



SNK RAID Series NVR Administrator Guide

Sysvideo Technology Limited

Only For SNK 8, 16 HDD series RAID NVR

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Intended Audience

This document is intended for the personnel who:

- Manage SNK 8/16 HDD RAID series Network Video Recorders (NVRs)
- Know video surveillance basics

Document Versions

Version 02 (2015-04-30)

Compared with Version 01 (2014-08-30), Version 02 (2015-04-03) includes the changes described in the following table.

Change Type	Description
Feature change	Added the UPnP technology to the SNK16000RD series.
Editorial change	Changed the list of recommended third-party disks.

Version 01 (2014-08-30)

Compared with Version 00 (2014-06-30), Version 01 (2014-08-30) includes the changes described in the following table.

Change Type	Description
Feature change	Added the functions of the SNK16000RD series.
Editorial change	Updated screenshots.

Version 00 (2014-06-30)

This is a draft.

Compatibility

The following table provides the products and NVR software version to which this document applies.

Product	SNK series 8/16 HDD RAID NVR
NVR Software Version	NVR V5R1B2

1 About SNK 8/16 HDD RAID series NVRs

1.1 Product Introduction

Sysvideo SNK 8/16 HDD RAID series NVR is a turnkey solution for video surveillance and video recording. SNK 8/16 HDD RAID series NVRs support Open Network Video Interface Forum (ONVIF) and Real Time Streaming Protocol (RTSP) interoperability standards. Additionally, SNK 8/16 HDD RAID series NVRs feature native integration to cameras and encoders from third party manufacturers, therefore making them an open system.

The advanced system capabilities make SNK 8/16 HDD RAID series NVRs easy to use with functions like Automatically Adding Devices and One-Click Partition and Initialization and meet various customer needs with functions like Record Fragment and Privacy Mask for every day security users to advanced video surveillance users.

SNK 8/16 HDD RAID series NVRs work with the following management system and applications:

- NVR Station: is a complete system for device management and video viewing/recording/playback.
- NVR Station Web: is a web-based application of the NVR Station.
- Mobile NVR Client (MNC): is an iOS/Android-compatible mobile application of the NVR Station.



Note

In this document, the NVR refers to a SNK 8/16 HDD RAID series NVR.

1.2 Key Features

The following table lists key features provided by SNK 8/16 HDD RAID series NVRs to meet various customer needs.

Item	Feature	Description
Adding devices	Automatically Adding Devices	<p>This feature allows you to quickly add cameras to your NVR.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For details on how to use this feature, see section 3.1 "Automatically Adding the Target Camera."</p>

Item	Feature	Description
Disk management	One-Click Partition and Formatting	<p>Before starting a recording, you must partition and format disks. With this feature, you can complete the two operations with one click.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For details on how to use this feature, see section 4.1 of <i>SNK RAID series enterprise NVR Administrator Guide</i>.</p>
Viewing	Dual-Stream and Audio	<p>SNK RAID series enterprise NVRs offer the ability to record the main and secondary streams for each camera. Along with exceptional image quality, these NVRs can also record audio.</p> <p>This feature is available to all SNK RAID series enterprise NVRs.</p>
	Dual/Triple-Monitor Live Viewing	<p>The SNK0800RD can connect to two monitors, allowing for dual-monitor live viewing.</p> <p>The SNK1600RD can connect to three monitors, allowing for triple-monitor live viewing.</p> <p>For feature details, see section 3.8 "Enabling Dual/Triple-Monitor Viewing."</p> <p>Note:</p> <p>For the SNK16128RD, you cannot use the dual/triple-monitor viewing feature if you already create RAID arrays. In other words, you cannot create RAID arrays if you already use the dual/triple-monitor viewing feature.</p>
	Privacy Mask	<p>This feature prevents a camera from monitoring sensitive objects or areas in a scene. When privacy masks are created in a scene, you cannot track objects if the objects move to a masked area. You can create up to 4 privacy masks (24 privacy blocks) for a camera.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For details on how to use this feature, see section</p>

Item	Feature	Description
		3.5 "Setting Privacy Masks."
	Image Flip	<p>This feature allows you to track an object continuously as it passes beneath a camera.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For details on how to use this feature, see section 3.3.2 "Advanced PTZ Controls."</p>
Playback	16-Channel 1080p Video Playback	<p>A spectacular 1920x1080 resolution lets you see more of your high-resolution images with pixel-for-pixel accuracy. When you play back videos on a screen, the solution allows you to capture more details.</p> <p>This feature is available to all SNK RAID series enterprise NVRs.</p>
	Record Fragment	<p>This feature breaks one piece of record into several parts and plays these parts at the same time.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For details on how to use this feature, see section 5.1 "Multi-Record Playback."</p>
Alarming	Motion Detection	<p>With this feature, an NVR can detect a change in the position of an object relative to its surroundings.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For details on how to use this feature, see section 6.1 "Motion Detection."</p>
	E-Mail Notification	<p>Alarm notification via an e-mail alert is offered as a standard feature with all Sysvideo NVRs. You can program an NVR to send a message to a designated address whenever an alarm is triggered.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For feature details, see section 7.5 "E-Mail Notification."</p>

Item	Feature	Description
Storage	ANR	<p>The automatic network replenishment (ANR) feature enables an IP camera to locally save records when the connection between it and the NVR is broken and send the records to the NVR when the connection is resumed.</p> <p>This feature is available to all SNK RAID series enterprise NVRs. For details on where to enable this feature, see section 4.3 "Setting the Recording Policy."</p>

1.3 Major Specifications

Resolution of 3840x 2160

The SNK16000RD series provides a resolution of 3840 x 2160, allowing you to see a more detailed picture compared with a resolution of 1920 x 1080.

Homing

From a single NVR, you can view and control up to 128 cameras.

WDR

This feature allows you to record greater scene details, from shadows to highlights than normal.

IR

Infrared cameras can capture objects when there is insufficient visible light to see.

Three-Megapixel Lens

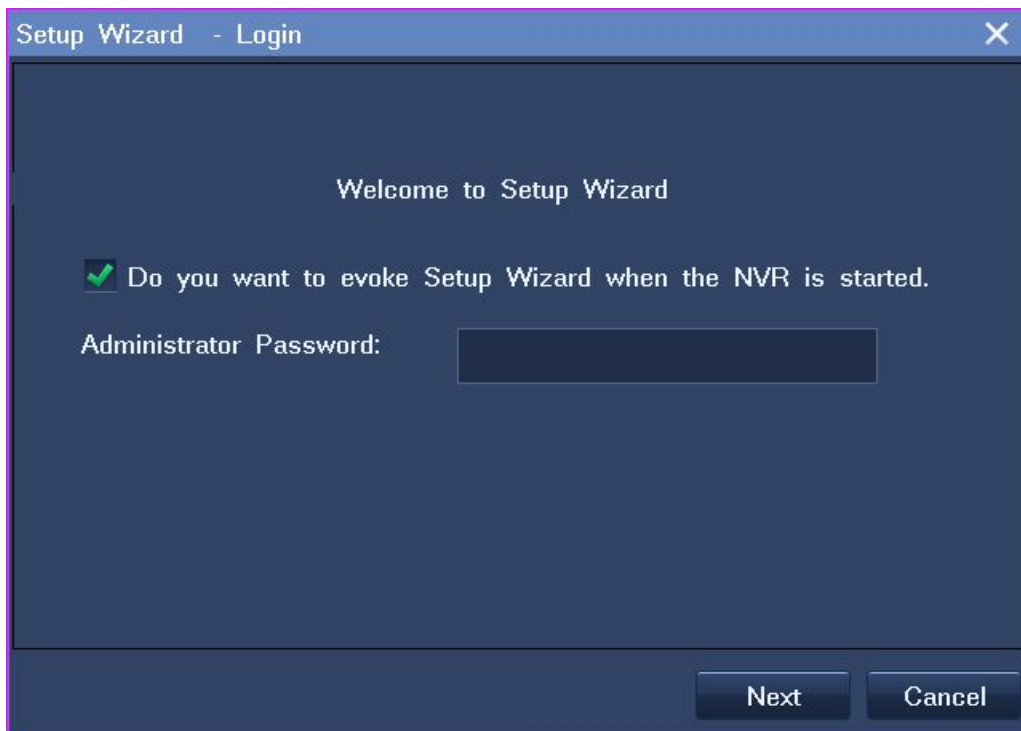
SNK 8/16 HDD RAID series NVRs can work with three-megapixel lenses so that you can capture stunning and high-resolution digital images.

2 Getting Started

After an NVR is started up, choose a display language, as shown in the following figure.



Then, you can find the Setup Wizard on the main screen, as shown in the following figure.

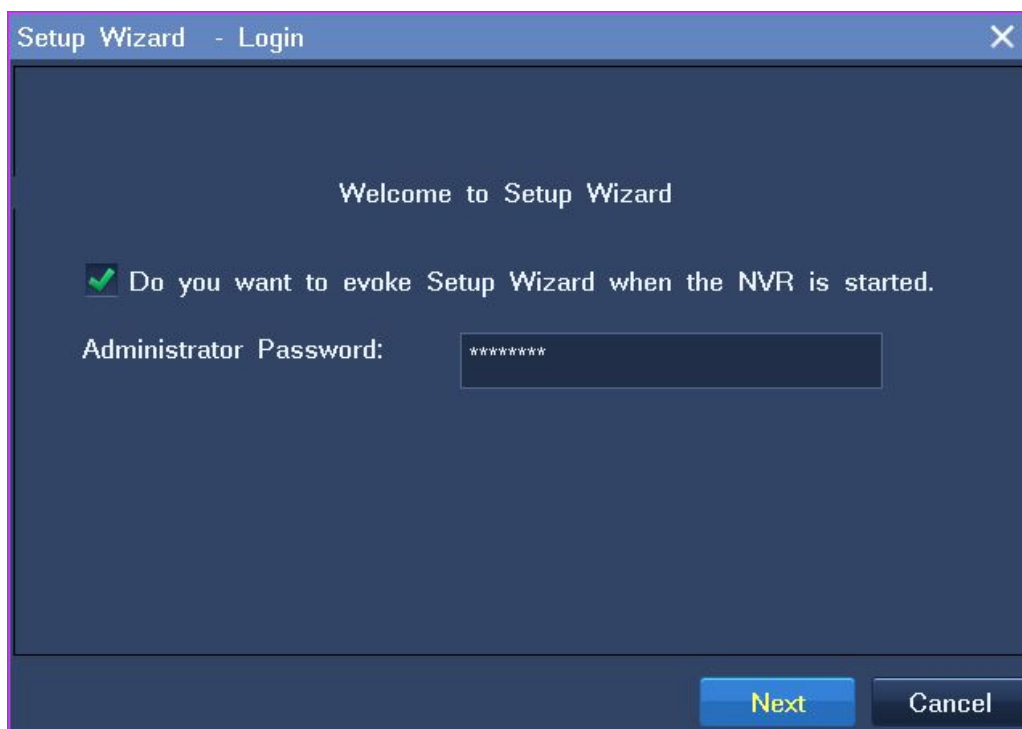


The Setup Wizard will walk you through some important settings of the NVR. However, you can choose not to use the Setup Wizard to configure those settings. If so, click **Cancel**.

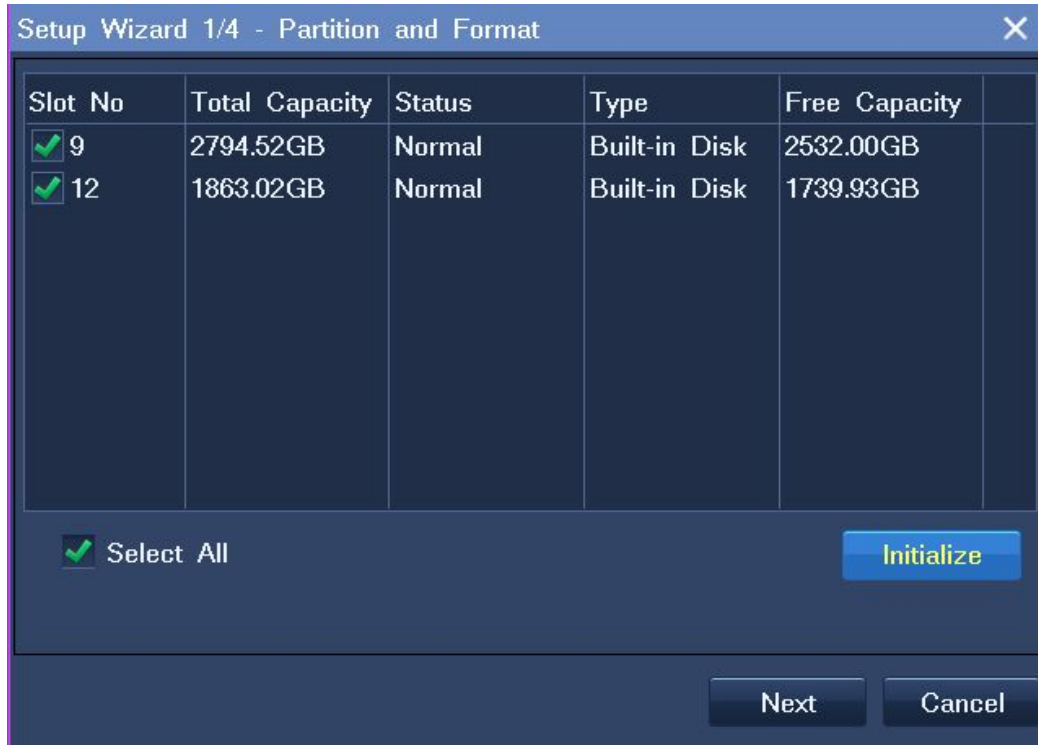
If you want to use the Setup Wizard at a later time, select the **Do you want to evoke Setup Wizard when the NVR is started.** option.

To use the Setup Wizard:

1. Enter **admin123** in the **Administartor Password** text box, as shown in the following figure.



2. Click **Next**.
3. Select all disks and click **Initialize** to partition and format all these disks, as shown in the following figure.



4. Click **Next**.
5. Configure the time settings, as shown in the following figure.

Setup Wizard 2/4 - Time Zone

Time Zone: GMT+08:00

Date: 2015-01-19

Time: 10:10:01

Back Next Cancel

6. Click **Next**.
7. Configure the network settings, The following is an example.

Setup Wizard 3/4 - Network Settings

Ethernet Port 1: 172 . 16 . 198 . 232

Subnet Mask : 255 . 255 . 224 . 0

Ethernet Port 2: 172 . 16 . 22 . 45

Subnet Mask : 255 . 255 . 255 . 0

Ethernet Port 3: 10 . 61 . 0 . 111

Subnet Mask : 255 . 0 . 0 . 0

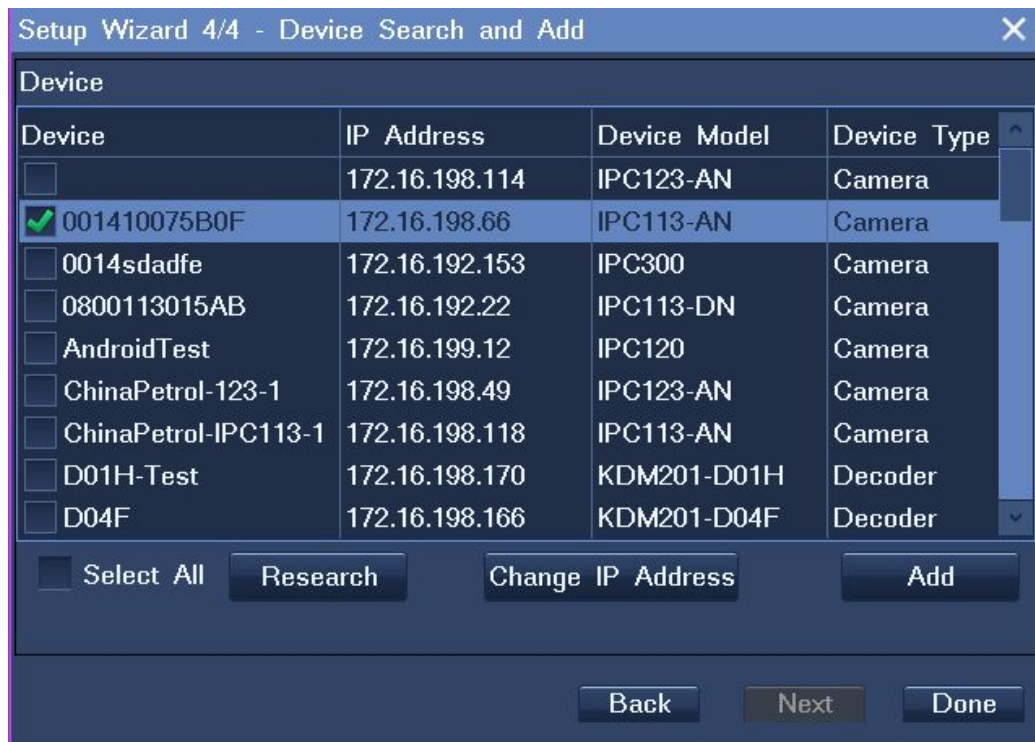
Default Gateway 172 . 16 . 192 . 254

Back Next Cancel

8. Click **Next**.
9. Add devices.

To add a device:

- 1) Select the device from the device list, as shown in the following figure.



- 2) Click **Change IP Address** to change the registration address of the device.

Note that you can change registration addresses only for cameras that use the factory defaults.

- 3) Click **OK**.

- 4) Click **Add**.

10. Click **Done**.



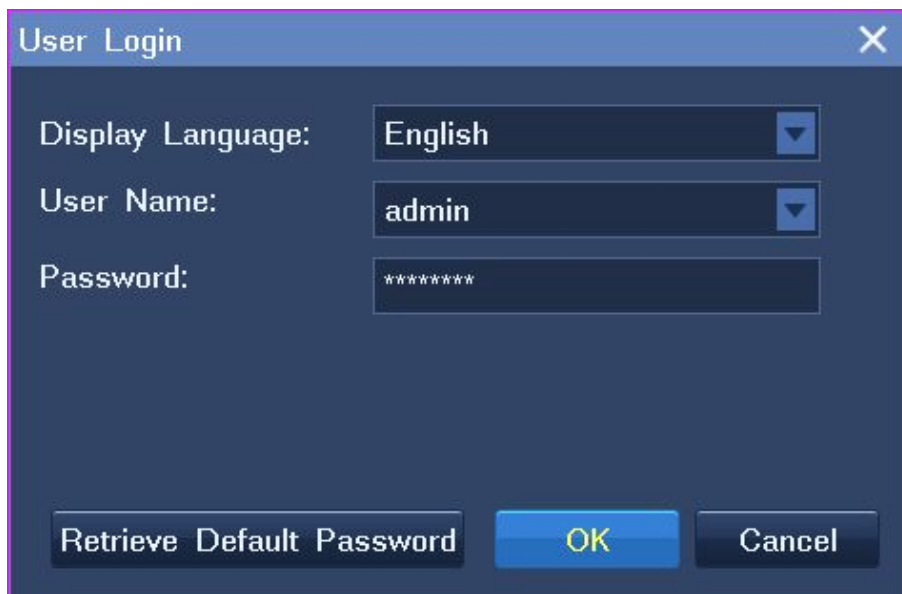
The registration address of a device is one IP address of the NVR to which the device registers.

3 Logging In to the NVR

The NVR comes with an administrator account whose user name is admin and the password is admin123.

To log in to the NVR as an administrator:

1. Click any button on the control panel located at the bottom of the main screen of the NVR.
2. In the displayed **User Login** dialog box, set **User Name** and **Password** to **admin** and **admin123**, respectively.

A screenshot of the 'User Login' dialog box. The dialog has a title bar with 'User Login' and a close button (X). Inside, there are three input fields: 'Display Language' with a dropdown menu showing 'English', 'User Name' with a dropdown menu showing 'admin', and 'Password' with a text box containing '*****'. At the bottom, there are three buttons: 'Retrieve Default Password', 'OK', and 'Cancel'.

In this step, you can select a display language.

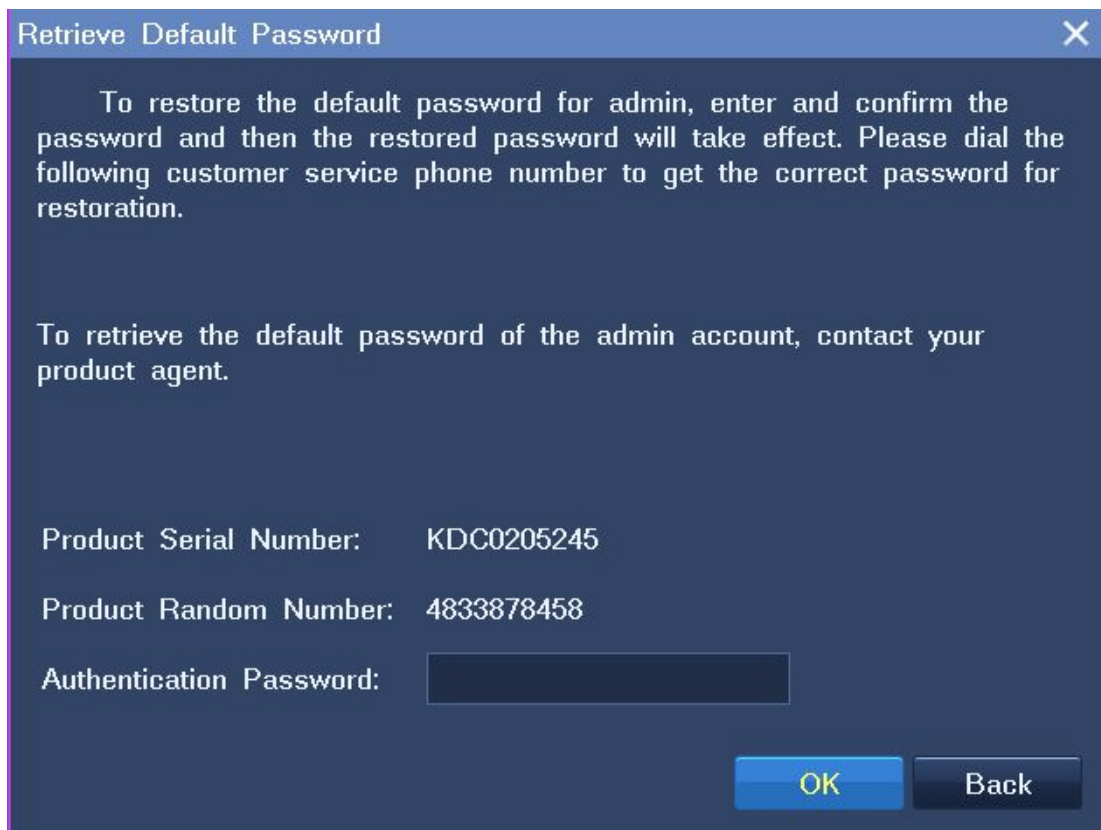
3. Click **OK**.

If you enter an incorrect password three times in succession, your account will be locked for 10 minutes.

If you forget your new password:

1. Click **Retrieve Default Password** in the **User Login** dialog box.
2. Write down the product serial number and the product random number.

The following is an example.



Retrieve Default Password

To restore the default password for admin, enter and confirm the password and then the restored password will take effect. Please dial the following customer service phone number to get the correct password for restoration.

To retrieve the default password of the admin account, contact your product agent.

Product Serial Number: KDC0205245

Product Random Number: 4833878458

Authentication Password:

OK Back

3. Contact the local authorized Sysvideo agent and inform them of the previous product serial number and product random number.
4. After obtaining an authentication password, enter the password in the **Authentication Password** text box.
5. Click **OK**.

After you perform the previous steps, you will be prompted that the default password for the administrator account is restored. Then, you can log in to the NVR using the password admin123.



The graphical user interface (GUI) of the NVR is continuously changed. Therefore, do not be alarmed when you find the screenshots in this document are different from actual ones. We greatly appreciate your understanding.

Most screenshots in this document are taken from the SNK16000RD series. If you find some options are missing, contact the NVR system administrator to check whether these options are supported by your NVR. If so, contact the local authorized Sysvideo agent.

4 Configuring Network Settings

4.1 Ethernet Ports

To configure Ethernet ports:

1. Choose **Main Menu > Network > Ethernet Port 1, Ethernet Port 2, or Ethernet Port 3.**
2. Configure parameters displayed according to onsite conditions.

The following is an example.

The screenshot shows a 'Network' configuration window with a sidebar menu on the left and a main configuration area on the right. The sidebar menu includes 'Ethernet Port 1' (selected), 'Ethernet Port 2', 'Ethernet Port 3', 'System Ports', 'PPPoE', 'DDNS', and 'Static Route'. The main configuration area for 'Ethernet Port 1' includes the following fields:

Field	Value
IP Address 1:	172 . 16 . 198 . 232
Subnet Mask 1:	255 . 255 . 224 . 0
<input type="checkbox"/> IP Address 2:	0 . 0 . 0 . 0
<input type="checkbox"/> Subnet Mask 2:	0 . 0 . 0 . 0
<input type="checkbox"/> IP Address 3:	0 . 0 . 0 . 0
<input type="checkbox"/> Subnet Mask 3:	0 . 0 . 0 . 0
Port Rate:	Adaptive

At the bottom of the window, there are four buttons: 'NAT', 'Reset', 'Save', and 'Back'.

3. Click **Save**.

The default value for **IP Address 1** of **Ethernet Port 1** is 192.168.1.100. The subnet mask for this IP address is 255.255.255.0.

The default value for **IP Address 2** of **Ethernet Port 2** is 172.26.1.100. The subnet mask for this IP address is 255.255.255.0.

The default value for **IP Address 3** of **Ethernet Port 3** is 10.26.1.100. The subnet mask for this IP address is 255.255.255.0.



Clicking the **Reset** button will restore the previously saved parameter settings. For example, IP address 1 of Ethernet port 1 is 1.1.1.1 and this address is successfully saved. If you change the address to 2.2.2.2 without clicking **Save**, clicking **Reset** will change the address back to 1.1.1.1.

4.2 System Ports

To configure system ports:

1. Choose **Main Menu > Network > System Ports**.
2. Configure parameters displayed according to onsite conditions.

The following is an example.

The screenshot shows a web-based configuration interface for a network device. The window title is 'Network'. On the left is a sidebar menu with options: Ethernet Port 1, Ethernet Port 2, System Ports (selected), PPPoE, DDNS, and Static Route. The main area displays configuration for 'System Ports'. It includes two checkboxes: 'DHCP' and 'Retransmission upon Packet Loss', both of which are unchecked. Below these are several input fields: 'SNTP Server IP Address' (0.0.0.0), 'Web Service Port' (8000), 'Packet Download Port' (1730), 'NVR Station Port' (1730), 'Packet Retransmit Port' (51000), 'Default Gateway' (172 . 16 . 192 . 254), and 'DNS Server' (172 . 16 . 0 . 65). At the bottom of the window are four buttons: 'NAT', 'Reset', 'Save', and 'Back'.

The following table provides the descriptions for key parameters.

Parameter	Description
Web Service Port	Port for web-based access to the NVR.

Parameter	Description
	The default value for this parameter is 80 .
Packet Download Port	Port for the NVR Station to download data from the NVR. The default value for this parameter is 1730 .
NVR Station Port	Port for the NVR Station to communicate with the NVR. The default value for this parameter is 1730 .
Packet Retransmit Port	Port for the NVR to retransmit packets to the NVR Station. The default value for this parameter is 51000 .

3. Click **Save**.



Note

Clicking the **Reset** button will restore the previously saved parameter settings.

4.3 PPPoE

To enable PPPoE for an Ethernet port:

1. Choose **Main Menu > Network > PPPoE > Enable PPPoE**, as shown in the following figure.

The screenshot shows a 'Network' configuration window with a sidebar menu on the left containing: Ethernet Port 1, Ethernet Port 2, Ethernet Port 3, System Ports, PPPoE (highlighted), DDNS, and Static Route. The main area is titled 'Enable PPPoE' and contains the following fields and controls:

- ☐ Enable PPPoE
- Ethernet Port: Ethernet Port 3 (dropdown menu)
- User Name:
- Password:
- ☐ Auto Dial-up
- Retry Interval: 10 (s) (input field)
- Number of PPPoE Redial Attempts: 3 (input field)

At the bottom of the window, there are four buttons: NAT, Reset, Save, and Back.

2. Select the Ethernet port from the **Ethernet Port** drop-down list.
3. Specify **User Name** and **Password**.
4. Click **Save**.

If the existing dial-up connection is broken, choose **Main Menu > Network > PPPoE > Save** to manually establish a new dial-up connection.

To enable the system to automatically establish a new dial-up connection when the existing dial-up connection is broken:

1. Select **Auto Dial-up**.
2. Specify **Retry Interval** and **Number of PPPoE Redial Attempts**.
3. Click **Save**.

When PPPoE is enabled, you are advised to enable the DDNS technique to facilitate access from other devices to the NVR.



Clicking the **Reset** button will restore the previously saved parameter settings.

4.4 DDNS

The Dynamic Domain Name System (DDNS) update integrates DNS with DHCP. The two protocols are complementary: DHCP centralizes and automates IP address allocation; DDNS update automatically records the association between assigned addresses and hostnames at pre-defined intervals.

The DDNS allows frequently changing address-hostname associations to be updated frequently. Mobile hosts, for example, can then move freely on a network without user or administrator intervention. DDNS provides the necessary dynamic update and synchronization of the name-to-address mapping and address-to-name mapping on the DNS server.

Before enabling DDNS, go to the **System Ports** tab to configure the **DNS Server** and **Default Gateway** parameters and ensure that the NVR connects to the Internet.

To enable DDNS:

1. Choose **Main Menu > Network > DDNS > Enable DDNS**.
2. Configure parameters displayed.

The following figure shows the parameters displayed when the server type is set to **Oray.cn PeanutHull DDNS**.

The screenshot shows the 'Network' configuration window with the 'DDNS' tab selected. The 'Enable DDNS' checkbox is checked. The 'Server Type' is set to 'Oray.cn PeanutHull DDNS'. The 'Register with a DDNS Server' field is empty. The 'Passport' field contains '123456abc' and the 'Password' field contains '*****'. The 'DDNS Server Connection Status' is 'Offline'. At the bottom, there are buttons for 'NAT', 'Reset', 'Save', and 'Back'. A 'DNS Details' button is also present.

Configuration Item	Value
Enable DDNS	<input checked="" type="checkbox"/>
Server Type	Oray.cn PeanutHull DDNS
Register with a DDNS Server	
Passport	123456abc
Password	*****
DDNS Server Connection Status	Offline

(Before configuring the **Passport** and **Password** parameters, register with the Oray (www.oray.com) to obtain a passport. Note that the Oray will automatically assign the NVR a domain, which can be queried by clicking **DNS Details**.)

To query DNS details, click **DNS Details**. To query Oray hyperlinks, click **ORAY Hyperlinks**.)

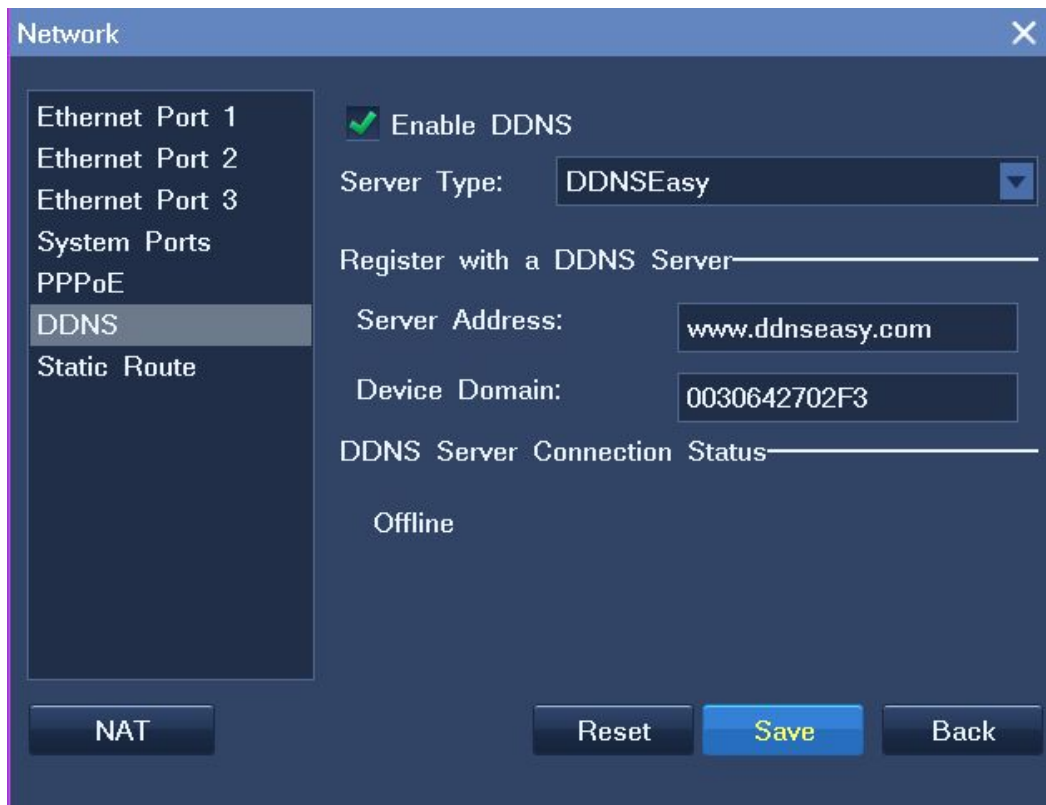
The following figure shows the parameters displayed when the server type is set to **DynDNS**.

The screenshot shows the 'Network' configuration window with the 'DDNS' tab selected. The 'Enable DDNS' checkbox is checked. The 'Server Type' is set to 'DynDNS'. The 'Register with a DDNS Server' field is empty. The 'Passport' field contains 'ASD', the 'Password' field contains '*****', and the 'Device Domain' field contains 'Sysvideo'. At the bottom, there are buttons for 'NAT', 'Reset', 'Save', and 'Back'.

Configuration Item	Value
Enable DDNS	<input checked="" type="checkbox"/>
Server Type	DynDNS
Register with a DDNS Server	
Passport	ASD
Password	*****
Device Domain	Sysvideo

(Before configuring the **Passport**, **Password**, and **Device Domain** parameters, register with the Dyn (www.dyndns.com) to obtain a passport and domain. One example for the **Device Domain** parameter is Sysvideo.)

The following figure shows the parameters displayed when the server type is set to **DDNSEasy**.



The screenshot shows a 'Network' configuration window with a sidebar on the left containing the following menu items: Ethernet Port 1, Ethernet Port 2, Ethernet Port 3, System Ports, PPPoE, DDNS (highlighted), and Static Route. The main area of the window is titled 'Network' and contains the following settings:

- ☒ Enable DDNS
- Server Type: DDNSEasy (selected from a dropdown menu)
- Register with a DDNS Server (checkbox)
- Server Address:
- Device Domain:
- DDNS Server Connection Status: Offline

At the bottom of the window, there are four buttons: NAT, Reset, Save (highlighted in blue), and Back.

(You must keep the default value (www.ddnseasy.com) for the **Server Address** parameter. Every NVR comes with a unique value for the **Device Domain** parameter. You can either keep this value or change the parameter value.)

After being configured with a domain, the NVR can be reached using this domain. On the NVR Station, enter the domain of the NVR in the **URL** text box to connect to the NVR.

The following figure assumes that the domain (<http://sysvideo.dyndns.org>) of the NVR is provided by the Dyn.

Login

Name: 232

User Name: admin

Password: *****

☐ IP Address: 172.16.198.232 Port Number: 1730

☒ URL: http://sysvideo.dyndns.org

☒ Remember User ☒ Remember Passw ☐ Auto Connect

OK Cancel

The following figure assumes that the domain (<http://www.ddnseasy.com/0030642702F3>) of the NVR is provided by the DDNS Easy.

Login

Name: 232

User Name: admin

Password: *****

☐ IP Address: 172.16.198.232 Port Number: 1730

☒ URL: http://www.ddnseasy.com/0030642702F3

☒ Remember User ☒ Remember Passw ☐ Auto Connect

OK Cancel

- Click **Save**.



Note

Clicking the **Reset** button will restore the previously saved parameter settings.

4.5 Static Route

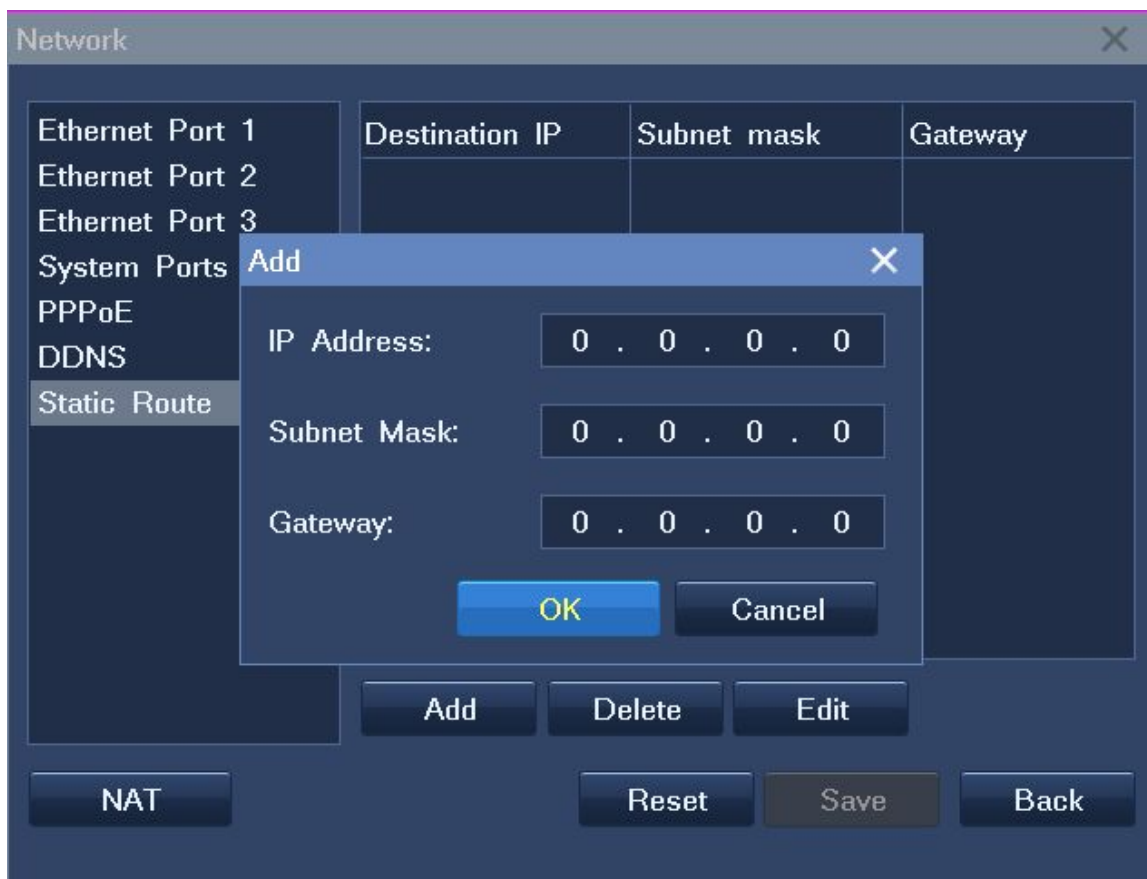
Networking devices forward packets using route information that is either manually configured or dynamically learned using a routing protocol. Static routes are manually configured and define an explicit

path between two networking devices. Unlike a dynamic routing protocol, static routes are not automatically updated and must be manually reconfigured if the network topology changes.

The benefits of using static routes include security and resource efficiency. Static routes use lower bandwidth than dynamic routing protocols and no CPU cycles are used to calculate and communicate routes. The main disadvantage to using static routes is the lack of automatic reconfiguration if the network topology changes.

To add a static IP route:

1. Choose **Main Menu > Network > Static Route > Add**, as shown in the following figure.



2. Specify the **IP Address**, **Subnet Mask**, and **Gateway** parameters for the target network.

Note that IP addresses of hosts are not supported.

3. Click **OK**.

To edit a static IP route:

1. Choose **Main Menu > Network > Static Route**.
2. Select the route and click **Edit**.

3. Change values for the **IP Address**, **Subnet Mask**, and **Gateway** parameters.

Note that IP addresses of hosts are not supported.

4. Click **OK**.

To delete a static IP route:

1. Choose **Main Menu > Network > Static Route**.
2. Select the route
3. Click **Delete**.
4. In the displayed dialog box, click **OK** to confirm your operation.

4.6 NAT

Address translation substitutes the real address in a packet with a mapped address that is routable on the destination network. The network address translation (NAT) technique includes the following processes:

- Translate a real address into a mapped address
- Undo translation for returning traffic

To enable the NAT technique:

1. Choose **Main Menu > Network > NAT**.
2. In the displayed **NAT** dialog box, select **NVR in a NAT-enabled Network**, as shown in the following figure.

Type	Port	Map Port
HTTP	80	80
NVR Station Communicatio	1730	1730
NVR Station Probe	11988	11988
MNC Communication	5550	5550
MNC View	6600	6600
FTP	21	21

3. Double-click **HTTP**, **NVR Station Communication**, **NVR Station Probe**, **MNC Communication**, **MNC View**, and **FTP** to set mapping ports, as shown in the following figure.

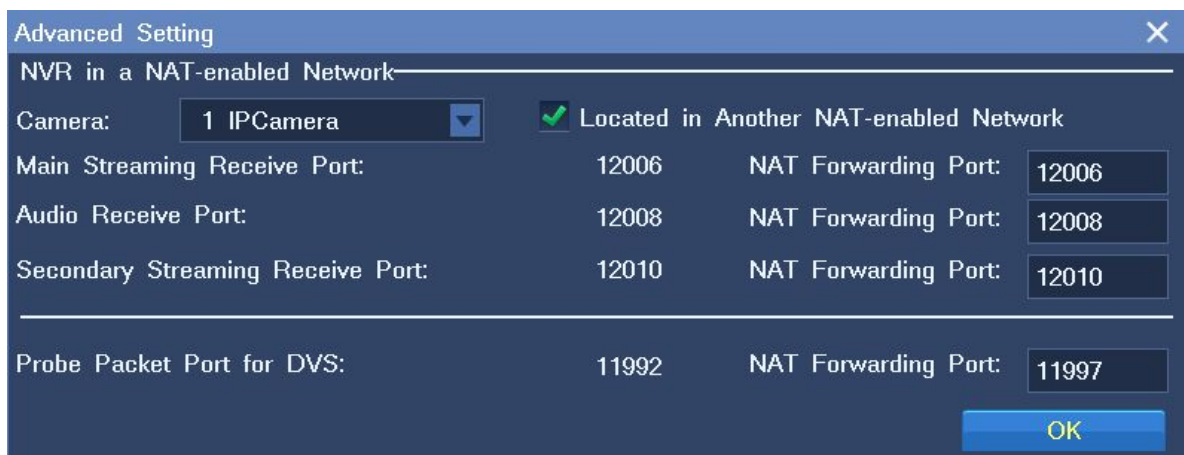


The image shows a 'Port Setting' dialog box with a blue header and a close button (X). It contains two input fields: 'Port :' with the value '80' and 'Mapping Port :' with the value '80'. An 'OK' button is located at the bottom right.

The following table describes the parameters displayed.

Parameter	Description
HTTP	Port for the NVR Station Web to communicate with the NVR
NVR Station Communication	Port for the NVR Station to communicate with the NVR
NVR Station Probe	Port for the NVR Station to send probe packets to the NVR
MNC Communication	Port for the MNC to communicate with the NVR
MNC View	Port for the MNC to receive video from the NVR
FTP	Port for the FTP server to communicate with the NVR

4. Click **Advanced** to configure parameters displayed, as shown in the following figure.



The image shows an 'Advanced Setting' dialog box with a blue header and a close button (X). It contains several settings:

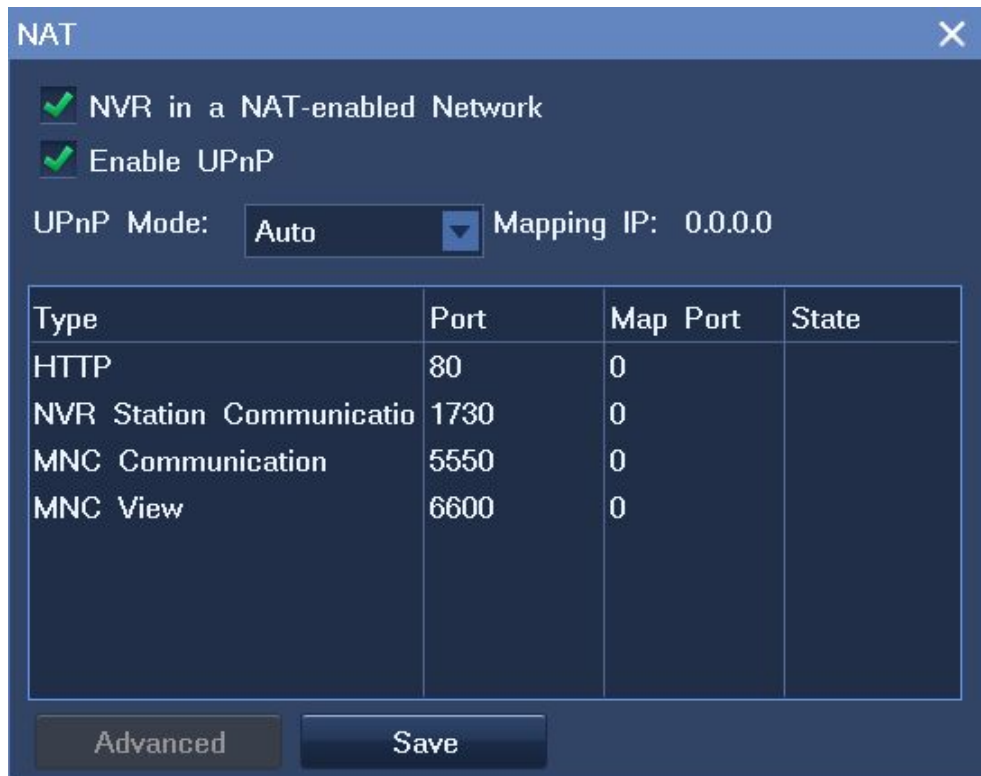
- NVR in a NAT-enabled Network**: A section header.
- Camera**: A dropdown menu showing '1 IPCamera'.
- Located in Another NAT-enabled Network**: A checkbox that is checked.
- Main Streaming Receive Port**: 12006
- NAT Forwarding Port**: 12006
- Audio Receive Port**: 12008
- NAT Forwarding Port**: 12008
- Secondary Streaming Receive Port**: 12010
- NAT Forwarding Port**: 12010
- Probe Packet Port for DVS**: 11992
- NAT Forwarding Port**: 11997

An 'OK' button is located at the bottom right.

For cameras located in a different NAT-enabled network from the NVR, select **Located in Another NAT-enabled Network** and configure NAT forwarding port numbers according to onsite conditions.

5. (Optional) Enable the Universal Plug and Play (UPnP) technology.

1) On the **NAT** dialog box, select **Enable UPnP**, as shown in the following figure.



The screenshot shows the NAT dialog box with the following settings:

- ☒ NVR in a NAT-enabled Network
- ☒ Enable UPnP
- UPnP Mode: **Auto** (selected from a dropdown menu)
- Mapping IP: 0.0.0.0

Type	Port	Map Port	State
HTTP	80	0	
NVR Station Communication	1730	0	
MNC Communication	5550	0	
MNC View	6600	0	

At the bottom of the dialog box, there are two buttons: **Advanced** and **Save**.

2) Select a UPnP mode.

- If you choose the auto mode, no further operations are required.
- If you choose the manual mode, double-click **HTTP**, **NVR Station Communication**, **MNC Communication**, and **MNC View** to configure mapping ports.

6. Click **Save**.

7. Connect a router to the NVR using a LAN port on the router.

8. Configure the network settings of the router.

When the NAT technique is enabled, the NVR can be reached using the IP address of the WAN port on the router.

If the UPnP technology does not take effect, perform the following steps:

1. Check whether the NVR connects to the Internet.

- If yes, go to the next step.

- If not, connect the NVR to the Internet.
2. Check whether the default gateway is located in the same network segment as the NVR.
This step requires you to check the IP addresses and subnet masks of the NVR.
 - If yes, go to the next step.
 - If not, correct the default gateway or change the IP addresses of the NVR.
 3. Check whether a port mapping table between the router and another NVR already exists on the router.
 - If yes, power off your NVR and the router, delete the mapping table on the router, and power on your NVR and the router.
 - If not, contact the local authorized Sysvideo agent.



Note

Before enabling the NAT technique, ensure that you already know the NAT basics.

4.7 COM Ports

To configure a COM port:

1. Choose **Main Menu > Settings > COM Port**.

The following figure shows the **COM Port** dialog box.

COM

Port Number: COM 1

Port Type: RS485

Baud Rate: 9600

Data Bits: 8 bits

Stop Bits: 1 bit

Parity: No parity

Flow Control: No

Device Connected to COM Port: ☒ Monitoring keyboard ☐ Alarm Card

(* Reboot the NVR to apply the change to the parameter)

Restore Default Settings OK Back

2. In the displayed **COM Port** dialog box, specify parameters displayed according to onsite conditions.

Note that the **Port Type** parameter is unconfigurable.

The following table provides the default values for parameters displayed.

Parameter	Default Value
Port Type	RS485
Baud Rate	9600
Data Bits	8 bits
Stop Bits	1 bit
Parity	No parity
Flow Control	No

3. Click **OK**.

4.8 Registering with a VMS



SNK series NVR VMS is not free software, it need to pay license charges, please ask Sysvideo.

Sysvideo Video Management Server (VMS) consists of the following:

- Client Unit (CU): supports live viewing, e-map, multi-record playback, NVR/camera/decoder/video wall management.
- Platform Management Client (PMC): supports device registration.

To register with a VMS:

1. Obtain a Universally Unique Identifier (UUID) from a PMC.
2. Write down the UUID that is automatically generated after step 1 is performed.
3. On the NVR, choose **Main Menu > Settings > Register with VMS**.
4. In the displayed **Register with VMS** dialog box, specify parameters according to onsite conditions.

The following is an example.

[illegible]

The following table provides the descriptions for parameters or options displayed.

Item	Parameter or Option	Description
Access to CU	VMS	VMS type
	VMS Info	To query VMS information, click this option.
	Load Balancing	Whether to enable the load balancing function
	Transmit secondary stream	Whether to transmit secondary streams to the VMS
	Report the actual number of cameras	Whether to report the actual number of cameras to the VMS
	IP Address	IP address of the VMS

Item	Parameter or Option	Description
	Port Number	Number of the port for the CU
	Domain	Domain name of the VMS
Access to PMC	IP Address	IP address of the VMS
	Port Number	Number of the port for the PMC

- Click **Save**.
- (Optional) In the displayed dialog box, click **Yes** to reboot the system to enable the NVR to send real-time data to the VMS.

4.9 Conducting Connectivity Tests

You can conduct connectivity tests to check the connection between the system and a device.

To conduct a connectivity test:

- Choose **Main Menu > Settings > Connectivity Test**.

The following figure shows the **Connectivity Test** dialog box.

Connectivity Test

Settings

Destination Address ☐ Enter an IP address

0 00141009F3D4

Number of Tests

Timeout Threshold Seconds (1-254)

Test Results

Statistics

Number of Timeouts

Number of Successful Connections

- Select the device.
 - If the device is on the camera or decoder list of the system, select the device from the

drop-down list near the **Destination Address** parameter.

- If the device is not listed, select the **Enter an IP address** option and enter the IP address of the device in the text box below this option.

3. Specify the **Number of Tests** and **Timeout Threshold** parameters.

4. Click **Start Test**.

Under **Test Results**, you can query test results.

4.10 Miscellaneous

DHCP

The Dynamic Host Configuration Protocol (DHCP) is based on the Bootstrap Protocol (BOOTP), which provides the framework for passing configuration information to hosts on a TCP/IP network. The DHCP adds the capability to automatically allocate reusable network addresses and configuration options to Internet hosts.

To enable the DHCP technique, choose **Main Menu > Network > System Ports > DHCP**.

Retransmission upon Packet Loss

The Retransmission upon Packet Loss technique periodically checks whether the NVR receives all packets transmitted from an encoder or decoder.

Upon detecting packet loss, the technique sends a retransmission request to the packet transmitter.

To enable the technique, **Main Menu > Network > System Ports > Retransmission upon Packet Loss**, as shown in the following figure.

Network

Ethernet Port 1
Ethernet Port 2
System Ports
PPPoE
DDNS
Static Route

☐ DHCP

☐ Retransmission upon Packet Loss

SNTP Server IP Address:0.0.0.0

Web Service Port:8000

Packet Download Port:1730

NVR Station Port:1730

Packet Retransmit Port:51000

Default Gateway:172 . 16 . 192 . 254

DNS Server:172 . 16 . 0 . 65

NAT

Reset

Save

Back

5 Configuring Disk Management Settings

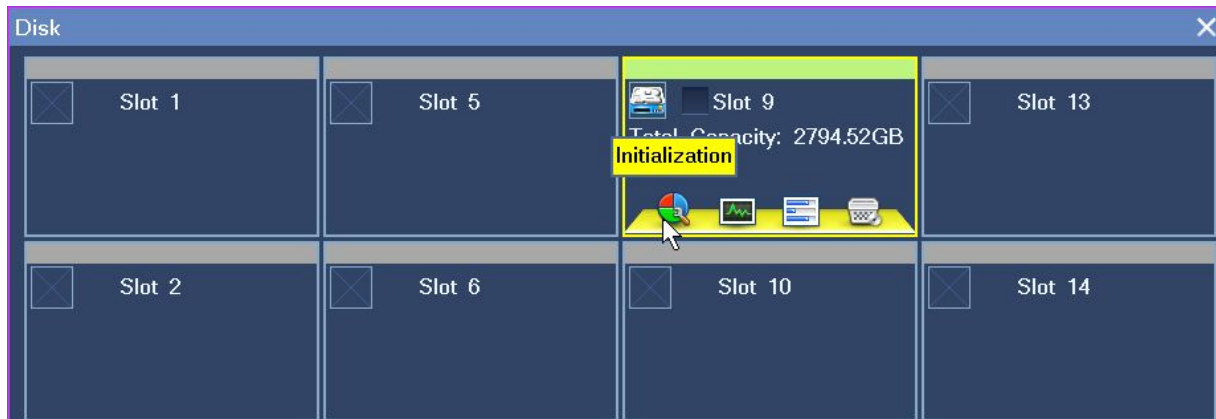
5.1 One-Click Partition and Formatting

Before starting a recording, you must partition and format disks. With this feature, you can complete the two operations with one click.

To complete partition and formatting using this feature:

1. Choose **Main Menu > Settings > Disk**.
2. Move your cursor to the slot where a disk is installed.

3. Click the  **Initialization** button.



4. Click **OK** when the partition and formatting is complete.

To apply this feature to several disks at one time, select these disks and click **Initialize** at the bottom of the **Disk** window.



[This feature creates only one partition.](#)

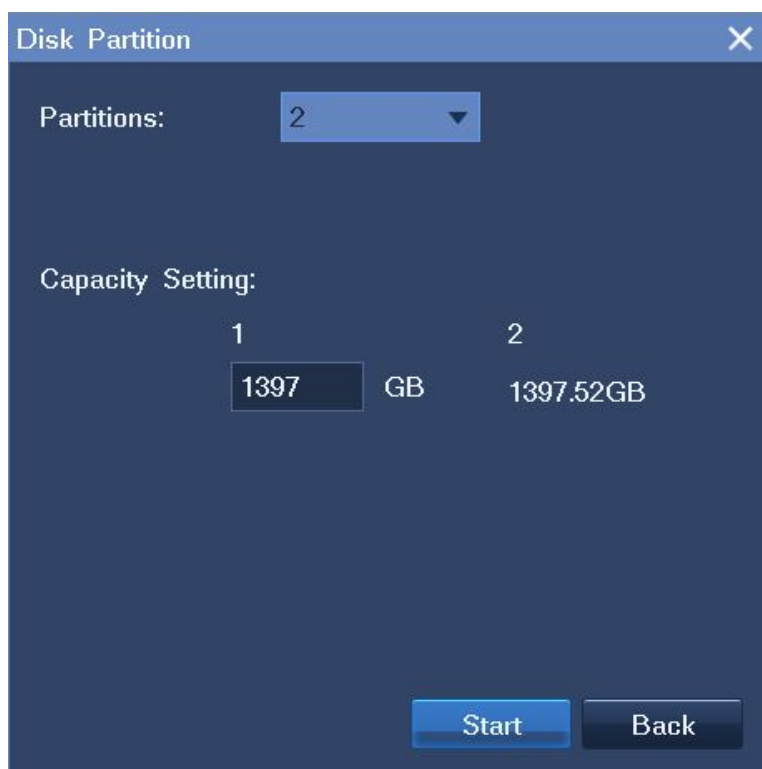
To partition a disk only:

1. Choose **Main Menu > Settings > Disk > Advanced**.
2. Click the disk and choose **Partition**, as shown in the following figure.



3. In the displayed **Disk Partition** dialog box, specify parameters displayed.

The following is an example.



Note that a maximum of four partitions are supported.

4. Click **Start**.

To format a partition only:

1. Choose **Main Menu > Settings > Disk > Advanced**.
2. Click the partition and choose **Format**, as shown in the following figure.



3. In the displayed dialog box, click **Start**.

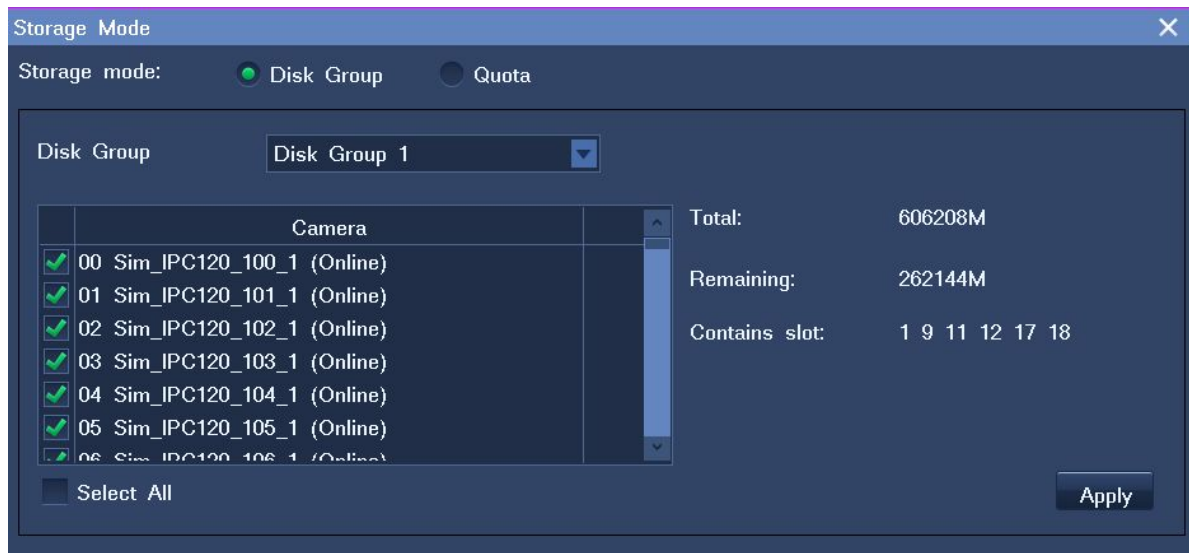
5.2 Setting the Storage Mode

The storage modes of a disk include the following:

- Grouping: In this mode, multiple disks are grouped to form a disk pool and you can determine which camera can use this pool.
- Quota: In this mode, one disk is shared between specific cameras.

To set the storage mode to grouping for a disk:

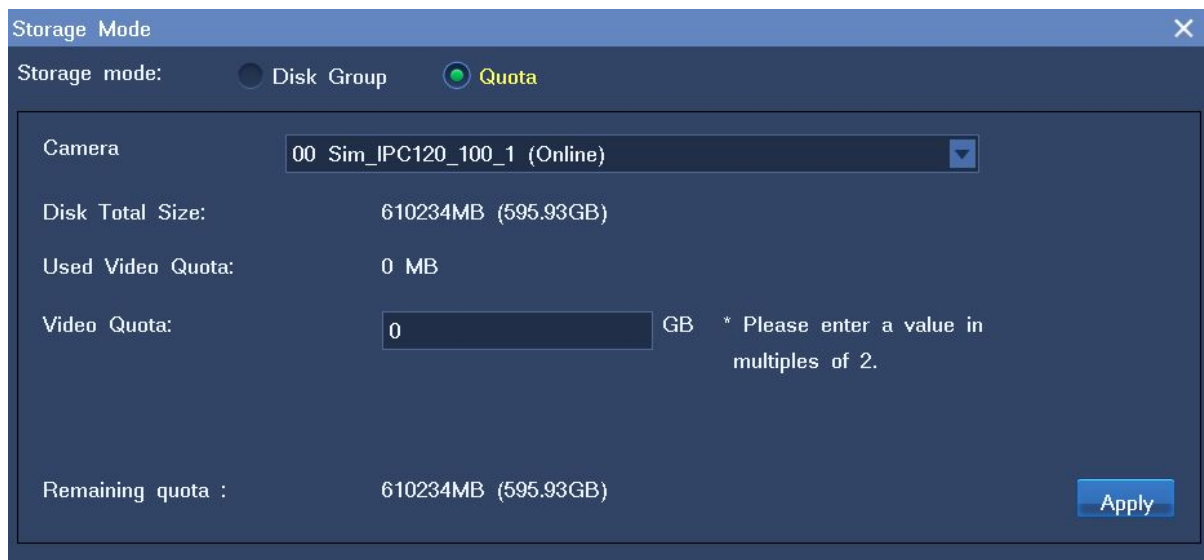
1. Choose **Main Menu > Settings > Disk > Storage Mode**.
2. In the displayed dialog box, set **Storage mode** to **Disk Group**, as shown in the following figure.



3. Select a group from the **Disk Group** drop-down list.
4. Determine which camera is allowed to use the disk group.
5. Click **Apply**.

To set the storage mode to quota for a disk:

1. Choose **Main Menu > Settings > Disk > Storage Mode**.
2. In the displayed dialog box, set **Storage mode** to **Quota**.




3. Select a camera from the **Camera** drop-down list to assign shares to the camera.
4. Enter a digit in the **Video Quota** text box.

Note that the digit must be in multiples of 2.

5. Click **Apply**.

To change the group ID of a disk:

1. Choose **Main Menu > Settings > Disk**.

2. Move your cursor to the slot where the disk is installed and click the  **Disk Group** button.



3. Select a group ID in the displayed **Disk Group** dialog box.



4. Click **OK**.

5.3 Creating RAID Arrays

Redundant array of independent disks (RAID) is a data storage virtualization technique that combines multiple disk drive components into a logical unit for the purposes of data redundancy or performance improvement.

Before creating a RAID array, note the following:

- Different RAID levels require different numbers of physical disk drives.
 - RAID 0: at least 2 disk drives
 - RAID 1: 2 disk drives
 - RAID 5: at least 3 disk drives


- RAID 6: at least 4 disk drives
- RAID 10: at least 4 disk drives (Note: The number of disk drives must be even.)
- Only SATA disk drives can be used in RAID arrays.
- Uninstall all the existing disk drives.


Creation

To create a RAID array:

1. Choose **Main Menu > Disk > Advanced > RAID > Create Disk Group**, as shown in the following figure.



2. In the displayed **Create Disk Group** dialog box, select a RAID level.
3. Click **Create**.
4. When you are notified that the RAID array is created, return to the **Disk** window and click the  **Initialization** button to partition and format the array.

There is a yellow arrow pointing at the  **Initialization** button. This is to prompt you to partition and format the array.

5. In the displayed dialog box, click **Yes** to confirm that you want to partition and format the array.


Deletion

When a RAID array is successfully created, you can click **Disk Group Information** to query the information about the array. In the **Disk Group Information** dialog box, you can click **Delete Disk Group** to delete the RAID array.

Changing the disk group ID

By default, the newly added RAID array is grouped into disk group 1.

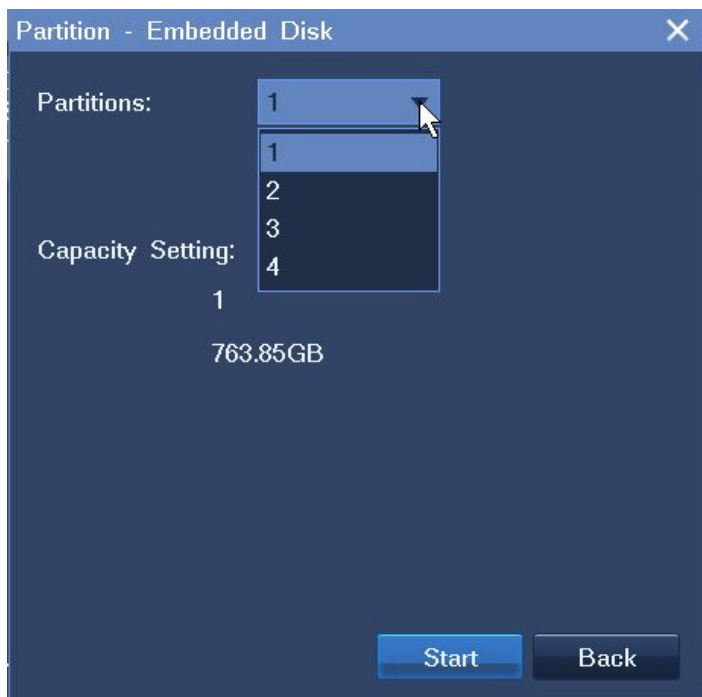
To change the group ID of the RAID array:

1. On the array view window, click the  **Disk Group** button.
2. In the displayed **Disk Group** dialog box, select a new group ID.
3. Click **OK**.

Partition

To partition the RAID array:

1. On the **Disk** window, click **Advanced**.
2. In the displayed **Disk** dialog box, click the RAID array and choose **Partition**.
3. In the **Partition** dialog box, determine the number of partitions that you want to set up, as shown in the following figure.



4. Click **Start**.

Format

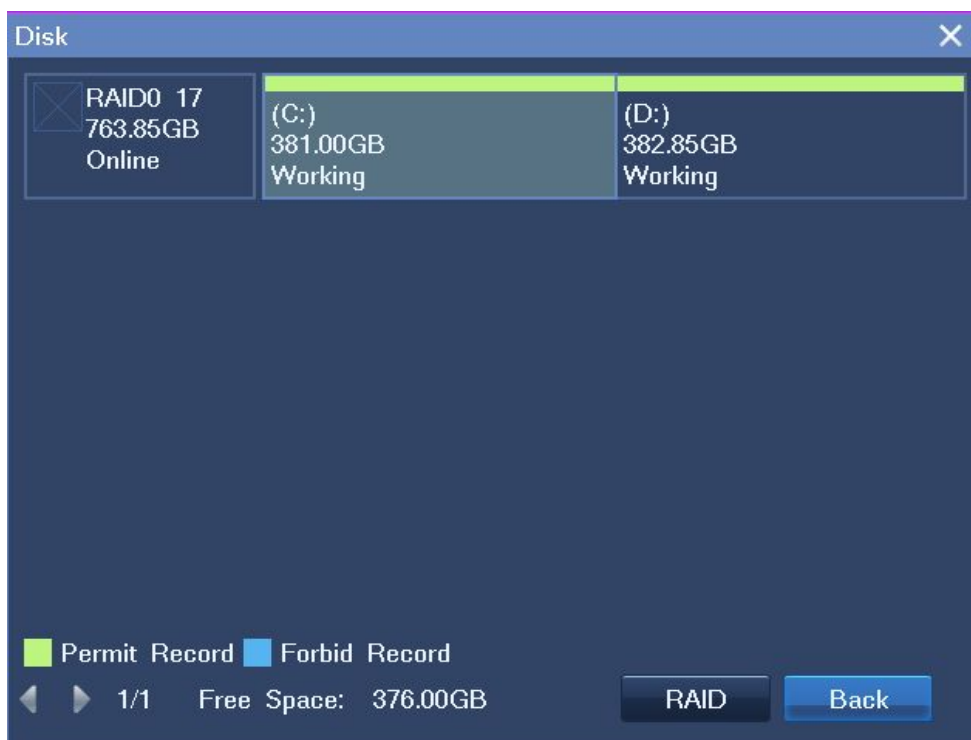
To format a partition:

1. In the **Disk** dialog box, click the partition and choose **Format**, as shown in the following figure.

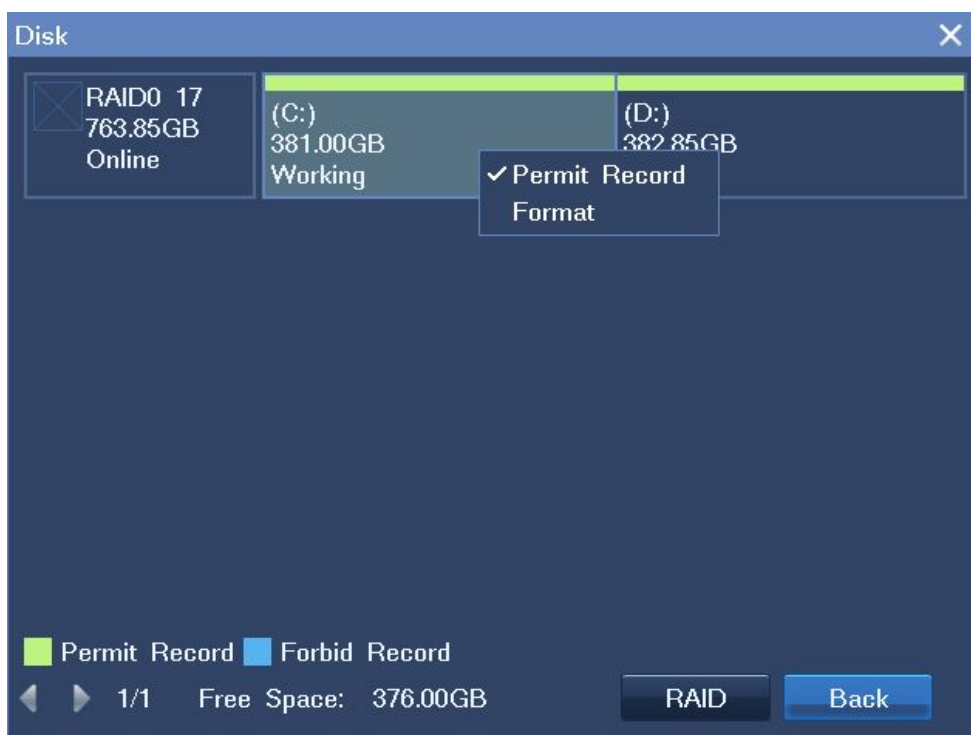


2. In the displayed dialog box, click **Start**.

After the partitioning and formatting is complete, you can see the following.



If you want to forbid a partition from recording, click the partition and unselect **Permit Record**, as shown in the following figure.





Note

You cannot query the Self-Monitoring Analysis and Reporting Technology (SMART) information about a RAID array.

For the SNK16000RD series, you cannot use the dual/triple-monitor viewing feature if you already create RAID arrays. In other words, you cannot create RAID arrays if you already use the dual/triple-monitor viewing feature.

5.4 IP SAN

Before configuring IP SAN settings, ensure that the following conditions are true:

- The NVR has been assigned a virtual disk from a target.
- The sector size of the virtual disk is 512 or 4096 bytes.
- The virtual disk is at least 4 GB large.

To add a target to the NVR:

1. Choose **Main Menu > Settings > IP SAN > Add**, as shown in the following figure.

IP SAN

iSCSI Initiator

Initiator Name: iqn.1993-08.org.debian:01:fa25c336370

Target Portal

Address	Port Num	Status	Targets
100.100.95.254	3260	Inactive	

Add Remove Refresh

Target

Address	Persistent	Status	Target Name
---------	------------	--------	-------------

Details Connect Disconnect Refresh Cancel

2. In the **Add Targets** dialog box, specify parameters displayed.

The screenshot shows a dialog box titled "Add Targets". It has a close button (X) in the top right corner. The dialog contains the following fields and controls:

- IP:** A text field containing "0 . 0 . 0 . 0".
- Port:** A text field containing "3260".
- Account Authentication:** A checkbox that is currently unchecked.
- User Name:** A text field that is empty.
- Password:** A text field that is empty.
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

- 1) Set the **IP** parameter to the IP address of the target.
- 2) For the **Port** parameter:
 - If you use Sysvideo SNK IP SAN System, retain the default value **3260**.
 - If you do not use Sysvideo SNK IP SAN System, change the parameter value accordingly.
- 3) For the **Account Authentication** option:
 - If you use Sysvideo SNK IP SAN System, skip this option.
 - If you do not use Sysvideo SNK IP SAN System, determine whether to select this option according to the user authentication requirements of the target.
- 4) When the **Account Authentication** option is selected, specify **User Name** and **Password**.

3. Click **OK**.

To remove a target from the NVR:

1. Choose **Main Menu > Settings > IP SAN**.
2. Select the target from the target portal list and click **Remove**.

To update the NVR status on the target:

1. Choose **Main Menu > Settings > IP SAN**.
2. Select the target from the target portal list and click **Refresh**.

To query details about a target:

1. Choose **Main Menu > Settings > IP SAN**.

2. Select the target from the target list and click **Details**.

To disconnect the NVR from a target:

1. Choose **Main Menu > Settings > IP SAN**.
2. Select the target from the target list and click **Disconnect**.

When the NVR is disconnected from the target, you can click **Connect** to reconnect the NVR to the target.


To update the connection status with a target for the NVR:

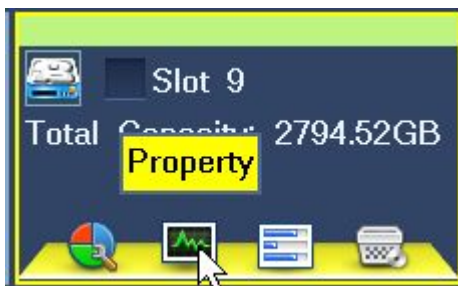
1. Choose **Main Menu > Settings > IP SAN**.
2. Select the target from the target list and click **Refresh**.

5.5 Miscellaneous

Querying the Basic Information and SMART Information About a Disk

To query the basic information and SMART information about a disk:

1. Choose **Main Menu > Settings > Disk**.
2. Move your cursor to the slot where the disk is installed and click the  **Property** button.




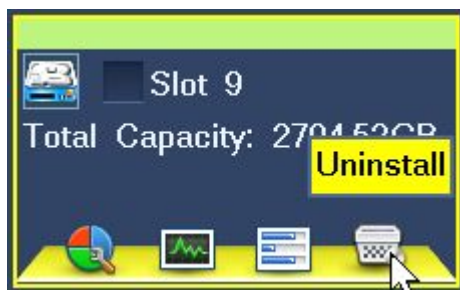
The following is a querying result.



The **Use of Time** parameter indicates the days that elapse since the first startup of the disk. This information is provided by the SMART.

Uninstalling a Disk

1. Choose **Main Menu > Settings > Disk**.
2. Move your cursor to the slot where the disk is installed and click the  **Uninstall** button.

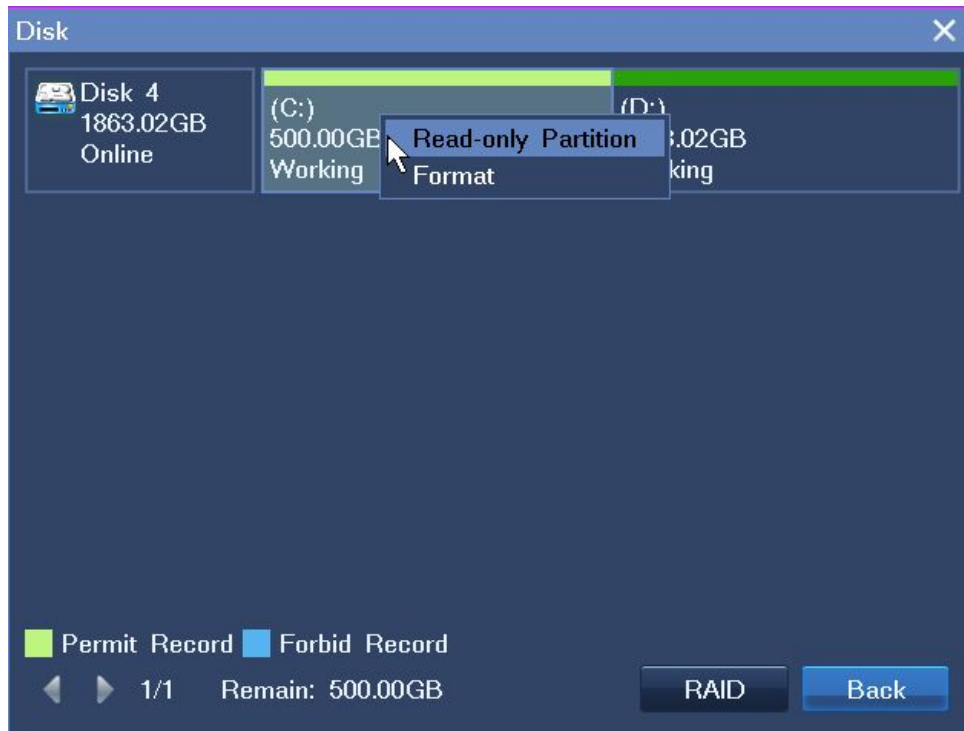


3. In the displayed dialog box, click **Yes** to confirm your operation.

Forbidding a Partition from Recording

To forbid a partition from recording:

1. Choose **Main Menu > Settings > Disk > Advanced**.
2. Click the partition and select **Read-only Partition**.



Recommended Third-Party Disks

The following table lists the recommended third-party disks.

Vendor	Product Type	Model	Size
Seagate	SV35.5	ST2000VX002	2 TB
		ST31000524NS	1 TB
		ST31000526SV	1 TB
		ST3500411SV	500 GB
		ST1000VX000	1 TB
		ST2000VX000	2 TB
		ST3000VX000	3 TB

Vendor	Product Type	Model	Size
	Constellation ES	ST3320620SV	320 GB
		ST1000NM0011	1 TB
		ST2000NM0011	2 TB
	Pipeline HDTM.2	ST3500312CS	500 GB
		ST31000322CS	1 TB
	Barracuda XT	St33000651AS	3 TB
		ST32000641AS	2 TB
	Barracuda 7200.11	ST31500341AS	1.5 TB
		ST31000333AS	1 TB
		ST31000340AS	1 TB
	Barracuda 7200.12	ST31000528AS	1 TB
		ST3500418AS	500 GB
	Barracuda Green	ST2000DL003	2 TB
	Barracuda LP	ST32000542AS	2 TB
		ST31500541AS	1.5 TB
	Constellation ES.2	ST32000645NS	2 TB
		ST33000650NS	3 TB
Samsung	Samsung/CE	HD103SI/CE	1 TB
		HD154UI/CE	1.5 TB
		HD203WI/CE	2 TB
		HD204UI	2 TB

Vendor	Product Type	Model	Size
Hitachi	Ultrastar 7K1000	HUA721010KLA330	1 TB
	A7K2000	HUA722020ALA330	2 TB
	Ultrastar	HUA723020ALA640	2 TB
	Ultrastar 7K4000	HUS724040ALE640	4 TB
	HGST	HUS724020ALE640	2 TB
		HUS724040ALA640	4 TB
		HUS724020ALA640	2 TB
		HUS724030ALA640	3 TB
TOSHIBA	-	MK1002TSKB	1 TB
	-	MK2002TSKB	2 TB

Troubleshooting

When you find some data fails to be recorded:

- If you have created a RAID array, choose **Main Menu > Settings > General > Disable the secondary screen** to disable secondary screens (if any).
- If no RAID array is created, check for faulty disks.
- If none of the preceding measures works, contact the local authorized Sysvideo agent.

6 Configuring Cameras

6.1 General

To change the general information about a camera:

1. Right-click the corresponding view window and choose **Device Setting > General**.
2. On the **General** tab page, change parameter values according to onsite conditions.

Device Setting

Device: IPCamera

Parameter Type: General

Name: IPCamera

Model: IPC123-A

Number of Alarm Inputs: 5

Number of Alarm outputs: 3

Alarm Cleared After: 5 (s)

Software 7.0.4.22 Aug 21 2014 01:57:39

Streaming Status: Working

Recording: OFF

Sending Audio: ON

Sending Main Video: ON

Sending Secondary Video: ON

Reboot Reset Save Back

The **Alarm Cleared After** parameter indicates the time after which an alarm is automatically cleared.

3. Click **Save**.



Note

Clicking the **Reset** button will restore the previously saved parameter settings.

6.2 Main Video

To configure the main stream for a camera:

1. Click the **Main Video** tab.
2. On the **Main Video** tab page, change parameter values according to onsite conditions.



The screenshot shows the 'Device Setting' window with the 'Main Video' tab selected. The 'Device' is set to 'IPCamera' and the 'Channel' is set to '1'. The 'Parameter Type' list on the left includes General, Main Video (selected), Secondary Video, Motion Detection, Privacy Mask, Image Adjust, Show Text, Audio, Dome, COM, Network, PPPoE, and Alarm. The main settings area displays the following parameters:

Parameter	Value	Unit/Range
Encoding Format	H264	
Resolution	1920*1080	
Frame Rate	25	(f/s)
Code Rate	4096	(kbps)
Max Interval for Key Frame	75	(1-2,500f)
Max. Quantization	1	(1-51)
Min. Quantization	1	(1-51)

At the bottom of the window are four buttons: Reboot, Reset, Save, and Back.

The **Max Interval for Key Frame** parameter indicates the maximum interval at which the camera sends a key frame to the NVR.

For the **Max. Quantization** and **Min. Quantization** parameters, you are advised to use the default values. For the default values, see the documents of the camera.

3. Click **Save**.



Clicking the **Reset** button will restore the previously saved parameter settings.

6.3 Secondary Video

To configure the secondary stream for a camera:

1. Click the **Secondary Video** tab.
2. On the **Secondary Video** tab page, change parameter values according to onsite conditions.

The screenshot shows a 'Device Setting' window with a blue header and a close button (X) in the top right corner. Below the header, there are two dropdown menus: 'Device:' set to 'IPCamera' and 'Channel:' set to '1'. A 'Parameter Type:' section on the left contains a list of tabs: General, Main Video, Secondary Video (highlighted), Motion Detection, Privacy Mask, Image Adjust, Show Text, Audio, Dome, COM, Network, PPPoE, and Alarm. To the right of the tabs, several parameters are listed with their corresponding values in dropdown menus or text boxes: 'Encoding Format:' is 'H264', 'Resolution:' is '352*256', 'Frame Rate:' is '25' (f/s), 'Code Rate:' is '1024' (kbps), 'Max Interval for Key Frame:' is '75' (1-2,500f), 'Max. Quantization:' is '1' (1-51), and 'Min. Quantization:' is '1' (1-51). At the bottom of the window, there are four buttons: 'Reboot', 'Reset', 'Save', and 'Back'.

3. Click **Save**.



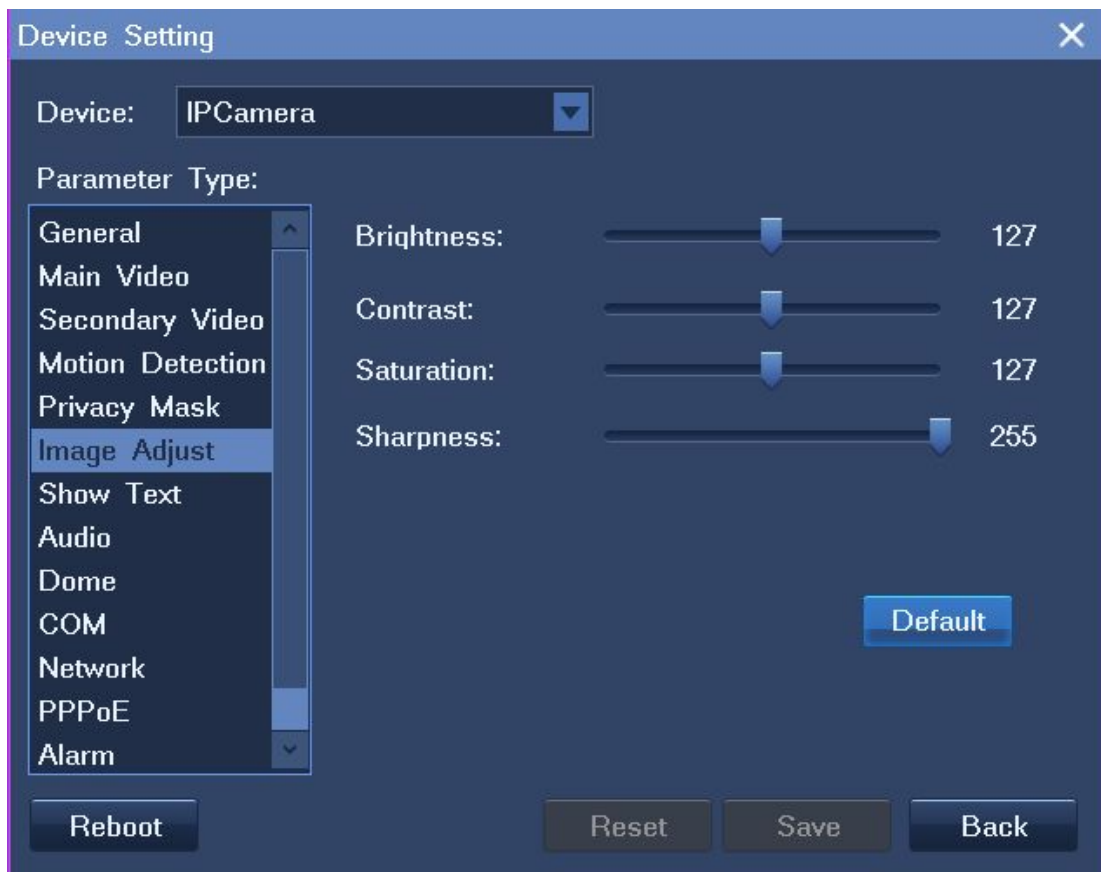
For the **Max. Quantization** and **Min. Quantization** parameters, you are advised to use the default values. For the default values, see the documents of the camera.

Clicking the **Reset** button will restore the previously saved parameter settings.

6.4 Image Adjust

To adjust the image settings of a camera:

1. Click the **Image Adjust** tab.
2. On the **Image Adjust** tab page, change parameter values according to onsite conditions.



3. Click **Save**.



Clicking the **Reset** button will restore the previously saved parameter settings.

6.5 Show Text

You can show a maximum of three user-defined texts on the view window of a camera.

To show a user-defined text on the view window of a camera:

1. Click the **Show Text** tab.
2. Select a text (**Caption 1/2/3**) from the drop-down list above **Show Text**.

Device Setting

Device: IPCamera Channel: 1

Parameter Type:

- Main Video
- Secondary Video
- Motion Detection
- Privacy Mask
- Image Adjust
- Show Text
- Audio
- Dome
- COM
- Network
- PPPoE
- Alarm

Caption 1

☒ Show Text ☒ Align Right

Caption: IPCamera

Location: X:(0~1200) 58

Y:(0~720) 128

Reboot Reset Save Back

Note that some cameras may not support three user-defined texts. In such a case, you can configure only one or two captions.

3. Select the **Show Text** option.
4. (Optional) Select the **Align Right** option to align all the texts to the right edge.

If you find this option does not take effect, contact the local authorized Sysvideo agent to check whether the camera in question does not support the option.

5. Edit the text in the **Caption** text field.
6. (Optional) Specify **X** and **Y** to select a location for the text.
7. Click **Save**.

On the **Show Text** page, you can choose whether to show the system time and where to show an alarm prompt.

To show the system time:

1. Select **Time/Alarm** from the drop-down list above **Show Text**.

The screenshot shows a 'Device Setting' window with a dark blue background. At the top, there's a title bar with a close button. Below it, 'Device:' is set to 'IPCamera' and 'Channel:' is set to '1'. A 'Parameter Type:' list on the left includes options like Main Video, Secondary Video, Motion Detection, Privacy Mask, Image Adjust, Show Text, Audio, Dome, COM, Network, PPPoE, and Alarm. The 'Show Text' option is selected, and a 'Time/Alarm' dropdown is set to 'Time/Alarm'. Under 'Show Time', there's a checked checkbox. Below it, 'X:(0~1200)' and 'Y:(0~720)' are both set to '0'. To the right, under 'Alarm:', there are similar 'X:(0~1200)' and 'Y:(0~720)' fields, both also set to '0'. At the bottom, there are four buttons: 'Reboot', 'Reset', 'Save' (highlighted in yellow), and 'Back'.

2. Select the **Show Time** option.
3. (Optional) Specify **X** and **Y** to select a location for the system time.

To determine where to show an alarm prompt:

1. Select **Time/Alarm** from the drop-down list above **Show Text**.
2. Specify **X** and **Y** under **Alarm** to select a location for the alarm prompt.
3. Click **Save**.



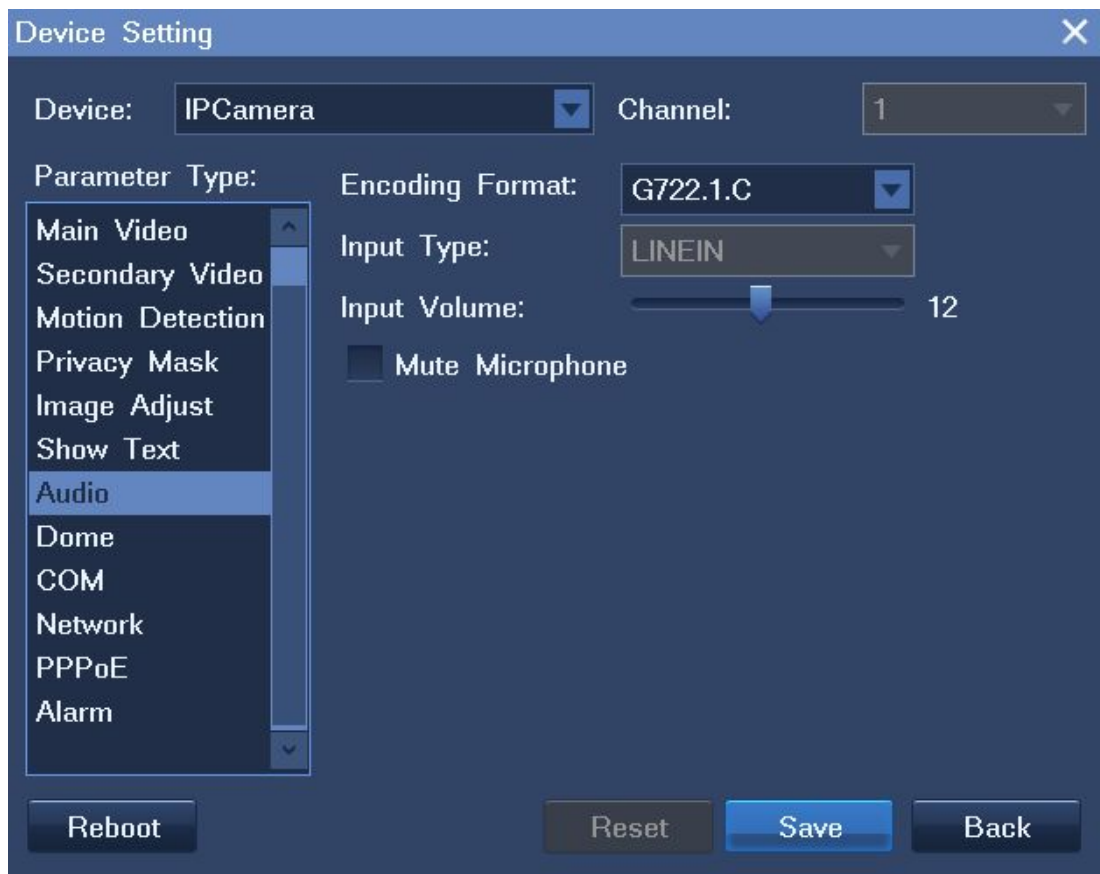
Note

Clicking the **Reset** button will restore the previously saved parameter settings.

6.6 Audio

To configure audio settings for a camera:

1. Click the **Audio** tab.
2. Select a speech encoding protocol or technique from the **Encoding Formatting** drop-down list.



3. Adjust the input volume using the adjustment bar.
4. (Optional) Select the **Mute Microphone** option.
5. Click **Save**.



Clicking the **Reset** button will restore the previously saved parameter settings.

6.7 Dome

To configure the dome for a camera:

1. Click the **Dome** tab.
2. Select a protocol from the **Protocol** drop-down list.

3. Specify the **Address Code** parameter.
4. Select a COM port from the **COM Port** drop-down list.

If the camera has only one COM port, you can skip this step because COM1 is displayed by default.

5. Click **Save**.



Note

The parameter settings on the NVR must be consistent with those on the camera.

Clicking the **Reset** button will restore the previously saved parameter settings.

6.8 COM

To configure a COM port for a camera:

1. Click the **COM** tab.
2. Select a COM port from the **COM** drop-down list.

If the camera has only one COM port, you can skip this step because COM1 is displayed by default.

3. Specify the **Baud Rate** parameter.

Device Setting

Device: IPCamera

COM: com1

Parameter Type:

- Main Video
- Secondary Video
- Motion Detection
- Privacy Mask
- Image Adjust
- Show Text
- Audio
- Dome
- COM
- Network
- PPPoE
- Alarm

Port Type: RS485

Baud Rate: 9600

Reboot Reset Save Back

The default parameter value is **9600**.

- Click **Save**.



The **Port Type** parameter is unconfigurable.

Clicking the **Reset** button will restore the previously saved parameter settings.

6.9 Network

To configure network settings for a camera:

- Click the **Network** tab.

Device Setting

Device: IPCamera

Parameter Type: ☒ DHCP

Main Video
Secondary Video
Motion Detection
Privacy Mask
Image Adjust
Show Text
Audio
Dome
COM
Network
PPPoE
Alarm

IP Address: 172 . 16 . 198 . 8
Subnet Mask: 255 . 255 . 224 . 0
Gateway: 172 . 16 . 198 . 185
Register To: 172 . 16 . 198 . 236

Reboot Reset Save Back

2. (Optional) Enable the DHCP technique by selecting the **DHCP** option.
3. Specify parameters displayed on the **Network** tab page.

The **Register To** parameter indicates the IP address of an NVR to which the camera can register to.

4. Click **Save**.



Note

Clicking the **Reset** button will restore the previously saved parameter settings.

6.10 PPPoE

To enable PPPoE for a camera:

1. Click the **PPPoE** tab.

The screenshot shows a 'Device Setting' window with a dark blue background. At the top, there's a title bar with a close button (X). Below the title bar, the 'Device' dropdown menu is set to 'IPCamera'. A 'Parameter Type' list on the left includes options like Main Video, Secondary Video, Motion Detection, Privacy Mask, Image Adjust, Show Text, Audio, Dome, COM, Network, **PPPoE** (which is highlighted), and Alarm. To the right of this list, the 'Enable PPPoE' checkbox is checked. Below this, there are input fields for 'User Name' (containing 'root') and 'Password' (containing '****'). Further down, the 'Auto Dial-Up' checkbox is also checked. Below that, 'Retry Interval' is set to '10' with '(Second)' next to it, and 'Number of PPPoE Redial Attempts' is set to '3'. At the bottom of the window, there are four buttons: 'Reboot', 'Reset', 'Save', and 'Back'.

2. Select the **Enable PPPoE** option.
3. Specify the **User Name** and **Password** parameters.
4. Click **Save**.

To enable the camera to automatically establish a new dial-up connection when the existing dial-up connection is broken:

1. On the **PPPoE** tab page, select the **Auto Dial-up** option.
2. Specify **Retry Interval** and **Number of PPPoE Redial Attempts**.
3. Click **Save**.



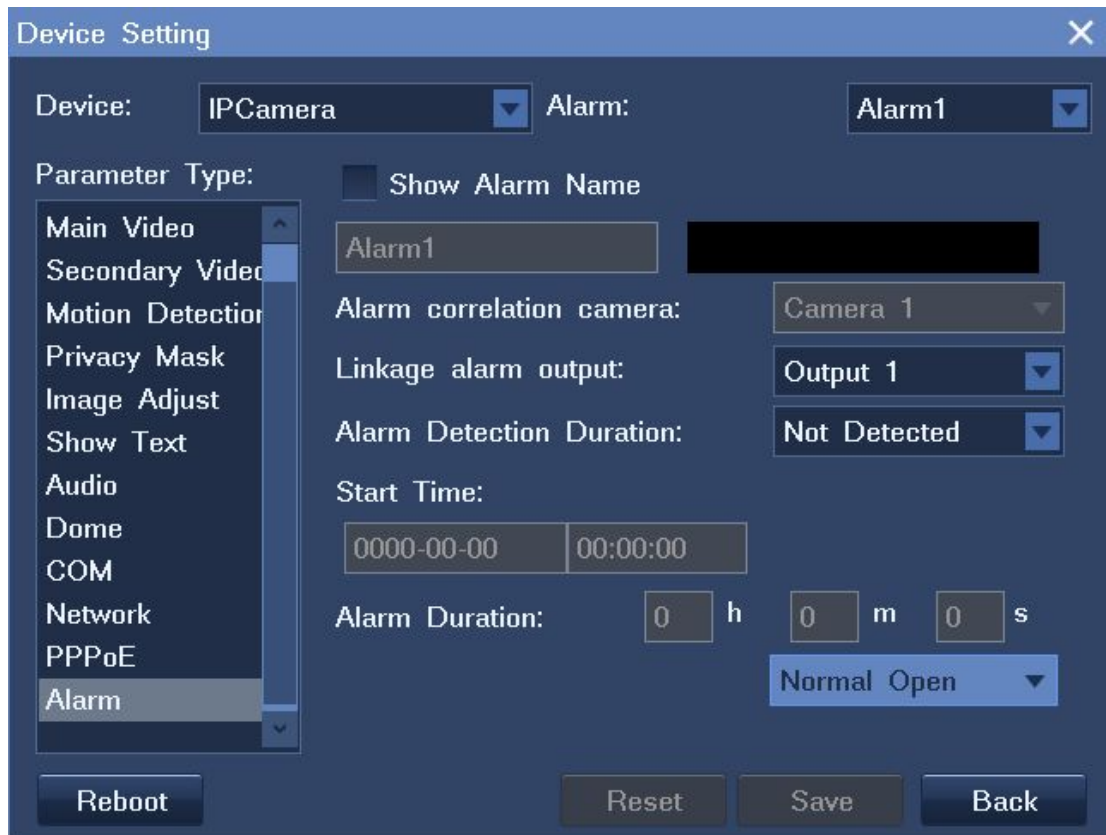
Clicking the **Reset** button will restore the previously saved parameter settings.

6.11 Alarm

On the **Alarm** tab page, you can configure alarm inputs and outputs for a camera.

To configure an alarm input and an alarm output for a camera:

1. Click the **Alarm** tab.
2. Specify parameters displayed.



The screenshot shows the 'Device Setting' window for an 'IPCamera'. The 'Alarm' tab is selected in the left-hand menu. The 'Device' dropdown is set to 'IPCamera' and the 'Alarm' dropdown is set to 'Alarm1'. The 'Parameter Type' section includes a 'Show Alarm Name' checkbox and a list of parameters: Main Video, Secondary Video, Motion Detection, Privacy Mask, Image Adjust, Show Text, Audio, Dome, COM, Network, PPPoE, and Alarm (which is currently selected). The 'Alarm1' configuration area includes: 'Alarm correlation camera' set to 'Camera 1', 'Linkage alarm output' set to 'Output 1', 'Alarm Detection Duration' set to 'Not Detected', 'Start Time' set to '0000-00-00 00:00:00', 'Alarm Duration' set to '0 h 0 m 0 s', and a 'Normal Open' dropdown. At the bottom are buttons for 'Reboot', 'Reset', 'Save', and 'Back'.

The **Alarm** drop-down list includes all the alarm inputs of the camera. The number of alarm inputs varies according to the camera type.

3. Click **Save**.



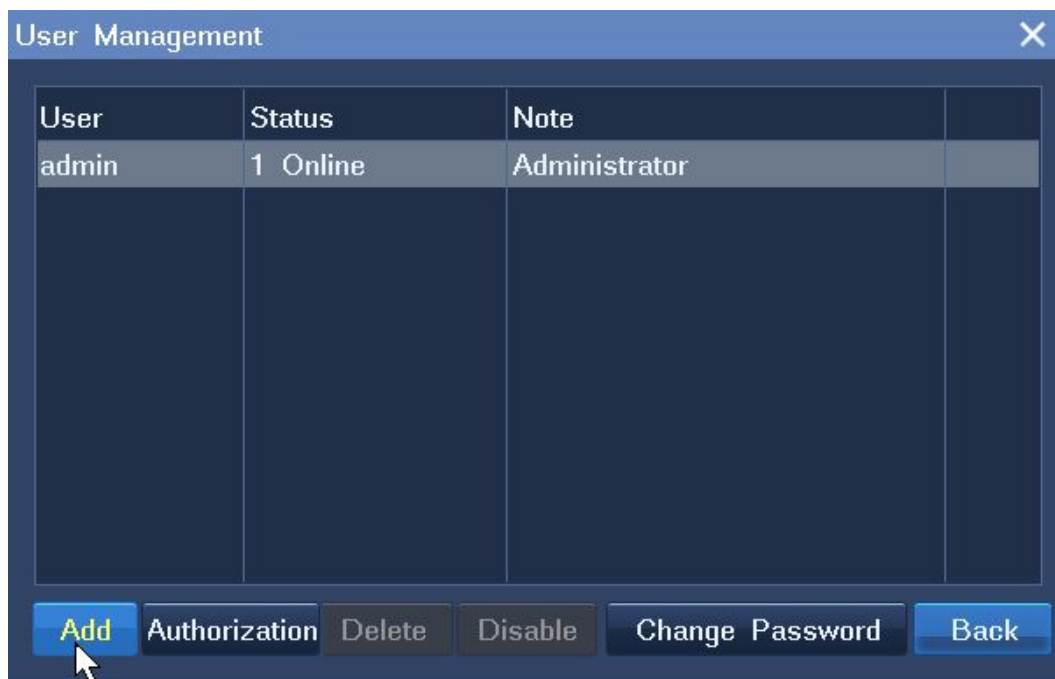
Clicking the **Reset** button will restore the previously saved parameter settings.

7.1 User Authorizaiton

7.1.1 Adding a User Account

To add a standard user:

1. Choose **Main Menu > Settings > User Authorization > Add**, as shown in the following figure.



2. In the displayed **New** dialog box, specify parameters displayed, as shown in the following figure.

The screenshot shows a 'New' dialog box with three input fields and two buttons at the bottom.

Fields:

- User Name:
- Password:
- Confirm Password:

Buttons: OK, Cancel

3. Click **OK**.

By default, a standard user is allowed to perform the following operations:

- System:
 - Recording and Capturing
 - Managing Devices
 - Managing Alarms
 - Configuring Video Wall
 - Configuring System Settings
- Camera:
 - PTZ Control
 - Live View
 - Playback and Backup

Only the administrator is allowed to perform the following operations:

- Restoring factory defaults
- Import or exporting user data
- Managing disks and configuring IP SAN settings
- Switching off the system
- Rebooting the system

7.1.2 Editing a User Account

To change the user authorization for a standard user:

1. Choose **Main Menu > Settings > User Authorization**.
2. Select the user from the user account list and click **Authorization**, as shown in the following figure.

User Authorization

User	Status	Note
admin	2 Online	Administrator
1	Offline	User

3. Specify parameters displayed according to onsite conditions, as shown in the following figure.

User Authorization

Login: _____

☐ Allow access from _____

System: _____

☒ Recording & Capturin
 ☐ Managing Log
 ☒ Managing Devices

☒ Managing Alarms
 ☐ Managing User
 ☒ Configuring System Setting

☒ Configuring Video Wall

Camera: _____

Camera:
☒ PTZ
 ☒ Live View
 ☒ Play&Backup

Camera	Dome	hannel Choic	Play & Backup
0 Sim_IPC120_100_1	✓	✓	✓
1 Sim_IPC120_102_1	✓	✓	✓
2 Sim_IPC120_103_1	✓	✓	✓
3 Sim_IPC120_104_1	✓	✓	✓

The dialog box is titled "User Authorization" and contains the following sections:

- Login:** A text input field.
- Allow access from:** A checkbox and a text input field.
- System:** A section with several checkboxes:
 - ☒ Recording & Captur
 - ☐ Managing Logs
 - ☒ Configuring System Settings
 - ☒ Managing Devices
 - ☒ Managing Alarms
 - ☐ Managing Users
 - ☒ Configuring Video Wall
- Camera:** A section with a camera selection dropdown (showing "0 Sim_IPC420_1_1") and three checkboxes:
 - ☒ PTZ
 - ☒ Live View
 - ☒ Play&Backup
- Table:** A table with 5 columns: Camera, Dome, hannel Choic, Play & Backup, and an empty column. It contains two rows of data.

Camera	Dome	hannel Choic	Play & Backup	
0 Sim_IPC420_1_1	✓	✓	✓	
2 EverFocus	✓	✓	✓	
- Buttons:** "Apply to All", "Copy User Authorization To", "OK", and "Cancel".

You can copy the user authorization of this user to another user by clicking **Copy User Authorization To** or to all users by clicking **Apply to All**.

4. Click **OK**.

To retrieve the default password (admin123) for a standard user:

1. Choose **Main Menu > Settings > User Authorization**.
2. Select the user from the user account list and click **Retrieve Password**.
3. In the displayed dialog box, click **Yes** to confirm your operation.

To change the password of your own account:

1. Choose **Main Menu > Settings > User Authorization**.
2. Select your account from the user account list and click **Change Password**.
3. In the displayed **Change Password** dialog box, specify parameters displayed, as shown in the following figure.

A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains four input fields: "User Name:" with the text "admin", "Old Password:", "New Password:", and "Confirm Password:". At the bottom, there are two buttons: "OK" and "Cancel".

Change Password

User Name: admin

Old Password:

New Password:

Confirm Password:

OK Cancel

4. Click **OK**.

7.1.3 Deleting a User Account

To delete a standard user:

1. Choose **Main Menu > Settings > User Authorization**.
2. Select the user from the user account list and click **Delete**.
3. In the displayed dialog box, click **Yes** to confirm your operation.

7.1.4 Disabling a User Account

To disable a standard user for a certain period of time:

1. Choose **Main Menu > Settings > User Authorization**.
2. Select the user from the user account list and click **Disable**.
3. In the displayed **Disable User** dialog box, select a time length from the drop-down list next to the **Disable** parameter.

A dialog box titled "Disable User" with a close button (X) in the top right corner. It contains two input fields: "User:" with the text "1" and "Disable:" with a drop-down menu showing "15 minutes". At the bottom, there are two buttons: "Disable" and "Back".

Disable User

User: 1

Disable: 15 minutes

Disable Back

4. Click **Disable**.

7.2 Display

To change the display settings for the main screen:

1. Choose **Main Menu > Settings > Display**.
2. In the displayed **Display** dialog box, select a resolution and a refresh rate.



For the **Output Mode** parameter:

- Upon detecting that the HDMI and VGA ports are in use, the system sets the parameter to **Dual Output** or **Triple Output**.
- Upon detecting that only one of these ports is in use, the system sets the parameter to **Single Output**.

Additionally, the system configures the **Video Out on Main Screen**, **Video Out on Secondary Screen 1**, and **Video Out on Secondary Screen 2** parameters based on the usage of these ports.

For the **Resolution** parameters, gray values indicate that monitors connected to the NVR do not support the corresponding resolutions.

3. Click **Apply**.

7.3 Logs

The system logs include the following:

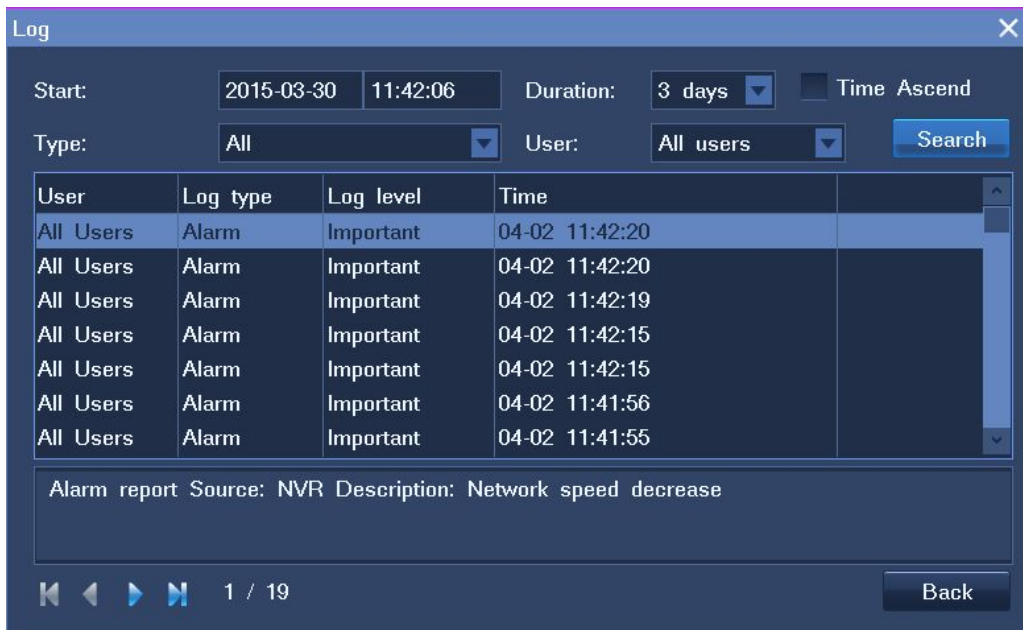
- Login attempts, including login results, the addresses from which users attempt to log in to the NVR, the reasons why users failed to log in to the NVR
- Operation details, including operation results and the addresses from which users perform operations

- To query a specific type of system log (for example, login attempt):

- For example, set **Type** to **Login**.

3. Click **Search**.

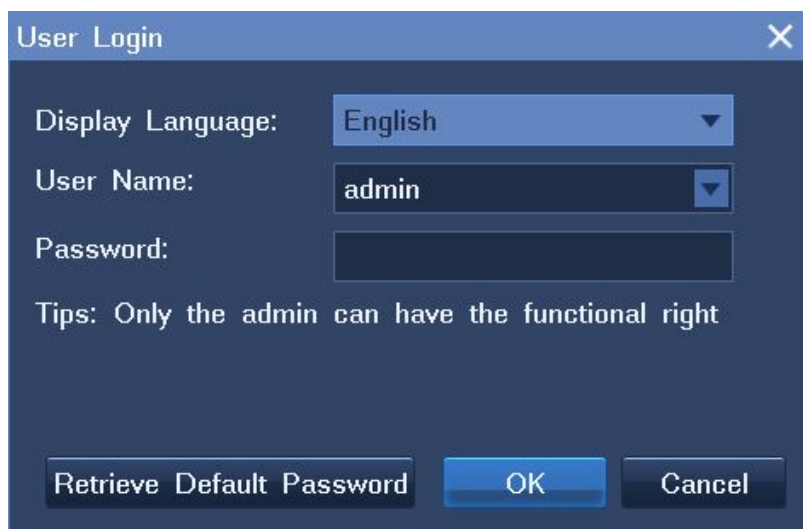
69



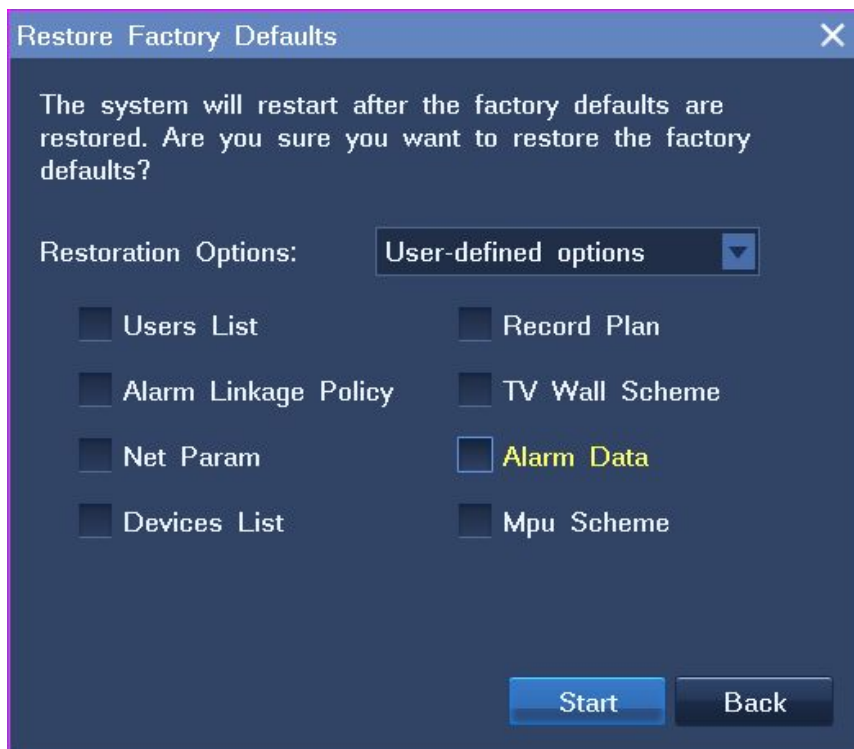
7.4 Restoring Factory Defaults

To restore factory defaults:

1. Choose **Main Menu > Settings > Restore Factor Defaults**.
2. In the **User Login** dialog box, enter the password for your account.



3. Click **OK**.
4. In the displayed dialog box, select an option from the **Restoration Options** drop-down list.
If you select the **User-defined options** option, select the items for which you want to restore factory defaults, as shown in the following figure.



5. Click **Start**.

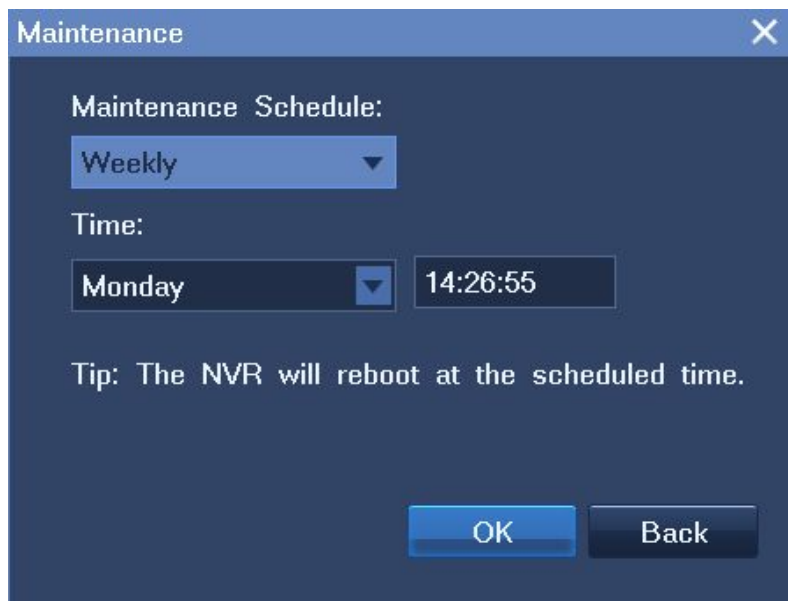
7.5 Scheduled Rebooting

You can enable the system to automatically reboot at a scheduled time.

To schedule a time to perform a system rebooting:

1. Choose **Main Menu > Settings > Auto Maintenance**.
2. In the **Maintenance** dialog box, select an option from the **Maintenance Schedule**.

The following is an example.



Select a day or date and a time.

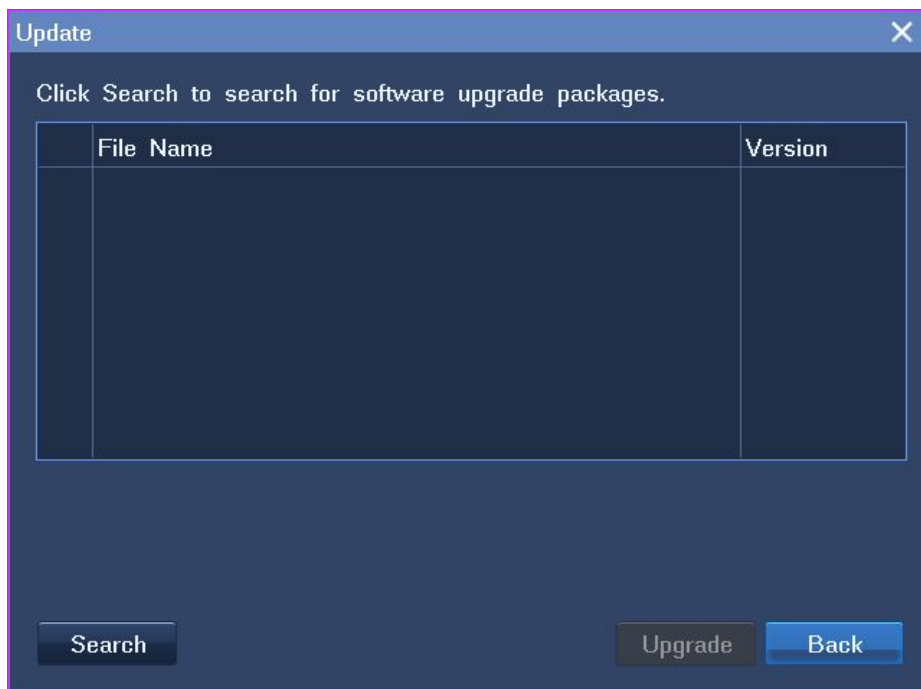
3. Click **OK**.

7.6 Upgrading the System

You can upgrade the system using a USB flash drive or on the NVR Station.

To upgrade the system using a USB flash drive:

1. Save the software upgrade package in a root directory of the USB flash drive.
2. Plug the USB flash drive into a USB port of the NVR.
3. Choose **Main Menu > Settings > Upgrade > Search**.



4. Select the package.
5. Click **Upgrade**.



Note

The USB flash drive must employ File Allocation Table (FAT) file system 32 or the XFS file system. If the USB flash drive does not employ any of these file systems, the system may not be able to find the software upgrade package.

For details on how to upgrade an NVR on the NVR Station, see *NVR Station User Guide*.

After the upgrade is completed, the system automatically reboots.

8 Abbreviations and Acronyms

ANR	automatic network replenishment
BOOTP	Bootstrap Protocol
CU	Client Unit
DDNS	Dynamic Domain Name System
DHCP	Dynamic Host Configuration Protocol
e-PTZ	electronic PTZ
NAT	network address translation
NVR	Network Video Recorder
ONVIF	Open Network Video Interface Forum
OSD	on-screen display
PC	personal computer
PMC	Platform Management Client
RAID	redundant array of independent disks
RTSP	Real Time Streaming Protocol
UPnP	Universal Plug and Play
UUID	Universally Unique Identifier
VMS	Video Management Server
WDR	wide dynamic range