HIKVISION

DS-7604NI-E1/4P

DS-7608NI-E2/8P

DS-7616NI-E2/16P

NVR USER'S MANUAL

Version 3.3.2

Hikvision® Network Video Recorder User's Manual

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Regulatory information

FCC information

FCC compliance: This equipment has been tested and found to comply with the limits for 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.

EU Conformity Statement

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 Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, 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: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Industry Canada ICES-003 Compliance

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

Preventive and Cautionary Tips

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

• Ensure unit is installed in a well-ventilated, dust-free environment.

• Unit is designed for indoor use only.

• Keep all liquids away from the device.

• Ensure environmental conditions meet factory specifications.

• Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage
  to the sensitive electronics within the unit.

• Use the device in conjunction with an UPS if possible.

• Power down the unit 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.

CONTENTS

C H A P T E R 1
Introduction

Overview

Thank you for your purchase of DS-7600 Series Network Video Recorder (NVR). To get detailed information about the NVR, please read through the Installation's Manual and this User's Manual thoroughly.

The DS-7600 series NVR is a new generation product developed by HIKVISION. Built on an embedded platform, the DS-7600 series NVR contains the perfect combination of rock-solid reliability and high performance.

Figure 1   DS-7600 Series NVR

Product Features

Compression
● Connecting the network cameras, network dome and DVS.
● Up to 16 network cameras can be added.
● Independent configuration for each channel, including resolution, frame rate, bit rate, image quality, etc.
● The video input/output quality is configurable.
● Each channel supports two kinds of compression parameters, the continuous and event, which can be configured locally and remotely.
● Support watermark.

Local Monitoring
● Simultaneous HDMI™ and VGA outputs.
● HDMI™ output and VGA output at up to 1920*1080P resolution.
● Multiple screen display in live view is supported, and the display sequence of screens is adjustable.
● Live view screen can be switched in group, and manual switch and automatic cycle live view is also provided, the interval of automatic cycle can be adjusted.
● The selected live view channel can be shielded.
● Motion detection, tamper-proof, video exception alert and video loss alert functions.
● Privacy mask.
● Several PTZ protocols supported; PTZ preset, patrol and pattern.
● Zooming in by clicking the mouse and PTZ tracing by dragging mouse.

HDD Management
● Up to 2 SATA disks can be connected.
● 8 network disks can be connected.
● Each SATA hard disks and network disks with a maximum of 4TB storage capacity.
● HDD group management.
● HDD property: redundancy, read-only, read/write (R/W).
● HDD quota management; different capacity can be assigned to different channel.

● Support S.M.A.R.T and bad sector detection.

Recording, Capture and playback
● Holiday recording schedule configuration.
● Continues and event video encoding parameters.
● 8 recording periods with separated recording types configurable.
● Pre-record and post-record for alarm, motion detection for recording, and pre-record time for schedule.
● Searching record files and captured pictures by events (alarm input/motion detection/VCA).
● Customization tags, searching and playing back by tags.
● Locking and unlocking record files.
● Searching and playing back record files by channel number, recording type, start time, end time, etc.
● Zooming in when playback.
● Reverse playback for multi-channel.
● Supports pause, speed up, speed down, skip forward, and skip backward when playback, locating by dragging the mouse.
● Up to 16-ch synchronous playback at 4CIF real time.
● Support Smart Playback

Backup
● Export video data by USB.
● Export video clips when playback.
● Management and maintenance of backup devices.

Alarm and Exception
● Alarm for VCA, Video loss, Motion detection, Tampering, HDD Full, HDD Error, Network Disconnected, IP Conflicted, Illegal Login, Recording Exception, etc.
● Alarm triggers full screen monitoring, audible warming, notifying surveillance center, sending email and alarm output.
● Automatic restore when system is abnormal.

Other Local Functions
● Users can operate device by mouse and remote control.
● Three-level user management; admin user can create many operating accounts and define their operating permissions, which includes the limit to access any channel.
● Operation, alarm exceptions and information log recording and searching.
● Import and export device configuration information.

Network
● 1 self-adaptive 10M/100M/1000M network interfaces and 4 or 8 independent PoE network interface are provided.
● IPv6 is supported.
● TCP/IP protocol, DHCP, DNS, DDNS, NTP, SADP, SMTP, SNMP, UPnP, NFS, and iSCSI are supported.
● TCP, UDP and RTP for unicast.
● Auto/manual port mapping and automatically discovered by UPnP™.
● Remote web browser access by HTTPS ensures high security.

- Remote search, playback, download, locking and unlocking the record files, and downloading files broken transfer resume.
- Remote parameters setup; remote import/export of device parameters.
- Remote viewing of the device status, system logs and alarm status.
- Remote locking and unlocking of control panel and mouse.
- Remote HDD formatting and program upgrading.
- Remote system restart and shutdown.
- Alarm and exception information can be sent to the remote host.
- Remotely start/stop recording.
- Remotely start/stop alarm output.
- Upgrade by remote FTP server is supported.
- Remote PTZ control.
- Two-way voice talk and voice broadcasting.
- Embedded WEB server.
- Support access by Ezviz.

Development Support
- SDK for Windows and Linux system.
- Source code of application software for demo.
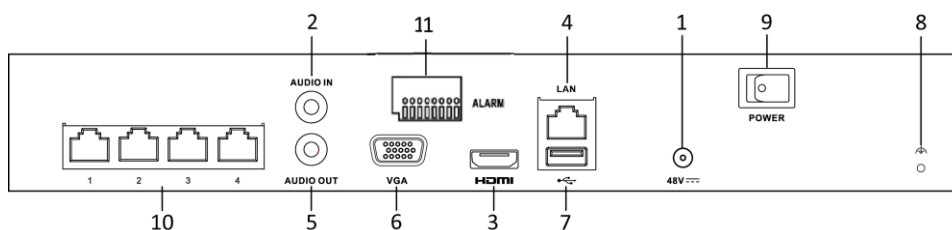- Development support and training for application system.

Rear Panel

Figure 2   DS-7604NI-E1/4P Rear Panel

No.	Item	Description
1	**Power Supply**	48VDC power supply
2	**Audio IN**	RCA connector for voice talk input
3	**HDMI Interface**	HDMI video output connector.
4	**LAN Network Interface**	LAN Network interface to communicate
5	**Audio OUT**	RCA connector for audio output
6	**VGA Interface**	DB9 connector for VGA output. Display local video output and menu.

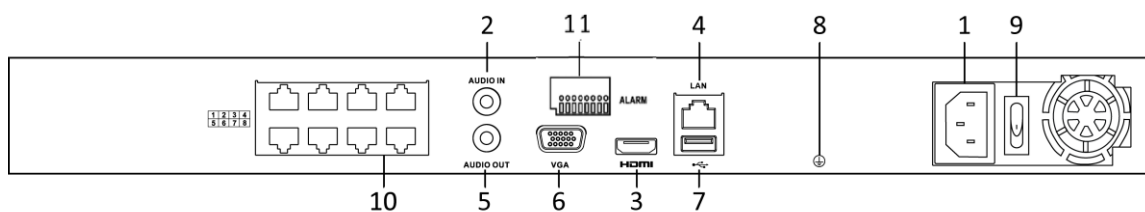| 7 | **USB Interface** | Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD). |
8	**Ground**	Ground (needs to be connected when NVR starts up).
9	**Power Switch**	Switch for turning on/off the device.
10	**Network interfaces with PoE function**	Network interface for the cameras and to provide power over Ethernet.
11	**Alarm In/Out**	Alarm Input/Output Interface

Figure 3 DS-7608NI-E2/8P & DS-7616NI-E2/16P Rear Panel

No.	Item	Description
1	**Power Supply**	110~220VAC power supply
2	**Audio IN**	RCA connector for voice talk input
3	**HDMI Interface**	HDMI video output connector.
4	**LAN Network Interface**	LAN Network interface to communicate
5	**Audio OUT**	RCA connector for audio output
6	**VGA Interface**	DB9 connector for VGA output. Display local video output and menu.
7	**USB Interface**	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
8	**Ground**	Ground (needs to be connected when NVR starts up).
9	**Power Switch**	Switch for turning on/off the device.
10	**Network interfaces with PoE function**	Network interface for the cameras and to provide power over Ethernet.

11	Alarm In/Out	Alarm Input/Output Interface

Note:

The rear panel of 7616NI-E2/16P provides 16 independent 100 Mbps PoE network interfaces.

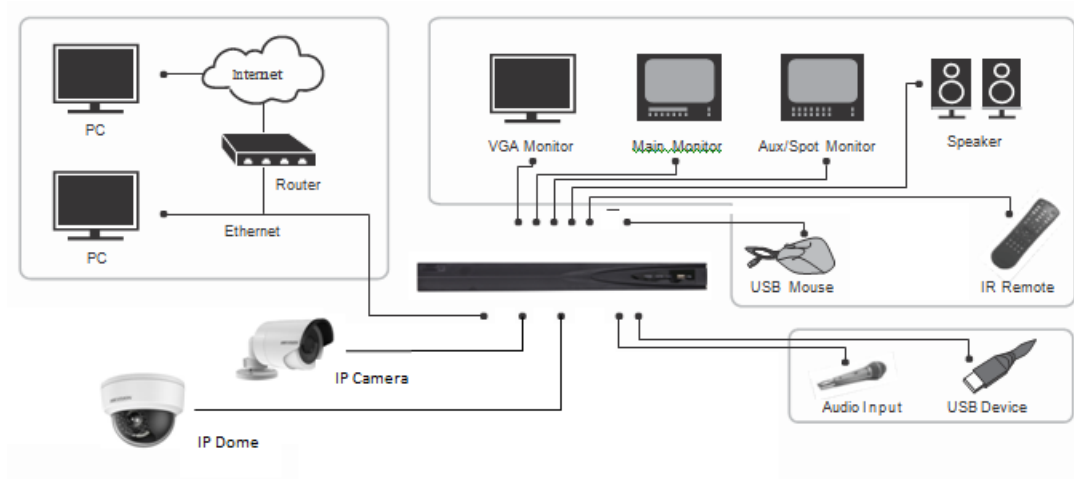## Product Application Diagram

Figure 4   Product Application Diagram

Note:

DS-7604NI-E1/4P, DS-7608NI-E2/8P and DS-7616NI-E2/16P can only connect network cameras.

Operating Your NVR

There are numerous ways to navigate and operate your NVR. You may use the Front Panel, the IR (Infrared) Remote, a Mouse and the Soft Keyboard.

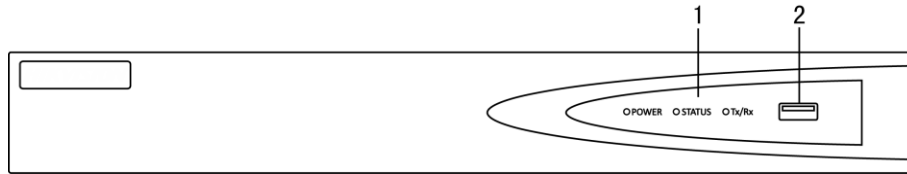## Front Panel

The following figure shows the front panel of NVR:

Figure 3   NVR Front Panel

The items on the front panel include:

1. **Status Indicators:**
   - **Power:** Power indicator turns yellow when system is running.
   - **Status:** Status indicator blinks red when data is being read from or written to HDD.
   - **Tx/Rx:** Tx/Rx indictor blinks yellow when network connection is functioning properly.
2. **USB Ports:** Connects USB mouse or USB flash memory devices.

IR Remote Control Operations

The NVR may also be controlled with the included IR remote control, shown in Figure 5.
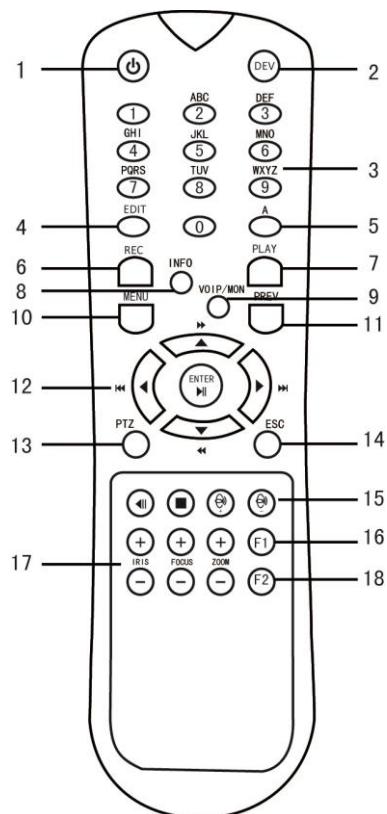

Figure 4   IR Remote Control

The keys on the remote control closely resemble the ones found on the front panel. They include:

No.	Name	Function Description
1	**POWER**	Turn on/off NVR.
2	**DEV**	Enable/Disable Remote Control.
3	**Alphanumeric**	Switch to the corresponding channel in Live view or PTZ Control mode.
		Input numbers and characters in Edit mode.
		Switch between different channels in All-day Playback mode.
4	**EDIT**	Delete characters before cursor.
		Check the checkbox and select the ON/OFF switch.

		Start/stop record clipping in playback.
5	**A**	Adjust focus in the PTZ Control menu.
		It is also used to switch between input methods (upper and lowercase alphabet, symbols and numeric input).
6	**REC**	Enter the Manual Record setting menu.
		In PTZ control settings, press the button and then you can call a PTZ preset by pressing Numeric button.
		It is also used to turn audio on/off in the Playback mode.
7	**PLAY**	The button is used to enter the All-day Playback mode.
		It is also used to auto scan in the PTZ Control menu.
8	**INFO**	Zoom in the PTZ camera in the PTZ Control setting.
9	**VOIP**	Switch between main and spot output.
		In PTZ Control mode, it can be used to zoom out the image.
10	**MENU**	Press the button will help you return to the Main menu (after successful login).
		In PTZ Control mode, the MENU/WIPER button will start wiper (if applicable).
		In Playback mode, it is used to show/hide the control interface.
11	**PREV**	Switch between single screen and multi-screen mode.
		In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button.
12	**DIRECTION**	The DIRECTION buttons are used to navigate between different fields and items in menus.
		In the Playback mode, the Up and Down button is used to speed up and slow down recorded video. The Left and Right button will select the next and previous record files.
		In Live View mode, these buttons can be used to cycle through channels.
		In PTZ control mode, it can control the movement of the

		PTZ camera.
	ENTER	The ENTER button is used to confirm selection in any of the menu modes.
		It can also be used to *tick* checkbox fields.
		In Playback mode, it can be used to play or pause the video.
		In single-frame Playback mode, pressing the button will advance the video by a single frame.
		In Auto-switch mode, it can be used to stop /start auto switch.
13	**PTZ**	Enter the PTZ Control mode.
		In the PTZ Control mode, it is used to adjust the iris of the PTZ camera.
14	**ESC**	Back to the previous menu.
		Press for Arming/disarming the device in Live View mode.
15	**RESERVED**	Reserved.
16	**F1**	Select all items on the list when used in a list field.
		In PTZ Control mode, it will turn on/off PTZ light (if applicable).
		In Playback mode, it is used to switch between play and reverse play.
17	**PTZ Control**	Buttons to adjust the iris, focus and zoom of a PTZ camera.
18	**F2**	Cycle through tab pages.
		In synchronous playback mode, it is used to switch between channels.

Aim the remote control at the IR receiver located at the front of the unit to test operation. If there is no response:

1. Using the mouse, go into Menu > System Configuration > General > More Settings.
2. Check and remember NVR ID#. The default ID# is 255. This ID# is valid for all IR controls.
3. Press the DEV button on the remote.
4. Enter the NVR ID# from step 2.

5. Press the ENTER button on the remote control.

If there is still no response from the remote, please check the following:

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.
4. No fluorescent lamp is used nearby.

Using a USB Mouse

A regular 3-button (Left/Right/Scroll-wheel) USB mouse can also be used with this NVR. To use a USB mouse:

1. Plug USB mouse into one of the USB ports on the front panel of the NVR.
2. The mouse should automatically be detected. If in a rare case that the mouse is not detected, please refer to the recommended device list from your provider.

The buttons on the mouse corresponds to:

1. Left Button:
   - **Single-Click:** Select a component of a menu, such as a button or an input field. This is similar to pressing the ENTER button on the remote controls.
   - **Double-Click:** Switch between single screen and multi-screen mode in Preview/ Playback mode.
   - **Click and Drag:** Clicking and dragging the Left mouse button can be used to control the pan/tilt of a PTZ camera as well as to vary the position of digital zoom area and camera OSD. It can also be used to set the alarm areas.
2. Right Button:
   - **Single-Click:** Shows pop-up menu in preview interface. Exit to return to the previous menu.

Using the Soft Keyboard

When a mouse is used to perform task on the NVR, clicking on a text input field will bring up the Soft Keyboard, shown in Figure 6.

Figure 5   Soft Keyboard

The buttons on the soft keyboard represents:

    Switch to Uppercase: Switch to uppercase input.

    Switch to Lowercase: Switch to lowercase input.

Symbols: Switch to symbols input.

Backspace: Delete the character in front of the cursor.

Enter: Confirm selection.

ESC: Exit Soft Keyboard.

C H A P T E R 2
Activating Your DVR

To ensure the highest level of protection, Hikvision has launched a login procedure that requires users to create a new password for the **admin** account upon the first login to all devices. The password must contain 8 to 16 characters, combining numbers, lowercase letters, uppercase letters, and special characters. At least two types of the above-mentioned characters are required to activate the device. The system will check the password strength; "Risky" passwords will not be accepted.

Device Firmware with Secure Activation

Device Type	Model Number	Firmware Version
Value Series IP Camera	DS-2CD2xxx	V5.3.0
Smart Series IP Camera	DS-2CD4xxx	V5.3.0
NVR/Hybrid	DS-9016HWI-ST DS-96xxNI-ST DS-7716NI-SP/16	V3.1.5
Plug-n-Play NVR	DS-76xxNI-EI(E2)/P	V3.1.0
Turbo DVR	DS-72xxHGHI-SH DS-73xxHQHI-SH	V3.1.6
Super NVR	DS-96128NI-E24/H DS-96256NI-E24/H	TBD

NOTE: DVRs/NVRs starting with the latest firmware (see chart, above) WILL NO LONGER HAVE A DEFAULT PASSWORD. The user must activate the NVR by creating a password for the **admin** account, which can be done in one of four ways:

- **Local Activation**

  1. Power on the DVR/NVR.

     - An activation message will appear on the screen prompting the user to activate the device **(Figure 1)**.

     - The username field will be greyed-out with the username set to **admin**.

  2. Type in a password of your choosing (see "Password Strength Levels" table on page 37 for guidelines).

- The password strength will be displayed, accompanied by a color indicator*:

  • Level 0–*Risky* (red indicator): Not acceptable
  • Level 1–*Weak* (red indicator): Acceptable
  • Level 2–*Fair* (orange indicator): Acceptable
  • Level 3–*Strong* (blue indicator): Acceptable

- Activation will not be allowed unless the password is of acceptable strength **(Figures 4, 5, and 6)**.

3. Retype the password into the "Confirm Password" field.
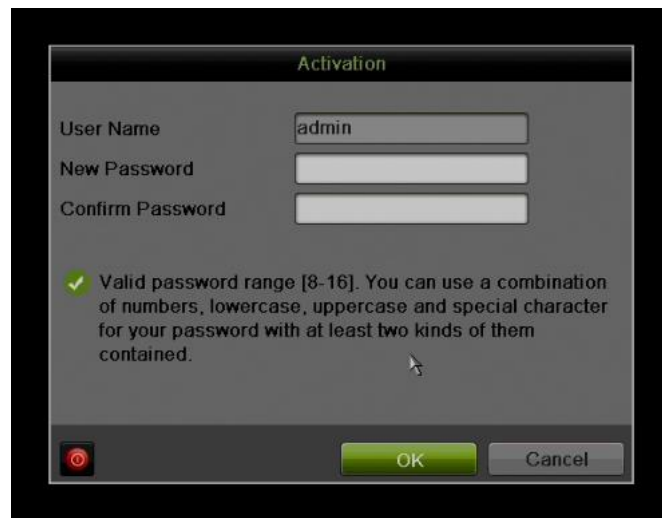
Figure 6 Activation Window
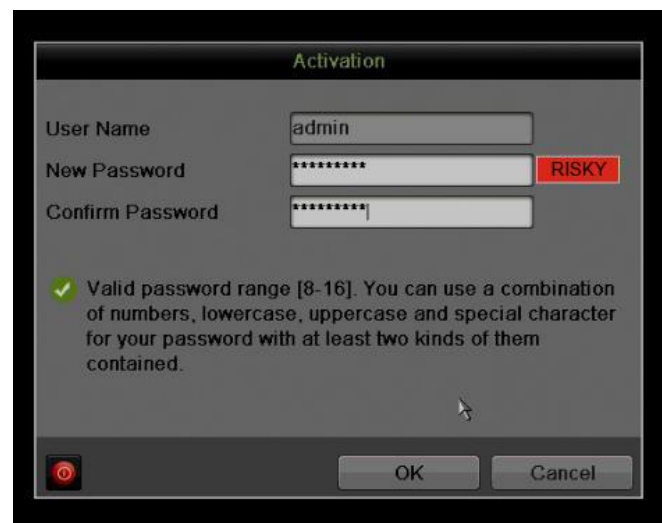
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* **NOTE:** The strength level indicator colors can vary by activation process, model number, and device type.

Figure 7 Risky (Inadequate) Strength Password
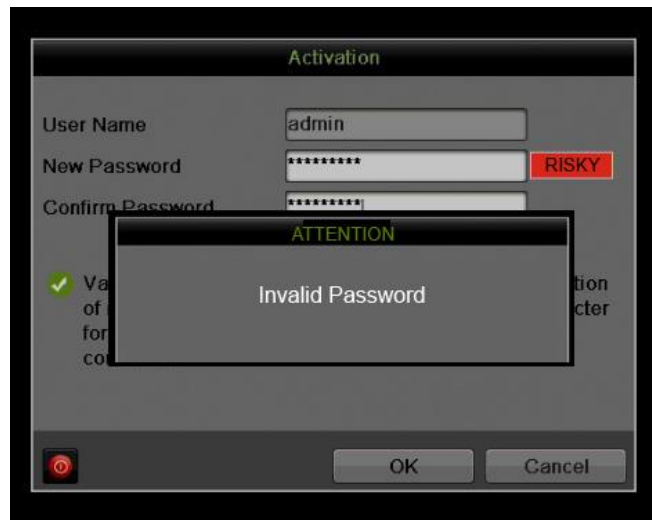
Figure 8 Invalid Password Message

NOTE: The password strength is shown with a color indicator
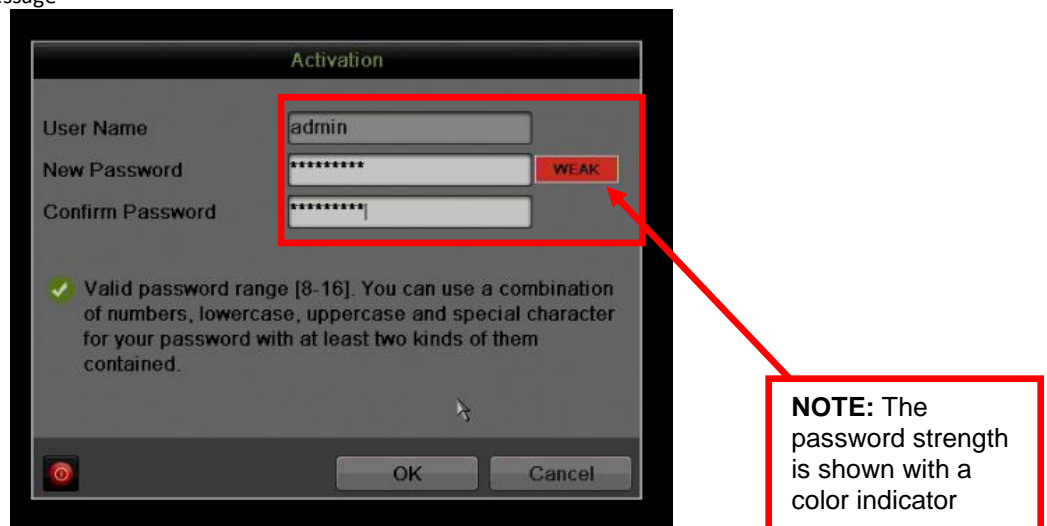
Figure 9 Weak (Adequate) Password Strength
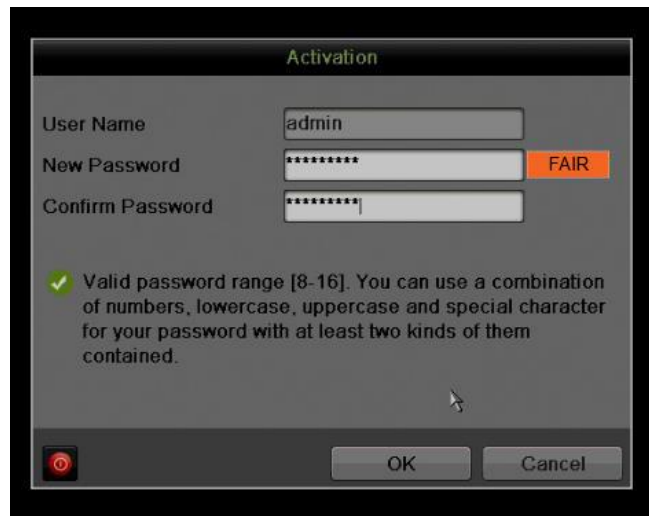
Figure 10 Fair (Adequate) Password Strength
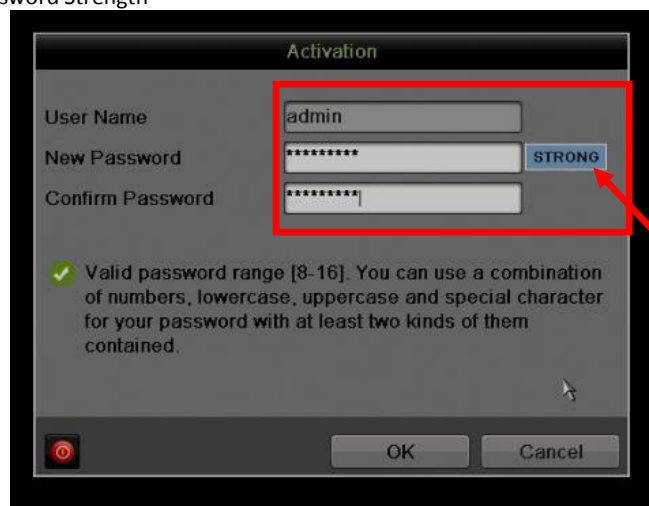
NOTE: The password strength is shown with a color indicator

Figure 11 Strong Password Strength

3. After an acceptable password has been created, a confirmation message will appear on the screen **(Figure 7)**.

4. Press the **OK** button to proceed.
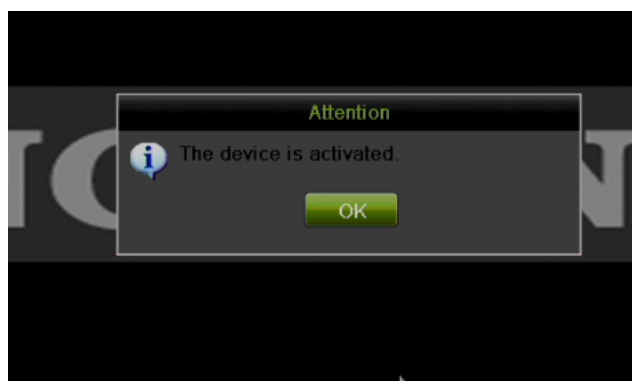
Figure 12 Activation Confirmation Message

• **SADP Software Activation (v2.2.3.5 or higher)**

1. Launch the new version of the SADP software (v2.2.3.5).

   - The software will display all Hikvision devices on the network.

   - A new field called "Security" will display whether the DVR/NVR is active or not **(Figure 8)**.

2. If the DVR/NVR is "Inactive," highlight the DVR/NVR and enter a new password into the "New Password" field on the bottom right of the screen **(Figure 8)**. See "Password Strength Levels" table on page 37 for guidelines.

   - The password strength will be displayed, accompanied by a color indicator:

     • Level 0–*Risky* (no indicator): Not acceptable
     • Level 1–*Weak* (pink indicator): Acceptable
     • Level 2–*Medium* (yellow indicator): Acceptable
     • Level 3–*Strong* (green indicator): Acceptable

   - Bar length indicates strength level.

   - Activation will not be allowed unless the password is of acceptable strength **(Figures 11, 12, and 13)**. If the password is unacceptable strength ("Risky," **Figure 9**), a warning box will be displayed **(Figure 10)**.

3. Retype the password into the "Confirm Password" field.

4. After the password has been entered and confirmed, press the **OK** button to display the pop-up confirmation window **(Figure 14)**.

5. Press the "X" in the top right corner of the pop-up confirmation window to dismiss the window.
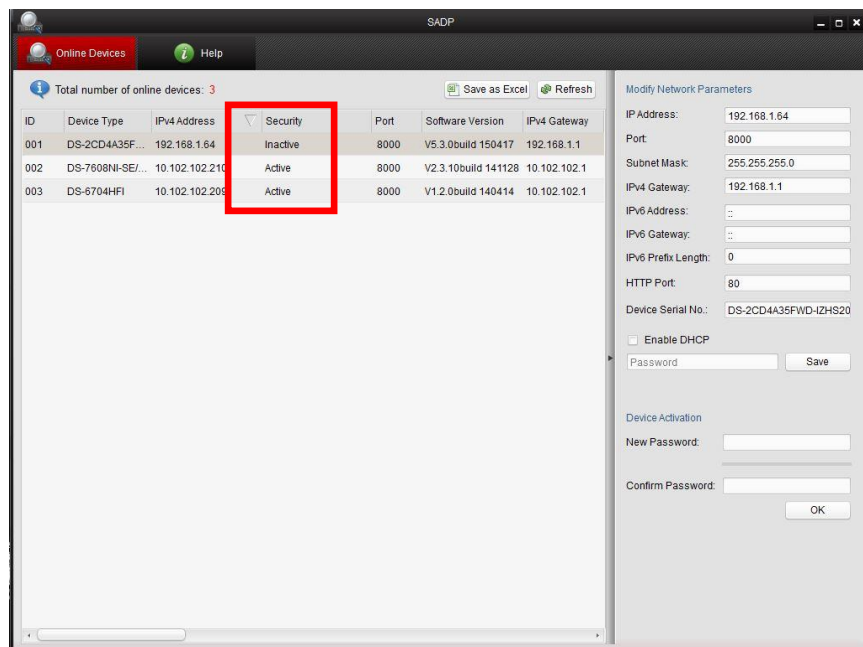
Figure 13 Security Field
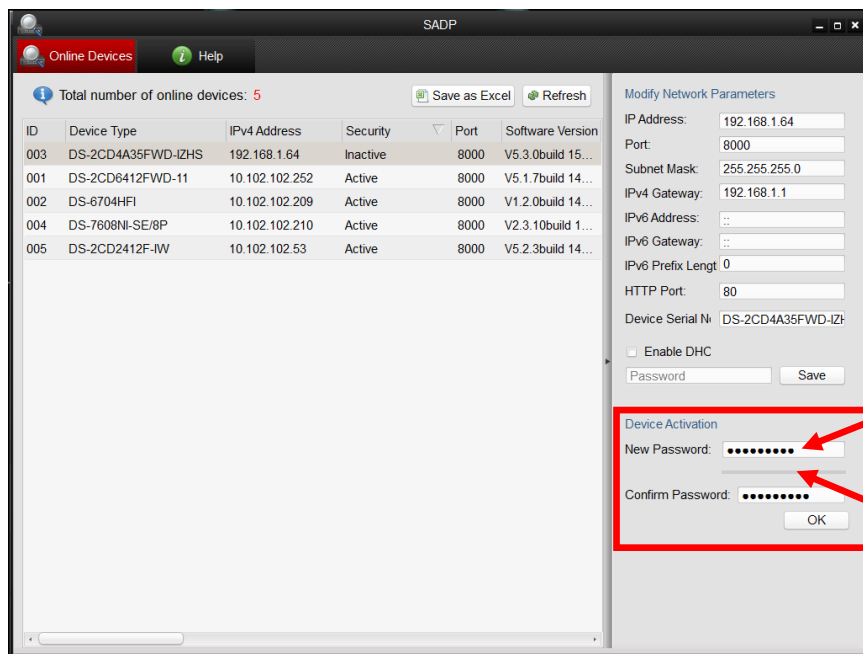
Figure 14 Password Field with "Risky" Unacceptable Password
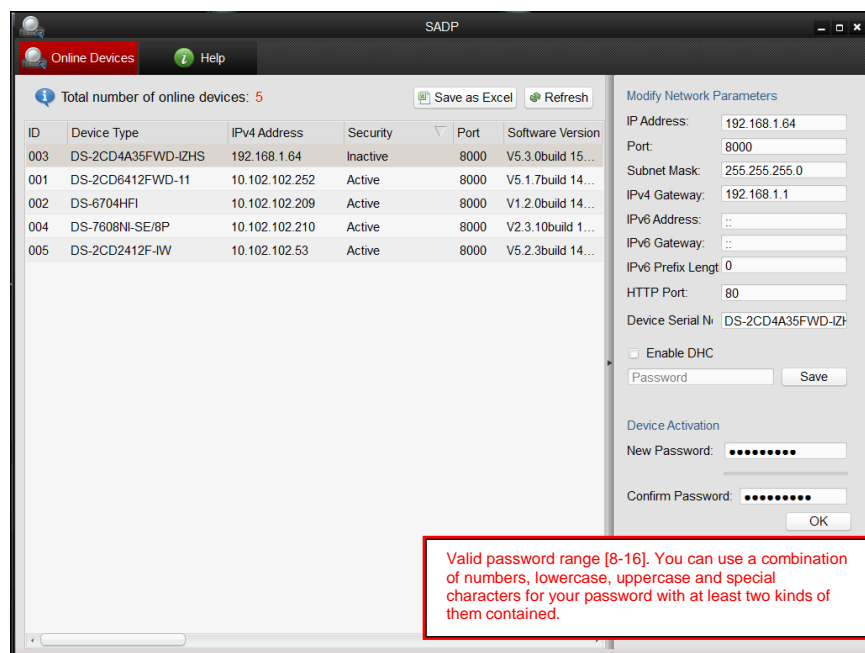
Figure 15 "Risky" Unacceptable Password Warning Message
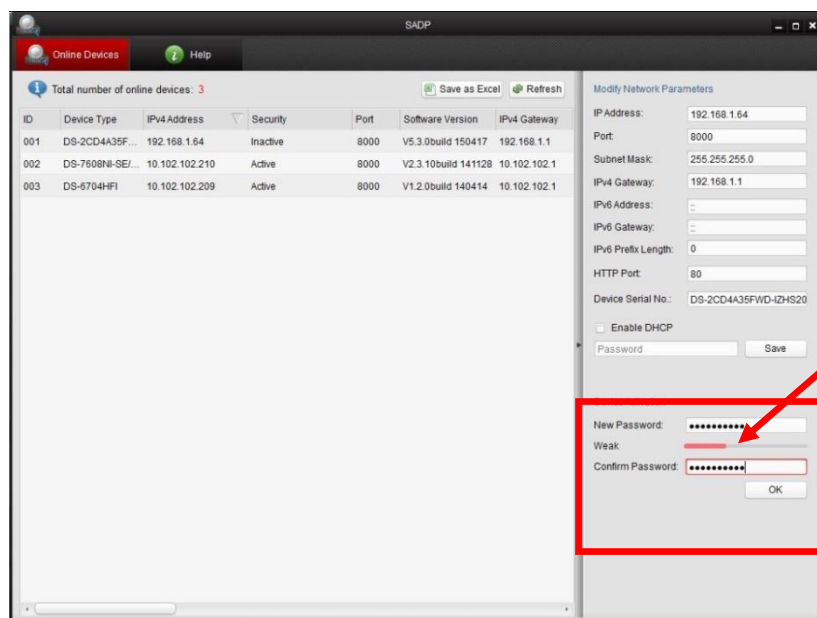
Figure 16 Password Field with Weak Strength Password
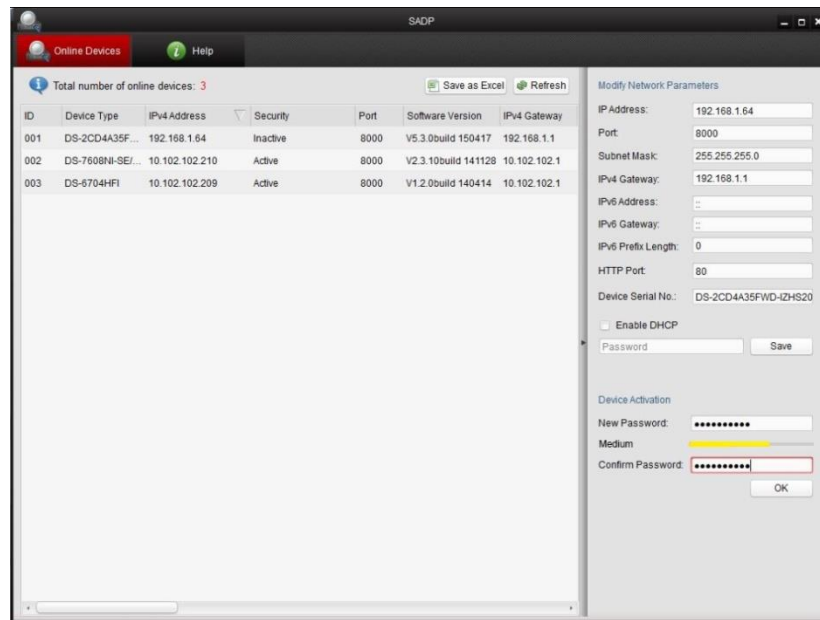
Figure 17 Password Field with Medium Strength Password
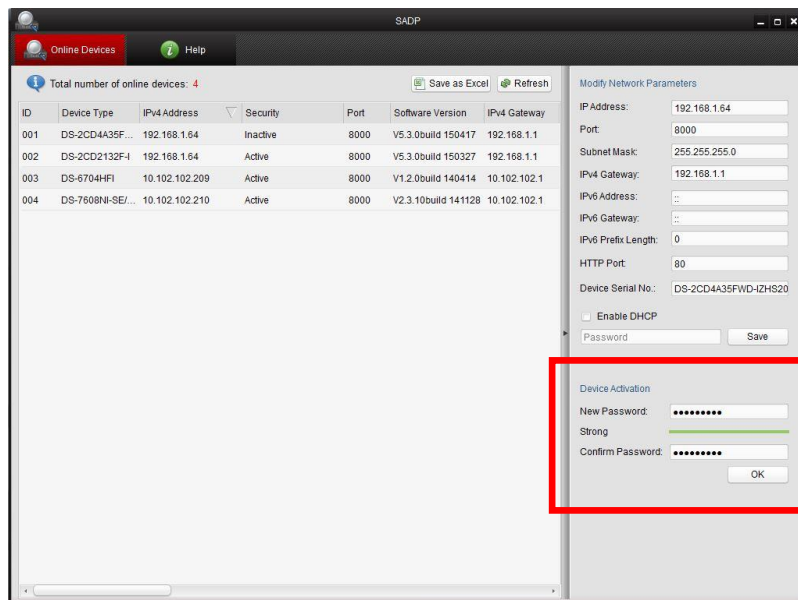
Figure 18 Password Field with Strong Strength Bar
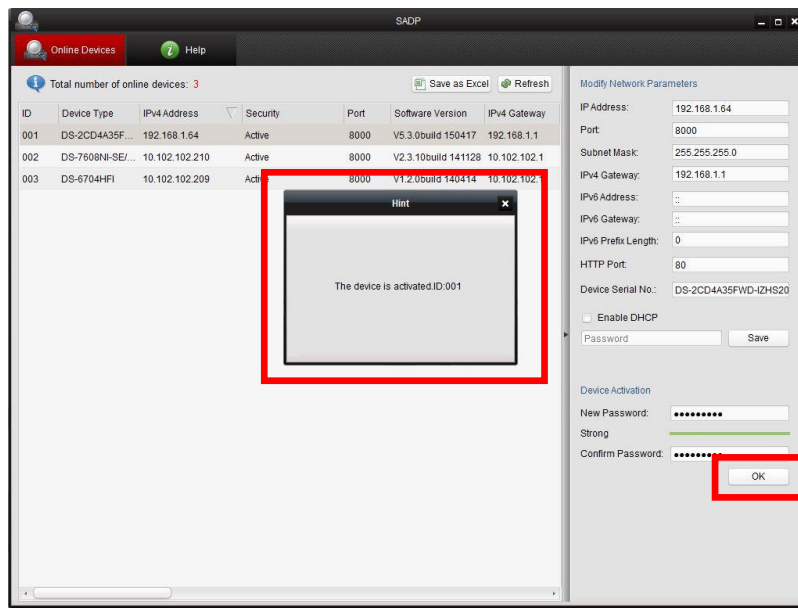
Figure 19 Confirmation Window

- **iVMS-4200 Windows Client Software (v2.3.1.3 or higher) Activation**

    1. Launch the iVMS-4200 software.

    2. Go to **Control Panel→Device Management (Figure 15)**.

        - On the bottom of the screen in the Online Devices section the screen will display all Hikvision devices on the network.

        - A new field called "Security" will display whether the DVR/NVR is active or not **(Figure 16)**.

    3. If the DVR/NVR is "Inactive," highlight the DVR/NVR and press the **Activate** button **(Figure 16)** to display the "Activation" window **(Figure 17)**.

    4. Enter a new password into the "Password" field **(Figure 17)**. See "Password Strength Levels" table on page 37 for guidelines.

        - The password strength will be displayed, accompanied by a color indicator:

            - Level 0–*Risky* (no indicator): Not acceptable
            - Level 1–*Weak* (pink indicator): Acceptable
            - Level 2–*Medium* (yellow indicator): Acceptable
            - Level 3–*Strong* (green indicator): Acceptable

        - Bar length indicates strength level.

        - Activation will be allowed if the password is of acceptable strength **(Figures 19, 20, and 21)**.

        - If the password is of unacceptable strength ("Risky," **Figure 17**), a warning box will be displayed **(Figure 18)** explaining the requirements for an acceptable password.

    5. Retype the password into the "Confirm Password" field.

    6. After the password has been entered and confirmed, press the **OK** button.

        - The DVR's/NVR's status will change to "Active" **(Figure 19**).
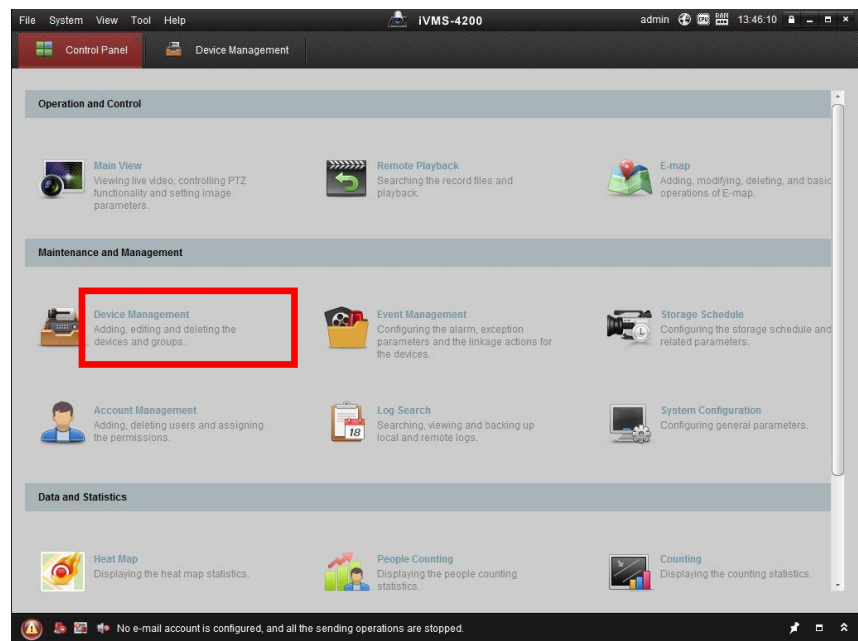
Figure 20 iVMS 4200 Control Panel
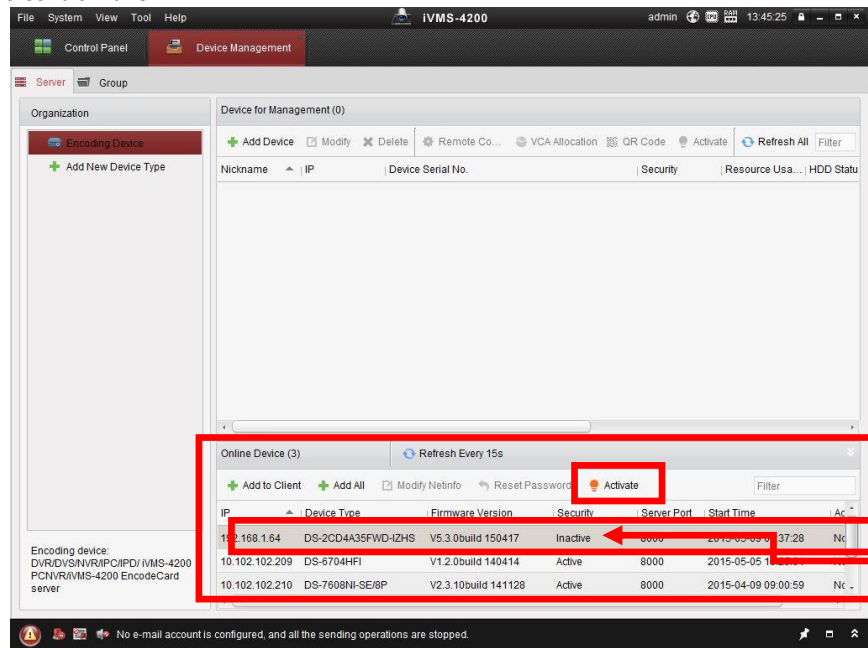
Figure 21 Inactive DVR/NVR Status

Risky Password

The "Strength Meter" does not light up
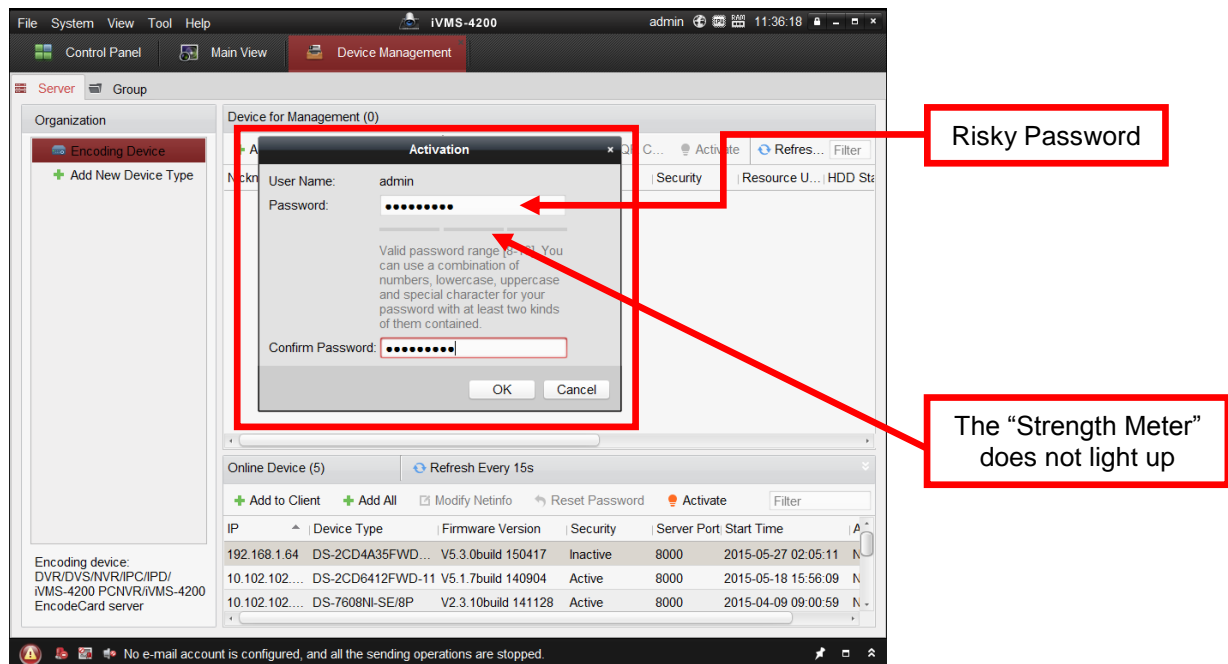
Figure 22 Activation Window with Risky (Inadequate) Password Strength

A message indicates that the password has to meet minimum requirements
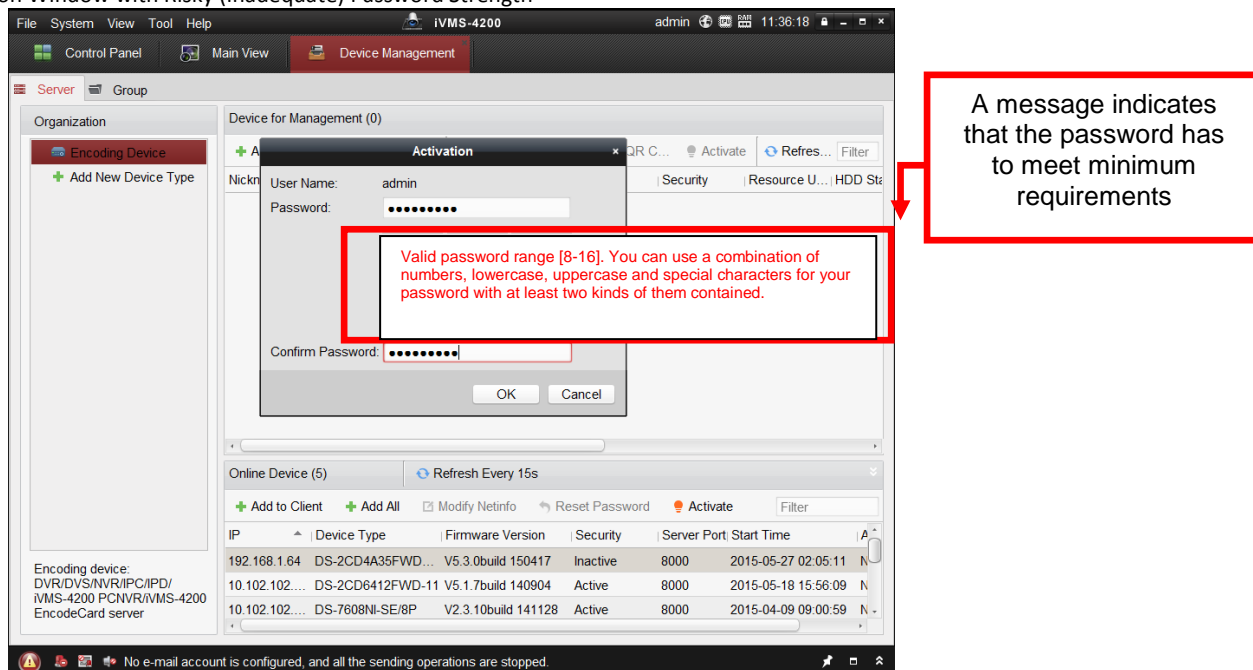
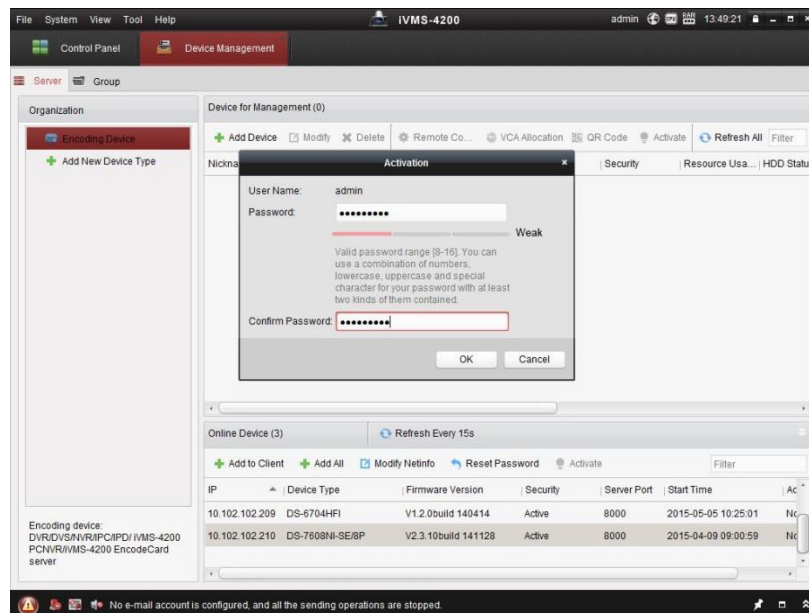Figure 23 Risky (Inadequate) Password Strength Warning Message

Figure 24 Weak (Adequate) Password Strength

Figure 25 Medium (Adequate) Password Strengt
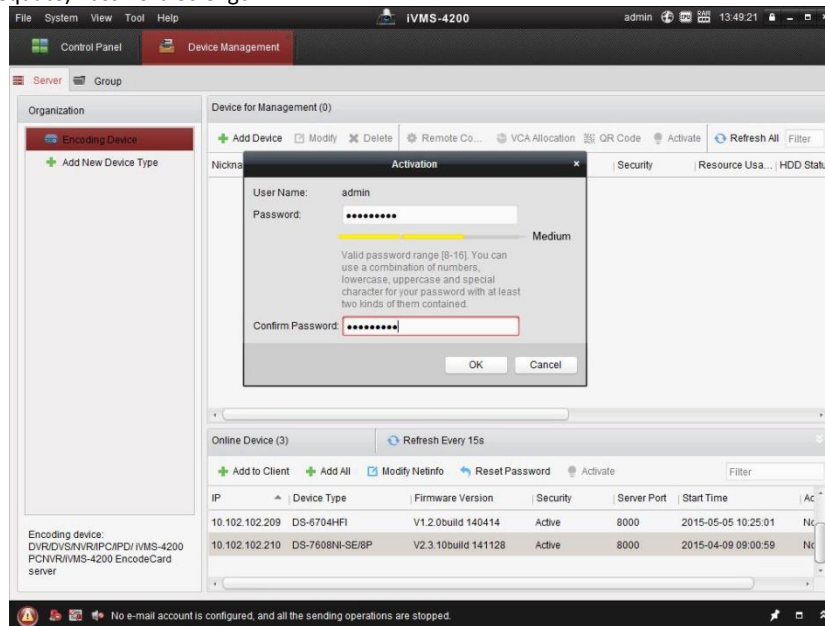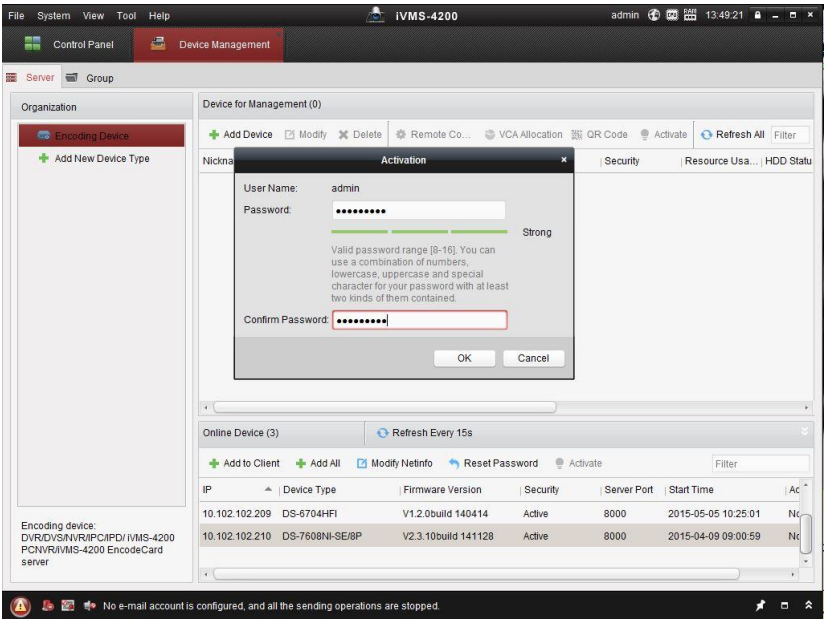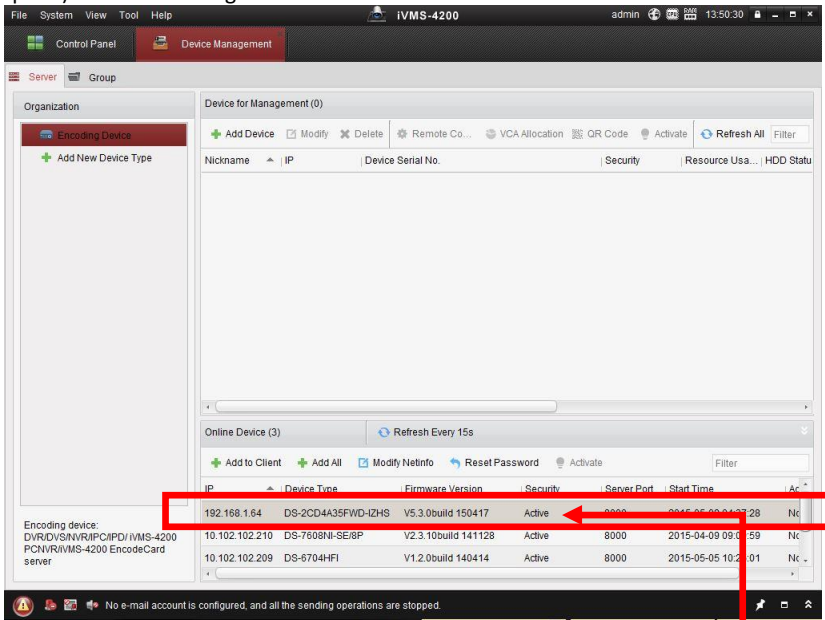
Figure 26 Strong (Adequate) Password Strength

NVR Status: Active

Figure 27 Active DVR/NVR Status

- **Web Interface Activation (use if the SADP or iVMS-4200 software do not support the activation procedure).**

  1. In a Web browser (i.e., Internet Explorer, Chrome, Safari), type the DVR's/NVR's IP address and press **Enter**.

     - The Activation Window will appear instead of the login page **(Figure 23)**.

  2. Enter a new password into the "Password" field (see "Password Strength Levels" table on page 38 for guidelines).

     - The password strength will be displayed, accompanied by a color indicator:

       - Level 0–*Risky* (no indicator): Not acceptable
       - Level 1–*Weak* (pink indicator): Acceptable
       - Level 2–*Medium* (yellow indicator): Acceptable
       - Level 3–*Strong* (green indicator): Acceptable

     - Bar length indicates strength level **(Figure 24)**.

     - Activation will be allowed if the password is of acceptable strength **(Figures 26, 27, 28)**. A white checkmark will appear in a green circle to the right of the password field.

     - If the password is unacceptable strength ("Risky," **Figure 24**), a white X will appear in a red circle to the right of the password field and a warning dialog box will be displayed **(Figure 25)** explaining the requirements for an acceptable password.

  3. Press the **OK** button.

     - After a successful activation the user will be logged in to the DVR's/NVR's live view page.
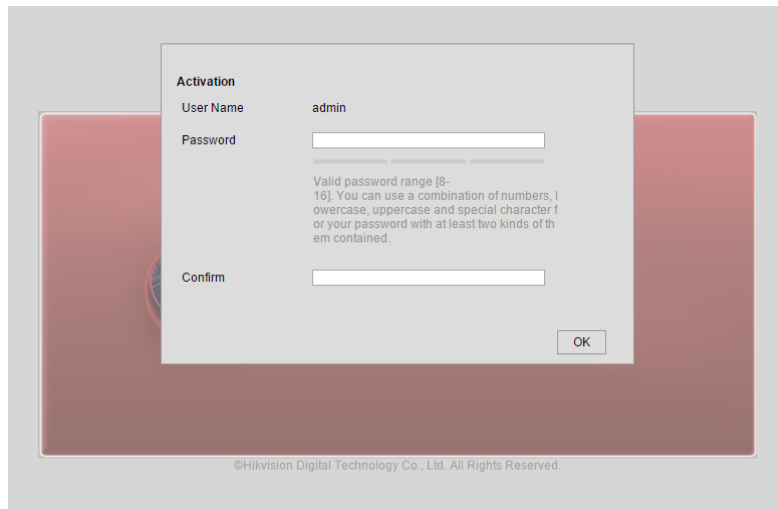
Figure 28 Activation Window

The "Strength Meter" does not light up
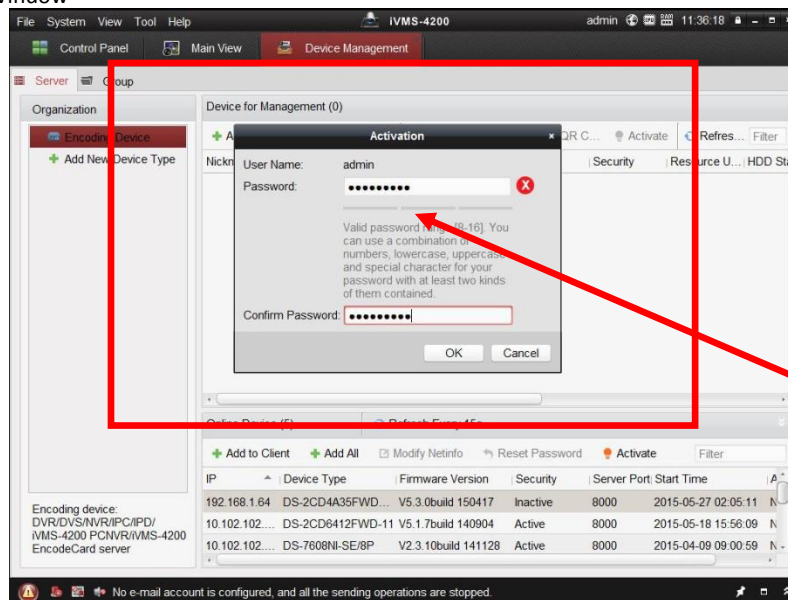
Figure 29 Risky (Inadequate) Password Strength
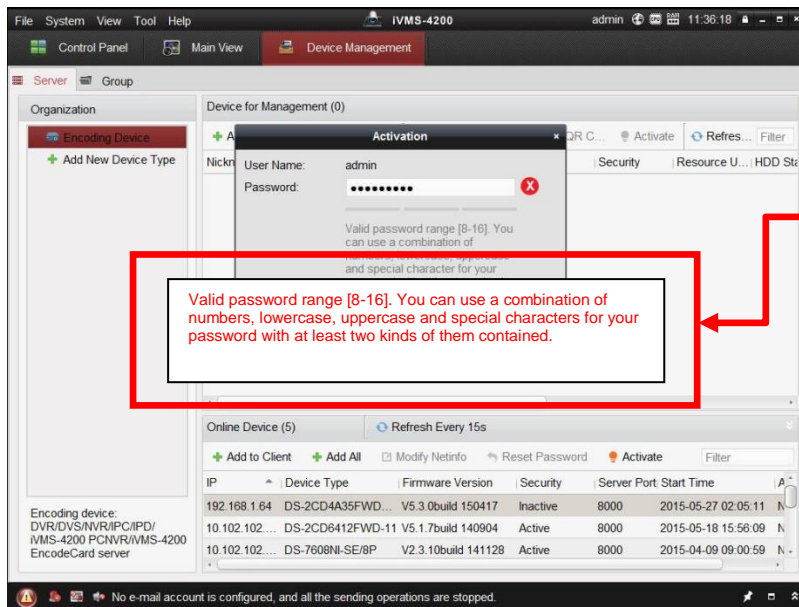
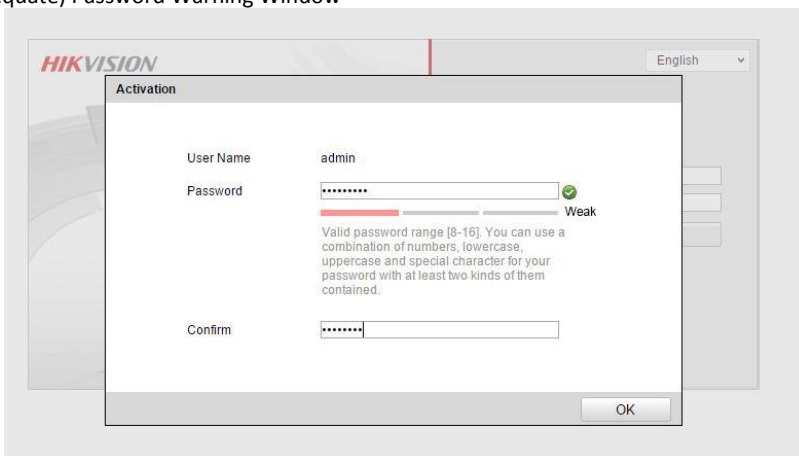Figure 30 Risky (Inadequate) Password Warning Window
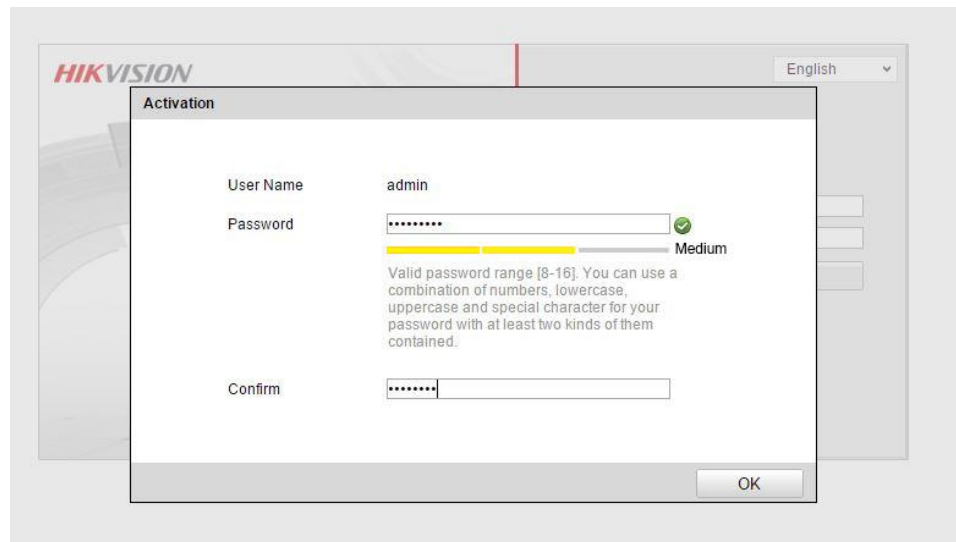

Figure 31 Weak (Acceptable) Strength Password
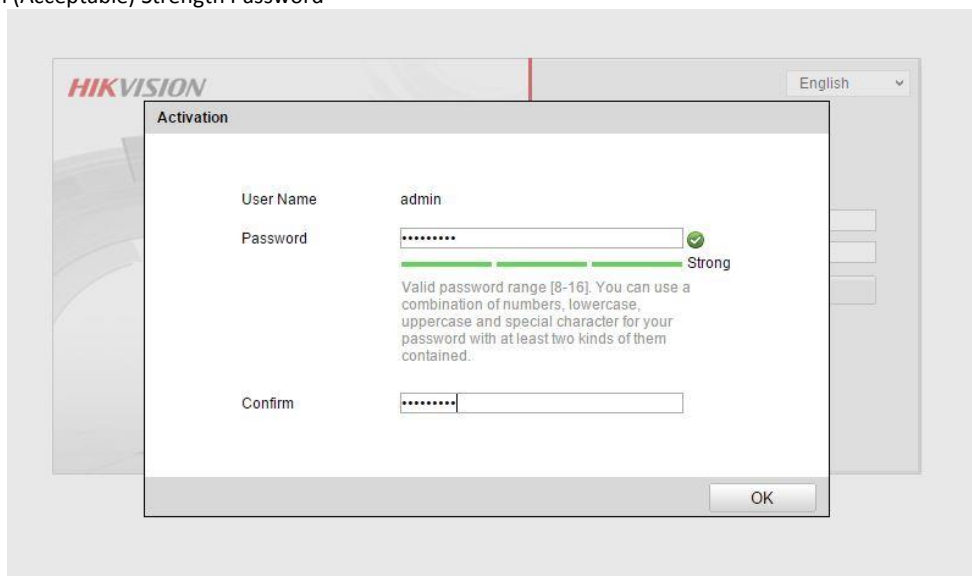
Figure 32 Medium (Acceptable) Strength Password

Figure 33 Strong (Acceptable) Strength Password

Password Strength Levels*

STRENGTH LEVEL	DESCRIPTION
Level 0 (Risky) NVRs *will not* accept a Level 0 password	Password length is fewer than eight characters, contains only one type of character, is the same as the user name, and/or is the mirror writing of the user name. This type of password *will not* be accepted.
Level 1 (Weak) NVRs *will* accept a Level 1 password	Password contains two kinds of characters. The combination is number + lowercase letter or number + uppercase letter, and the password length is at least eight characters. This type of password *will* be accepted.
Level 2 (Medium/Fair) NVRs *will* accept a Level 2 password	Password contains two types of characters. The combination is **neither** number + lowercase letter *nor* number + uppercase letter, and the password length is at least eight characters. This type of password *will* be accepted.
Level 3 (Strong) NVRs *will* accept a Level 3 password	Password contains more than three types of characters, and the password length is at least eight characters. This type of password *will* be accepted.

> **NOTE**: Types of characters are lowercase letters, uppercase letters, numbers, and special characters. Only ASCII characters are allowed.

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* **NOTE:** The strength level indicator colors can vary by activation process, model number, and device type.

C H A P T E R 3
Getting Started

Starting Up and Shutting Down Your NVR

Proper startup and shutdown procedures are crucial to expanding the life of your NVR.

Startup Your NVR
- Ensure the power supply is plugged into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the unit.
- Connect the NVR to a VGA/HDMI monitor. You will only see the NVR menu system when it's connected to a VGA/HDMI monitor.
- Press the POWER switch on the back rear panel. The unit begins to start up.

Shutdown Your NVR

1. Shutdown your NVR by going to Menu > Maintenance, click ![icon] in the lower left corner to pop up the Shutdown menu, as shown in Figure 7.
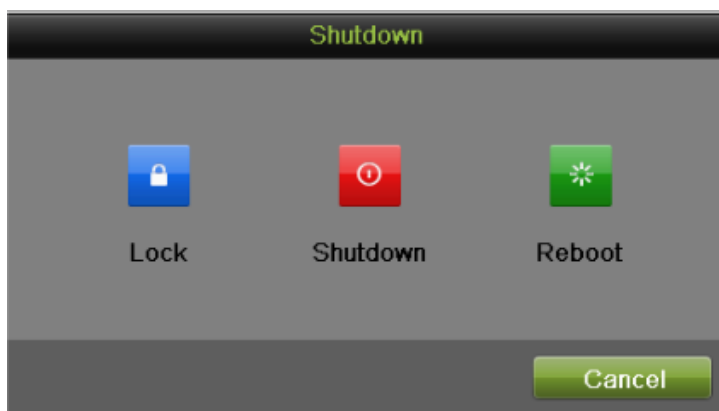
Figure 34   Shutdown Menu

2. Select the Shutdown button.
3. Click the Yes button.
4. When an attention message with words: Please power off, shown in the windows, press the POWER switch to power off.

Rebooting Your NVR
While in the Shutdown menu (Figure 7), you may also reboot your NVR by clicking Reboot.

Locking Your NVR
Locking your NVR will return you to the Live Feed mode, which will require the correct user name and password to exit out of it and do operation. You have two methods to lock your NVR.
- Enter the Shutdown menu by going to Menu > Maintenance > Shutdown, and click the Lock button.
- Click ![icon] on the lower left corner of Menu interface to lock your NVR.

Note:
You can also set auto lock time to lock the menu for a certain period of time inactivity. Enable auto locking by going to Menu > System Configuration > General > More Setting, and select auto lock time in the Auto Locktime dropdown list.

Note:

The description figures in this manual are all taken from model DS-7608NI-E2/8P as an example. There may have subtle differences between different models.

Setting Date & Time

It is extremely important to setup the system date and time to accurately timestamp recordings and events.

Steps:

1. Enter the System Configuration menu by going to Menu > System Configuration > General.
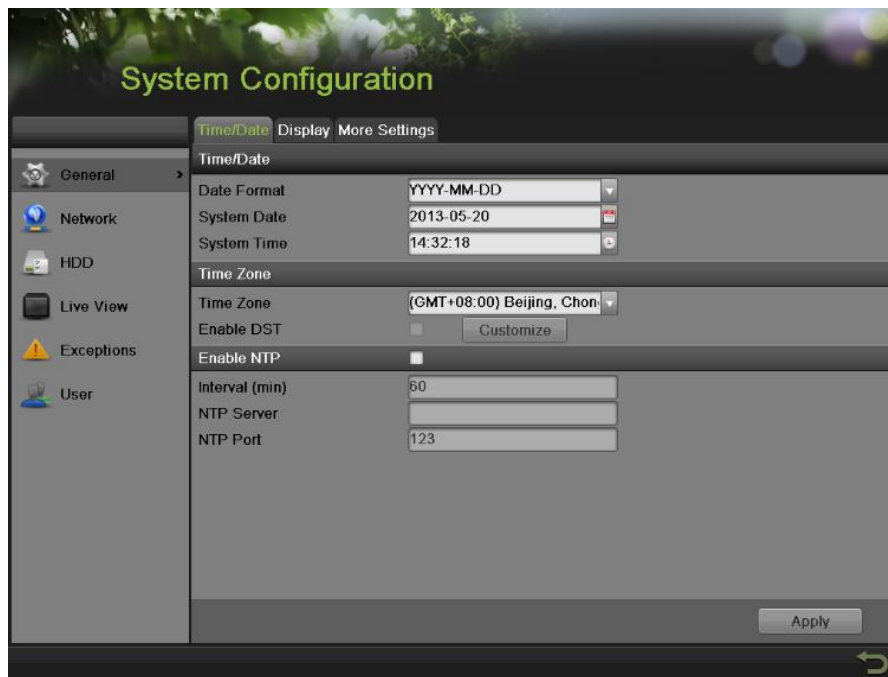2. Select the Time/Date tab, as shown in Figure 8.

Figure 35   System Configuration Menu

3. The current system time and date as well as the time zone will be displayed. Using the directional buttons on the remote or the mouse, selects the correct date, time and time zone.
4. To enable Daylight Savings Time:
   1) Select a time zone that supports DST.
   2) Check the Enable DST checkbox and click Customize button to pop up the DST Setting menu, as shown in Figure 9.
   3) You can check the Auto DST Adjusting checkbox or manually check the date of the DST period.
   4) Click the Apply button to confirm the settings. Click OK to return to the upper level menu.

Figure 36   DST Settings Menu

5. To acquire the time and date over an NTP (Network Time Protocol) Server, check the Enable NTP checkbox. You can set the interval and enter your own NTP server.

6. Click the Apply button to save the settings and click ![back icon] to exit out of the menu. Clicking ![back icon] without clicking the Apply button will exit the menu without saving.

Checking the Status of Your NVR

The current status of your NVR can be checked at anytime by going to the System Information menu. The System Information menu can be accessed by going to Menu > System Information.

Figure 37   System Information Menu

1. Select the Device Info tab to enter the Device Information menu to view the device name, model, serial No., firmware version, encode version and ezviz verification code, as shown in Figure 10.
2. Select the Camera tab to enter the Camera Information menu to view the status of each camera, as shown in Figure 11.
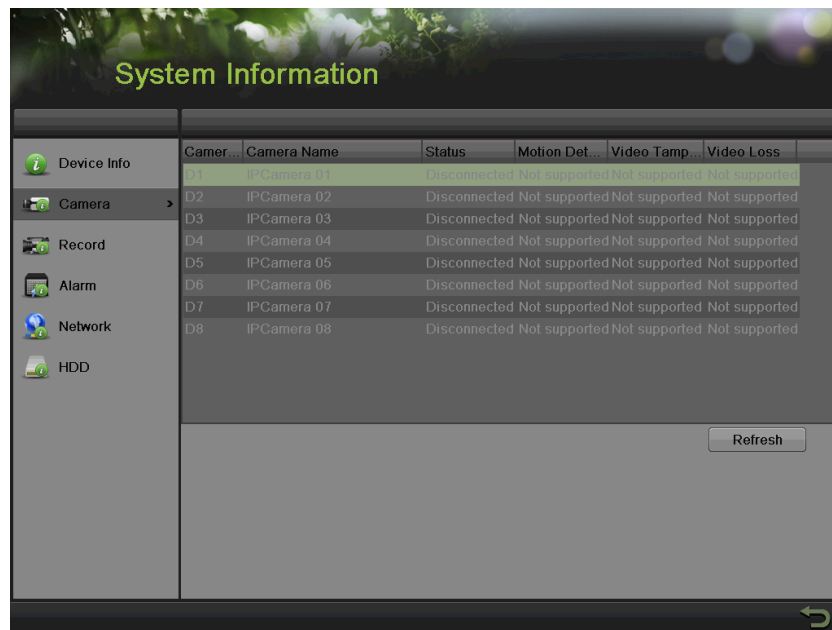
Figure 38   Camera Information Menu

3. Select the Record tab to enter the Record Information menu to view the recording status and encoding parameters of each camera, as shown in Figure 12.
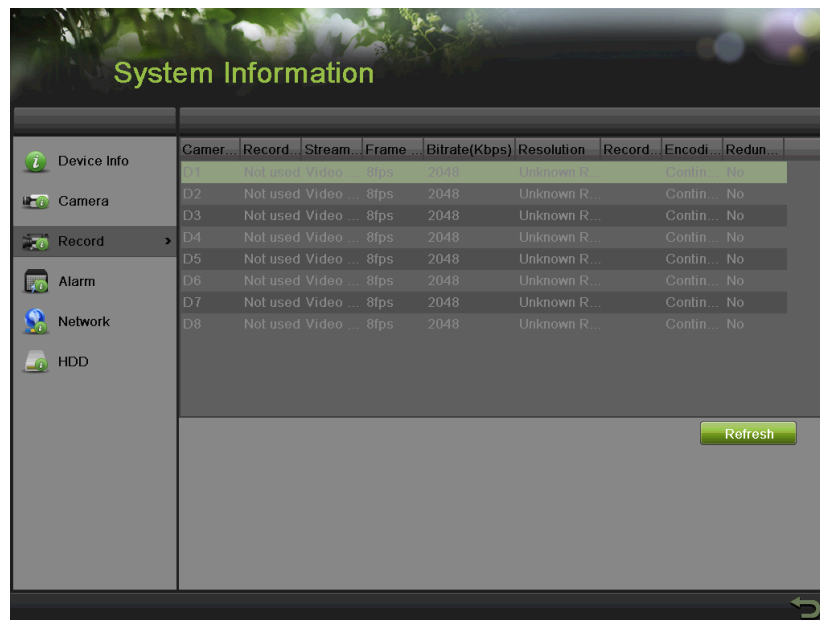
Figure 39   Record Information Menu

4. Select the Alarm tab to enter the Alarm Information menu to view the alarm information, as shown in Figure 13.
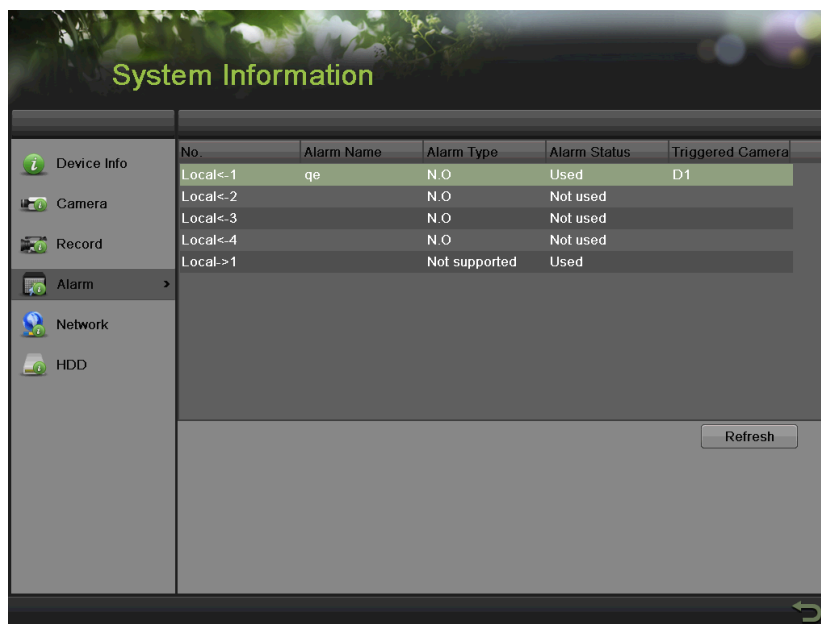
Figure 40   Alarm Information Menu

5. Select the Network tab to enter the Network Information menu to view the network information, as shown in Figure 14.
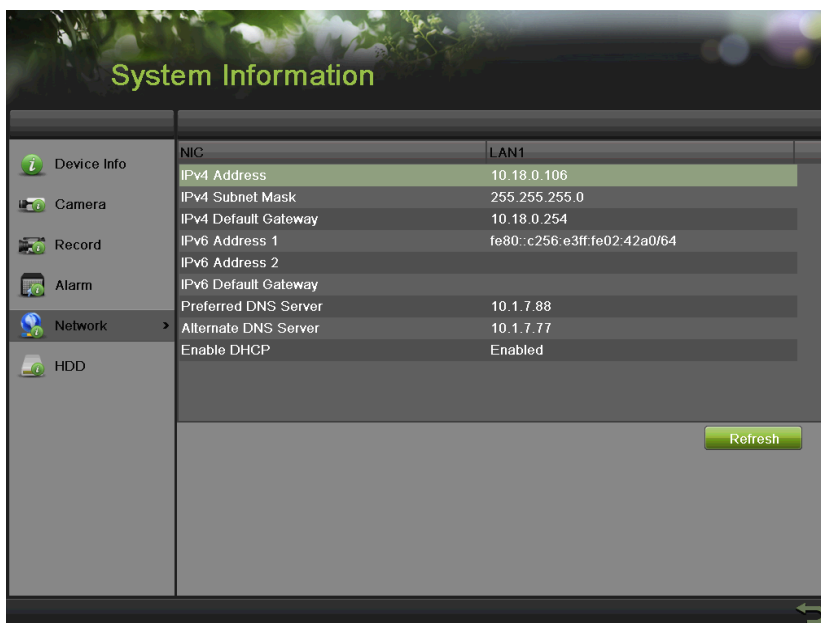
Figure 41   Network Information Menu

6. Select the HDD tab to enter the HDD Information menu to view the HDD status, free apace, capacity, etc, as shown in Figure 15.

Figure 42   HDD Information Menu

C H A P T E R 4
Live Feed

Watching a Live Feed

The Live Feed mode is automatically started after the NVR boots up. It is also at the very top of the menu hierarchy, thus hitting the ESC button multiple times (depending on which menu you're on) will bring you to the Live Feed mode.

Understanding Live Feed Icons

There are multiple icons on the screen of each channel in Live Feed mode to indicate different camera status and settings. These icons include:

Event Icon: Indicates video loss or tampering, motion detection and/or sensor alarm.

Record Icon: Indicates the current channel is recording. The recording may have been started from a schedule, and/or triggered from motion or alarm.

Manual Record Icon: Enable/disable manual record.

Instant Playback Icon: Instant playback the record in last five minutes.

Audio On/Audio Off Icon: Enable/disable audio for selected channel.

PTZ Control Icon: Enable PTZ control mode for the selected channel.

Digital Zoom Icon: Zoom in the selected area to the full screen.

Image Settings Icon: Enter the image setting menu for selected channel.

Live View Strategy Icon: Set strategy for selected channel, including Real-time, Balanced and Fluency.

Close Icon: Exit out of current setting and return to previous mode.

Operating the Live Feed

In Live Feed mode, you may adjust the settings for individual cameras by left-clicking on the desired channel with the mouse. The selected channel will be surrounded with a green border, as shown in Figure 16.
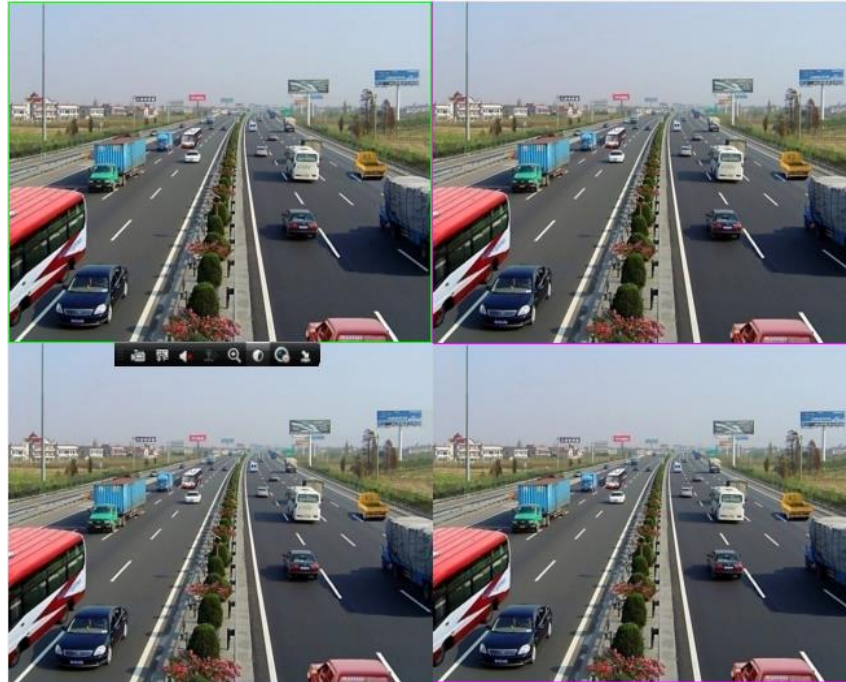
Figure 43   Live Feed Mode

The settings you may adjust with each channel include:

Manual Record:
Enable/disable manual record by clicking the icon for a selected channel.

Instant Playback:
Click the Instant playback icon to show the record in last five minutes. If no record is found, it means there is no record during the last five minutes.

Audio:
Enable/disable audio for a selected channel by clicking the Enable/disable Audio icon.

PTZ Control:
If the selected camera is a PTZ camera, you may control it directly from the display.
1. Select the display that corresponds to a PTZ camera.
2. Click the PTZ Control icon to bring up additional PTZ control buttons, as shown in Figure 17.

Figure 44   PTZ Control Mode

3. Control the PTZ by using PTZ control buttons. Pan and tilt PTZ by clicking on the directional buttons. Zoom in and out using the Zoom In/Out buttons and recall presets, patrols and patterns by clicking the corresponding icons.
Below is the description of the PTZ control icons:

  Direction buttons and the auto-cycle button

  Zoom+/Zoom-

  Focus+/Focus-

  Iris+/Iris-

  The speed of the PTZ movement

  Light On/Off

  Wiper On/Off

  3D-Zoom

  Image Centralization

  Menu

4. Click to return to the Live Feed mode.

Note:

PTZ parameters for the camera must be set correctly before the PTZ can be controlled.

Digital Zoom Mode:

Enable digital zoom on the selected channel. Once enabled, the regular feed will be shown in the lower right corner while the zoomed in view will be shown on the full screen. The zoomed in region may be changed by moving the red rectangle in the regular feed window, as shown in the Figure 18. Right click to back to the Live Feed mode.

Figure 45   Digital Zoom

Image Settings:

Set the image mode and image parameters like brightness, contrast, saturation, hue and so on for selected channel.

Steps:
1. Click the Image Settings icon for a selected channel. This will bring up the Image Settings menu, as shown Figure 19.
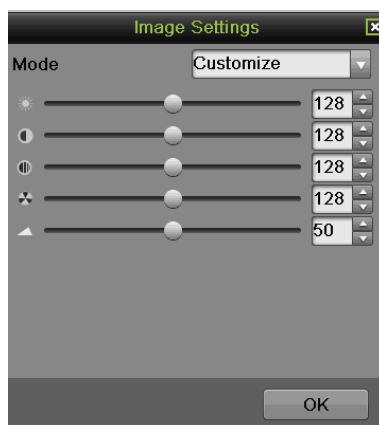
Figure 46   Image Settings Menu

2. You can also adjust the image parameters like Brightness ☀, Contrast ◑, Saturation ◫,
Hue ▲ and sharpness ▲ by dragging the corresponding icon. The affect will be displayed
immediately on the screen.

3. Click the OK button to save the settings and back to the Live Feed mode.

You can also enter the Image setting menu by going to Menu > Cameras Setup > Image, as shown in
Figure 20. The steps are similar to the live feed icon setting steps.

Figure 47 Image Settings Menu

Live View Strategy:

Set the strategy for selected channel.

Steps:

1. Click the Live View Strategy icon for a selected channel. This will bring up the Live View
Strategy menu, as shown in Figure 21.
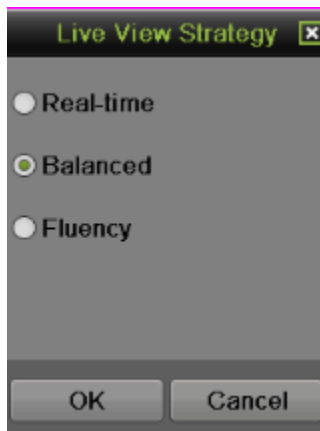
Figure 48 Live View Strategy Menu

2. There are three strategies for selection: Real-time, Balanced and Fluency. Select one strategy
according to the real situation.

3. Click OK to save the settings.

Using Display Menu

The Display Menu can be accessed by right-clicking the mouse on any of the display in Live Feed mode. The Display Menu, as shown in Figure 22, allows you to quickly change into different display modes and to start/stop auto-switching of the display modes.
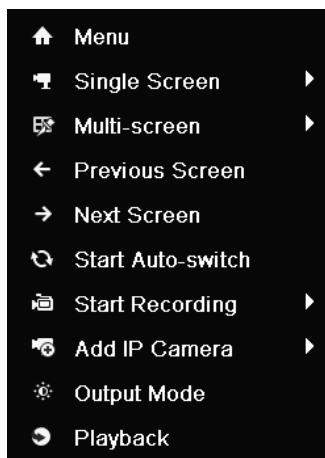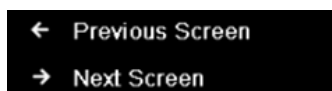

Figure 49   Live Feed Display Menu
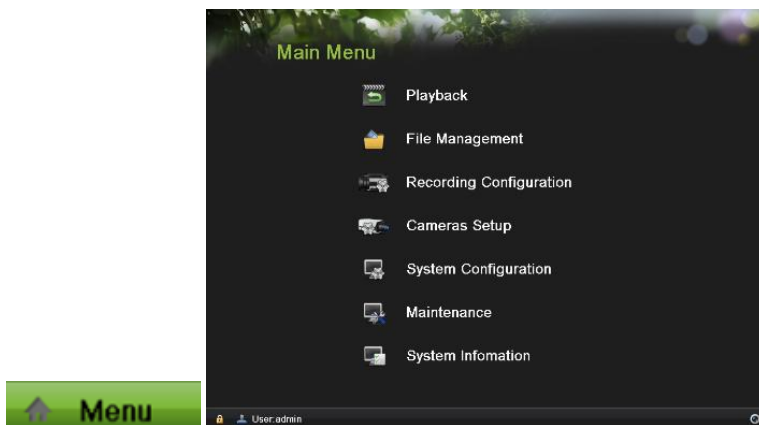
Menu: Click to go to NVR Main Menu. If the system is locked, you must enter the current Admin password to exit out of the Live Feed.
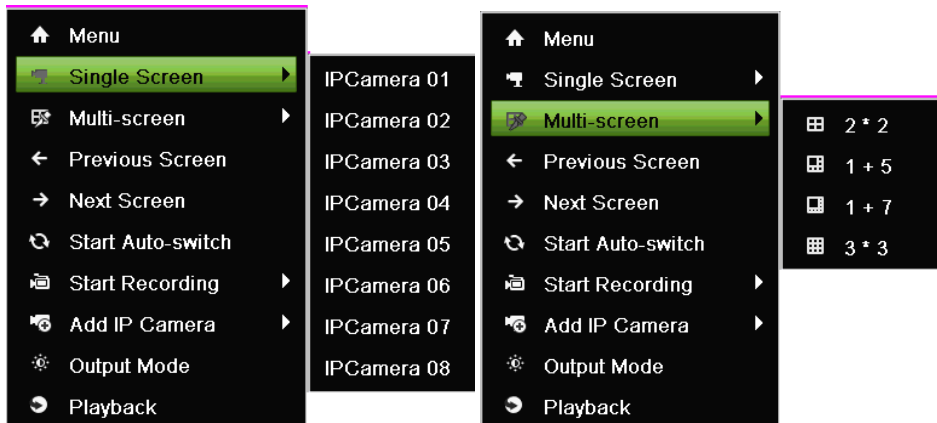

Single Screen/Multi-Screen: Click to switch the display mode.

Previous Screen/Next Screen: Click to view the previous/next set of display. In a 2x2 mode, this will show the next four display. In a 3x3 mode, this will show the next nine display.

Start/Stop Auto-Switch: Click to start/ stop auto-switch. Auto-switch will cycle through selected cameras. Switching of camera can be based on an individual or multiple cameras.
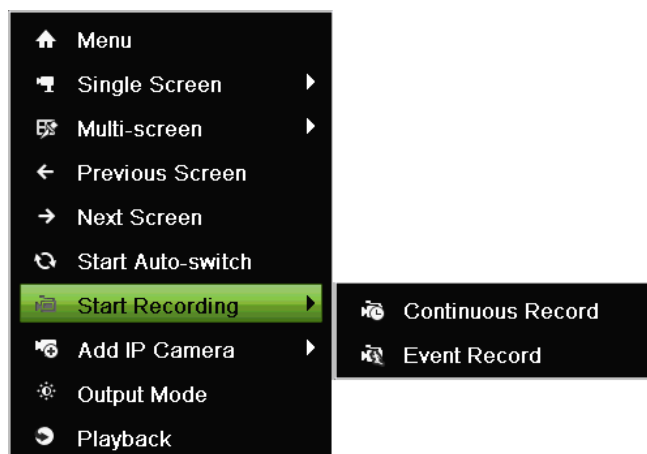
Start Recording: Click the Continues Record/Event Record item. This will bring up an attention box shown below. If you click yes, it will start all-day continues/event recording of all channels.

Output Mode: Click the Output Mode item. This will bring up an Output Mode menu shown below. Four modes are available: Standard, Bright, Gentle and Vivid. Select one and click the Apply button to save the setting.
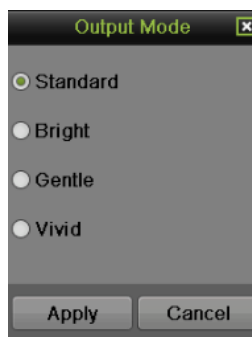
Note:
Before you start Auto-switch, you should set Dwell Time in Live View setting menu by going to Menu > System Configuration > Live View > General.

Note:

After 20 seconds of inactivity, the NVR will automatically exit out of the Display menu and go back into the Live Feed mode.

Note:

The auto lock menu setting is selected by default, meaning the Admin password must be enter to exit out of the Live Feed into the Main Menu.

Configuring Live Feed Displays

Live Feed displays can be customized to your own needs.
To customize display settings:

1. Set menu output resolution and mouse pointer speed by going to Menu > System Configuration > General > Display, as shown in Figure 23.
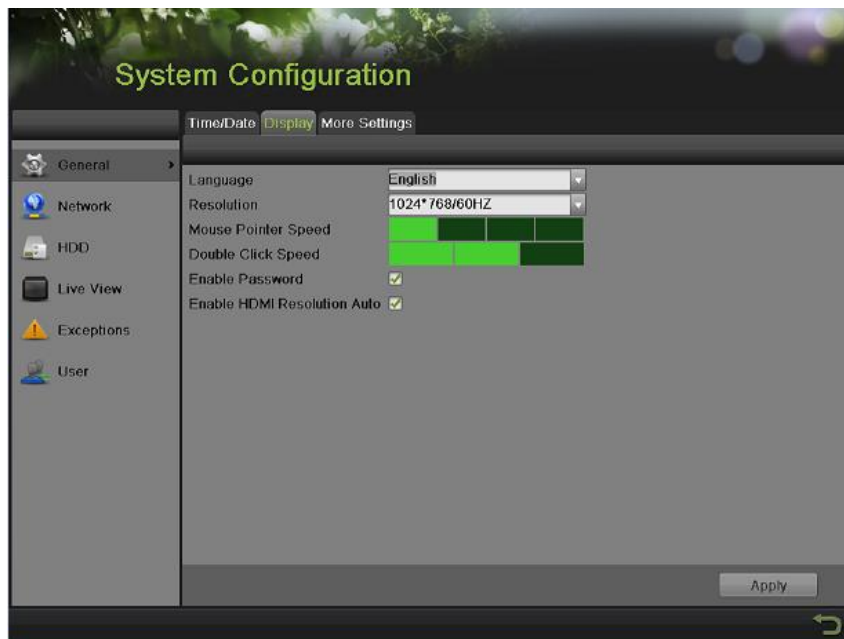
Figure 50   Display Menu

The settings available to configure in this menu include:

- **Language:** The default language used is English.
- **Resolution:** Select the appropriate resolution of menu output.
- **Mouse Pointer Speed:** Set the speed of mouse pointer and 4 levels are configurable**.**
- **Double Click Speed:** Set the speed of mouse double clicking, and 3 levels are configurable.
- **Enable Password:** Enable or disable the password of live view screensaver.
- **Enable HDMI Resolution Auto:** Enable or disable the auto adjust of HDMI resolution.

2. Set device name, device no. and auto lock time by going to Menu > System Configuration > General > More Settings, as shown in Figure 24.
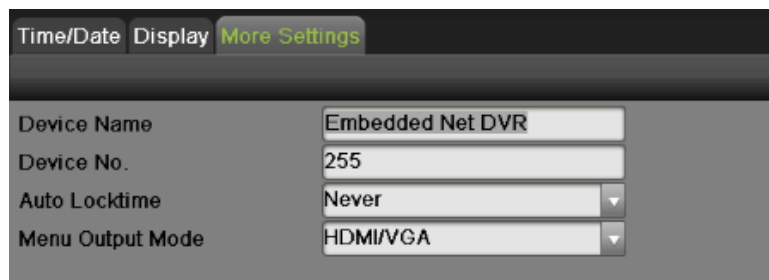
Figure 51   More Settings Menu

The settings available to configure in this menu include:
- **Device Name:** Edit the name of the device.
- **Device No.:** Edit the number of the device.
- **Auto Locktime:** Set the auto lock time of menu.
- **Menu Output Mode:** The menu output mode is HDMI/VGA adaptable.

3. Set the live view interface parameters and event output by going to Menu > System Configuration > Live View > General, as shown in Figure 25.

Figure 52   Live View Menu

The settings available to configure for each video output include:
- **Video Output Interface:** The video output interface is VGA/HDMI adaptable.
- **Live View Mode:** Designates the display mode for Live Preview.
- **Dwell Time:** Set the time to dwell between switching of channels when Start Auto-switch is selected in Live Preview.
- **Enable Audio Output:** Enable or disable audio output for the selected video output.
- **Event Output:** Designates the output to show event video. It is VGA/HDMI adaptable.
- **Full Screen Monitoring Dwell Time:** Set the time to dwell between switching of channels when events occur.

Setting Camera Order
Setting the camera order allows you to logically position cameras for more efficient monitoring of your own individual location.

Figure 53   Camera Order Settings Menu

To set the camera order:
1. Enter the View menu, shown in Figure 26 by going to Menu > System Configuration > Live View > View.
2. Select the Screen Configuration you would like to use in Live Feed by clicking ⬚ ⊞ ▣ ▭ ▦ . The preview of the screen configuration on the right will change depending on the option selected.
3. Click to select a screen in the right region and double-click to select a channel in the left region. Thus the selected channel will be displayed in the corresponding screen.

Note:
X ✗ means no channel will be displayed in this screen.

4. Click ▣ to start live view of all channels and click ▣ to stop live view all channels. Click ◁ or ▷ to go to the previous or next page. For example, in 2x2 screen configuration mode, pressing the Next button will bring up the next set of 4 displays.
5. Click the Apply button to save the settings.
6. Click ↩ to exit out of the menu.

C H A P T E R 5
Record Settings

Configuring Settings for Recording

There are multiple ways to setup your NVR for recording. They include setting up a recording schedule, triggering a recording by motion detection and/or a sensor alarm

Configuring Recording Settings

Before setting your NVR up for recording, certain settings should be configured first.

The first set of settings to configure in this menu is the recording parameters. To configure the recording parameters as following steps:

1. Enter the Parameters Settings menu by going to Menu > Recording Configuration > Parameters as shown in Figure 27.

Figure 54   Parameters Settings Menu

2. Select main stream tab to configure the parameters of main stream.
    1) Select the camera to configure in the Camera dropdown list.
    2) Select the Recording Mode to configure. Both Continuous and Event can be configured.
    3) Select the stream type in the Stream Type dropdown list. If the camera supports audio input, the options will include Video & Audio and Video.
    4) Select the camera resolution in the Resolution dropdown list. The options for the camera resolution are various according to the IP camera.
    5) Select the bit rate type in the Bitrate Type dropdown list. The options for the camera bit rate type include Variable and Constant.
    6) Select the recording Frame Rate to use for the designated camera. A rate of 30 (Full Frame) all the way down to 1/16 of a frame can be selected.
    7) Set the video quality using the Video Quality slider. Increasing the video quality will also increase the max. bit rate recommended. The max. bit rate can be adjusted according to this recommend.
    8) Select the max. bit rate mode in the Max. Bitrate Mode dropdown menu. The options for the camera max. bit rate mode include General and Customize (32-16384kbps).

9) Check the checkbox of record audio to enable or disable audio while recording. If the selected camera does not support audio, the checkbox will not be editable.
10) Select the Video Stream option to choose use mainstream or substream to record.
11) Click the Apply button to save the settings.
12) Repeat the steps to set other cameras.

Note:

The parameters of event recording cannot be configured and they are as same as the ones of continuous recording.

Note:

The remaining time that installed HDDs are capable of recording based on current record parameter is shown in the tab of estimated time of recording.

3. Select Substream tab, as shown in Figure 28, to configure the parameters of sub stream. The steps are the same as main stream configuration.
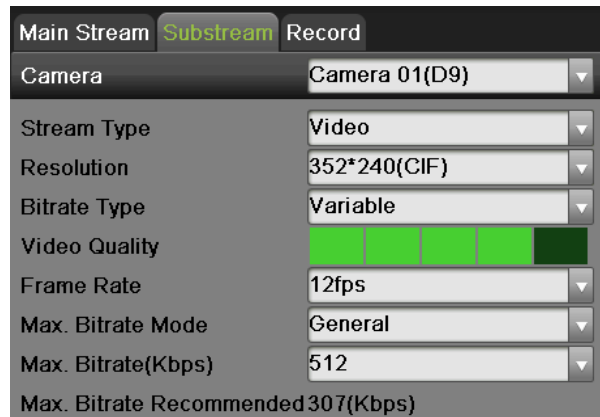
Figure 55 Substream Settings Menu

4. Select record tab, as shown in Figure 29 to configure some parameters of recording.
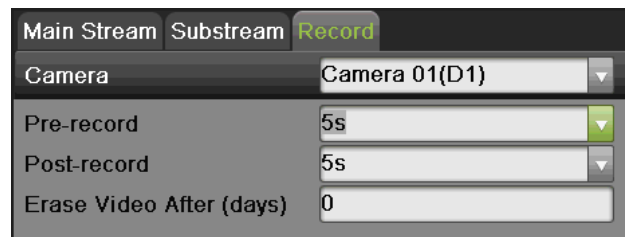
Figure 56 Record Settings Menu

1) Select the Pre-record time. The pre-record time is the time in seconds to record before a recording is triggered. Setting the pre-record time to Max. will allow the NVR to use up to the maximum available buffer space for recording.
2) Select the Post-record time. The post-record time is the time in seconds to also record after a recording has ended.
3) Enter the Erase Video After. The Erase Video After time denotes the amount of days that files will be deleted after its initial recording. Setting the time to 0 will allow the NVR to only delete and overwrite files when the HDD is full.

Note:

The redundant record is to decide whether you want the camera to save the record files or captured pictures in the redundant HDD. You must configure the redundant HDD in HDD settings.

Note:

You must click the Apply button after adjusting the configuration of each tab before you move on to adjust another one.

Note:

Event recordings are recordings that are triggered from motion detection and/or from an external alarm.

Note:

If an event occurs during Continuous recording, the frame rate will automatically switch to that set for Event recording.

Note:

For holiday settings, you can refer to Page 46.

Note:

At least 2 hard disks must be installed when you want to set a HDD to Redundancy mode and one of them with R/W property.

Configuring Record Schedule

A record schedule allows you to schedule multiple time periods per day for recording. Setting up a record schedule will allow you to further conserve disk space by recording only during the time periods you would like to record at.

Steps:

1. Enter the Schedule menu, shown in Figure 30 by going to Menu > Recording Configuration > Schedule.

Figure 57   Record Schedule Configuration Menu

2. Select the camera to configure from the camera dropdown list.
3. Check the Enable Schedule checkbox to enable the record schedule. If the checkbox is unchecked, the record schedule will be disabled.
4. Edit the record schedule. There are three ways to set the record schedule:

- **Instant edit**

1) Select a day from Monday to Sunday to configure schedule for.
2) Setup time periods for schedule. If the 24HR checkbox is checked, recording will occur over the entire day. To setup multiple time periods, uncheck 24HR and enter the Start/End Time for the selected day. The start/End time are listed using a 24 hr cycle (i.e. 18:00 is equivalent to 6:00pm). Up to 8 discontinuous periods can be configured for each day.
3) Select recording type under Type for selected day of the week. Recording type includes Continuous for continuous recording or Event for recording when an event is triggered (i.e. from detected motion) for the selected time period.
4) Select the Add button to add time frame to schedule. The newly added time frame will appear in the schedule on the right. You can click [trash icon] to delete the selected time period on the right. Continuous recordings are shown in blue on the schedule while event recordings are shown in yellow. An example of this can be seen in Figure 30.
5) If there are scheduling errors detected, error messages such as those shown in Figure 31 will appear.
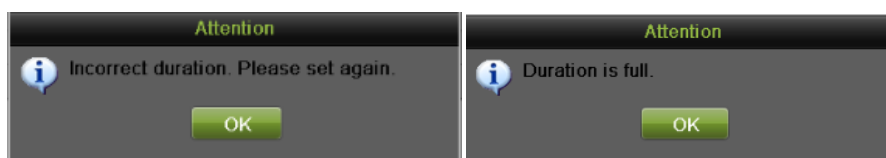
Figure 58   Schedule Configuration Error Messages

6) Repeat the above steps to set recoding schedule for other days in the week.

- **Edit the schedule**

5) Click the Edit button on the bottom right to pop up the Edit Schedule menu, as shown in Figure 32.
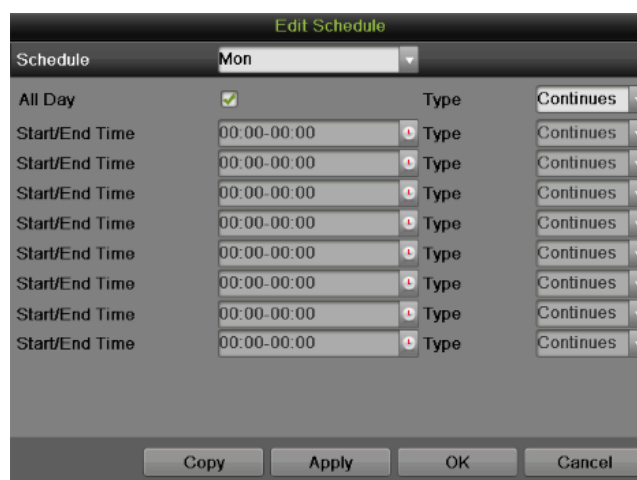
Figure 59   Edit Schedule Menu

6) Select a day from Monday to Sunday.

7) Setup time periods for schedule. If the All Day checkbox is checked, recording will occur over the entire day. To setup multiple time periods, uncheck All Day and enter the Start/ End Time for the selected day. You can select recording type for each period.

8) Click the Apply button to save the settings.

9) Repeat the above steps to set record schedule for other days in this week. If the schedule can also be applied to other days, click the Copy button to pop up a Copy to window, as shown in Figure 33.
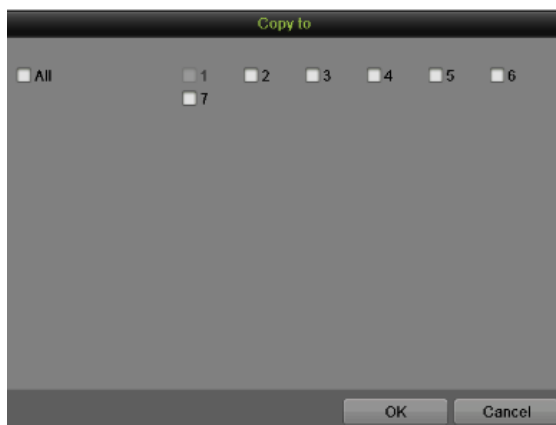

Figure 60   Copy Schedule to Other Days

10) Check the corresponding checkbox of the day to copy the record schedule to.

11) Click the OK button to save the settings and back to upper level menu or click the Cancel button to back without saving.

12) Click the Apply button to save the settings and click OK to exit.

- **Draw the schedule**
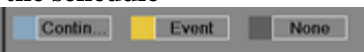
1) Click [Contin... | Event | None] to select a recording type. None means no recording.

2) Use the mouse to drag and draw time periods in the assigned area. The minimum time unit is hour here. Up to 8 discontinuous periods can be configured for each day.

3) Click the Apply button to save the settings or click [↩] to exit without saving.

5. Repeat the above steps to set record schedule for other channels. If the same schedule can be applied to other channels, click the Copy button to pop up a Copy to window, as shown in Figure 34.

Figure 61   Copy Schedule to Other Channels

6. Check the corresponding checkbox of other channels to copy the record schedule to.
7. Click the OK button to save the setting and back to upper level menu or click the Cancel button to back without saving.
8. Click the Apply button to save the settings.

Note:

Enable the Start Recording in the Display Menu will also create a schedule in Schedule Configuration. It will start all-day continue or event recording for all channels.

Configuring Holiday Settings

You may want to have different plan for recording on holiday. Follow the steps to configure the holiday settings.

Steps:

1. Enter the Holiday menu, shown in Figure 35 by going to Menu > Recording Configuration > Holiday.

Figure 62   Holiday Settings Menu

2. Choose a holiday on the List show on the right. Click ![edit icon] to pop up an Edit menu, as shown in Figure 36.

Figure 63   Edit Holiday Recording Configuration Menu

3. Edit the Holiday Name or use the default one.
4. Check the Enable checkbox.

5. Select Mode in the dropdown list. There are three different modes for the date format to configure holiday schedule.
6. Set the start and end date.
7. Click the Apply button to save settings and click OK to exit.

C H A P T E R 6
Playback

Playing Back a Recording

Previously recorded files can be played back using the Playback Interface. You must first search for recordings to play them back.

Understanding the Playback Interface

It's important to understand how to use the Playback Interface to efficiently navigate through recorded files. To access the Playback Interface, shown in Figure 37, go to Menu > Playback > Record.
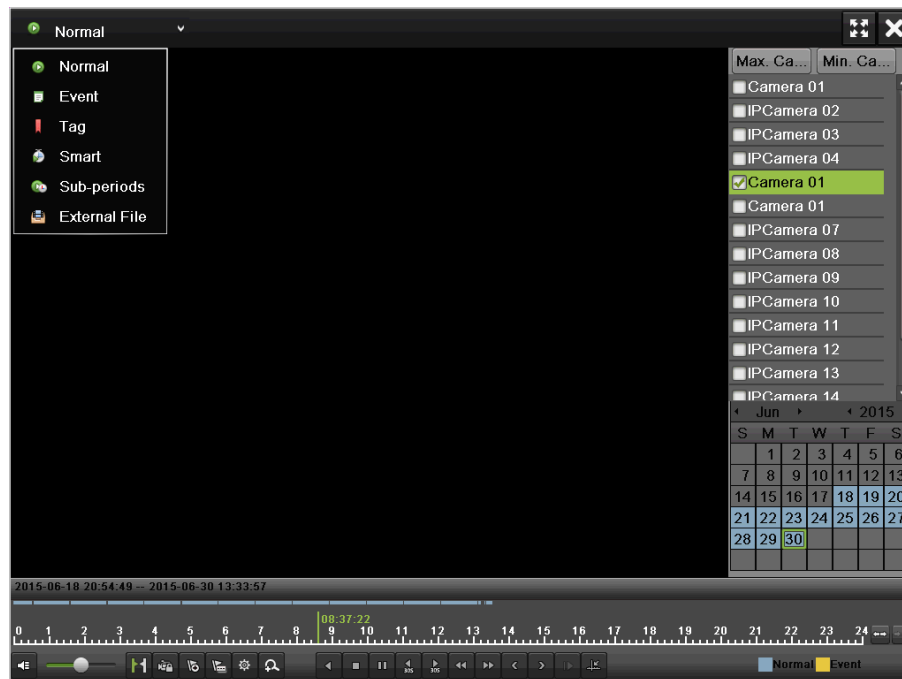
Figure 64   Playback Interface
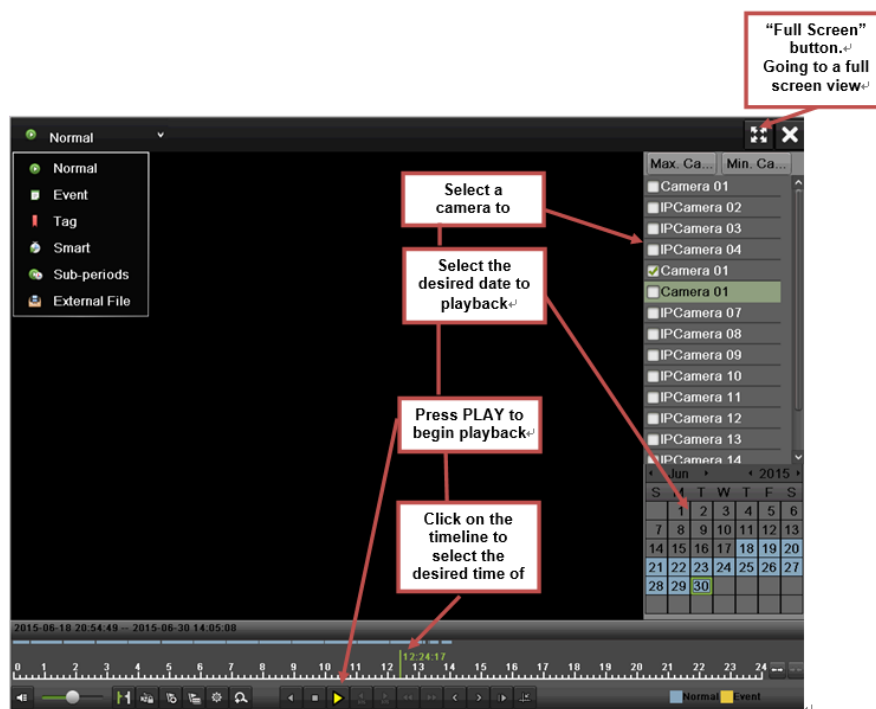
Figure 65   Playback Menu

Figure 38 shows main steps to play record

Searching for Recorded Files

The Playback Interface allows for easy searching of recorded files. To search for recorded files using the Playback Interface:

1. Enter the Playback menu, shown in Figure 37 by going to Menu > Playback > Record.
2. Select the channel to search for recordings on.
3. Select the date to search for recordings on using the calendar. The system date is shown on the left of the calendar. You may change the month and year of the calendar by clicking the left and right arrows next to the month and year .Dates with recordings in the selected month and channel are displayed in light blue. Dates without recordings are light gray. The active selected date is lighted up with a green box.
4. Click on the desired date that is highlighted in light blue to search for recordings. If recordings exist, the timeline will be filled with blue bars to designate recorded files. The playback marker, indicated by a green vertical line will automatically jump to the beginning of the earliest recordings for the selected date. The marker can be moved to any other location by clicking on the desired position on the blue bars or drag it.
5. Select ▶ in the Playback Controls to start playback of the recording.

Playing Back Recorded Files

After finding the recordings you would like to play back, you may use the Playback Controls to navigate through the recording.
The controls found under Playback Controls include:

Play Forward Button: Button to playback recording.

Play Reverse Button: Button to playback recording in reverse.

Speed Down Button: Button to decrease play speed.

Speed Up Button: Button to increase play speed.

Mute Button: Button to enable and disable audio in playback mode.

Add Default Tag: Button to add default tag.

Add Customized Tag: Button to add customized tag and input tag name.

Edit Tag: Button to check, edit and delete tag(s).

Enter/Exit Full Screen Mode: Button to enter into and out of full screen mode.

To playback recorded files:

1. Search and select recording to play back in the Playback Interface.
2. Click the Play Forward button to begin playback of selected recording and the Pause button to pause playback.
3. You may slow down or speed up the playback speed by clicking the Speed Down/ Speed Up button.
4. You can click [ ] to zoom in/zoom out the timeline and select the exactly time.
5. Click the Full-Screen button to enter full-screen playback mode, shown in Figure 39.

Figure 66   Full-Screen Playback Mode

6. Clicking [x] will return to the original playback mode.
7. Click the Mute button to turn on and off audio during playback.
8. Click [ ] to enable digital zoom. Once enabled, the regular recorded feed will be shown in the lower right corner while the zoomed in view will be shown on the full screen. The zoomed in region may be changed by moving the red rectangle in the regular recorded feed window.
9. Click [ ] to add tag and manage it.

10. Click [playback control buttons] to control playback.

Playing Back Multiple Channels

You may also playback recordings from multiple channels simultaneously. To playback recordings from multiple channels:

1. Search and select recording to playback in the Playback Interface.
2. Enter into Full Screen mode, shown in Figure 39 by clicking the Full Screen button.
3. In Full-Screen mode, you may select additional channels to playback by clicking the checkbox next to the desired camera in the Channel Selector panel. Playback will begin simultaneously on the selected channels.
4. You may stop playback on any of the channels by un-checking the checkbox next to the channel.
5. You can also select recording in Full Screen mode by double click the date on the calendar.

Note:

Up to 16-ch synchronous playback at 4CIF real time.

Playing Back Tags

1. Enter the Tag interface, shown in Figure 40 by going to Menu > Playback > Tag.
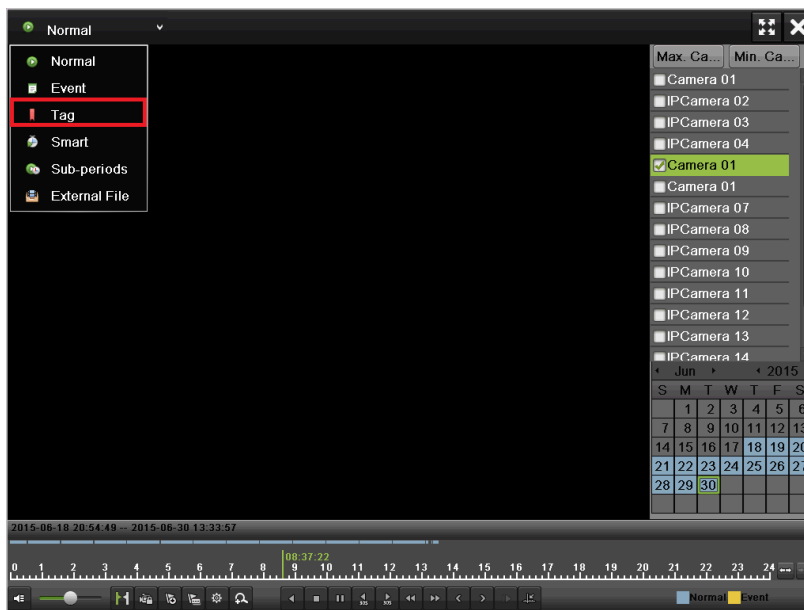
Figure 67   Tag Playback Interface

2. Select channel on the Channel dropdown list.

3. Select tag type for Tag Keyword or All.

4. If tag type was Keyword, Keyword area was editable to allow user to set keywords for fast searching.

5. Select start time and end time.

6. Select the pre-play and post-play time.

7. Click the Search button and the tag recording found will be listed in Result interface.

8. Click [icon] or double click the tag you want to play and it will be display in the Playback interface as shown in Figure 40.

9. Drag the timeline to the place you want to play.

10. Click [icon] to enable or disable the audio.

11. Click [icon] to play back the pictures in Full Screen mode

12. Click [icon] to edit the tag name.

13. Click [icon] to delete the tag.

C H A P T E R 7
Backup

Backing up Video Clips

Video clips can be backed up to various devices, such as USB flash drives, USB HDDs or a DVD writer.

Selecting Video Clips

Video clips can be selected for backup in the Playback Interface using the controls found in the Mark Clip For Export panel, shown in Figure 41.

Figure 68   Mark Clip For Export Controls

The controls found in the Mark Clip For Export panel include:

- **Start/Stop Button:** Mark the starting/ending point for the video clip. When you click the Start, it will turn to the Stop button.

To select video clips in the Playback Interface:

1. Enter the Playback Interface, shown in Figure 42, by going to Menu > Playback > Record.

Figure 69   Playback Menu

1. Insert a USB FLASH Drive or a USB HDD into an available USB Port
2. Go to **"MENU">"PLAYBACK"**
3. Select the DATE and beginning time of the incident

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4. Click **"START CLIPPING"**
5. Select the ending time of the incident
6. Click **"END CLIPPING"** (Same button as "Start Clipping")
7. Repeat steps 1-7 as many times as required
8. Click **"EXIT"** or right-click.
9. Click **"YES"** to save clipping.

Note:

The Start button is not available when there is still a video clip that has not been saved or cleared.
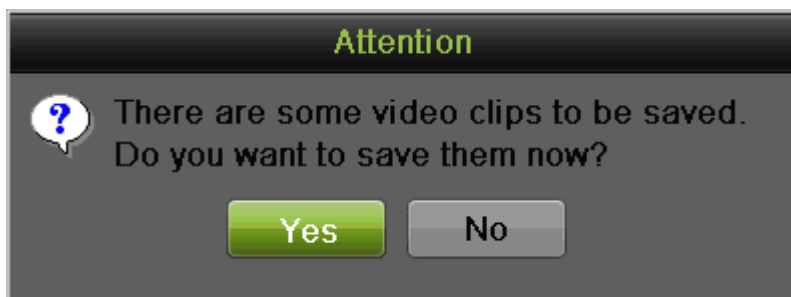
After pressing **"YES** a new window pops up containing all saved clips.
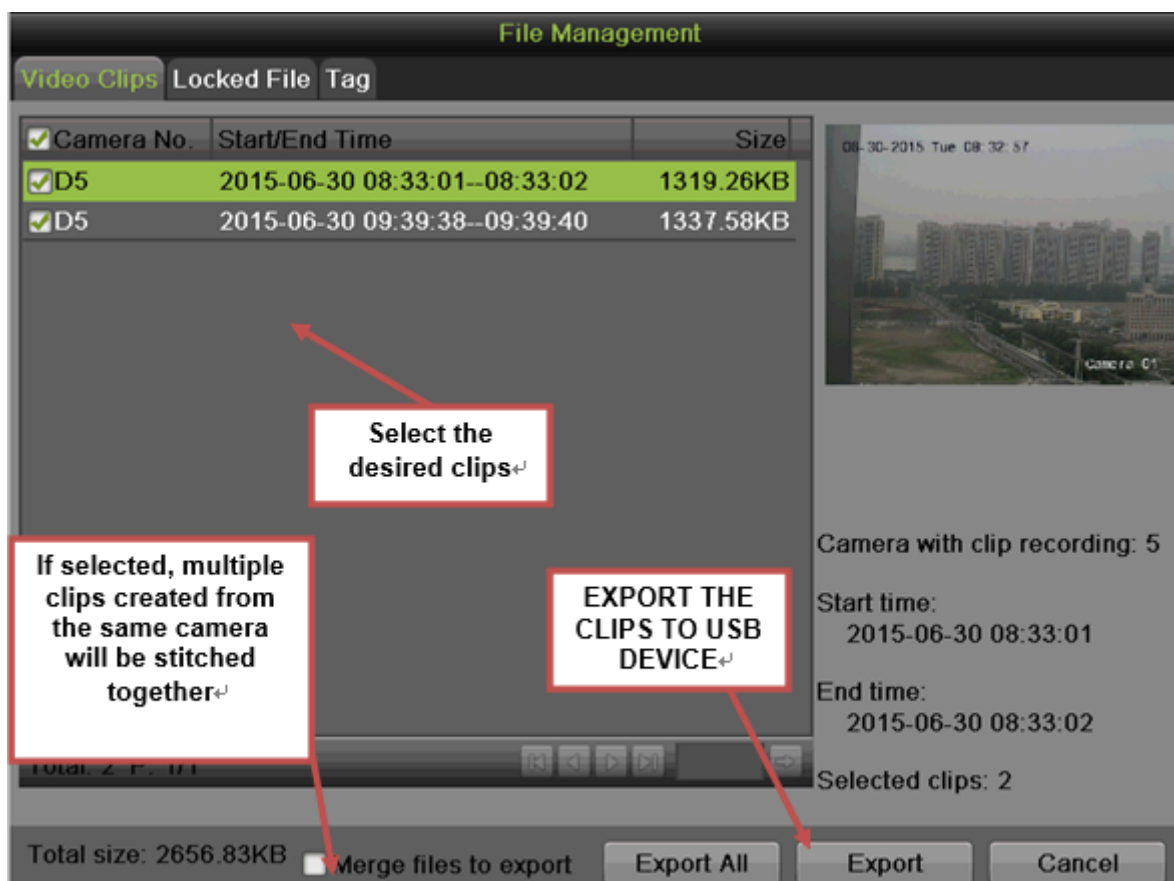
Figure 70   Clips Export Interface

1. Select the desired clips
2. Press "EXPORT"

3. After the backup is complete, simply remove the USB FLASH Drive or the USB HDD.
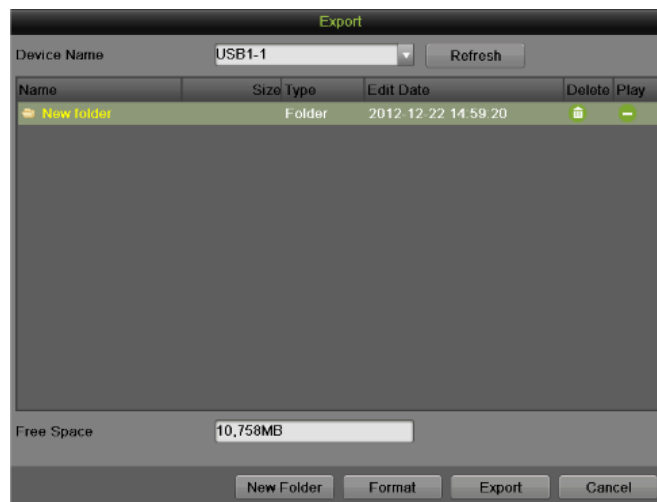
Figure 71   Export Interface

4. If the available space on the storage device is adequate, select the Export button to begin backup of the selected clips.
5. After clips have been backed up, you may click the Cancel button to return to the Playback Interface.

Note:
If the USB storage device has not been properly initialized and formatted, you may click on the Format button to do so.
Formatting a storage device will permanently delete ALL the files on that device.
There is also NO WARNING MESSAGE after clicking the Format button to format the storage device.
Please proceed with caution and backup all critical data from the storage device before formatting.

Backing up Recorded Files

Not only can video clips be backed up, full recorded files can also be backed up to a storage medium.

To back up recorded files:

1. Search for recorded files using the File Management menu (See Searching for Recorded Files on Page 50).
2. Select the files you would like to back up by checking the box next to the file. You may also check the Channel No. box to select all files. The total required space will be shown next to Total size.
3. You can also check the checkbox of Merge files to export.
4. Click the Export button; this will take you to the Export menu, same with Figure 45.
5. In the Export menu, connect a USB storage device and click the Refresh button. If the device is detected, a list of its file contents as well as the available free space will be shown.
6. You may delete files on the USB storage device to free up additional storage space by clicking the Delete button on the selected file. You may also format the device by clicking the Format button. Formatting will remove ALL files from the device.
7. When there is sufficient storage space for backup, click the Export button. A backup progress bar will be shown.
8. Click the OK button once backup has completed.
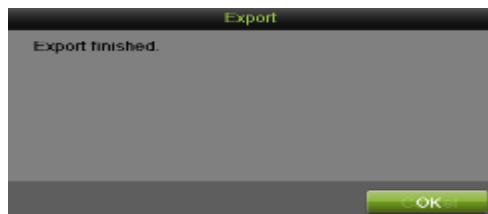
Figure 57   Export Finished Message

9. Click the Cancel button to return to the File Management menu.
10. You can also click Quick Export in the Record menu to export all the record files for the selected channel.

C H A P T E R 8
System Configuration

Configuring Network Settings

Network settings must be configured before you're able to use your NVR over the network.

Configuring General Settings

To configure network general settings:

1. Enter the Network Configuration menu, shown in Figure 46 by going to Menu > System Configuration > Network.
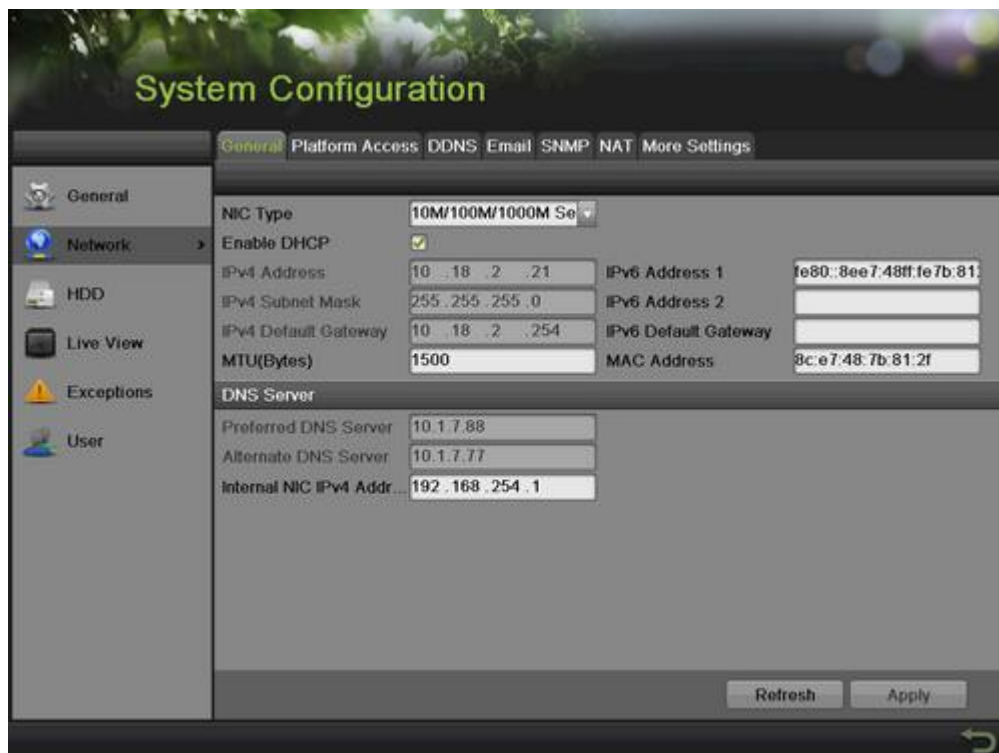
Figure 72   Network Settings Menu

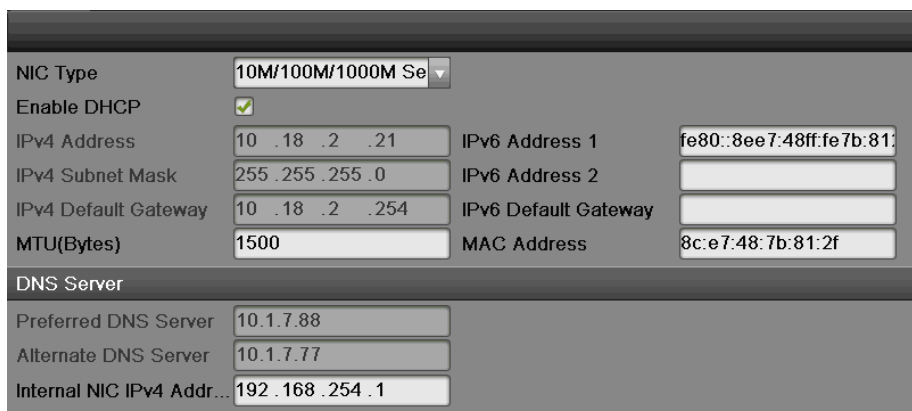2. Select the General tab. The current network settings are displayed on the right side of the menu, shown in Figure 47.

Figure 73   General Network Settings Menu

3. **NIC Type:** Set the NIC type of the device. General it is default as 10M/100M/1000M self-adaptive.
4. If you have a DHCP server running and would like your NVR to automatically obtain an IP address and other network settings from that server, check the Enable DHCP checkbox.
5. If you would like to configure your own settings, enter the settings for:
   - IP Address: IP address you would like to use for your NVR.
   - Subnet Mask: Subnet Mask of network.
   - Default Gateway: IP address of your Gateway. Typically the IP address of your router.
   - MTU: The valid value range of MTU is 500~9676.
6. **DNS Server:** The preferred and alternate Domain Name System (DNS) Server to be used with your NVR.
7. **Internal IPv4 Address:** You need to configure the internal NIC address, so that IP addresses are assigned to the cameras connected to the PoE or built-in switch interfaces.
8. Click the Apply button to save the settings.
9. Click the Refresh button to refresh the updated network information after enabling DHCP.

Configuring DDNS

Dynamic DNS allows you to create a hostname and associate it to your IP address, making access to your NVR over the internet easier. To configure DDNS:

1. Select the DDNS tab to enter the DDNS settings interface, as shown in Figure 48.

Figure 74   DDNS Settings Menu
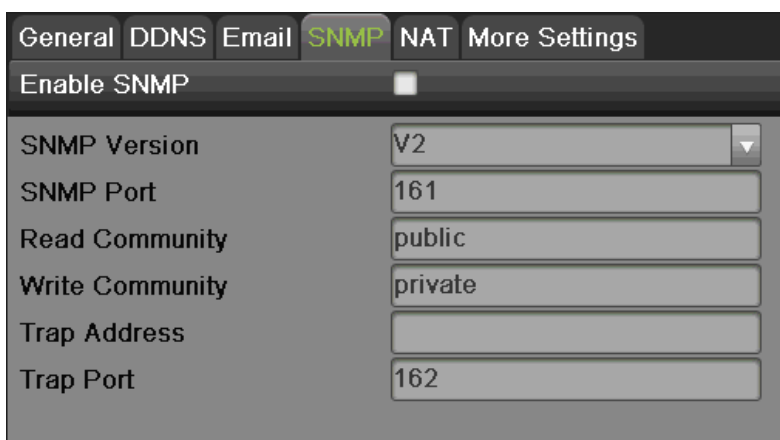
2. Check the Enable DDNS checkbox.
3. Select a DDNS type from the DDNS Type selection dropdown list. Five different DDNS types are selectable: IPServer, DynDNS, PeanetHull, NO-IP, HiDDNS.
   - **IPServer**: Enter Server Address for IPServer.
   - **DynDNS**:
     1) Enter Server Address for DynDNS.
     2) Enter the domain obtained from the DynDNS website in the Domain Name textbox.
     3) Enter the User Name and Password registered in the DynDNS website.
   - **PeanutHull**: Enter the User Name and Password obtained from the PeanutHull website.

- **NO-IP**:
  1) Enter Server Address for NO-IP.
  2) Enter the domain obtained from the DynDNS website (www.no-ip.com) in the Domain Name textbox.
  3) Enter the User Name and Password registered in the NO-IP website.
- **HiDDNS**:
  1) The Server Address defaults to www.hik-online.com.
  2) Enter the Device Domain Name. The domain name can only contain the lower-case letter, numeric and '-', and it must start with the lower-case letter and cannot end with '-'.
  3) If you have more than one device, you can register an account on www.hik-online.com to do some management.
4. Click the Apply button to save the settings.

Configuring SNMP

You can use SNMP protocol to get device status and parameters related information. To configure SNMP:

1. Select the SNMP tab to enter the SNMP settings interface, as shown in Figure 49.

Figure 75   SNMP Settings Menu

2. Check the Enable SNMP checkbox.
3. Enter the IP address of SNMP host in the Trap Address textbox.
4. Enter the port of SNMP host in the Trap Port textbox
5. Click the Apply button to save the settings.
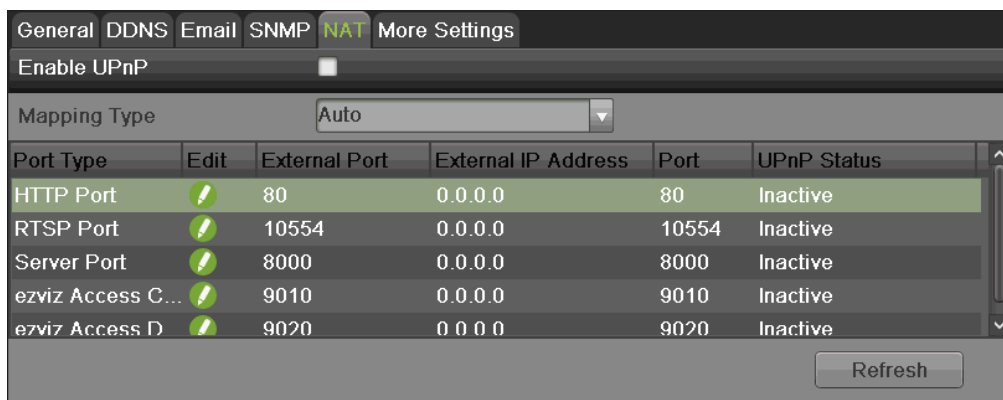
Note:
Before setting the SNMP, please download the SNMP software and manage to receive the device information via SNMP port. By setting the Trap Address, the NVR is allowed to send the alarm event and exception message to the surveillance center.

Configuring UPnP

Universal Plug and Play (UPnP) can permits 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. To configure UPnP:
1. Select the NAT tab to enter the UPnP settings interface, as shown in Figure 50.

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Figure 76   UPnP Settings Menu

2. Check the Enable UPnP checkbox.
3. Select the Mapped Type. There are two types:
    - **Auto**: Automatic mapping port 8000, 80, 10554, 443.
    - **Manual**: Edit the port by click [pencil icon].
4. Click the Apply button to save the settings.

Configuring More Settings

You can configure alarm host and port by selecting the more setting tab, as shown in Figure 51.

Figure 77   More Settings Menu

1. **Alarm Host**: Send the alarm event or exception message to the alarm host when an alarm is triggered. The remote alarm host must have the CMS (Client Management System) Software installed.
   - Enter the IP address of the remote PC on which the CMS Software is installed in.
   - Enter the alarm monitoring port in Alarm Host Port, which must be the same as the port configured in the software.
2. **Port**:
   - Server Port: Enter the Server Port which designates the port to be used with the client software.
   - HTTP Port: Enter the HTTP Port which refers to the one to be used with the built-in Web Server.
   - Multicast IP: Enter the Multicast IP to enable multicast.
   - RTSP Port: Enter the PTSP Port. PTSP is a network control protocol designed for use in entertainment and communication systems to control streaming media servers.
3. **Enable Virtual Host:** You can enable the virtual host function based on your need.
4. Click Apply to save the network settings and click ⮌ to return to the previous menu. Click ⮌ without clicking Apply will quit out of the menu without saving settings.

Note:
If you enable the high-speed download function, the local menu operation will be affected. It is recommended to disable this function after finishing the remote downloading of record files.

Managing User Accounts
By default, your NVR comes with one user account, the Administrator account. The Administrator user name is admin and the password is 12345. The default password for Administrator should be changed right away for security reasons. The Administrator has the authority to add, delete or configure parameters for many of the system functions.

Changing Password
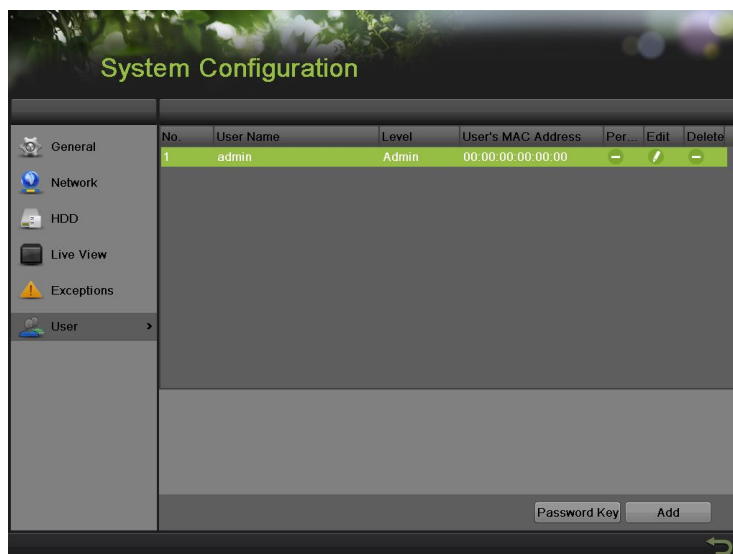You can change the default password by going to Menu > System Configuration > User, as shown in Figure 52.

To change the password:

1. Click ![pencil icon] to pop up the Edit User menu, as shown in Figure 53.

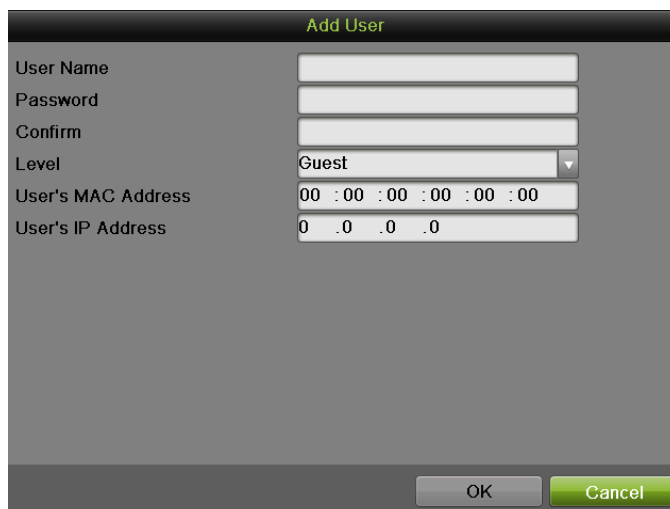Figure 79   Edit User Menu

2. Enter the old password in the Old Password textbox.
3. Check the Change Password checkbox.
4. Enter the new password in the Password textbox.
5. You can enter the User's MAC Address of the remote PC. If it is configured and enabled, it only allows the remote user with this MAC address to access the device.
6. You can also enter the User's IP Address of the remote PC. If it is configured and enabled, it only allows the remote user with this IP address to access the device.
7. Click the OK button to save the setting and back to the up level.

Adding a New Remote/Local User

You may add up to 31 new users to your NVR.

To add new users:
1. On the User interface shown in Figure 53, click Add to enter Add User interface, as shown in Figure 54.

Figure 80   Add User Menu

2. Enter the information for new user, including User Name, Password, Level and User's MAC and IP Address.
   Level: Set the user level to Guest or Operator. Different user levels have different default operating permission.
   - **Guest**: Guest has the default permission of local log search and remote log search.
   - **Operator**: Operator has the default permission of local log search, remote log search, two-way audio and camera configuration.
3. Click the OK button to confirm adding the user. Once a new user has been created, the fields behind Users will become editable, as shown in Figure 55.

Figure 81   User Settings Menu

Changing the permission of User

The Administrator can change the permission of both guest and operator. To change the permission:

1. Enter the User menu, shown in Figure 52 by going to Menu > System Configuration > User.
2. Click [icon] to enter the Permission interface, as shown in Figure 56, 57, 58.

Figure 82   Local Configuration Permission Settings Menu

Figure 83 Remote Configuration Permission Settings Menu
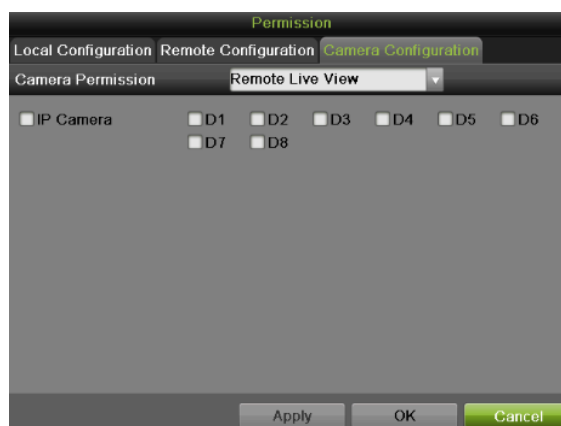
Figure 84 Camera Configuration Permission Settings Menu

3. Set the operation permission of Local Configuration, Remote Configuration and Camera Configuration for the user.

Local Configuration:
- Local Log Search: Searching and viewing logs and system information of NVR.

- Local Parameters Settings: Configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Local Camera Management: Adding, deleting and editing of network camera(s).
- Local Advanced Operation: Operating HDD management upgrading system firmware, clearing I/O alarm output.
- Local Shutdown/Reboot: Shutting down or rebooting the NVR.

Remote Configuration:
- Remote Log Search: Remotely viewing logs that are saved on the NVR.
- Remote Parameters Settings: Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Remote Camera Management: Remotely adding, deleting and editing of network camera(s).
- Remote Serial Port Control: Configuring settings for 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 NVR.
- 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 upgrading system firmware, clearing I/O alarm output.
- Remote Shutdown/Reboot: Remotely shutting down or rebooting the NVR.

Camera Configuration:
- Local Video Export: Locally exporting recorded files of the selected camera (s).
- Local Playback: Locally playing back recorded files of the selected camera (s).
- Local PTZ Control: Locally controlling PTZ movement of the selected camera (s).
- Local Manual Operation: Local manual operation of the selected camera (s).
- Remote Live View: Remotely viewing live video of the selected camera (s).
- Remote Playback: Remotely playing back recorded files of the selected camera (s).
- Remote PTZ Control: Remotely controlling PTZ movement of the selected camera (s).
- Remote Manual Operation: Remotely manual operation of the selected camera (s).

4. Click the Apply button to save the parameters.

Note:
If you forget the password of your NVR, contact your supplier with the serial number of your NVR to obtain a secure code to reset your NVR.

Note:
User settings only appear on the list of System Configuration when login with Administrator accounts.

Deleting a User
To delete a user from the NVR:
1. Enter the User menu, shown in Figure 52 by going to Menu > System Configuration > User.
2. Select a user and click to delete.
3. Click Yes to confirm the deletion of user or click No to cancel.

Editing a User
To edit a user:

1. Enter the User menu, shown in Figure 52 by going to Menu > System Configuration > User.

2. Select a user and click [✓] to edit user.
3. Edit user information including user name, password, level and MAC address.
4. Click the OK button to save and exit.

Note:

User password can be both numbers and characters. You can click the button [abc] on the password editable fields to enter characters.

Create a Password Key

To create a password key which can reset password for admin user:
1. Enter the User menu, shown in Figure 52 by going to Menu > System Configuration > User.

2. Click on [Password Key] to enter the password key export menu, as shown below.
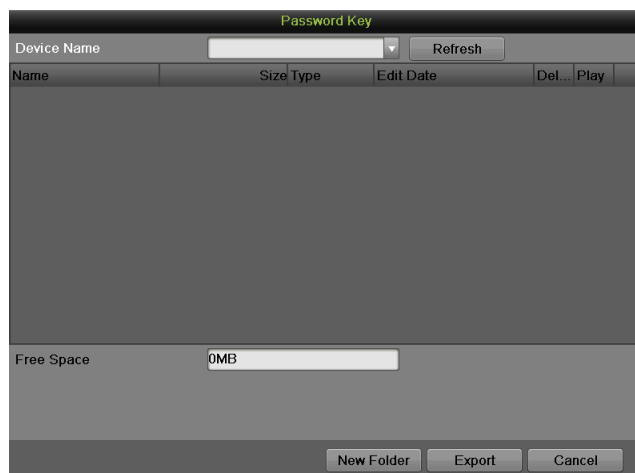
Figure 59 Password Key menu

3. Choose the device name, and select the dictionary and click on Export button to export password key.

Switch User

On the main menu (see in Figure 60), information about users are show on the lower left corner, [🔒 👤 User:admin], click [👤] to switch users.

Figure 60   Main Menu

Reset admin user's password with Password Key

If user forgets its admin password, he can use the previous created password key to reset its password.

To reset the password:

1. Click on the red box area to enter the password recovery menu.
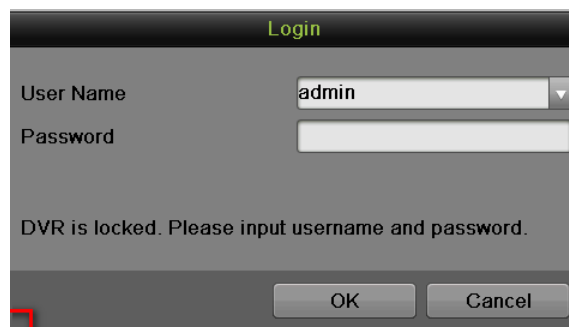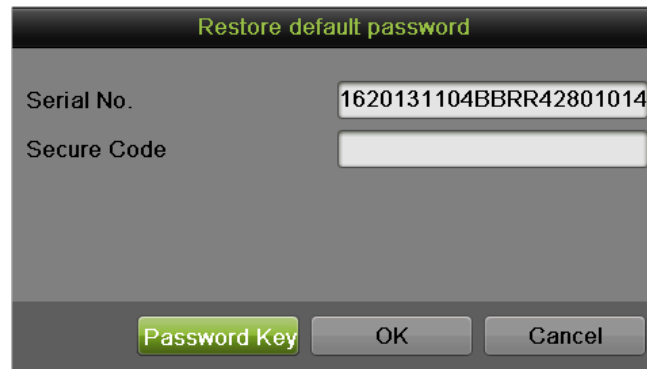
Figure 61   Main Menu

2. Click on the Password Key button in the menu shown below.
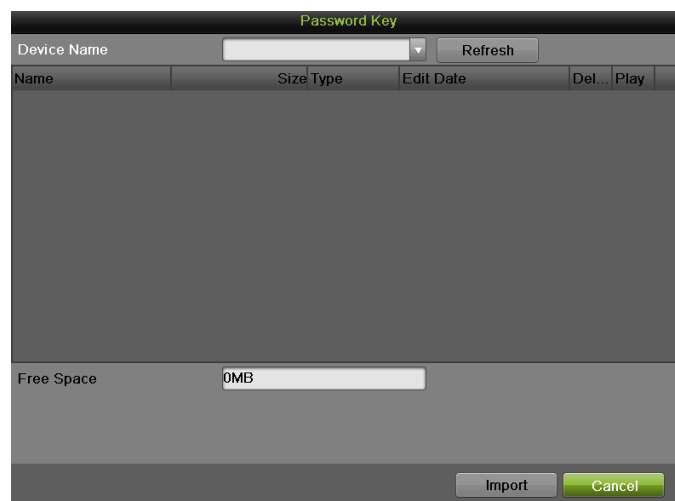
Figure 62   Main Menu

3.   Import the Password Key from external storage device, and reset default password.

Figure 63   Main Menu

Configuring PTZ Cameras

Configuring Basic PTZ Settings

Settings for a PTZ camera must be configured before it can be used. Before proceeding, verify that the PTZ camera is connected properly.

To configure PTZ settings:
1. Enter the PTZ menu, shown in Figure 64 by going to Main Menu > Cameras Setup > PTZ.

Figure 854   General Settings of PTZ Configuration

2. Select the General tab.
3. Select the PTZ camera to configure in the Camera dropdown list.
4. Configure PTZ settings, including those of Baud Rate, Data Bit, Stop Bit, Parity, Flow Ctrl, PTZ Protocol and Address according to the parameters of the PTZ camera(s).
5. Click the Apply button to save the settings.

Note:
All the parameters should be exactly the same as the PTZ camera parameters. For example, if the PTZ camera uses the protocol of Hikvision, you should select Hikvision in the PTZ Protocol field.

To test and verify PTZ settings:
1. Enter the PTZ Configuration menu by going to Menu > Cameras Setup > PTZ.
2. Select the More Settings tab, shown in Figure 65.

Figure 65   More Settings of PTZ Configuration

3. Select the camera to test in the Camera dropdown list.
4. Using the Directional buttons and other PTZ control buttons (Zoom +/-, Focus +/-, Iris +/-, the speed of the PTZ movement), test the functionality of the PTZ camera. If PTZ camera and protocol supports it, you may also click the Auto-Scan button to test its function. PTZ controls buttons are shown in Figure 66.
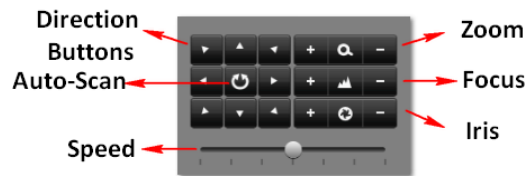
Figure66   PTZ Controls Button

5. If PTZ camera is not working properly, make sure PTZ is connected and configured with the correct settings under the General tab.

Customizing PTZ Presets, Patterns and Patrols

Your NVR allows you to customize presets, patterns and patrols for a connected PTZ camera. Please make sure that the presets, patrols and patterns should be supported by PTZ protocols. A PTZ camera must first be configured before PTZ presets, patterns and patrols can be customized (See Configuring Basic PTZ Settings).

To customize PTZ presets:
1. Enter the PTZ menu by going to Menu > Cameras Setup > PTZ.
2. Select the More Settings tab, as shown in Figure 65.
3. Select Save Preset and move the camera to the desired position using the PTZ control buttons.
4. Double-click on a preset number. The current position of the PTZ camera will be set for the selected preset number.

5. To test the newly configured preset, first move the PTZ camera to a different position. Select Recall Preset and click on the preset number. The camera should move to the location that was set for the selected preset number.

6. Repeat the steps to save more presets.

Note:

Only the first 17 presets are shown in the table. To save or recall more presets, click on the "..." button. Clicking the "..." button will bring up a selection box for presets up to 255.

To customize PTZ patterns:

1. Enter the PTZ menu by going to Menu > Cameras Setup > PTZ.

2. Select the More Settings tab, as shown in Figure 61.

3. Select a Pattern Number to set from the dropdown list.

4. Click [icon] to begin recording the movement of the PTZ.

5. Move the PTZ to the desired locations using the PTZ control buttons.

6. Click [icon] to save pattern.

7. To test out your new pattern, click [icon] to play and [icon] to stop. The PTZ should move as it did during the recording process. You may click the stop button at any time to end the pattern. Clicking the play button again will start playing the PTZ pattern again at the initial position.

To customize PTZ patrols:

1. Enter the PTZ menu by going to Menu > Cameras Setup > PTZ > More Settings, as shown in Figure 61.

2. Select the More Settings tab, as shown in Figure 61.

3. Select a Patrol Number to set from the dropdown list.

4. Click [icon] to pop up a KeyPoint box and add key point. Select a Preset Number from the dropdown list that you would like to add to the patrol. Set the duration and speed.

5. Click the OK button. The Preset Number will be added to the patrol list.

6. Repeat steps 4-5 until you have included all the presets you would like to have on the patrol.

7. Click the Up and Down button at the bottom of the list to change the order of the presets in the patrol.

8. To test out your new preset, click the Play and Stop button, shown as [icon]. The PTZ should move through the list of added presets and end the patrol when you click Stop.

Configuring Alarms and Exceptions

Setting up Motion Detection

Set up properly, using motion detected recording will increase the number of days your NVR is able to record. It will only record relevant events rather than everything, which will also make searching for events easier.

To set up motion detection:
1. Enter the Motion Detection menu, shown in Figure 67 by going to Menu > Recording Configuration > Motion Detection.

Figure 67   Motion Detection Settings Menu

2. Select the camera to configure in the camera dropdown list.
3. Check the Enable Motion Detection checkbox to enable motion detection for the selected camera. Uncheck the checkbox to disable motion detection.
4. Set the motion detection sensitivity by adjusting the green Sensitivity bar. The more lime green rectangles selected in the bar, the higher the sensitivity will be to motion.
5. Set the motion detection region in the preview screen on the right side of the menu by left-clicking with the mouse on an open area. A red grid will be shown, designating that the selected area is part of the motion detection region. Dragging or left-clicking on areas that overlap the current selected motion detection area will include them into the region. You may also click the Full Screen button to include the whole area into the motion detection region. Left-clicking on any part of the grid will remove that section from the motion detection region.
6. If you're not satisfied with the selected region, you may click the Clear button to reset the motion detection area.
7. Select the actions to take if motion is detected in the designated regions. Click the Set button to pop up the Handing menu.

Figure 68   Trigger Channel Settings Menu

1)   Select the Trigger Channel tab and check the checkbox of channels which you want the motion detection event to trigger recording. Click Apply to save the setting.

2)   Select the Arming Schedule tab, as shown in Figure 69. Choose one day in a week and set an arming schedule. If the schedule can also be applied to other days, click Copy. Click the Apply button to save the settings.

Figure 69   Arming Schedule Settings Menu

3)   Select the Linkage Action tab, as shown in Figure 70.

Figure 70   Linkage Action Settings Menu

To set other actions, including:

- **Full Screen Monitoring:** NVR will display the video image in full screen when motion is detected.
- **Audible Warning:** NVR will sound an audio warning if motion is detected in the designated regions of the camera.
- **Notify Surveillance Center:** NVR will notify surveillance center when motion is detected.
- **Send Email:** NVR will send an email out to the designated recipients when motion is detected. Please refer to configure email settings on Page 80 for details.
- **Trigger Alarm Output:** If the selected camera support alarm output, NVR will trigger alarm output when motion is detected. When you check the Trigger Alarm Output checkbox, there will display a choose box to select Alarm Output No., as shown in Figure 71.
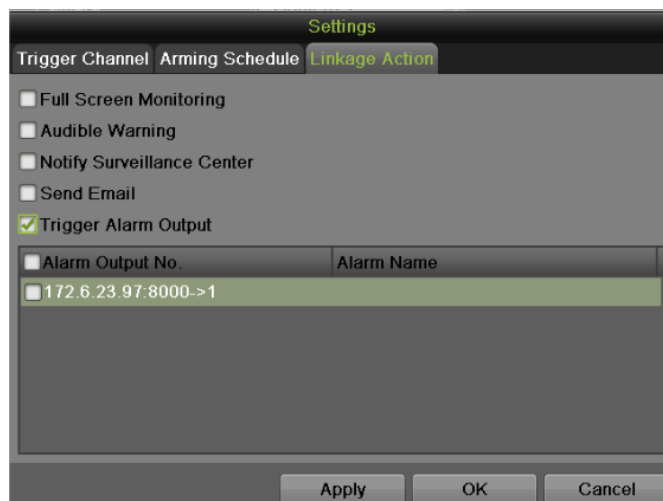

Figure 71   Trigger Alarm Output Settings Menu

8. Select the Apply button to save the motion detection settings and select OK to return to the previous menu. Selecting the Cancel button without clicking Apply or OK will quit out of the menu without saving settings.

Configuring Alarm Inputs

If the camera supports alarm input, certain actions can be performed when an alarm input is triggered. If no connected camera supports alarm input, an attention message will pop up as shown below.
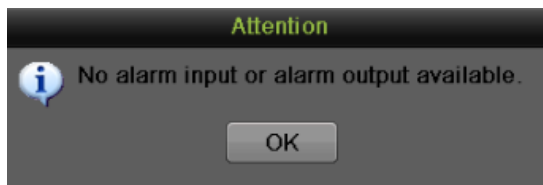
Figure 72   Alarm Attention Message

To setup trigger actions:

1. Enter the Trigger menu, shown in Figure 73 by going to Menu > Recording Configuration > Trigger.

Figure 73   Trigger Settings Menu

2. Select the Alarm Input tab.
3. Select the Alarm Input No. in the dropdown list.
4. Edit the Alarm Name.
5. Select the trigger Type for the external alarm input device. N.O means Normal Open. N.C means Normal Close. These two types can be selected.
6. Check the Enable Alarm Input checkbox to enable the selected alarm input. Uncheck the checkbox to disable alarm input.
7. Click the Set button to pop up the Settings menu, as shown in Figure 74.

Figure 74   Trigger Channel Settings Menu

1) Select the Trigger Channel tab and check the checkbox of channels which you want the alarm to trigger recording. Click Apply to save the settings.
2) Select the Arming Schedule tab. Choose one day in a week and set an arming schedule. If the schedule can also be applied to other days, click Copy. Click Apply to save the settings.
3) Select the Linkage Action tab which is same as Figure 71 to set other actions. Click Apply to save the settings.
4) Select the PTZ Linking tab, as shown in Figure 75, to set the PTZ actions (only if a PTZ camera is configured on the NVR). Only one PTZ action can be selected per alarm input. Click Apply to save the settings.

Figure 75   PTZ Linking Settings Menu

8. If the same settings can be applied to other alarm inputs, click the Copy button to copy the settings to others.
9. Click Apply to save the settings.
10. You can check the alarm input status in the Alarm Input Status list on the Alarm Input Interface.

Configuring Alarm Outputs

If the camera supports alarm output, there will trigger an alarm output when an alarm is triggered. To configure alarm output:

1. Enter the Trigger menu by going to Menu > Recording Configuration > Trigger.
2. Select the Alarm Output tab, as shown in Figure 76.

Figure 76   Alarm Output Settings Menu

3. Select the Alarm Output No. in the dropdown list.
4. Edit the Alarm Name.
5. Select the Dwell Time.
6. Setup arming schedule for the alarm output by click the Set button. Choose one day in a week and set an arming schedule. If the schedule can also be applied to other days, click Copy. Click Apply to save the settings and back to the Alarm Output interface.
7. If the same setting can also be applied to other alarm output, click Copy.
8. Click Apply to save the settings.
9. You can check the alarm output status in the Alarm Output Status list in the Alarm Output interface.

Configuring Exceptions

Actions can also be triggered when the NVR detects certain exceptions. To setup exception configuration:

1. Enter the Exception menu, shown in Figure 77 by going to Menu > System Configuration > Exception.
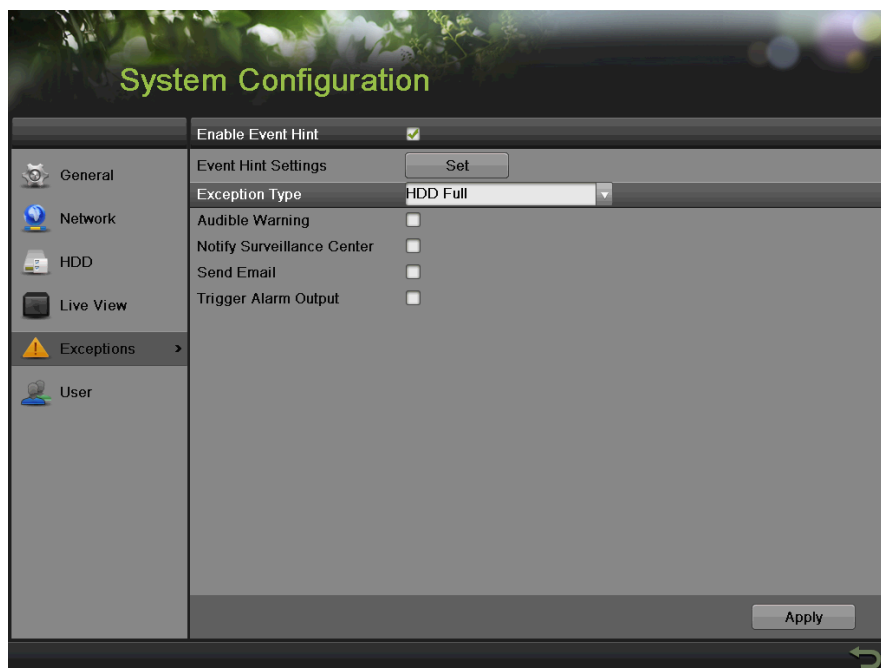
Figure 77   Exception Configuration Menu

2. Select the Exception Type to configure. The exception types include:
    - **HDD Full:** If selected, trigger action when HDD is full.
    - **HDD Error:** If selected, trigger action when errors on the HDD are detected.
    - **Network Disconnected:** If selected, trigger action when a network disconnected is detected.
    - **IP Conflicted:** If selected, trigger action if an IP conflicted is detected.
    - **Illegal Login:** If selected, trigger action when illegal logins are detected.
    - **Recording exception:** If selected, trigger action when recording exception is detected.
    - **All:** if selected, trigger action when any one of exception above is detected.
3. Select the actions to take when the exception is detected. More than one action can be selected. The actions available includes:
    - **Audible Warning:** NVR will sound an audio warning if exception is detected.
    - **Notify Surveillance Center:** NVR will notify surveillance center if exception is detected.
    - **Send Email:** NVR will send an email out to the designated recipients if exception is detected.
    - **Trigger Alarm Output:** NVR will trigger alarm output if the connected camera supports alarm output. Selecting this option will enable the Alarm Output list, where the output to trigger can be selected.
4. Select the Apply button to save the exception settings and select ![icon] to return to the previous menu. Selecting ![icon] without clicking Apply will quit out of the menu without saving settings.

Configuring Email Settings

If you would like to have the NVR send out emails when certain events are detected or exceptions have been triggered, you must first setup the email settings.

To setup email settings:
1. Enter the Email Configuration menu by going to Menu > System Configuration > Network.

2. Select the Email tab, as shown in Figure 78.

Figure 78   Email Configuration Menu

3. In this tab, enter all pertinent email information, including:
- **Enable Server Authentication:** Enable if email server requires authentication. Enabling Server Authenticating will enable the User Name and Password fields.
- **User Name:** User name to use for server authentication.
- **Password:** Password to use for server authentication.
- **SMTP Server:** Address for SMTP server.
- **SMTP Port:** Port for SMTP server.
- **Enable SSL:** Enable Secure Sockets Layer (SSL) for out-going email.
- **Sender Name:** The sender name to use when an email is sent out from the NVR.
- **Sender's Address:** The sender's address to use when an email is sent out from the NVR.
- **Enable Attached Picture:** Enabling will attach a small picture segment (Interval can be set below the Enable Attached Picture checkbox) to the out-going email.
- **Enable Email Interval:** Enabling will let email be sent between a specified time interval.
- **Receiver:** Click [✎] to edit Receiver Settings. Input the receiver's name and address. Click Apply to save the settings. The email address will be added to the Receiver list. You can also delete the receiver by clicking [🗑].

4. You may now test the email settings by clicking the Test button. If the settings have been properly configured, the recipient will successfully receive a test email.

5. Select the Apply button to save the email settings and select [↩] to return to the previous menu. Selecting [↩] without clicking Save will quit out of the menu without saving settings.

C H A P T E R 9
Camera Management

Configuring Cameras

Adding IP Cameras

The DS-7600NI series NVR provides PoE interfaces which can connect to IP cameras directly. The PoE interface supports Plug-and-Play function. You can also connect to the online IP camera manually. Before configuring IP cameras, please ensure the network settings for your NVR is properly setup.

To manage IP cameras:

Plug-and-Play

1. Enter the Network menu by going to Menu > System Configuration > Network and check the Internal NIC IPv4 is configured properly.
2. Connect the cameras via PoE interface.
3. Enter the Cameras menu by going to Menu > Cameras Setup > IP Cameras, as shown in Figure 79.

Figure 79 Cameras Configuration Menu

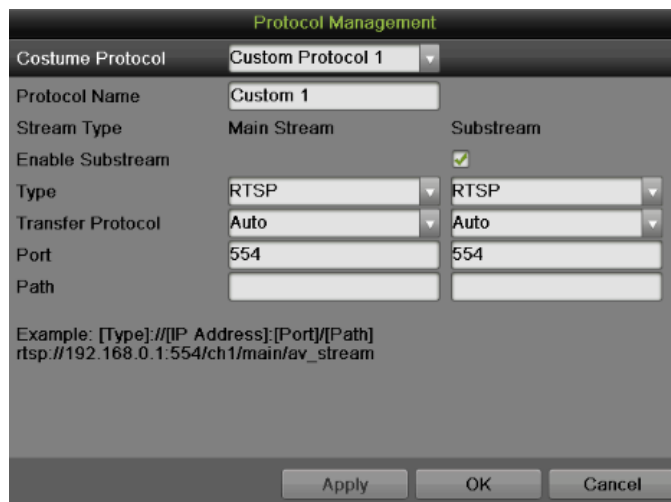4. The cameras connect via PoE interface are listed with internal NIC IP address.

Note:

The Plug-and-Play camera cannot be deleted and edit in this interface.

Manual

1. Enter the Cameras menu as shown in Figure 79.
2. Click the Search button to automatically detect connected IP cameras on the network.
3. Left-click the detected cameras. The basic information of the selected camera will display on the left side of the interface.
4. Click [icon] near the IP address to modify the camera's IP address, subnet mask and port. Input the password and click Apply to confirm the settings.

5. You can also click Protocol to pop up a Protocol Management windows, as shown in Figure 76, to edit the protocol parameters.
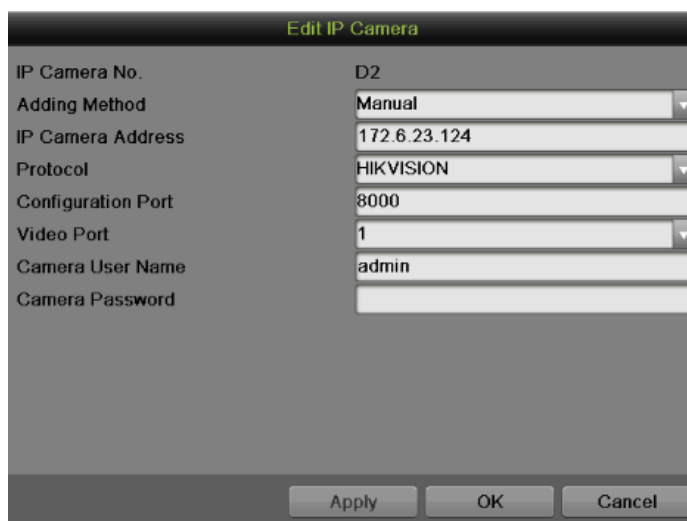

Figure 80 Protocol Management Settings Menu

6. Click [pencil icon] in the camera list shown below. There will pop up an Edit IP Camera menu as shown in Figure 81.

Figure 81 Camera List

Figure 82 Edit IP Camera Menu

7. Select the Adding Method to Manual.
8. Input IP camera address and other necessary information of the camera you want to connect.

9. Input the password and click the Apply button to save the settings. Click OK to exit this menu. Click Cancel without clicking Apply or OK will back without saving.

10. You can click [✎] on the camera list anytime you want to configure the added camera.

11. If the camera is manually added, you can select the camera and click the Advance Set button to pop up an Advance Settings window, as shown in Figure 83.

Advance Settings

Network | Password | Maintenance | Upgrade

IP Camera No.	D1
IP Camera Address	192.168.254.10
Configuration Port	8000

Apply | OK | Cancel
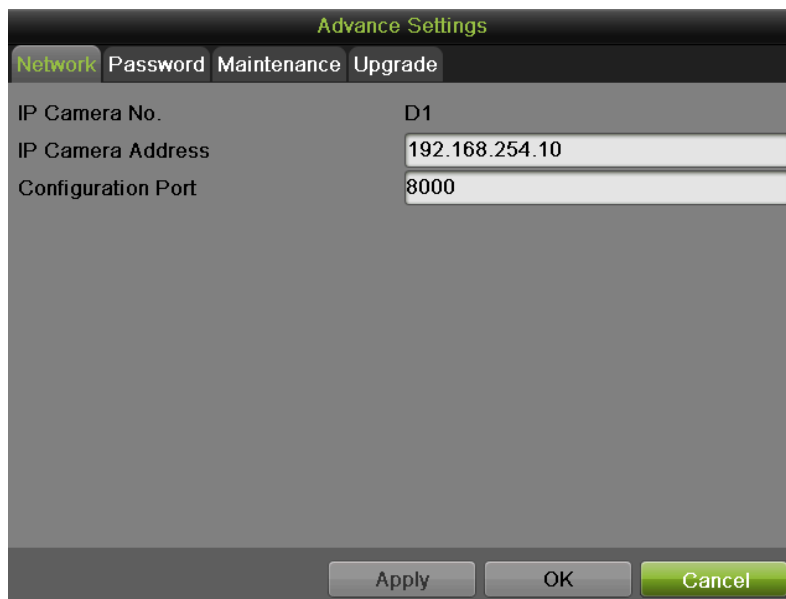
Figure 83   Advance Settings Menu

1. Select the Network tab to modify the IP Camera Address and Configuration Port. Click Apply to save the settings.
2. Select Password tab to change the password. Click Apply to save the settings.
3. Select Maintenance tab to reboot or default the selected camera.
4. Select Upgrade tab to upgrade IPC using firmware from external storage device.
5. Click OK to back to the previous menu.

6. If the camera status turns Disconnected to Connected, you can click [▶] to get the live view of the camera.

Note:
Support third party IP camera: PANASONIC, SONY, AXIS, SANYO, BOSCH, and ACTI.

Configuring Privacy Mask

Privacy Mask can be setup to mask off sensitive or private areas in the field of view of a camera. To configure privacy zones:

1. Enter the Privacy Mask menu, shown in Figure 84 by going to Menu > Cameras Setup > Privacy Mask.
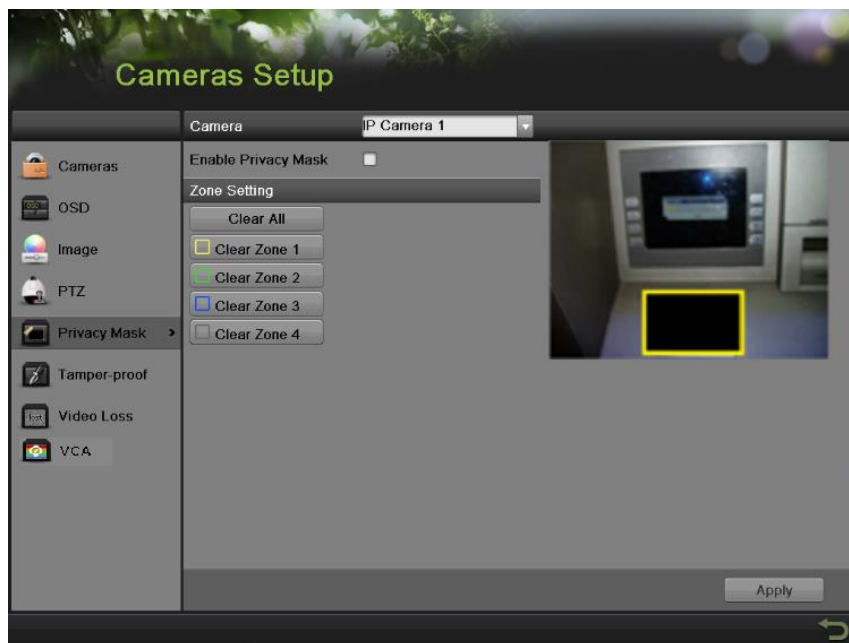

Figure 84   Privacy Mask Settings Menu

2. Select the camera to setup privacy mask in using the camera dropdown list on the upper left of the menu.
3. Click Enable Privacy Mask checkbox to enable privacy mask.
4. Up to four privacy masks can be used per camera and are shown using four different colors, yellow, green, blue and grey. Using the mouse, click and drag out rectangular boxes defining the desired zones.
5. You may clear a privacy zone at any time by clicking on the corresponding Clear Zone button or Clear All button to clear all zones.

6. Select the Apply button to save the privacy mask settings and select ⮌ to return to the previous menu. Selecting ⮌ without clicking Apply will quit out of the menu without saving settings.

Configuring Tamper-proof

Tamper-proof detection can be used to recognize if an area of a camera is purposely covered and to respond accordingly.
To configure tamper-proof detection:

1. Enter the Tamper-proof menu, shown in Figure 85 by going to Menu > Cameras Setup > Tamper-proof.

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Figure 85   Tamper-proof Detection Menu

2. Select the camera to setup video tampering detection in using the camera dropdown list.
3. Check the Enable Tamper-proof checkbox to enable tamper-proof.
4. Adjust the Sensitivity for video tampering detection.
5. Using the mouse, select the region on the preview screen for where you would like to enable tamper-proof on. Press the Clear button to clear region.
6. Press the Set button to set up linkage action.
   1) Select the Arming Schedule tab to set the arming schedule. Up to 8 periods can be configured. If the same schedule can be applied in other days, click Copy.
   2) Select the Linkage Action tab to set the actions to take if tamper-proof is detected. The detail instruction of the actions, please refer to Page 75.
   3) Click Apply to save the settings. Click OK to back to the previous menu.
7. Click the Apply button on the Tamper-proof interface to save the settings.

Configuring Video Loss

Video loss detection can be enabled on any of the channels on your NVR to detect the loss of video. To configure video loss detection:

1. Enter the Video Loss menu, shown in Figure 86 by going to Menu > Cameras Setup > Video Loss.

Figure 86   Video Loss Detection Menu

2. Select the camera to setup video loss detection in using the camera dropdown list.
3. Check the Enable Video Loss Detection checkbox.
4. Press the Set button to set up linkage action.
   1) Select the Arming Schedule tab to set the arming schedule. Up to 8 periods can be configured. If the same schedule can be applied in other days, click Copy.
   2) Select the Linkage Action tab to set the actions to take if Video Loss is detected. The detail instruction of the actions, please refer to Page 75.
5. Click the Apply button to save the settings. Click OK to back to the previous menu.
6. Click the Apply button on the Video Loss interface to save the settings.

Configuring VCA

VCA can be enabled on any of the channels on your NVR to detect VCA events, and trigger VCA alarms. To configure VCA:

1. Enter the VCA menu, shown in Figure 86.1 by going to Menu > Cameras Setup > VCA.
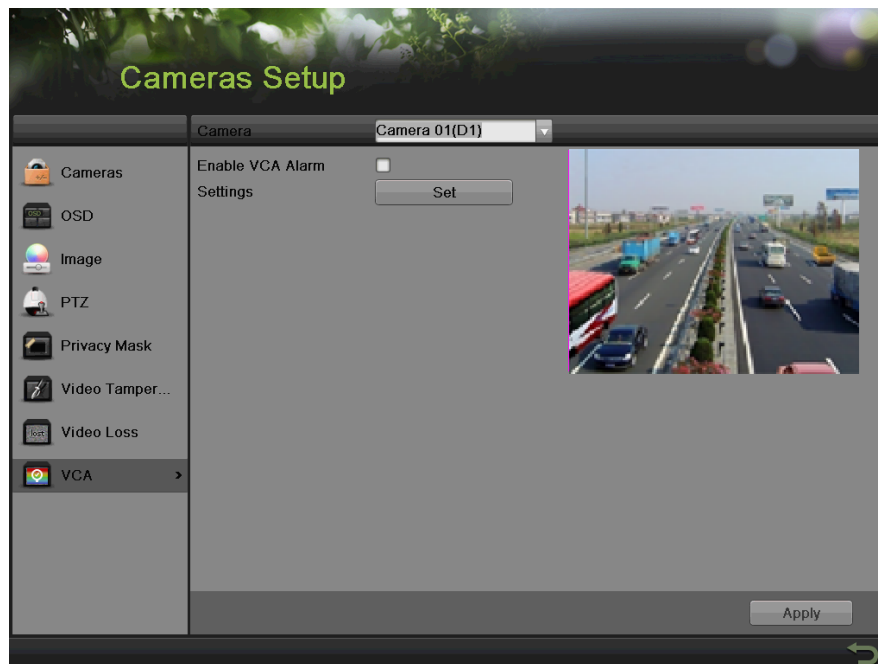
Figure 86.1   VCA Menu

2.   Select the camera to setup VCA Alarm in using the camera dropdown list.
3.   Check the Enable VCA Alarm checkbox.
4.   Press the Set button to set up linkage action.
   1)   Select the Arming Schedule tab to set the arming schedule. Up to 8 periods can be configured. If the same schedule can be applied in other days, click Copy.
   2)   Select the Linkage Action tab to set the actions to take if VCA event is detected. The detail instruction of the actions, please refer to Page 75.
5.   Click the Apply button to save the settings. Click OK to back to the previous menu.
6.   Click the Apply button on the VCA interface to save the settings.

Configuring OSD Settings

On Screen Display (OSD) settings can be configured in the OSD menu. The OSD is shown in each display in Live Feed and Playback mode.
To configure OSD settings:
   1.   Enter the OSD menu, shown in Figure 87 by going to Menu > Cameras Setup > OSD.

Figure 87   OSD Configuration Menu

2. Select the camera to setup OSD configuration in using the camera dropdown list.
3. Configure OSD settings, including:
    - **Camera Name:** Name of selected camera.
    - **Display Name:** Enable to display camera name in Live Feed.
    - **Display Date:** Enable to display date in Live Feed.
    - **Date Format:** Format of date.
    - **Time Format:** Format of time.
    - **Display Mode:** Display style for OSD.
4. Using the mouse, click and drag OSD elements on preview screen to desired location.
5. Select the Apply button to save these settings and select [icon] to return to the previous menu. Selecting [icon] without clicking Apply will quit out of the menu without saving settings.

C H A P T E R 10
Disk Management

Managing Disks

Checking Disk Status
The status of all installed hard disk drives (HDD) and Network hard drives can be checked under the HDD menu.

To check the status of installed disks:
1. Enter the HDD menu, shown in Figure 88 by going to Menu > System Configuration > HDD.

Figure 88   HDD Information

2. Select the HDD Information tab to check the disk status, capacity, property, type, free space and estimated time of recording in day(s).

Note:
For the HDD Detect, please refer to Page 95.

Setting Network HDD
Add the allocated NVR Storage Space of NAS or disk of IP SAN to NVR, this part will work as network HDD.

To set a network HDD:
1. Enter the HDD menu by going to Menu > System Configuration > HDD.
2. Click the Add NetHDD button to pop up the Add NetHDD menu, as shown in Figure 89.

Figure 89   Add NetHDD Menu

3. Select the number and the type of network hard drive. Then enter in the IP address and the directory of network hard drives.
4. If you do not know the directory of network hard drives, you can click Search after you enter the IP address. The network hard drives in this subnet will be listed below. Select the one you want to add.
5. Click OK to save the settings and return the pervious menu. The added hard drives will appear on the list of HDDs.
6. You can edit or delete the network hard drivers on the HDD Information menu.

Note:
Up to 8 NetHDD can be added.

Formatting Disk

A newly installed hard disk drive (HDD) must be first formatted before it can be used with your NVR. Formatting the disk will erase all data on it.

To format a new disk:
1. Enter the HDD menu by going to Menu > System Configuration > HDD.
2. Select a disk to format. If the disk is newly installed or not formatted the status will show up as Uninitialized.
3. Click the Init button.
4. A confirmation message, similar to the one shown in Figure 90 will appear on the screen. Click OK to continue formatting process.
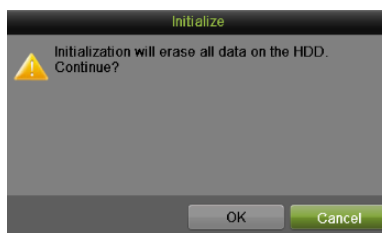

Figure 90   Disk Format Confirmation

5. A format progress bar will be shown on the menu. After the disk has been formatted, the status of the disk will change to Normal.

Figure 91   Disk Format Progress Bar

Enabling HDD Overwrite

Enabling HDD overwrite will allow the NVR to overwrite the installed disks once the disks are full.

To enable HDD overwrite:
1. Enter the HDD menu by going to Menu > System Configuration > HDD.
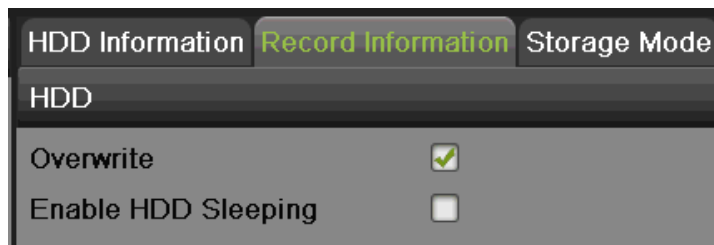2. Select the Record Information tab, as shown in Figure 92.

Figure 92   Record Information Menu

3. Check the Overwrite checkbox.
4. Click the Apply button.
5. Click ![back icon] to exit.

Enabling HDD Sleeping

Enabling HDD sleeping will let the not recording HDD stay idle, in order to prolong its lifetime and save enegy.

To enable HDD sleeping:
1. Enter the HDD menu by going to Menu > System Configuration > HDD.
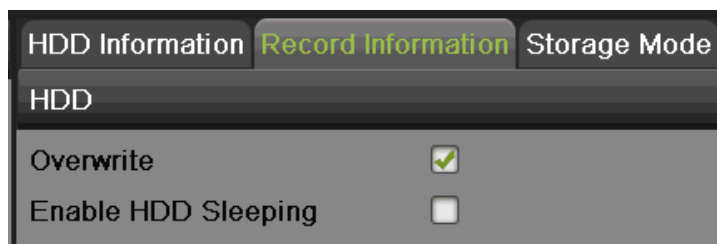2. Select the Record Information tab, as shown in Figure 92.

Figure 92 Record Information Menu

3. Check the Sleeping checkbox.
4. Click the Apply button.
5. Click [icon] to exit.

Configuring Quota Mode

Each camera can be configured with allocated quota for record.
To configure quota mode:
1. Enter the quota mode menu by going to Menu > System Configuration > HDD.
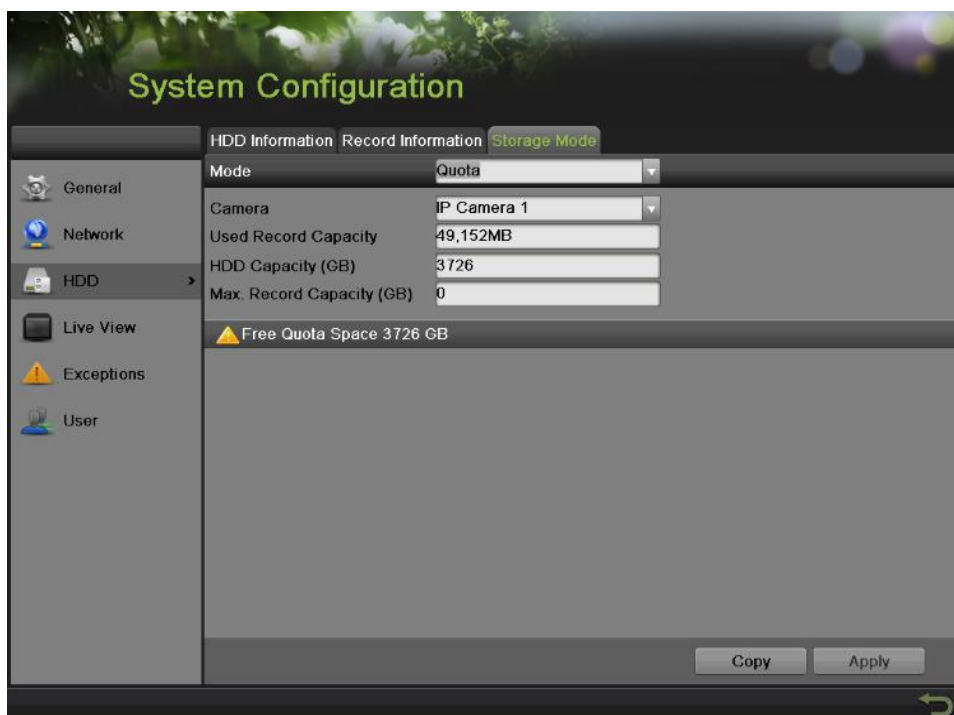2. Select the Storage Mode tab, as shown in Figure 93.

Figure 93 Quota Mode Settings Menu

3. Select the Mode to Quota.
4. Select a camera for which you want to configure quota.
5. Enter the storage capacity in the text fields of Max. Record Capacity (GB).
6. If the same settings can be applied in other channels, click Copy and select the corresponding channels.
7. Click the Apply button to save the settings.

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

Managing HDD Group

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

1. Enter the HDD menu by going to Menu > System Configuration > HDD.
2. Select the Storage Mode tab, as shown in Figure 93.
3. Select the Mode to Group, as shown in Figure 94.

Figure 94   Group Mode Settings Menu

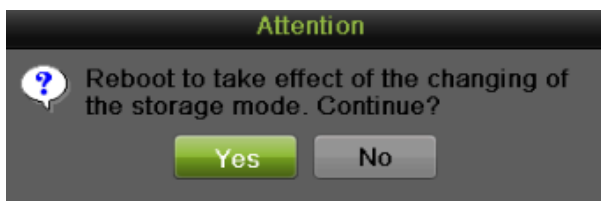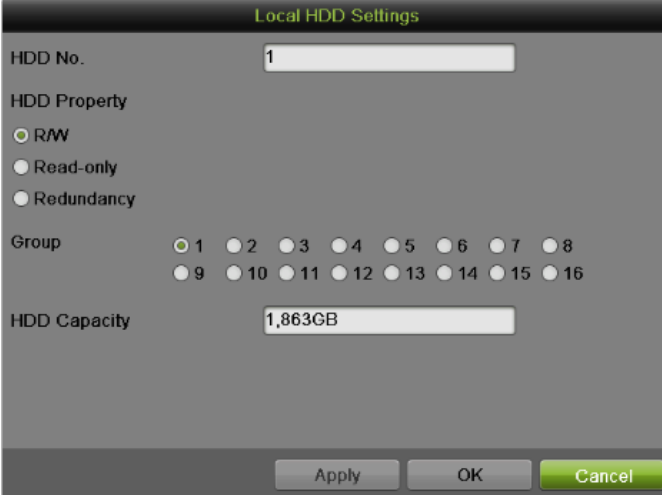4. Click the Apply button to pop up an attention box as shown below:

Figure 95   Attention for reboot

5. Click Yes to reboot and make the settings effective. Click No to cancel the operation.

6. After rebooting, you can configure local HDD settings. To configure local HDD settings by going to Menu > System Configuration > HDD > HDD Information.

1) Select a HDD and click ![pencil icon] to pop up the Local HDD Settings menu as shown in Figure 96.

Figure 96 Local HDD Settings

2) Select the HDD Property from R/W, Read-only and Redundancy. Read-only mode can prevent important recorded files from being overwritten when the HDD becomes full in overwrite recording mode. Redundancy mode can ensure high security and reliability by recording the video onto the redundancy HDD and R/W HDD simultaneously.

3) Select the Group number for the current HDD. The default group number for each HDD is 1.

4) Click the Apply button to save the settings and click OK to the up level menu.

Note:

At least 2 hard disks must be installed when you want to set a HDD to Redundancy mode and one of them with R/W property.

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HDD Detect

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

S.M.A.R.T

The S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) is a monitoring system for HDD to detect and report on various indicators of reliability in the hopes of anticipation failures.

Figure 97   S.M.A.R.T. Settings Interface

To viewing S.M.A.R.T. information:

1. Enter the S.M.A.R.T. Settings interface by going to Menu > System Maintenance > HDD Detect.
2. Select the S.M.A.R.T. Settings tab, as shown in Figure 97.
3. Select a HDD to view its S.M.A.R.T. information list.
4. You can choose the Self-test Type from the dropdown list, including Short Test, Expanded Test and Conveyance Test.
5. Click the Test button to start the S.M.A.R.T. HDD self-evaluation.

Note:

If you want to use the HDD even when the S.M.A.R.T. checking is failed, you can check the checkbox of the Continue to use this disk when self-evaluation is failed item.

Bad Sector Detection
1. Enter the Bad Sector Detection menu by going to Menu > System Maintenance > HDD Detect.
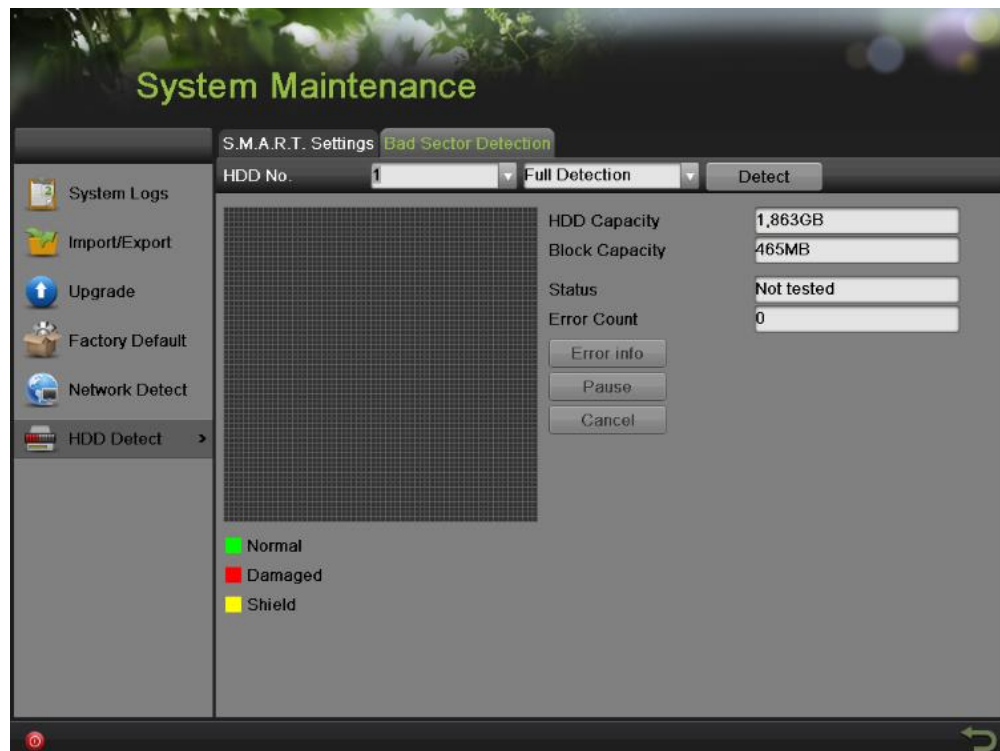2. Select the Bad Sector Detection tab, as shown in Figure 98.

Figure 98   Bad Sector Detection Interface

3. Select the HDD you want to configure in the dropdown list.
4. Choose Full Detection or Key Area Detection.
5. Click the Detect button to start the detection.
6. Click the Pause/Cancel button to pause/cancel at any time you want.
7. If the HDD is normal you can see the green color icon on the screen, while red means damaged and yellow means shield.
8. Click the Error Info to see the detail damage or shield information.

Managing Files

Searching for Recorded Files

Previously recorded files can be searched by criteria in the File Management menu.

To search for all recorded files:

1. Enter the File Management menu, shown in Figure 99 by going to Menu > File Management> Record.

Figure 99   File Search Menu

2. Select the cameras that you would like to include in the search. If you would like include all IP cameras in the search, check the IP Camera checkbox.
3. Select the Record Type. Record type includes Continuous, Event, Manual and All.
4. Select the File Type. File type includes Locked, Unlocked and All.
5. Select the start time and the end time.
6. Click the Search button. A search result window will pop up, as shown in Figure 100.
7. A list of results with your search criteria will be shown at the bottom of the menu.
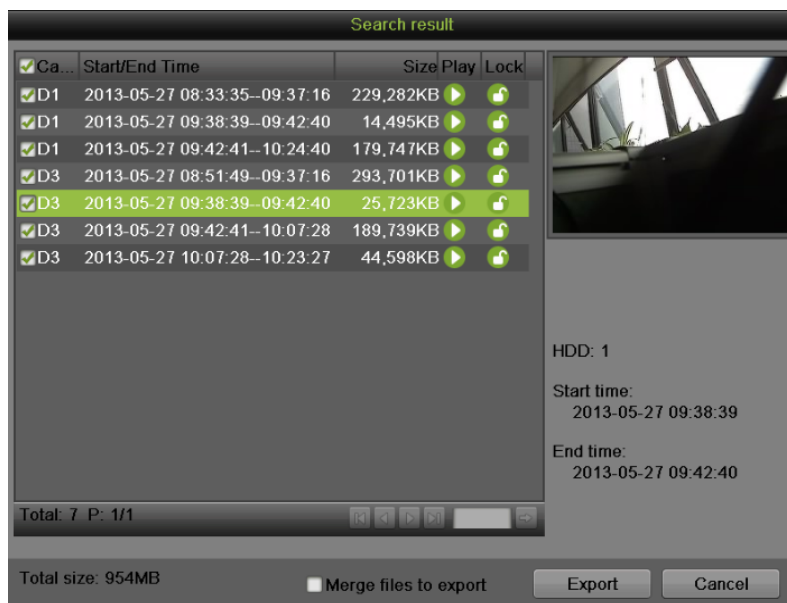
Figure 100   Search Result Window

You may now play the selected file by clicking the Play button.

8. The recorded files can also be exported into a USB storage device. To export recorded files, connect a USB storage device to the NVR, select the recorded files to export and click the Export button.

9. Click the Cancel button to exit out of the File Management menu.

Searching for Event Files

Event recorded files can be searched by criteria in the File Management menu.

To search for all recorded Event files:

1. Enter the File Management menu by going to Menu > File Management> Event.

Figure 101   Event Search Menu

  2. Select the Event Type you want to search. File type includes Alarm Input and Motion files.

- If you select type Motion:

1) First you need to choose the cameras that you would like to include in the search. If you would like include all IP cameras in the search, check the IP Camera checkbox.
2) Select the start time and the end time.
3) Click the Search button.
4) A list of results with your search criteria will be shown at a pop-up window.
5) You can set the Pre-play and Post-play time.
6) Select one result to see the details by clicking Details button or quick export by clicking the Quick Export button

- If you select type Alarm Input:

1) First you select one alarm input channel or you can check the Alarm Input No. box to select all channels.
2) Select the start time and the end time.
3) Click the Search button.
4) A list of results with your search criteria will be shown at a pop-up window, and you can select recorded files to do proper settings.

Note:

The IP cameras need to support alarm input if you want to search through the type of alarm input.

Locking and Unlocking Recorded Files

To lock and unlock recorded files:

1. Search for recorded files using the File Management menu.
2. Select the file you would like to lock/unlock.
3. Click the Lock icon for the selected file. 🔒 means locking, while 🔓 means unlocking.

Note:

Locked files will never be overwritten until they are unlocked.

C H A P T E R 1 1
NVR Management

Managing System

Upgrading the System Firmware

The system firmware for your NVR can be updated from a USB storage device or FTP.
To update the system firmware from a USB storage device:

1. Enter the Upgrade menu by going to Menu > Maintenance > Upgrade.
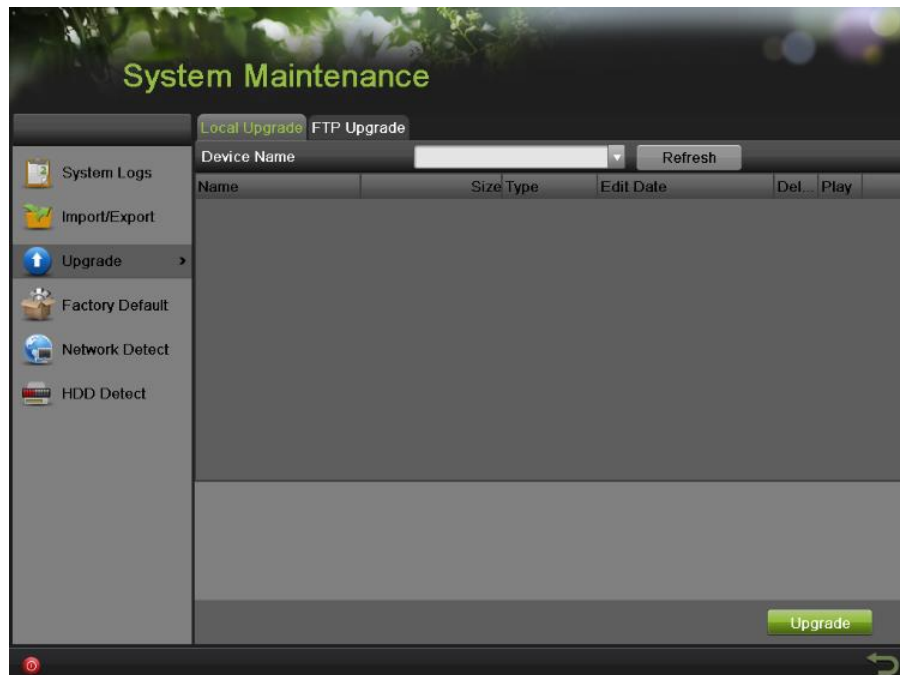2. Select the Local Upgrade tab, as shown in Figure 102.

Figure 102   Local Upgrade Menu

3. Connect the USB storage device to a USB port on the NVR.
4. Click the Refresh button. The contents of the USB storage device will be shown on the screen.
5. Select the firmware file. The firmware file is named digicap.dav.
6. Click the Upgrade button to upgrade the NVR. The NVR will automatically reboot after the upgrade is completed. If you do not wish to upgrade at this point, click the Cancel button.

To update the system firmware from FTP:

1. Enter the Upgrade menu by going to Menu > Maintenance > Upgrade.
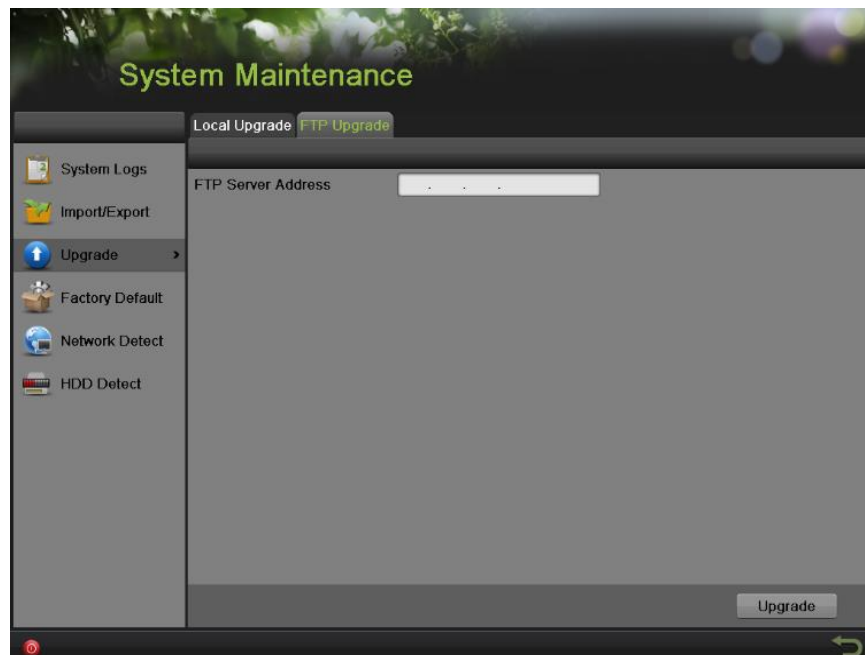2. Select the FTP Upgrade tab, as shown in Figure 103.

Figure 103   FTP Upgrade Menu

3. Enter the FTP Server Address.
4. Click the Upgrade button to upgrade the NVR. The NVR will automatically reboot after the upgrade is completed.

Restoring Default Settings

To restore factory default settings to your NVR:

1. Enter the Factory Default menu, shown in Figure 104 by going to Menu > Maintenance > Factory Default.
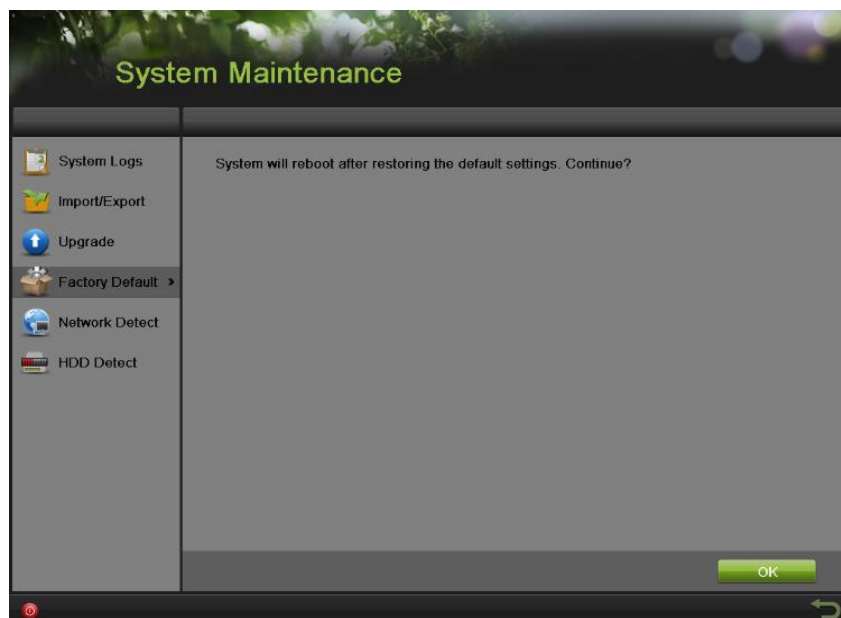

Figure 104   Factory Default Menu

2. Select the OK button to restore factory defaults or select ![back icon] to return to the previous menu.

Note:
Network information such as IP address, subnet mask and gateway will not be restored.

Exporting & Importing Configuration

Configuration information from your NVR can be exported to a USB storage device and imported into another NVR. This will allow you to efficiently setup the same configuration on numerous NVRs.

To export NVR configuration:

1. Enter the Import/Export menu, shown in Figure 105 by going to Menu > Maintenance > Import/Export.

Figure 105   Import/Export Menu

2. Connect the USB storage device to a USB port on the NVR.
3. Click the Refresh button. The contents of the USB storage device will be shown on the screen.
4. You can click the New Folder button to create a new folder.
5. Select the location where you would like the configuration to be stored on the USB storage device.
6. Click Export to export a configuration file to USB storage device. The configuration file will be named devCfg.bin.
7. Click ⤺ to exit out of the Import/Export menu.

To import NVR configuration:

1. Enter the Import/Export menu, shown in Figure 105 by going to Menu > Maintenance > Import/Export.
2. Connect the USB storage device to a USB port on the NVR.
3. Click the Refresh button. The contents of the USB storage device will be shown on the screen.
4. Select the configuration file. The configuration file is named devCfg.bin.
5. Click the Import button.
6. In the pop-up window click Yes to confirm the import and the system will automatically reboot to make it effective.

Viewing System Logs

Many events of your NVR are logged into the system logs. To access the system logs and search for these events:

1. Enter the System Logs menu, shown in Figure 106 by going to Menu > Maintenance > System Logs.
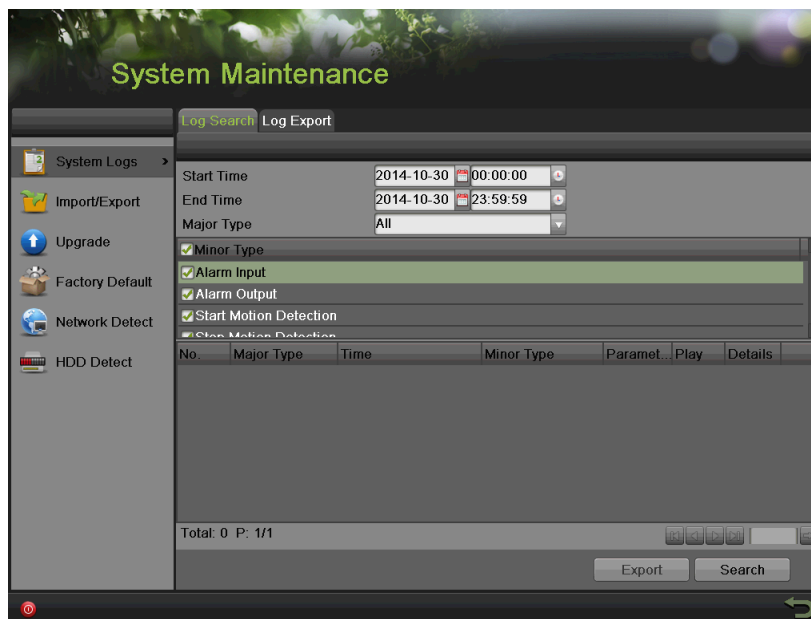

Figure 106   System Logs Menu

2. Select the Start Time and the End Time.
3. Select the Major Type from the dropdown list. Four major types are available: Alarm, Exception, Operation and Information. You can also select All.
4. Select the Minor Type under the Major Type to efficiently find the logs.

5. Click the Search button. The search results will be displayed in a list (Figure 107). Click to page up and down.

Note:

Up to 2000 log files can be displayed each time.

Figure 107   Log Search Results

6. Click [icon] under the Detail item to view the detail information, as shown in Figure 108.
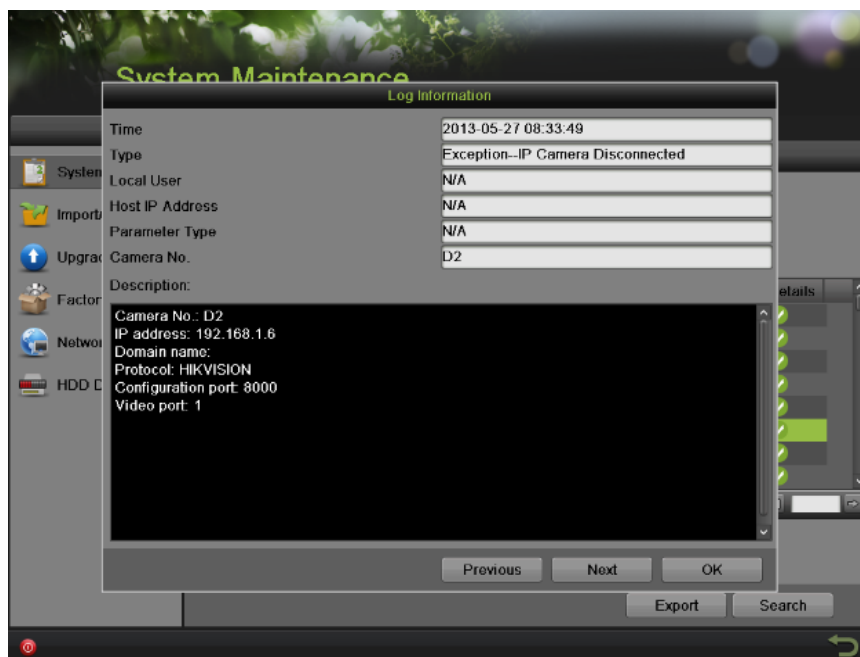

Figure 108   Log Information

7. Click Previous/Next to view the previous/next log information.
8. Click OK to back to the previous menu.
9. If applicable, you may also view the associated video to the selected log entry by clicking [icon].
10. Log files can also be exported onto a USB storage device. To export a log file, connect a USB storage device to the NVR, select the log files to export and click the Export button.

11. Click [icon] to exit out of menu.

Network detection

You can view the network traffic to obtain real-time information and connecting status of your NVR.

To view network traffic:
1. Enter the Network Detection menu by going to Menu > System Maintenance > Network Detection.
2. Select the Traffic tab and you can view the sending rate and receiving rate information on the interface, as shown in Figure 109. The traffic data is refreshed every 1 second.
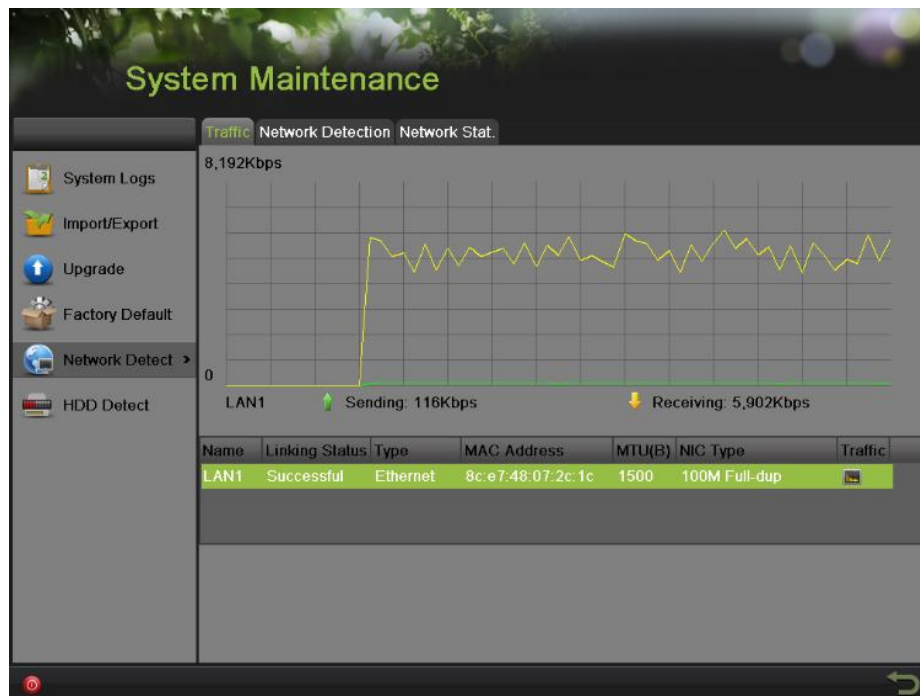

Figure 109   Traffic Detection

To configure network detection:
1. Enter the Network Detection menu by going to Menu > Maintenance > Network Detection.
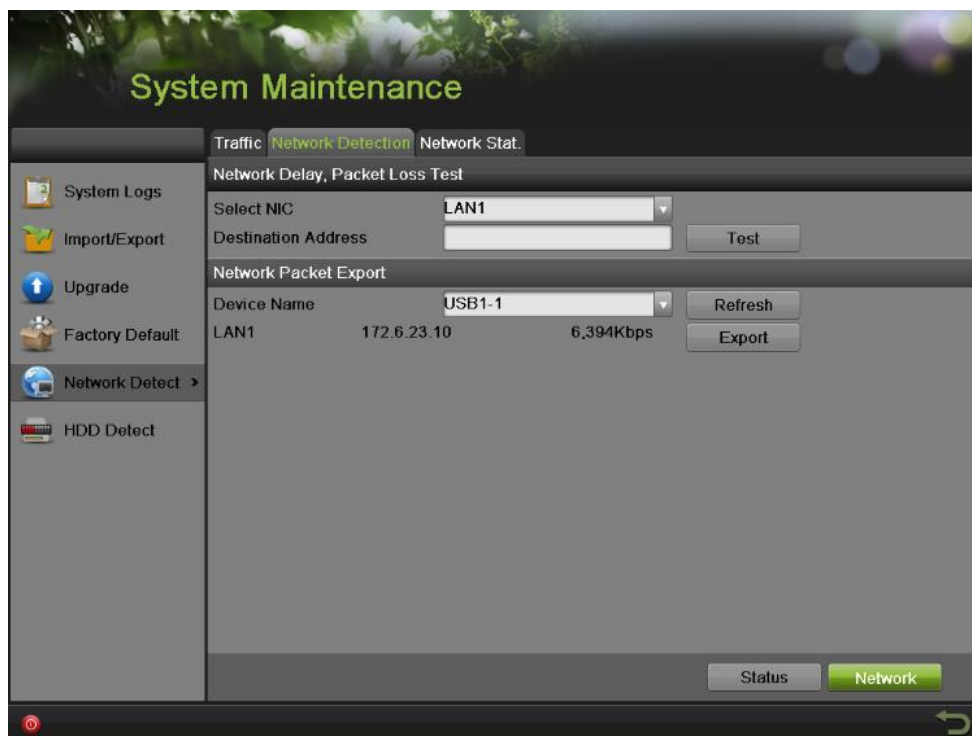2. Select the Network Detection tab to enter the Network Detection menu, as shown in Figure 110.

Figure 110   Network Detection

3. Enter the destination address in the text field of Destination Address.
4. Click the Test button to start testing network average delay and packet loss rate. The testing result will pop up on the window as shown below.
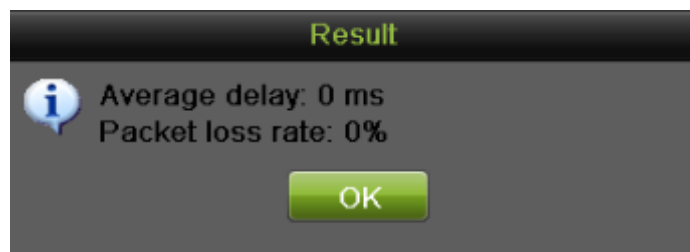

Figure 111   Network Detection Result

5. Click the Status to check the network status. If you don't input the DNS address, there will pop up a result window as shown below.
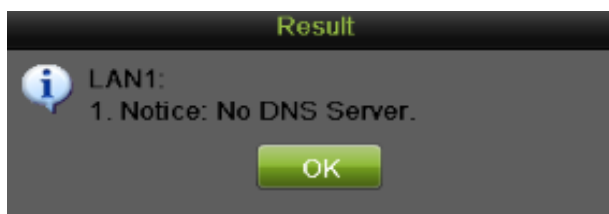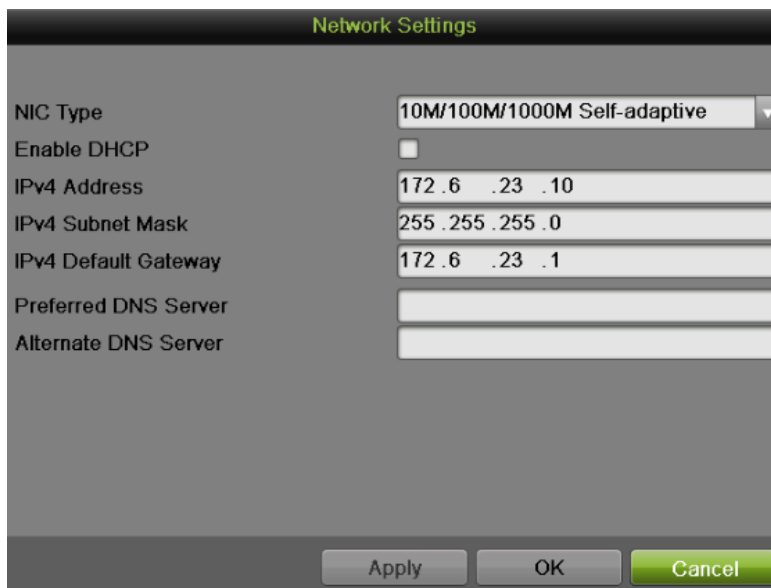

Figure 112 Attention Message

6. You can click the Network button to check the network information and you can configure the network settings in this interface

Figure 113 Network Settings Menu

To export network packet:
By connecting the NVR to network, the captured network data packet can be exported to USB-flash disk, SATA CD-RW and other local backup devices.

1. Enter the Network Detection menu by going to Menu > Maintenance > Network Detection.
2. Select the Network Detection tab to enter the Network Detection menu.
3. Click the Export button to start exporting.
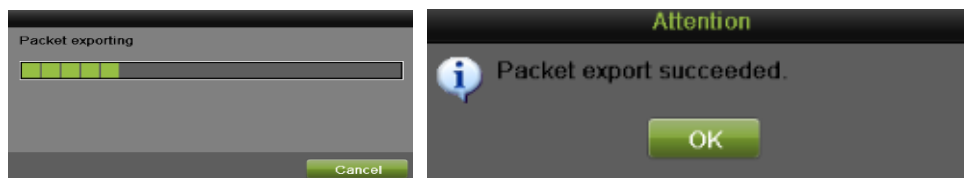**4.** After the exporting is complete, click OK to finish the packet export, as shown in Figure 114.

Figure 114   Export Process Bar

Note:
Click the Refresh button 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 NVR. You can format the backup device if the format is incorrect.

To view network status:
1. Enter the Network Stat. menu by going to Menu > Maintenance > Network Detection.
2. Select the Network Stat. tab to enter the Network Stat. menu, as shown in Figure 115.

Figure 115   Network Stat. Interface

3. Check the bandwidth of IP Camera, Remote Live View, Remote Playback, Net Receive Idle and Net Send Idle.
4. You can click the Refresh button to get the newest status.