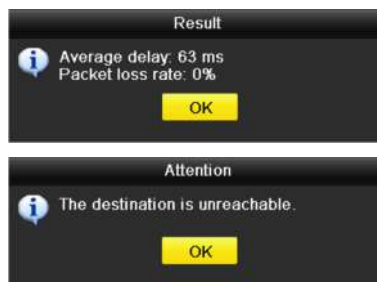


Figure 12-13 Testing Result of Network Delay and Packet Loss

### 12.5.2 Export Network Packet

The captured network data packet can be exported to USB flash drive, or other local backup devices.

#### Steps

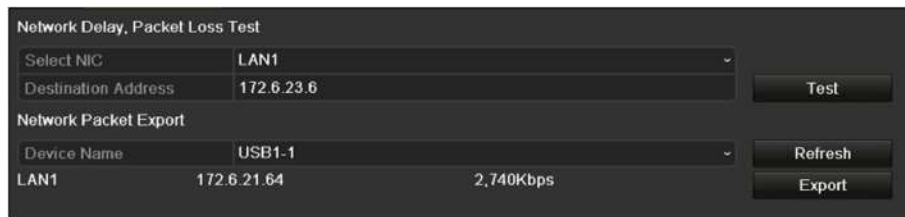
1. Go to **Menu** → **Maintenance** → **Net Detect** → **Network Detection** .
2. Select a backup device in **Device Name**.

---

#### **Note**

Click **Refresh** if the connected local backup device cannot be displayed. When it fails to detect the backup device, please check whether it is compatible with the device. You can format the backup device if the format is incorrect.

---



**Figure 12-14 Export Network Packet**

3. Click **Export** to start exporting.
4. Click **OK** after the exporting is completed.



### Note

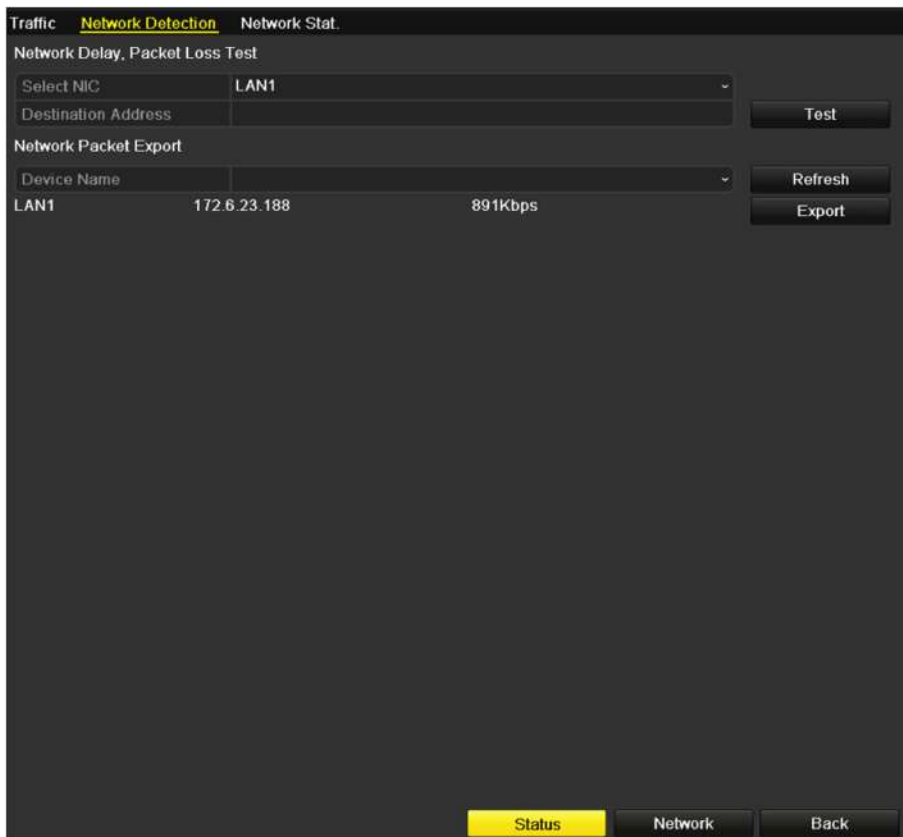
Up to 1 MB data can be exported each time.

---

### 12.5.3 Check the Network Status

You can check your network status, and quickly set the network parameters if the network is abnormal.

Go to **Menu** → **Maintenance** → **Net Detect** → **Network Detection** . Click **Status** at the lower- right corner.



**Figure 12-15 Network Status Checking**

If the checking result is normal, you will receive a pop-up message. If the network status is not normal, you can click **Network** to set network parameters.

## 12.5.4 Check Network Statistics

You can check the network status to obtain the real-time network bandwidth information.

Go to **Menu** → **Maintenance** → **Net Detect** → **Network Stat.** . The bandwidth of **IP Camera**, **Remote Live View**, **Remote Playback**, **Net Receive Idle** and **Net Send Idle** will be listed.

You can click **Refresh** to get the latest status.

Type	Bandwidth
IP Camera	9,216Kbps
Remote Live View	0bps
Remote Playback	0bps
Net Receive Idle	31Mbps
Net Send Idle	240Mbps

Refresh

**Figure 12-16 Network Stat.**


## Chapter 13 HDD Management

### 13.1 Initialize HDDs

A newly installed hard disk drive (HDD) must be initialized before using it with your device. Initializing the HDD will erase all data on it.

#### Steps

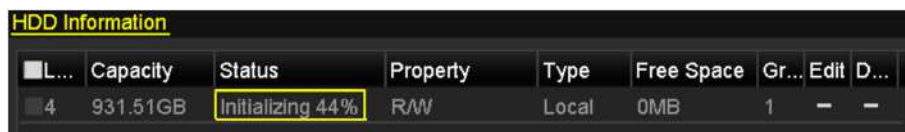
1. Go to **Menu** → **HDD** → **General** .



HDD Information								
<input type="checkbox"/> L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit	D...
<input type="checkbox"/> 5	931.51GB	Normal	R/W	Local	846GB	1		-

Figure 13-1 HDD Information

2. Select HDD(s) for initialization.
3. Click **Init**.
4. Click **OK** to start initialization.



HDD Information								
<input type="checkbox"/> L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit	D...
<input checked="" type="checkbox"/> 4	931.51GB	Initializing 44%	R/W	Local	0MB	1	-	-

Figure 13-2 HDD Status

After the HDD is initialized, its status will be changed from "Uninitialized" to "Normal".

### 13.2 Manage Network HDD

You can add the allocated NAS or disk of IP SAN to the device, and use it as a network HDD. Up to 8 network disks can be added.

#### Steps

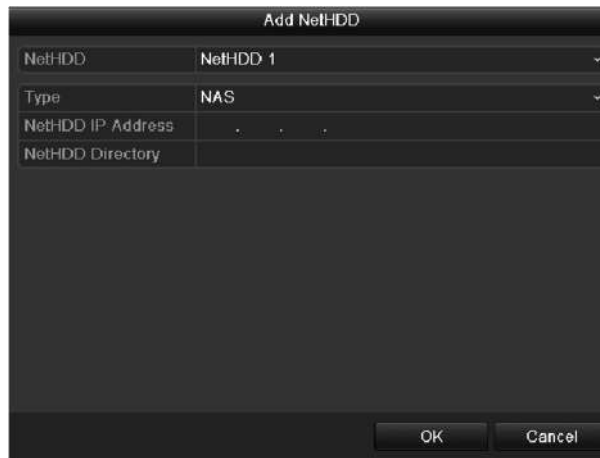
1. Go to **Menu** → **HDD** → **General** → **HDD Information** .



HDD Information								
<input type="checkbox"/> L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit	D...
<input type="checkbox"/> 5	931.51GB	Normal	R/W	Local	846GB	1		-

Figure 13-3 HDD Information

2. Click **Add**.



**Figure 13-4 Add Network HDD**

3. Set the network HDD parameters.

- Add NAS**
  - a. Enter the network HDD IP address in **NetHDD IP Address**.
  - b. Enter the directory in **NetHDD Directory**, or click **Search** to search and select available NAS disks.
- Add IP SAN**
  - a. Enter the network HDD IP address in **NetHDD IP Address**.
  - b. Click **Search** to search available IP SAN disks.
  - c. Select an IP SAN disk from the searching result list.



**Note**

Up to 1 IP SAN disk can be added.

---

4. Click **OK**.



**Note**

If the added network HDD is uninitialized, please select it, and click **Init** to initialize it.

---

The added network HDD will be displayed in the list.

## 13.3 Manage HDD Group


### 13.3.1 Set HDD Groups

Multiple HDDs can be managed in groups. Video from specified channels can be recorded onto a particular HDD group through HDD settings.

#### Steps

1. Go to **Menu** → **HDD** → **Advanced** → **Storage Mode** .
2. Set **Mode** as **Group**.



3. Click **Apply**. The device will reboot to apply the changes.
4. Go to **Menu → HDD → General** after the device is restarted.
5. Click  of the selected HDD.



**Figure 13-5 Local HDD Settings**

6. Select the group number for the current HDD. The default group No. for each HDD is 1.
7. Click **OK** to confirm HDD group settings.
8. Click **Yes**.

### What to do next

Allocate cameras to a HDD group in **Menu → HDD → Advanced → Storage Mode** .


## 13.3.2 Set HDD Property

The HDD property can be set to redundancy, read-only or read/write (R/W).

### Before You Start

Set the storage mode to **Group**, refer to *Set HDD Groups* for details.

### Steps

1. Go to **Menu → HDD → General** .
2. Click  of the HDD.
3. Set **HDD Property** to **R/W**, **Read-only** , or **Redundancy**.

#### Read-only

A HDD can be set to read-only to prevent important recorded files from being overwritten when the HDD becomes full in overwrite recording mode.

#### Redundancy

At least 2 hard disks are required when the HDD property is set to redundancy. The video can be recorded both onto the redundancy HDD and the R/W HDD simultaneously so as to ensure high security and reliability of video data.



Figure 13-6 Set HDD Property

4. Click **OK**.

The HDD property will be displayed in the list.

## 13.4 Configure Quota Mode

Each camera can be configured with allocated quota for the storage of recorded files or captured pictures.

### Steps

1. Go to **Menu → HDD → Advanced** .



Mode	Quota
Camera	IP Camera 1
Used Record Capacity	8,192MB
Used Picture Capacity	1,024MB
HDD Capacity (GB)	931
Max. Record Capacity (GB)	80
Max. Picture Capacity (GB)	100
▲ Free Quota Space 751 GB	

Figure 13-7 Storage Mode Settings

2. Set **Mode** as **Quota**.
3. Select a camera for quota.
4. Enter the storage capacity in **Max. Record Capacity (GB)** and **Max. Picture Capacity (GB)**.
5. **Optional:** Click **Copy** to copy the quota settings of the current camera to other cameras.
6. Click **Apply**.

## Note

If the quota capacity is set to 0, then all cameras will use the total capacity of HDD for record and picture capture.

---

## 13.5 Configure Disk Clone

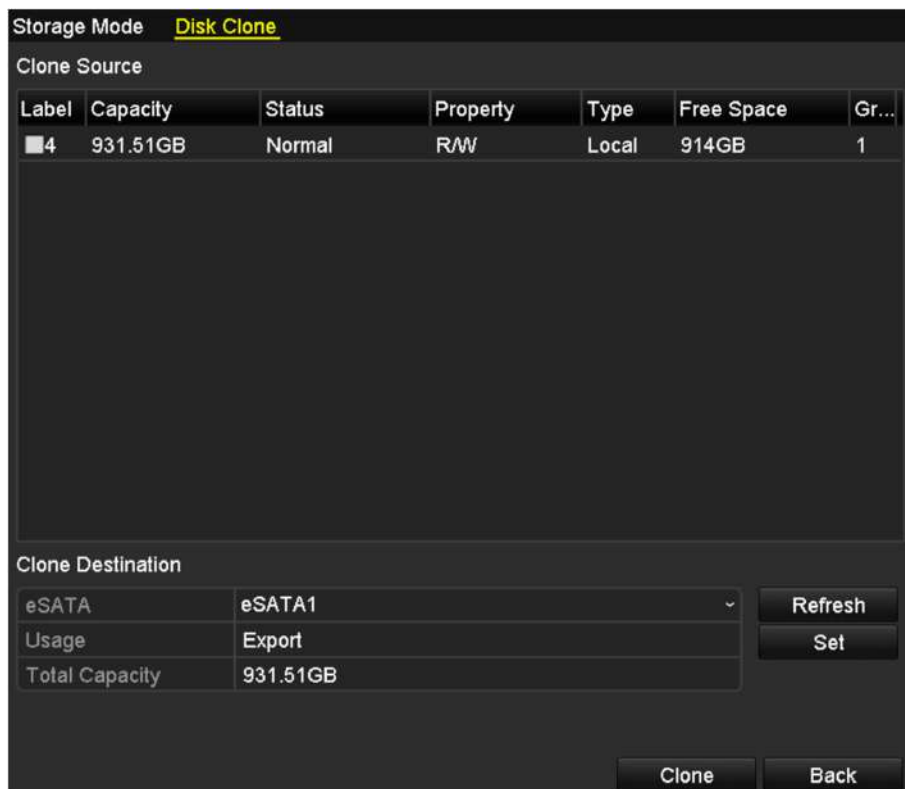
If the S.M.A.R.T. detection result declares the HDD is abnormal, you can choose to clone all the data on the HDD to an inserted eSATA disk manually.

### Before You Start

An eSATA disk should be connected to the device.

### Steps

1. Go to **Menu → HDD → Advanced → Disk Clone** .



**Figure 13-8 Disk Clone Configuration**

2. Set the usage of the eSATA disk as **Export**.
  - 1) Click **Set**.
  - 2) Select **Export**.
  - 3) Click **OK**.



The capacity of destination disk must be the same as that of the clone source disk.

---

3. Check the HDD to be cloned in the clone source list.
4. Click **Clone**.
5. Click **Yes**. You can check the clone progress in the HDD status.

### 13.6 Check HDD Status

You may check the installed HDD status in case of HDD failure.

Go to **Menu → HDD → General** . Or **Menu → Maintenance → System Info → HDD** .

The status of each HDD which is displayed on the list.

If the status of HDD is "Normal" or "Sleeping", it works normally. If the status is "Uninitialized" or "Abnormal", please initialize the HDD before use. And if the HDD initialization is "Failed", please replace it with a new one.

### 13.7 HDD Detection

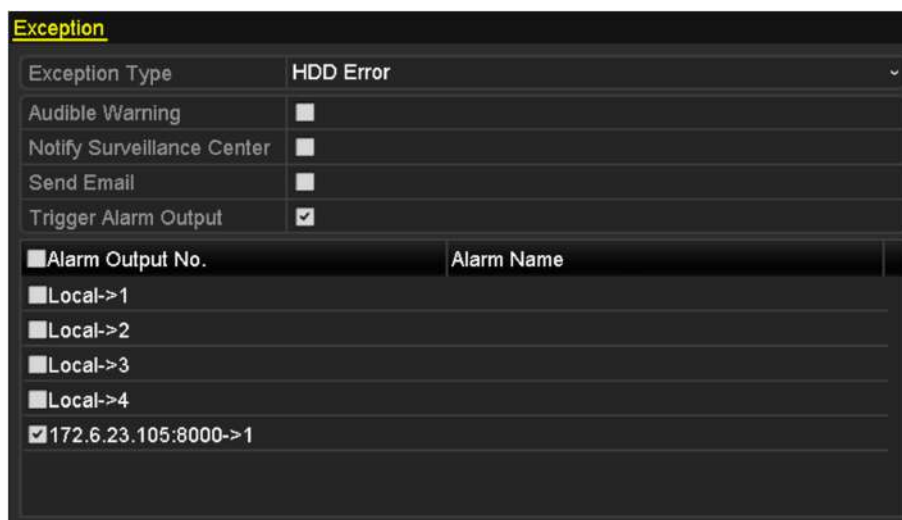
The device provides the HDD detection function such as S.M.A.R.T. and Bad Sector Detection.

### 13.8 Configure HDD Error Alarms

You can configure the HDD error alarms when the HDD status is "Uninitialized" or "Abnormal".

#### Steps

1. Go to **Menu → Configuration → Exceptions** .
2. Set **Exception Type** as **HDD Error**.
3. Select HDD error alarm type(s).



**Figure 13-9 Configure HDD Error Alarm**

4. If you have checked **Trigger Alarm Output**, you shall select its alarm output.
5. Click **Apply**.

## Chapter 14 Camera Settings

### 14.1 Configure OSD Settings

You can configure the OSD (On-screen Display) settings for the camera, including date /time, camera name, etc.

#### Steps

1. Go to **Menu → Camera → OSD** .
2. Select a camera.
3. Edit **Camera Name**.
4. Select **Display Name**, **Display Date**, or **Display Week** as your desire
5. Set **Date Format**, **Time Format**, and **Display Mode**.



Figure 14-1 OSD Configuration

6. Drag the text frame on the preview window to adjust its position.
7. Click **Apply**.

### 14.2 Configure Privacy Mask

You can customize the image parameters including the brightness, contrast, saturation, image rotate and mirror for the live view and recording effect.

#### Steps

1. Go to **Menu → Camera → Image** .



**Figure 14-2 Image Settings**

2. Select a camera to set image parameters.
3. Adjust the slider, or click on the up/down arrow to set brightness, contrast, or saturation.
4. Set **Enable Rotate** to **Clockwise 270 degrees** or **OFF**. When **OFF** is selected, the image is restored to original.
5. Select **Mirror Mode** to **Left-Right**, **Up-Down**, **Center** or **OFF**. When **OFF** is selected, the image is restored to original.

---

**Note**

- The Rotate and Mirror functions must be supported by the connected IP camera
  - The image parameters adjustment can affect both the live view and the recording quality.
- 

6. Click **Apply**.

## 14.3 Configure Video Parameters

You can customize the image parameters including the brightness, contrast, saturation, image rotate and mirror for the live view and recording effect.

### Steps

1. Go to **Menu** → **Camera** → **Image** → **Image Settings** .

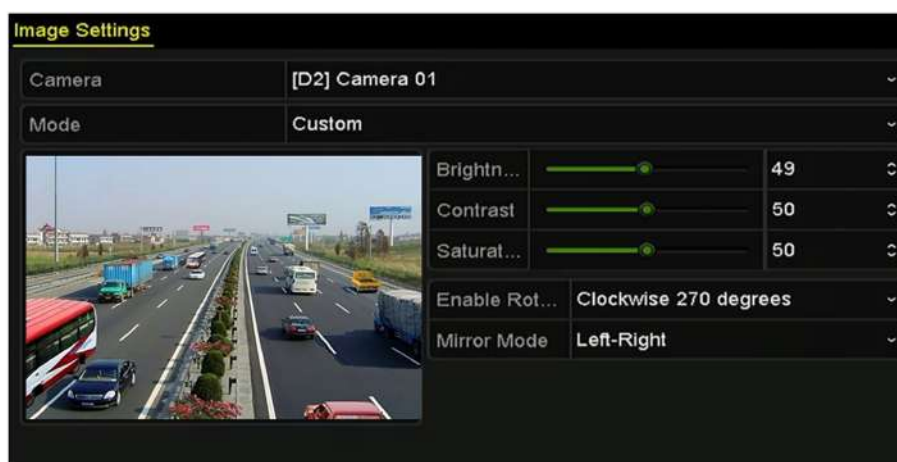


Figure 14-3 Image Settings

2. Select a camera.
3. Adjust the slider or click on the up/down arrow to set the value of the brightness, contrast or saturation.
4. Set **Enable Rotate** to **Clockwise 270 degrees** or **OFF**. When **OFF** is selected, the image is restored to original.
5. Set **Mirror Mode** to **Left-Right**, **Up-Down**, **Center** or **OFF**. When **OFF** is selected, the image is restored to original.

---

 **Note**

- Rotate and Mirror functions must be supported by the connected IP camera.
- The image parameters adjustment can affect both the live view and the recording quality.

- 
6. Click **Apply**.



## Chapter 15 System Management

### 15.1 View System Information

You can view the device information, device model, serial number, firmware, etc.

Go to **Menu** → **Maintenance** → **System Info** . You can view the system information in **Device Info**, **Camera**, **Record**, **Alarm**, **Network**, and **HDD**.



Figure 15-1 Device Information

---

#### Note

You can add the device to your mobile client software (iVMS-4500) by scanning the QR code.

---

### 15.2 Configure General Settings

You can configure the BNC output standard, VGA output resolution, mouse pointer speed in **Menu** → **Configuration** → **General** → **General** .



Figure 15-2 General Settings

## Language

The system language. Default language is **English**.

## Output Standard

Set it to **NTSC** or **PAL**, it must be the same with the video input standard.

## Resolution

You can configure the VGA resolution and HDMI resolution respectively. Up to 4K (3840 × 2160) resolution is selectable for the HDMI output.

## Enable Wizard

Enable/disable the wizard when the device starts up.

## Enable Password

Enable/disable the use of the login password.

## 15.3 Configure DST Settings

Daylight saving time (DST) is the practice of advancing clocks during the lighter months so that evenings have more daylight and mornings have less.

Go to **Menu** → **Configuration** → **General** → **DST Settings** . You can check **Auto DST Adjustment**, or check **Enable DST** to manually set the date of the DST period.



Figure 15-3 DST Settings

## 15.4 Configure More Settings

You can configure the device name, device No., auto logout time, menu output mode, etc.

Go to **Menu** → **Configuration** → **General** → **More Settings** .



Figure 15-4 More Settings

### Device No.

The number is used for the remote and keyboard control. It can be set in the range of 1 to 255, and the default No. is 255.

### Auto Logout

Set timeout time for menu inactivity. E.g., when the timeout time is set to **5 Minutes**, then the system will exit from the current operation menu to live view screen after 5 minutes of menu inactivity.

### Enable HDMI/VGA Simultaneous Output

You can set the simultaneous output for the HDMI and VGA. For devices with 16-ch IP video inputs, enable this function will make 4K resolution of HDMI unavailable.

### Menu Output Mode

Choose to display the menu on HDMI or VGA. When **Auto** is selected, and both HDMI and VGA outputs are connected, the device will detect and set the HDMI as the menu output.

## 15.5 Search & Export Log Files

The operation, alarm, exception and information of the device can be stored in log files, which can be viewed and exported.

### Steps

1. Go to **Menu** → **Maintenance** → **Log Information** .

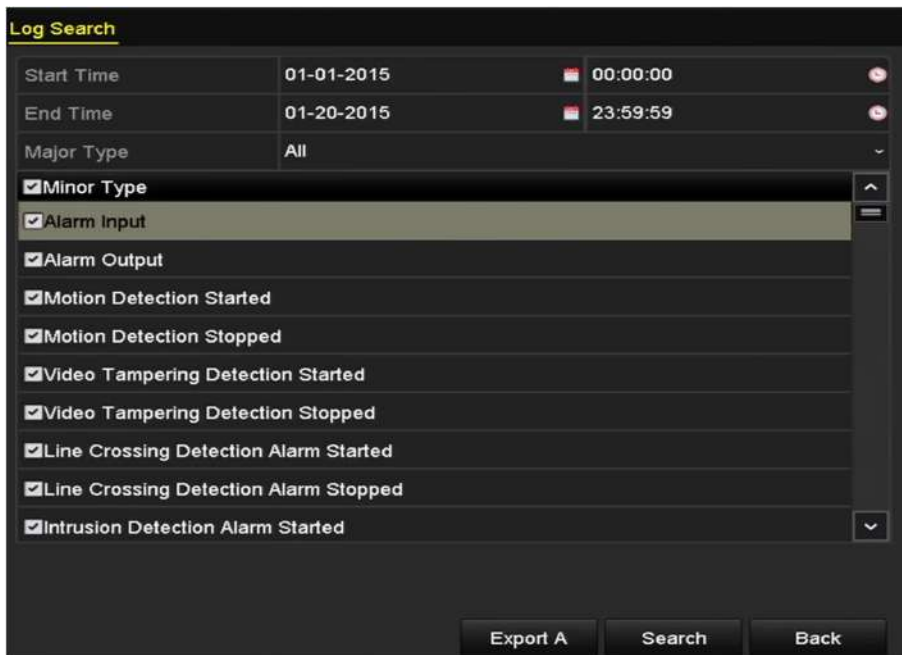


Figure 15-5 Log Search

2. Set the log search conditions
3. Click **Search**.





Figure 15-6 Log Search Results

**Note**

Up to 2000 log files can be displayed each time.

The matched log files will be displayed on the search result list.

4. **Optional:** Click  or double click the log to view its detailed information.

5. **Optional:** Click  to view the related video files if available.
6. Click **Export** to export the log files, or click **Export All** on the previous interface to export all log files to a USB flash drive.
  - 1) Select a USB flash drive in **Device Name**.
  - 2) Select a format of the log files.
  - 3) **Optional:** Click **New Folder** to create a new folder in the USB flash drive.
  - 4) **Optional:** Click **Format** to format the USB flash drive before exporting.
  - 5) Click **Export**.

---

### **Note**

Please connect the USB flash drive to the device before exporting log files.

---

## 15.6 Import/Export IP Camera Info

The information of added IP camera can be generated into an excel file and exported to the USB flash drive for backup, including the IP address, manage port, password of admin, etc. You can edit the exported file, and import its settings to other devices.

### **Before You Start**

Prepare a USB flash drive, and insert it to your device.

### **Steps**

1. Go to **Menu → Camera → IP Camera Import/Export** .
2. Select your USB flash drive from **Device Name**.
3. Import/Export IP camera information.

**Export** Click **Export** to export configuration file to the selected USB flash drive.

**Import**

- a. Select the configuration file
- b. Click **Import** to import configuration file to your device. You shall restart the device after the importing process is completed.

## 15.7 Import/Export Configuration File

The configuration files of the device can be exported to local device for backup; and the configuration files of one device can be imported to multiple devices if they are to be configured with the same parameters.

### 15.7.1 Import Configuration File

#### **Before You Start**

Prepare a USB flash drive that contains the configuration file, and insert it to the device.

## Steps

1. Go to **Menu** → **Maintenance** → **Import/Export** .



**Figure 15-7 Import/Export Config File**

2. Select the USB flash drive from **Device Name**.
3. Select the configuration file.
4. Click **Import**.
5. Enter the admin password.
6. Click **OK**. The device will restart automatically.

## 15.7.2 Export Configuration File

### Before You Start

Prepare a USB flash drive, and insert it into the device.

### Steps

1. Go to **Menu** → **Maintenance** → **Import/Export** .



**Figure 15-8 Import/Export Config File**

2. Select the USB flash drive from **Device Name**.
3. Click **Export**.
4. Enter the admin password
5. Click **OK**.

## 15.8 Upgrade System

### 15.8.1 Upgrade by Local Backup Device

Use a local backup device, such as a USB flash drive, to upgrade your device.

#### Before You Start

- Prepare a local backup device, such as a USB flash drive.
- Ensure the local backup device contains the upgrade file, and insert it to the device.

#### Steps

1. Go to **Menu** → **Maintenance** → **Upgrade** → **Local Upgrade** .

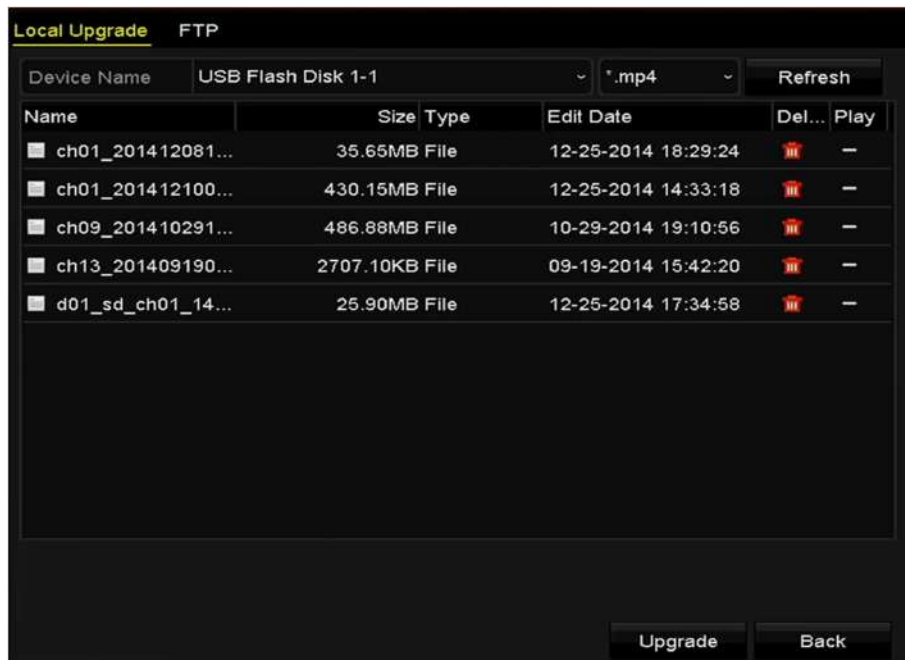


Figure 15-9 Local Upgrade

2. Select the backup device from **Device Name**.
3. Select the upgrade file.
4. Click **Upgrade**.
5. Waiting for the upgrade progress. The device will restart automatically.

## 15.8.2 Upgrade by FTP

You can upgrade your device via FTP.

### Before You Start

- Ensure the network connection of the PC (running FTP server) and the device is valid and correct.
- Run the FTP server on the PC and copy the firmware into the corresponding directory of your PC.

### Steps

1. Go to **Menu** → **Maintenance** → **Upgrade** → **FTP** .

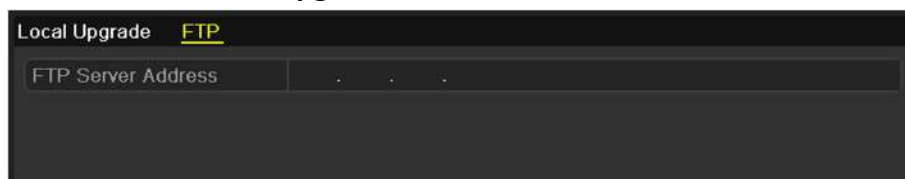


Figure 15-10 FTP Upgrade

2. Enter the FTP server address.
3. Click **Upgrade**.



4. Waiting for the upgrade progress. The device will restart automatically.

## 15.9 Restore Default Settings

Go to **Menu → Maintenance → Default** . Select a restore type from the following three options. The device will restart automatically after restoring to the default settings.

### Restore Defaults

Restore all parameters, except the network (including IP address, subnet mask, gateway, MTU, NIC working mode, default route, server port, etc.) and user account parameters, to the factory default settings.

### Factory Defaults

Restore all parameters to the factory default settings.

### Restore to Inactive

Restore the device to the inactive status.

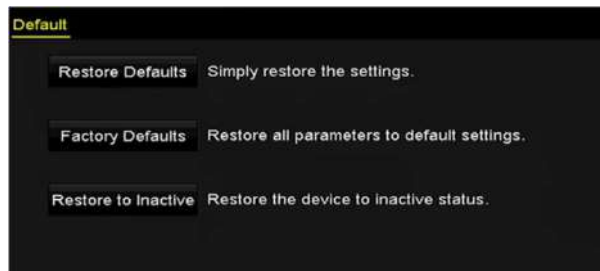


Figure 15-11 Restore Defaults

## Chapter 16 User Management and Security

### 16.1 Manage User Accounts

The default user name for administrator is "admin", and you can set the password of admin during activation. Administrator has the permission to add, delete user, and configure user parameters.

#### 16.1.1 Add a User

##### Steps

1. Go to Menu → Configuration → User → User Management .

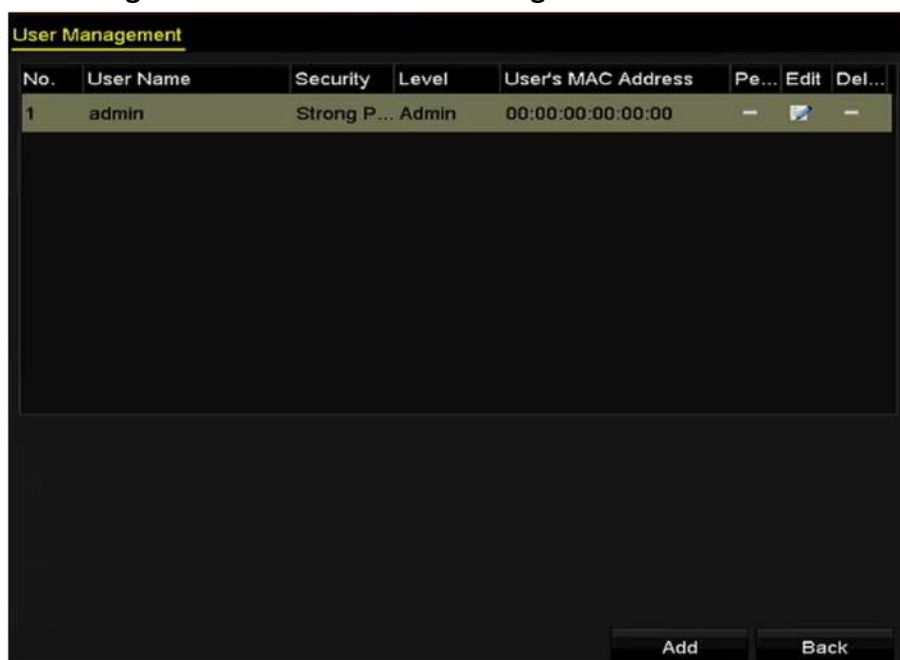


Figure 16-1 User Management

2. Click **Add**.

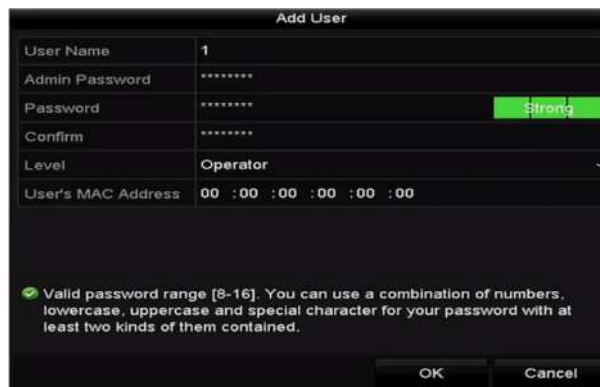


Figure 16-2 Add User

3. Set parameters for the new user.

**Password**

Set the password for the user.

**Level**

Set the user level to **Operator** or **Guest**. Different user levels have different operating permission.

**Operator**

Operator has the permission of Two-way Audio in Remote Configuration and all operating permission in Camera Configuration by default.

**Guest**

Guest has no permission of Two-way Audio in Remote Configuration and only has the local/remote playback in the Camera Configuration by default.

**User's MAC Address**

If it is enabled, it only allows the specified MAC address to access your device.




**Caution**

**Strong Password Recommended**—We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend that you reset your password regularly. Especially in the high security systems, resetting the password monthly or weekly can better protect your product.

---

4. Click **OK**.

The added new user will be displayed on the user list.

5. Click  of the user to set the user permission.

6. Set the operating permission of **Local Configuration, Remote Configuration and Camera Configuration**.

**Local Configuration**

## **Local Log Search**

Searching and viewing logs and system information of your device.

## **Local Parameters Settings**

Configuring parameters, restoring factory default parameters and importing/exporting configuration files.

## **Local Camera Management**

Adding, deleting and editing of IP cameras.

## **Local Advanced Operation**

Operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.

## **Local Shutdown Reboot**

Shutting down or rebooting the device.

## **Remote Configuration**

### **Remote Log Search**

Remotely viewing logs that are saved on the device.

### **Remote Parameters Settings**

Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.

### **Remote Camera Management**

Remote adding, deleting and editing of the IP cameras.

### **Remote Serial Port Control**

Configuring settings for RS-232 and RS-485 ports.

### **Remote Video Output Control**

Sending remote button control signal.

### **Two-Way Audio**

Realizing two-way radio between the remote client and the device.

### **Remote Alarm Control**

Remotely arming (notify alarm and exception message to the remote client) and controlling the alarm output.

### **Remote Advanced Operation**

Remotely operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.

### **Remote Shutdown/Reboot**

Remotely shutting down or rebooting the device.

### **Camera Configuration**

#### **Remote Live View**

Remotely viewing live video of the selected camera(s).

#### **Local Manual Operation**

Locally starting/stopping manual recording and alarm output of the selected camera(s).

#### **Remote Manual Operation**

Remotely starting/stopping manual recording and alarm output of the selected camera(s).

#### **Local Playback**

Locally playing back recorded files of the selected camera(s).

#### **Remote Playback**

Remotely playing back recorded files of the selected camera(s).

#### **Local PTZ Control**

Locally controlling PTZ movement of the selected camera(s).

#### **Remote PTZ Control**

Remotely controlling PTZ movement of the selected camera(s).

#### **Local Video Export**

Locally exporting recorded files of the selected camera(s).

7. Click **OK**.



#### **Note**

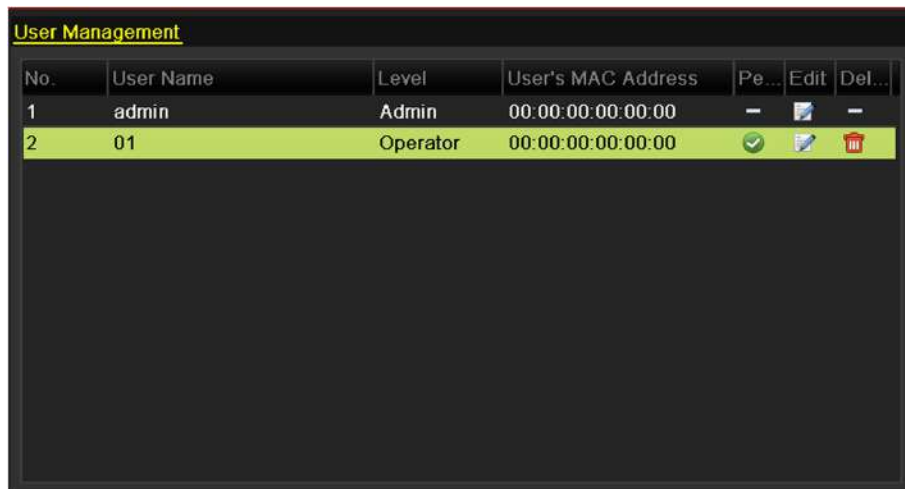
Only the admin user account has the permission of restoring factory default parameters.

---

### **16.1.2 Delete a User**

#### **Steps**

1. Go to **Menu → Configuration → User → User Management** .



No.	User Name	Level	User's MAC Address	Pe...	Edit	Del...
1	admin	Admin	00:00:00:00:00:00	-		-
2	01	Operator	00:00:00:00:00:00			

**Figure 16-3 User List**

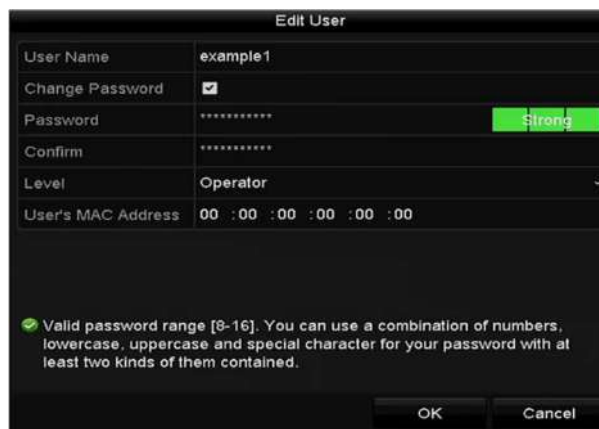
2. Click of the user that requires to be deleted.
3. Enter the admin password,
4. Click **OK**.
5. Click **Yes** to confirm deleting this user.

### 16.1.3 Edit a User

For the added user accounts, you can edit the parameters.

#### Steps

1. Go to **Menu → Configuration → User → User Management** .
2. Select a user from the list.
3. Click .



**Edit User**

User Name	example1
Change Password	<input checked="" type="checkbox"/>
Password	***** <b>Strong</b>
Confirm	*****
Level	Operator
User's MAC Address	00 : 00 : 00 : 00 : 00 : 00

Valid password range [8-16]. You can use a combination of numbers, lowercase, uppercase, and special character for your password with at least two kinds of them contained.

OK Cancel

**Figure 16-4 Edit User (Operator/Guest)**



**Figure 16-5 Edit User (Admin)**

**4. Edit the user password.**

**Operator and Guest**

You can edit the user information, including user name, password, permission level and MAC address.

**Admin**

You can export GUID, and edit the password, unlock pattern, MAC address, and reserved email. You are allowed to edit the operator and guest permission by clicking  on User Management interface.

## 16.2 Configure Password Security

### 16.2.1 Export GUID File

The GUID file will help you to reset password when you forget your password.

**Before You Start**

The GUID file will help you to reset password when you forget your password. Refer to **Export GUID File** for details.

**Steps**

1. Check **Export GUID** when you are activating the device, or click  when you are editing the admin user account.
2. Insert a USB flash drive to your device, and export the GUID file to the USB flash drive.

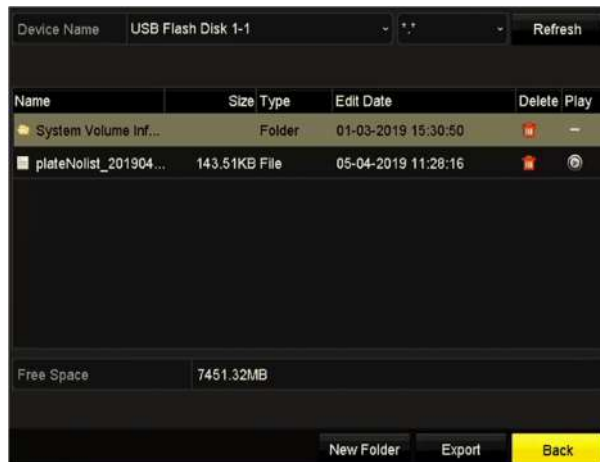


Figure 16-6 Export GUID File

---

 **Note**

Please keep your GUID file properly for future password resetting.

---

## 16.2.2 Configure Reserved Email

The reserved email will help you to reset password when you forget your password.

### Steps

1. Check **Reserved E-mail** when you are activating the device, or click **Modify** when you are editing the admin user account.
2. Enter reserved email address.
3. Click **OK**.





**Figure 16-7 Configure Reserved Email**

## 16.3 Reset Password

When you forget the admin password, you can use GUID file or your reserved email to reset the password.

### 16.3.1 Reset Password by GUID

The GUID file must be exported and saved in the USB flash drive after you have activated the device or edited the admin user account.

#### Steps

1. On the user login interface, click **Forgot Password**.
2. Select the password resetting type to **Verify by GUID**.
3. Insert the USB flash drive that contains GUID file.
4. Select the GUID file from the USB flash drive.
5. Click **Import** to import the file to the device
6. After the GUID file is successfully imported, enter the reset password interface to set the new admin password.
7. Click **OK** to set the new password.

---

#### **Note**

When the new password is set, the original GUID file will be invalid.

---

#### **What to do next**

You can export the new GUID file to the USB flash drive for future password resetting.

### 16.3.2 Reset Password by Reserved Email

#### Before You Start

Ensure you have configured the reserved email when you are activating the device or editing the admin user account. Refer to **Configure Reserved Email** for details

#### Steps

1. Click **Forgot Password** on the user login interface.
2. Select the password resetting type to **Verify by Reserved Email**.
3. Click **OK**.
4. Click **Next** if you accept the legal disclaimer. You can use a smartphone to scan the QR code to read the legal disclaimer.
5. Obtain the verification code. There are two ways to get the verification code.
  - Use Hik-Connect app to scan the QR code.
  - Send the QR code to email server.
    - a. Insert a USB flash drive to your device.
    - b. Click **Export** to export the QR code to USB flash drive.
    - c. Email the QR code to **[pw\\_recovery@hikvision.com](mailto:pw_recovery@hikvision.com)** as attachment.
6. Check your reserved email, and you will receive a verification code within 5 minutes.
7. Enter the verification code.
8. Click **OK** to set a new password.

## Chapter 17 Appendix

### 17.1 Glossary

#### Dual-Stream

Dual-stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 1080P and the sub-stream having a maximum resolution of CIF.

#### DVR

Acronym for Digital Video Recorder. A DVR is device that is able to accept video signals from analog cameras, compress the signal and store it on its hard drives.

#### HDD

Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.

#### DHCP

Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.

#### HTTP

Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network.

#### PPPoE

PPPoE, Point-to-Point Protocol over Ethernet, is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with ADSL services where individual users connect to the ADSL transceiver (modem) over Ethernet and in plain Metro Ethernet networks.

#### DDNS

Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.

#### Hybrid DVR

A hybrid DVR is a combination of a DVR and NVR.

#### NTP

Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.

### NTSC

Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60Hz.

### NVR

Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.

### PAL

Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.

### PTZ

Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.

### USB

Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

## 17.2 Frequently Asked Questions

### 17.2.1 Why is there a part of channels displaying “No Resource” or turning black screen in multi-screen of live view?

#### Reason

1. Sub-stream resolution or bitrate settings is inappropriate.
2. Connecting sub-stream failed.

#### Solution

1. Go to **Camera → Video Parameters → Sub-Stream** . Select the channel, and turn down the resolution and max. bitrate (resolution shall be less than 720p, max. bitrate shall be less than 2048 Kbps).



#### Note

If your video recorder notifies not support this function, you can log in to the camera, and adjust video parameters via web browser.

2. Properly set the sub-stream resolution and max. bitrate (resolution shall be less than 720p, max. bitrate shall be less than 2048 Kbps), then delete the channel and add it back again.

### 17.2.2 Why is the video recorder notifying not support the stream type?

#### Reason

The camera encoding format mismatches with the video recorder.

#### Solution

If the camera is using H.265/MJPEG for encoding, but video recorder does not support H.265/MJPEG, change the camera encoding format to the same as video recorder.

### 17.2.3 Why is the video recorder notifying risky password after adding network camera?

#### Reason

The camera password is too weak.

#### Solution

Change the camera password.



#### Warning

We highly recommend you create a strong password of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

---

### 17.2.4 How to improve the playback image quality?

#### Reason

Recording parameter settings are inappropriate.

#### Solution

Go to **Camera → Video Parameters** . Increase resolution and max. bitrate, and try again.

### 17.2.5 How to confirm the video recorder is using H.265 to record video?

#### Solution

Check if the encoding type at live view toolbar is H.265.

### 17.2.6 Why is the timeline at playback not constant?

#### Reason

1. When the video recorder is using event recording, it only records video when event occurs. Hence the video may not be continuous.
2. Exception occurs, such as the device offline, HDD error, record exception, network camera offline, etc.

#### Solution


1. Ensure the recording type is continuous recording.
2. Go to **Maintenance → Log Information** . Search the log file during the video time period. See if there are unexpected events, such as HDD error, record exception, etc.

### 17.2.7 When adding network camera, the video recorder notifies network is unreachable.

#### Reason

1. The IP address or port of network camera is incorrect.
2. The network between video recorder and camera is disconnected

#### Solution

1. Go to **Camera → Camera → IP Camera** . Click  of the selected camera, and edit its IP address and port. Ensure the video recorder and camera is using the same port.
2. Go to **Maintenance → Network → Detection** . Enter the IP address of network camera in **Destination Address**, and click **Test** to see if the network is reachable.

### 17.2.8 Why is the IP address of network camera being changed automatically?

#### Reason

When network camera and video recorder are using the same switch but in different subnet, the video recorder will change the IP address of network camera to the same subnet as itself.

#### Solution

When adding camera, click **Custom Add** to add camera.

### 17.2.9 Why is the video recorder notifying IP conflict?

### Reason

The video recorder uses the same IP address as other devices.

### Solution

Change the IP address of video recorder. Ensure it is not the same as other devices.

### 17.2.10 Why is image getting stuck when the video recorder is playing back by single or multi-channel cameras?

#### Reason

HDD read/write exception.

#### Solution

Export the video, and play it with other devices. If it plays normally on other device, change your HDD, and try again.

### 17.2.11 Why does my video recorder make a beeping sound after booting?

#### Reason

1. The front panel is not fastened (for the device which its front panel is removable).
2. HDD error, or do not have HDD.

#### Solution

1. If it makes continuous beeps, and your device's front panel is removable, ensure the front panel is fastened.
2. If it makes non-continuous beeps (3 long, 2 short), take HDD error as an example, check if the device has installed HDD. If not, you can go to **System → Event → Normal Event → Exception**, and uncheck **Event Hint Configuration** to disable HDD error event hint.  
Check if the HDD is initialized. If not, go to Storage > Storage Device to initialize the HDD.  
Check if the HDD is broken. You can change it, and try again.

### 17.2.12 Why is there no recorded video after setting the motion detection?

#### Reason

1. The recording schedule is incorrect.
2. The motion detection event setting is incorrect.
3. HDD exception.

### **Solution**

1. The recording schedule is setup correctly by following the steps listed in Configuring Record/Capture Schedule.
2. The motion detection area is configured correctly. The channels are being triggered for motion detection (See Configuring Motion Detection).
3. Check if the device has installed HDD.  
Check if the HDD is initialized. If not, go to Storage > Storage Device to initialize the HDD.  
Check if the HDD is broken. You can change it, and try again.

### **17.2.13 Why is the sound quality not good in recording video?**

#### **Reason**

1. The audio input device does not have a good effect in sound collection.
2. Interference in transmission.
3. The audio parameter is not properly set.

#### **Solution**

1. Check if the audio input device is working properly. You can change another audio input device, and try again.
2. Check the audio transmission line. Ensure all lines are well connected or welded, and there is no electromagnetic interference.
3. Adjust the audio volume according to the environment and audio input device.





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