



USER MANUAL

Network Video Recorder NVR1640



INTRODUCTION THANK YOU



Welcome

Thank you for choosing First Alert for your security needs!

For more than half a century, First Alert has made the home-safety and security products that make your job easier. Our products are built to the highest standard which has earned us a leadership role in the home-safety and security product categories. We are committed to serving our customers, from the professionals who install our products, to the families and businesses who count on them. First Alert has been helping families and businesses stay safe for over 50 years. By having a First Alert Security System, you're taking the first step in protecting your home or business from damage or theft. We're watching, even when you're not.

This manual is written for the Network Video Recorder. It was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, additional features and functions may have been added since that time and on-screen displays may change. We encourage you to visit our website at www.firstalert.com or www.brkelectronics.com to check for the latest manuals (English and Spanish), firmware updates, downloads, other security camera products and announcements. Please visit www.firstalert.com for software downloads and manual updates.

INTRODUCTION

KEY PRODUCT FEATURES

Main Description

Sixteen channel digital video recorder with Internet remote surveillance, motion detection, PTZ and alarm control suitable for applications such as high-end residential - new or remodel, light commercial, small business/retail, small warehouse or small grocery.

Product Features

- **Auto IP connection capability**
- **Record, playback, mobile phone live view, backup, control, & remote access**
- **Supports up to 4TB SATA hard drive and can support up to 4 HDD's depending on model**
- **Supports smart phone live view**
- **High Definition 720P/1080P Viewing Modes**
- **Advanced motion detection activated recording**
- **24/7 Scheduled Recording**
- **Network monitoring through internet access**
- **Supports USB or external DVD backup**
- **Hi-speed backup/upgrade/record via USB2.0**
- **PTZ camera control**
- **HDMI Video Out**
- **e-Sata Interface**
- **16 Channel POe**

PRODUCT OVERVIEW

PACKAGE CONTENTS

What's in the Box*

NVR Device



You will Need...

- Monitor or Television with HDMI or VGA inputs
- VGA cable (If not using included HDMI cable)



Installation Software & Manual



IR Bullet Camera



360° Camera



Power Cord for NVR



USB Mouse



Ethernet Cable



IR Remote Control



Brackets



Screws & Mounting Parts



HDMI Cable



Quick Start Guide



SATA Cable

PRODUCT OVERVIEW

CAMERA AND POWER CONNECTIONS



Use First Alert Cameras Only



PTZ & Alarm Connections
(Cameras not included)

Installing Cameras

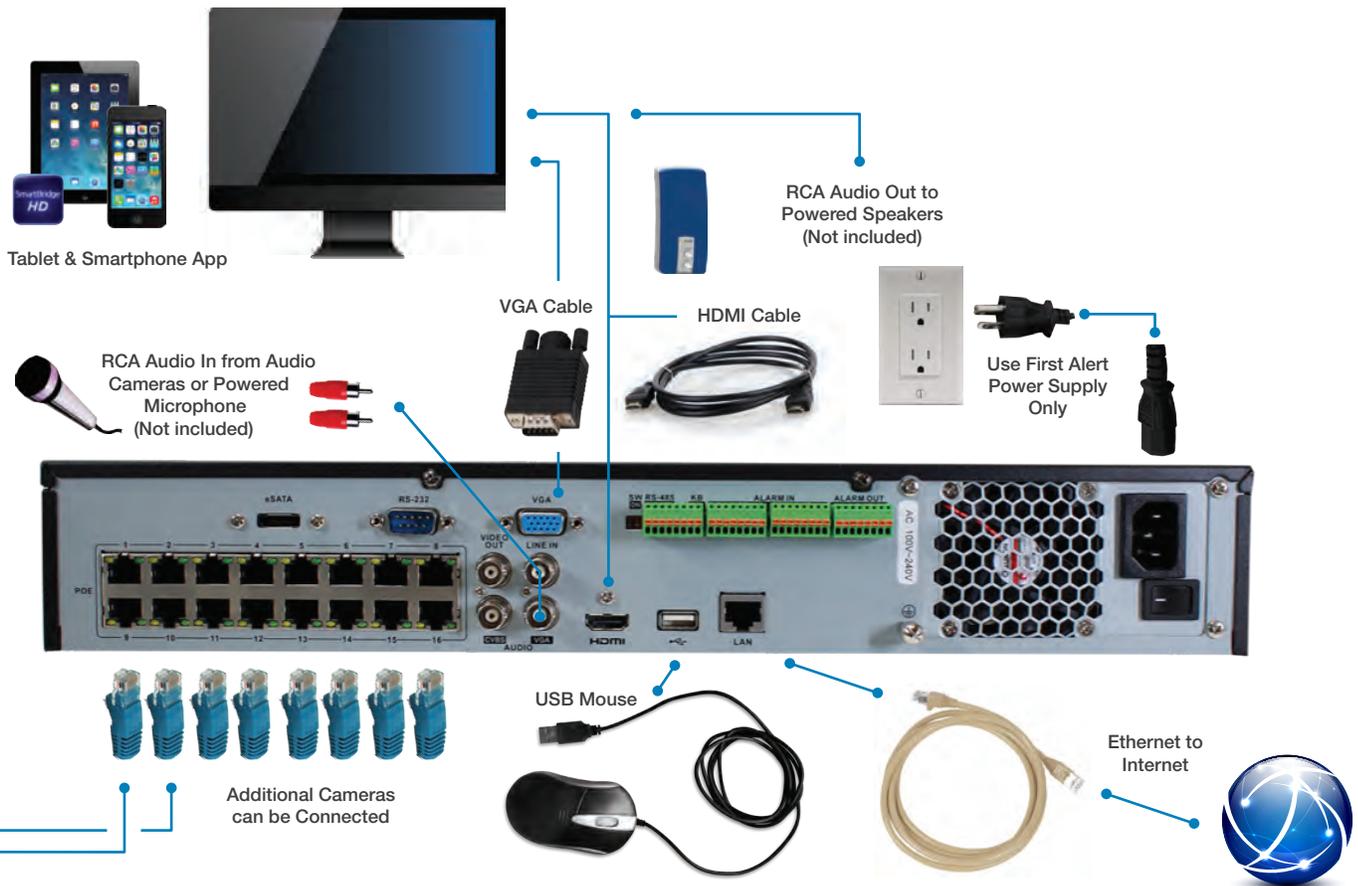
Installing Cable-Safe Mounting Bracket

Decide if the camera is to be wall or ceiling mounted and if cable will be fed through mounting surface hidden directly behind the bracket or fed through the side of the bracket so cable is exposed. Mark area where you will drill your hole. The Cable-Safe Mounting Bracket has three Adjusting Points. 1) Rotates Bracket 360° relative to mounting surface, 2) Adjusts bracket hinge 180° and 3) Rotates camera body 360° to level image.

- Step 1:** Select the position for the camera and drill your hole for the cable. Feed cable through mounting surface. Mount bracket to surface.
- Step 2:** Aim camera at target and using Adjusting Points 1 and 2 in tandem position camera. Tighten Ring and Thumb Screw.
- Step 3:** Rotate camera body using Adjusting Point 3 to the proper view angle making sure the Camera Shield is always on top and parallel to the ground so the image is level in the Live View Screen. See "Camera Orientation" Info box. Tighten screw.
- Step 4:** Attach proper length of Ethernet cable and run from camera to NVR location.
- Step 5:** Check camera orientation via the Live View screen. Adjust as required.

Connecting Devices

Follow this diagram to make device connections. Note, some devices are not included with this kit. See "What's in the Box" for included devices.



INTRODUCTION

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SAFETY CAUTION STATEMENTS

Safety Precautions

- Do not drop, puncture, or disassemble the cameras or NVR.
- Do not tug on the power adapter. Use the plug to remove it from the wall.
- Do not expose the cameras or NVR to high temperatures.
- For your own safety, avoid using the NVR when there is a storm or lightning in your area.
- Use the cameras and NVR with care. Avoid pressing hard on the cameras or NVR body.
- Do not use power cable if it is damaged or crushed.

Safety Precautions

Instructions for Use

- Always purchase the correct size and grade of battery most suitable for the intended use.
- Replace all batteries of a set at the same time.
- Clean the battery contacts and also those of the device prior to battery installation.
- Ensure the batteries are installed correctly with regard to polarity (+ and -).
- Remove batteries from equipment that is not to be used for an extended period of time.
- Remove used batteries promptly.

FCC Compliance

FCC Compliance Class B Digital Device

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio or TV technician for help.

Notice: Only peripherals complying with FCC class B limits may be attached to this equipment. Operation with non-compliant peripherals or peripherals not recommended by First Alert / BRK Brands, Inc. is likely to result in interference to radio and TV reception. Changes or modifications to the product, not expressly approved by First Alert / BRK Brands, Inc., could void the user's authority to operate the equipment.

Important: The information shown in the FCC Declaration of Conformity paragraph below is a requirement of the FCC and is intended to supply you with information regarding the FCC approval of this device. The phone number listed below is for FCC related questions only and not intended for questions regarding the connection or operation for this device.

FCC Declaration of Conformity for devices with the FCC logo. Responsible Party: First Alert / BRK Brands, Inc., 3901 Liberty Street Rd., Aurora, IL. 60504-8122 Telephone: (630) 851 - 7330. Product / Model: NVR1640. We, First Alert / BRK Brands, Inc. declare under our sole responsibility that the device to which this declaration relates: Complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Certification (if applicable)

This device contains a radio transmitter. Accordingly, it has been certified as compliant with 47 CFR Part 15 of the FCC Rules for intentional radiators. Products that contain a radio transmitter are labeled with an FCC ID.

SAFETY CAUTION STATEMENTS

Fire and Electric Shock Hazard Statement



CAUTION

RISK OF ELECTRIC SHOCK



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. UNPLUG ALL POWER SOURCES, INCLUDING CAMERAS FROM THE NVR BEFORE REMOVING COVER. FAILURE TO DO SO CAN RESULT IN DAMAGE TO THE NVR OR ITS COMPONENTS AS WELL AS INJURY OR DEATH



Caution!

When working with electrostatic sensitive devices such as hard disk or NVR unit, make sure you use a static-free workstation. Any electrostatic energy coming in contact with the hard disk or NVR can damage it permanently.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS NVR UNIT TO RAIN OR MOISTURE

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF THE PLUG TO THE WIDE SLOT AND FULLY INSERT

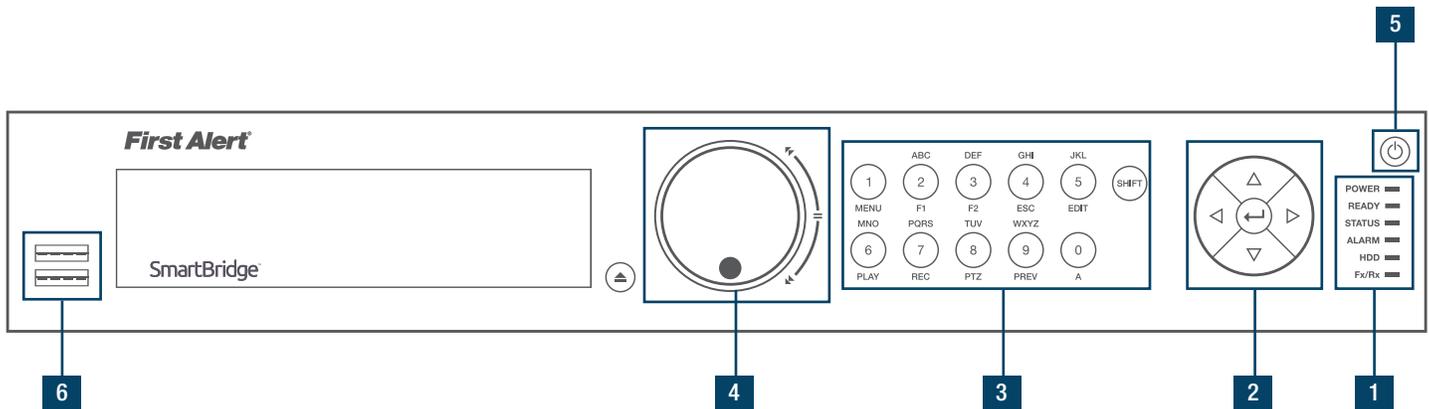
Disposal



These symbols indicate that it is prohibited to dispose of these batteries in the household waste. Take spent batteries that can no longer be charged to the designated collection points in your community.

PRODUCT OVERVIEW

Front Panel



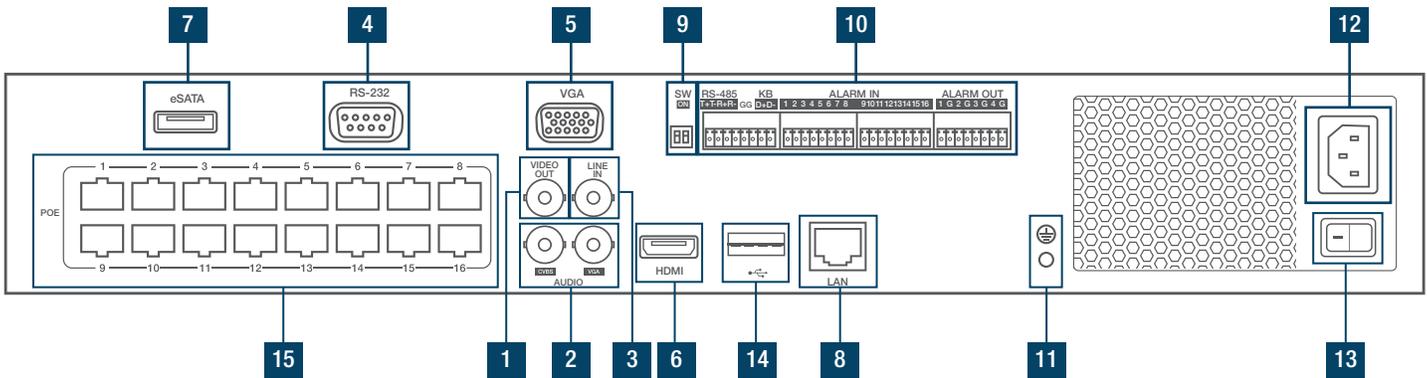
ITEM	FUNCTION	DESCRIPTION
1	Status Indicators	Power Displays green when power is on
		Ready Displays green when device is functioning properly
		Status Displays green when the IR remote control is enabled Displays red when the function on the composite keys (SHIFT) are used No display when neither the IR remote control is enabled or composite keys used
		Alarm Displays red when an alarm occurs
		HDD Flashes red when HDD is reading/writing
		Tx/Rx Flashes green when network connection is functioning properly
2	Control Buttons	Direction
		Menu mode Navigate between different fields and items and select setting parameters
		Playback mode Control playing speed with up and down buttons Forward or rewind recording by 30 seconds with left and right buttons
		Image Setting interface Adjust level bar of the image parameters with up and down buttons
		Live View mode Switch channels
		Enter
		Menu mode Confirm selection or select checkbox fields and ON/OFF switch
		Playback mode Play or pause video
Single-Frame Play mode Play video by a single frame		
Auto-Sequence View mode Pause or resume auto sequence mode		

PRODUCT OVERVIEW

ITEM	FUNCTION	DESCRIPTION
3	Composite Keys	Shift Switch between letters, numbers, and functions of the following composite keys
		 Enter the number 1 or access the main menu
		 Enter the number 2 or the letters A, B, or C Use F1 in a list field to select all items PTZ Control mode - zoom out
		 Enter the number 3 or the letters D, E, or F Use F2 to change tab pages PTZ Control mode - zoom in
		 Enter the number 4 or the letters G, H, or I Use ESC to exit and return to previous screen
		 Enter the number 5 or the letters J, K, or L Use EDIT to delete characters before the cursor, to check checkboxes, and to select ON/OFF Playback mode - start/stop record clipping
		 Enter the number 6 or the letters M, N, or O Use PLAY for direct access to Playback interface
		 Enter the number 7 or the letters P, Q, R, or S Use REC to open the Manual Record interface
		 Enter the number 8 or the letters T, U, or V Access the PTZ Control interface
		 Enter the number 9 or the letters W, X, Y, or Z Multi-channel display in Live View
		 Enter the number 0 Shift input methods in the editing text field (upper and lowercase, alphanumeric, or symbols input) Press twice to switch main and auxiliary output
	Jog Shuttle Control	Cycle through channels in Live View Jump 30 seconds forward/back in Playback mode Move up or down in active selection in a menu Control PTZ camera movement in PTZ Control mode
	Power On/Off	Power on or off
	USB Interfaces	Plug in additional USB devices such as USB mouse or USB hard disk drive (HDD)

PRODUCT OVERVIEW

Rear Panel



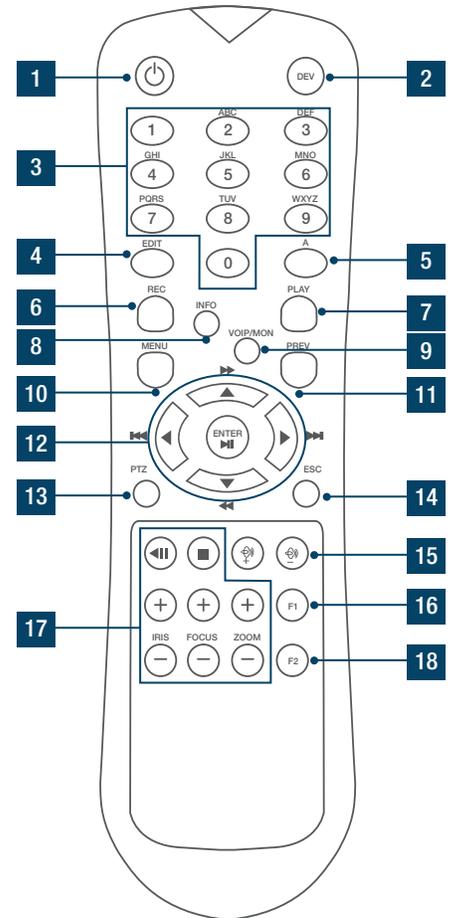
ITEM	FUNCTION	DESCRIPTION
1	Video Out	For connecting to a BNC monitor for video output
2	CVBS Audio Out	For connecting to a BNC monitor for audio output (synchronized with CVBS video output)
	VGA Audio Out	For connecting to a BNC monitor for audio output (synchronized with VGA video output)
3	Line In	For connecting to a BNC monitor for audio output
4	RS-232 Interface	For connecting RS-232 devices
5	VGA	For DB9 connector for VGA output (display local video output and menu)
6	HDMI	For connecting an HDMI video output cord
7	eSATA	For connecting external SATA HDD, CD/DVD-RM
8	Network Interface	One network interface provided
9	Termination Switch	RS-485 termination switch
		Up position is not terminated
		Down position is terminated with 120 Ω resistance
10	RS-485 Interface	For connecting RS-485 devices
	Controller Port	D+, D- pin connects to Ta, Tb pin of controller. (for cascading devices, the first NVR's D+, D- pin should be connected with the D+, D- pin of the next NVR)
	Alarm In	For connecting alarm input
	Alarm Out	For connecting alarm output
11	Ground	Ground connection (must be connected to start NVR)
12	AC 100V ~ 240V	AC 100V ~ 240V power supply
13	Power	Power on or off
14	USB Interface	For connecting additional USB devices
15	Network Interfaces with PoE function	For interfacing cameras over network and providing power over Ethernet

PRODUCT OVERVIEW

Remote Control

The remote control provided requires two (2) AAA batteries. Install batteries before operating.

ITEM	FUNCTION	DESCRIPTION
1	Power	Power on or off
2	DEV	Enable/disable remote control
3	Alphanumeric Buttons	Same as alphanumeric buttons on front panel
4	EDIT	Sames as EDIT button on front panel
5	A	Same as A button on front panel
6	REC	Same as REC button on front panel
7	PLAY	Same as PLAY button on front panel
8	INFO	Reserved for future use
9	VOIP/MON	Same as MAIN/SPOT/ZOOM on front panel
10	MENU	Same as MENU button on front panel
11	PREV	Same as PREV button on front panel
12	Direction/Enter	Same as direction buttons on front panel
13	PTZ	Same as PTZ button on front panel
14	ESC	Same as ESC button on front panel
15	Reserved	Reserved for future use
16	F1	Same as F1 button on front panel
17	PTZ Control	Adjust iris, focus, and zoom of a PTZ camera
18	F2	Same as F2 button on front panel



Troubleshooting Remote Control

Make sure batteries are properly installed and that the remote is aimed directly at the IR receiver on the front panel. If remote still does not work properly, take the following steps:

1. Go to MENU > CONFIGURATION > GENERAL > MORE SETTINGS.
2. Check and note NVR ID# (default is 255).
3. Press DEV on remote control.
4. Enter NVR ID# from step 2.
5. Press ENTER on remote control.
6. Check status indicator on front panel (blue = remote is functioning properly).

NOTE: If status indicator does not turn blue and remote does not respond, repeat steps 1 through 6 or contact device provider.

PRODUCT OVERVIEW

USB Mouse

A standard three-button (left/right/scroll-wheel) USB mouse can be used with this NVR. To use a USB mouse, simply plug the USB mouse into one of the USB interfaces on the front panel.

(NOTE): The NVR will automatically detect a compatible mouse.

Follow the steps below to operate the USB mouse.

1 **Left-Button:**

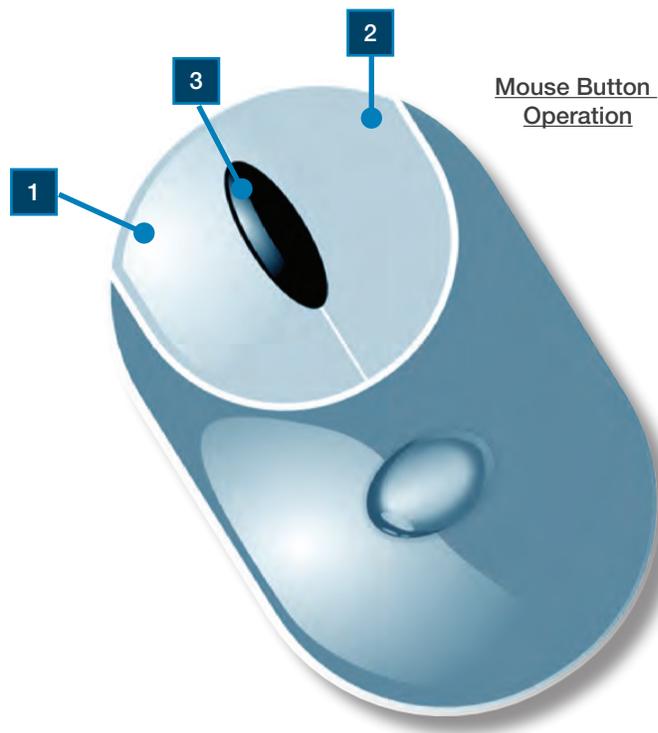
- Click to select a menu option.
- Click to select channel and show quick set menu in Live View.
- Double-click in Live View to switch between single-screen and multi-screen.
- Click and drag in PTZ Control to pan, tilt, and zoom.
- Click and drag to select target area in Video Tampering, Privacy Mask, and Motion Detection.
- Click and drag to select target area in Digital Zoom.
- Click and drag to drag channel/time bar in Live View.

2 **Right-Button:**

- Click to show menu in Live View.
- Click to exit current menu to upper-level menu.

3 **Scroll-Wheel:**

- Scroll up in Live View to go to previous screen.
- Scroll up in any menu to go to previous item.
- Scroll down in Live View to go to next screen.
- Scroll down in menu to go to next item.



PRODUCT OVERVIEW

Virtual Keypad

To enter text or numerical data, the system uses a virtual keypad. In fields where letters or numbers can be entered, you can switch between various formats – numbers, upper case letters (ABC), and lowercase letters (abc).

Virtual Keypad 1



Virtual Keypad 2



ITEM	BUTTON	DESCRIPTION
1	Alphanumeric Buttons	Letters and Number Keys
2		Shift / Caps Lock
3		Delete / Backspace
4		Switch to number keypad
5		Space Bar
6		Direction Controls
7		Enter
8		Switch to alphabet keypad
9		Switch to symbols keypad

INITIAL SETUP



Powering your NVR

Make sure the voltage of the extra power supply meets the NVR's requirement and that the ground connection is working properly.

Start Up and Shut Down

Starting Up

1. Make sure the power cord is properly plugged into an electrical outlet. Using an Uninterruptible Power Supply (UPS) is highly recommended. The Power indicator LED on the front panel will display red when the device has power.
2. Press Power on the front panel. The Power indicator will display blue when the device starts.
3. After startup, the Power indicator should remain green. The following screen will appear with the status of HDD. The row of icons at the bottom of the screen shows the HDD status. "X" means the HDD is not installed or cannot be detected.

Shutting Down

There are two options for shutting down the NVR.

Standard Shutdown:

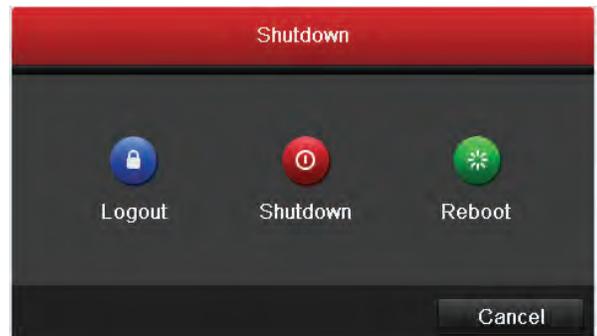
1. Menu > Shutdown
2. Shutdown
3. Yes

Front-Panel Shutdown:

1. Press and hold Power for three seconds
2. Enter administrator's username and password in dialog box
3. Click Yes

Rebooting

1. Menu > Shutdown
2. Reboot



NOTE: The Logout button will lock the NVR.

Setup Wizard

Quick Startup

After the initial system power up, the Setup Wizard will automatically launch. Click “Next” in the Wizard screen to work through the Setup Wizard.

To skip the Setup Wizard temporarily, check the “Start wizard when device starts” box and then click “Exit.”



To login to the Setup Wizard, enter the default admin password 12345. Check the New Admin Password box. Enter and confirm a new password and then click Next to set the date and time.



Set the correct time zone.

Choose from the dropdown menu to set preferred date format.

Click on the calendar icon to set the current system date.

Click on the clock icon to set the current system time and then click Next to set the network parameters.

INITIAL SETUP

Network Wizard

Check mark "Enable DHCP" and choose "Next"

The screenshot shows the 'Wizard' window for network configuration. It contains a table with the following fields and values:

NIC Type	10M/100M/1000M Self-adaptive
Enable DHCP	<input type="checkbox"/>
IPv4 Address	172 .9 .11 .212
IPv4 Subnet Mask	255 .255 .255 .0
IPv4 Default Gateway	172 .9 .11 .1
Preferred DNS Server	
Alternate DNS Server	
Internal NIC IPv4 Ad...	192 .168 .1 .1

At the bottom of the window, there are three buttons: 'Previous', 'Next', and 'Exit'.

HDD Management

After the network has been configured, the HDD needs to be initialized in order to activate the HD. Click Init and then Next.

The screenshot shows the 'Wizard' window for HDD management. It contains a table with the following columns and data:

L...	Capacity	Status	Property	Type	Free Space
2	465.76GB	Uninitialized	R/W	Local	0MB
7	931.51GB	Uninitialized	R/W	Local	0MB
10	931.51GB	Uninitialized	R/W	Local	0MB

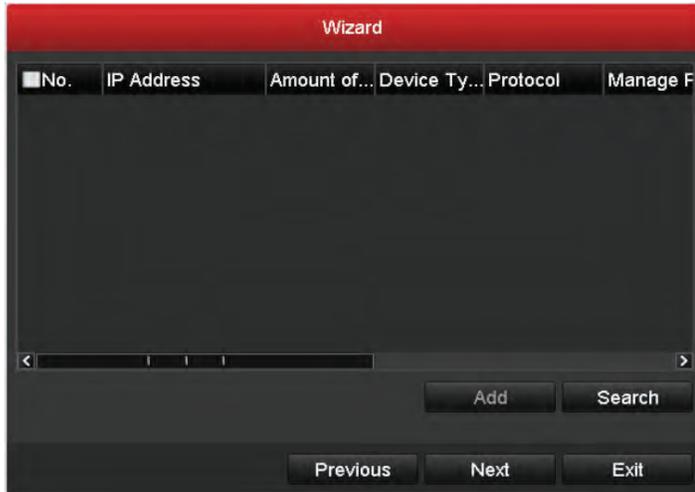
At the bottom of the window, there are three buttons: 'Previous', 'Next', and 'Exit'. An 'Init' button is also present in the bottom right corner.

Adding an IP Camera

After initializing the HDD, IP cameras can be added through the IP Camera interface.

To find an online IP camera, click Search. Select the IP camera and click Add.

Click Next to move to the next menu to configure the recording for the added IP camera.



Once an IP camera is added, configure the recording settings and click Ok to complete the Setup Wizard.

INITIAL SETUP

Adding and Connecting Cameras



Before you start

Connect network cameras via the PoE interfaces. If there are three fisheye cameras, connect them to any PoE interfaces.

Protocol over Ethernet

The Protocol Over Ethernet (PoE) interface allows electrical power and data to safely pass from Ethernet cables to connected network cameras. This NVR allows up to 16 direct network PoE camera connections. If the PoE interface is disabled, online network cameras can be connected.

To add cameras with the PoE function, enter the Camera Management interface: Menu > Camera > Camera.

NOTE: Fisheye cameras have five channels. When connected to the NVR, the first fisheye channel will be added automatically. The four other channels can be added manually.

Cam...	Add/De...	Status	IP Camera A...	Edit	Up...	Camera Name	Protocol	Device Mo...
D1	-	●	172.6.23.123	⊞	⬆	Camera 01		DS-2CD40
D2	-	▲	172.6.23.2	⊞	-	IPCamera 02		
D3	-	▲	192.168.254.4	⊞	-	IPCamera 03		
D4	-	▲	192.168.254.5	⊞	-	IPCamera 04		
D5	-	▲	192.168.254.6	⊞	-	IPCamera 05		
D6	-	▲	192.168.254.7	⊞	-	IPCamera 06		
D7	-	▲	172.6.23.12	⊞	-	IPCamera 07		
D8	-	▲	172.6.23.17	⊞	-	Camera 01		
...		●	172.6.23.124	⊞	-	-		DS-2CD25

Refresh Upgrade Delete One-touch A... Custom Add...

1. Click the  button and select the adding method in the dropdown list.
2. Change Plug-and-Play to Manual.
3. Input IP address, channel port, administrator user name and password manually.
4. Click OK to add other channels.

NOTE: To add a second channel of the fisheye camera, configure channel port to 2.

Edit IP Camera	
IP Camera No.	D1
Adding Method	Manual
IP Camera Address	172.6.23.123
Protocol	
Management Port	8000
Channel Port	1
Transfer Protocol	Auto
User Name	admin
Admin Password	*****

Protocol OK Cancel

Live View Introduction

What is Live View?

The Live View setting displays the real-time images from each camera. When powered on, the NVR automatically enters Live View mode.



Live View Icons

The Live View icons show the status of the record and alarm for each channel. The icons are located at the upper-right portion of the screen.

ICON	DESCRIPTION
	Alarm (video loss, video tampering, motion detection, or sensor)
	Record (manual record, schedule record, motion detection or alarm triggered record)
	Alarm and Record
	Event/Exception (motion detection, sensor alarm or exception information) — will appear at the lower-left corner of the screen

LIVE VIEW

Operations

Operations in Live View?

Live View offers the following functions:

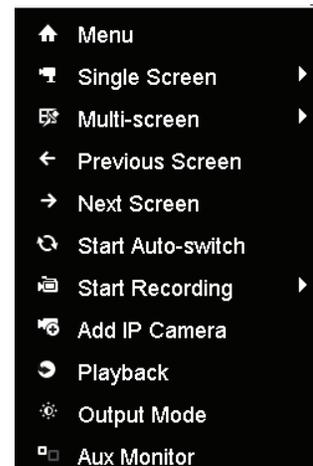
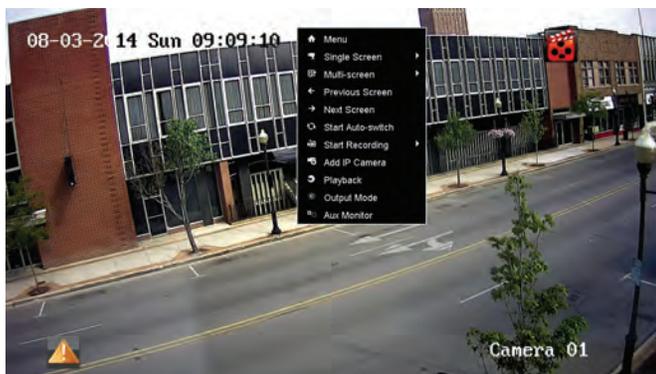
FUNCTION	DESCRIPTION
Single Screen	Displays only one screen on the monitor
Multi-Screen	Simultaneously displays multiple screens on the monitor
Auto-Switch	Use to auto switch between screens Dwell time for each screen must be set in the Configuration menu before enabling (Menu > Configuration > Live View > Dwell Time)
Start Recording	Continuously record (motion detection record supported)
Output Mode	Set output to Standard, Bright, Gentle, or Vivid
Add IP Camera	Shortcut to IP Camera Management interface
Playback	Play current day's recorded videos
Aux/Main Output Switch	Defines the main and auxiliary output interfaces Priority level for the main and aux output is HDMI > VGA > CVBS (if HDMI is used, VGA will be main output and if VGA is used, CVBS will be main output)

Priority Chart

	HDMI	VGA	CVBS	MAIN OUTPUT	AUXILIARY OUTPUT
1	√	√	√	HDMI	VGA
2	√	x	√	HDMI	CVBS
3	x	√	√	VGA	CVBS
4	x	x	√	CVBS	

√ means interface is in use

x means interface is out of use or connection is invalid



Choosing Live View Functions

The Live View functions described on the previous page can be set using either the front panel, the USB mouse, or an auxiliary monitor. Only certain features are available with each type of operation. The following table describes the functions available for each.

FUNCTION	FRONT PANEL OPERATION	MOUSE OPERATION (RIGHT-CLICK MENU)	AUXILIARY MONITOR
Single Screen	Press corresponding alphanumeric button (e.g. "2" to display screen for channel 2 only)	Choose channel number from dropdown list	Select camera from dropdown list and switch to full-screen display of that camera
Multi-Screen	Press PREV/FOCUS button	Choose screen layout from dropdown list	Choose screen layout from dropdown list
Previous/Next Screen	Use right/down buttons to move to next screen and left/up buttons to move to previous screen	Click on Previous Screen or Next Screen	Click Next Screen to switch to the next set of displays when viewing less than the maximum number of cameras in Live View
Auto-Switch	Press ENTER	Click Start Auto-Switch to enable Click Stop Auto-Switch to disable	
Playback	Press PLAY	Click Playback	Enter Playback mode
Main/Aux Output Switch	Press MAIN/AUX button to switch between main and auxiliary output	Click Aux Monitor to disable main output	
Menu		Right click to enter main menu	
Start Recording		Click Start Recording to start continuous or motion-detection recording of all channels	
Add IP Camera		Click Add IP Camera	
Output Mode		Click Output Mode to choose Standard, Bright, Gentle, or Vivid	
Aux Monitor		Click Aux Monitor	
Main Monitor			Enter Main operation mode
PTZ			Enter PTZ Control mode
NOTE:		<p>The dwell time of the Live View configuration must be set before using the Start Auto-Switch.</p> <p>The mouse will not work if in Aux monitor mode and aux monitor is not connected.</p>	<p>While Aux output mode is enabled in the main output monitor, the menu operation is not available.</p> <p>In Live View on the main output monitor, the menu operation is not available while Aux output mode is enabled.</p>

LIVE VIEW

Live View Quick Setting Toolbar

Each channel offers a quick setting toolbar for single-click mouse options in the corresponding screen.



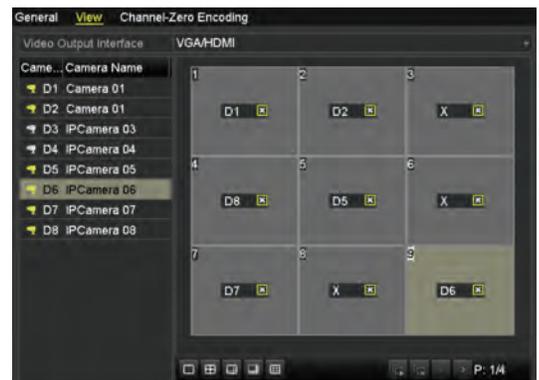
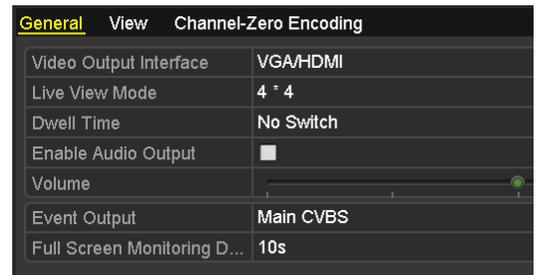
ICON	FUNCTION	ICON	FUNCTION
	Enable / Disable manual record		PTZ Control
	Capture		Live View Strategy
	Image Settings		Mute / Audio On
	Close		Digital Zoom
	Instant Playback		Stream Information

NOTE: Image settings menu allows you to customize parameters like contrast, brightness, saturation & hue.
 Instant playback only shows last five minutes of recording. No record found means no record for last five minutes.
 Set strategy with Live View Strategy including realtime, balanced and fluency.
 To use Digital Zoom, left-click and drag to draw a box around the selected area to zoom.
 Stream Information shows real time stream information including frame rate, bitrate and resolution.

Adjust Live View Settings

To configure Live View settings (such as the Output interface, dwell time, mute or audio on, or screen number for each channel), Enter the Live View interface: Menu > Configuration > Live View.

SETTING	FUNCTION
Video Output Interface	Designates output settings for HDMI, VGA, Main CVBS, and Spot Output
Live View Mode	Designates the Display Mode to be used for Live View
Dwell Time	Time (in seconds) to delay between switching channels when enabling auto-switch in Live View
Enable Audio Output	Enables / Disables audio output for selected video output
Volume	Adjust volume of Live View, Playback, and two-way audio for selected output interface
Event Output	Designates the output to show event video
Full Screen Monitoring Dwell Time	Time (in seconds) to show alarm event screen



1. Select a View Mode in including 1/4/6/8/16/25/32/36- window division modes.
2. Select small window and double click on channel number.
3. Click Apply.

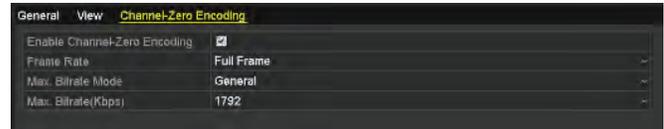
NOTE: You can also click and drag the camera to the desired window on the live view interface to set camera order.

Channel-Zero Encoding

In order to decrease bandwidth without affecting the image quality, channel-zero encoding is supported to get a remote view of many channels in real time from web browser of CMS software. Enter Live View Settings interface: Menu > Configuration > Live View > Channel-Zero Encoding.

1. Enable Channel-Zero Encoding.
2. Configure Frame Rate, Max. Bitrate Mode, and Max. Bitrate.

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



User Logout

After logging out, the monitor turns to live view mode. After logging out of the system, menu operation on screen is invalid. It is required to input a username and password.

1. Enter Shutdown Menu: Menu > Shutdown.
2. Click Logout.



Configuring PTZ Settings

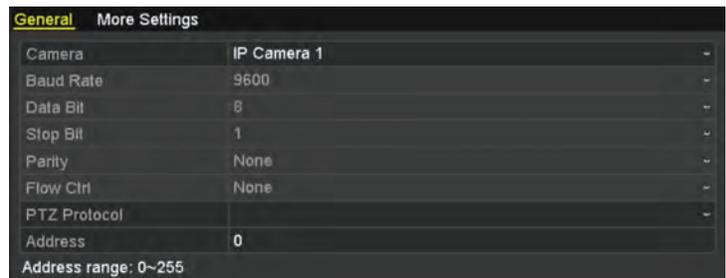


Before you start

Make sure the PTZ and NVR are properly connected through the RS-485 interface.

PTZ is an acronym for pan, tilt, zoom. PTZ cameras that allow the camera to pan left and right, tilt up and down, and zoom in and out. To set the parameters of a PTZ camera, enter the PTZ Settings interface: Menu > Camera > PTZ.

1. Choose camera from Camera dropdown list.
2. Enter parameters (should match PTZ camera parameters).
3. Click Apply.



Setting PTZ Presets, Patrols, and Controls

Customizing Presets

Set a preset location for a PTZ camera to point to when an event takes place: Menu > Camera > PTZ > More Settings.

1. Use directional button to wheel camera to desired location.
2. Click Save Preset.
3. Choose present number.
4. Repeat to save more presets. If number of presets is more than 17, click [...] and choose available numbers.



PTZ Controls

Calling Presets in PTZ Setting Interface

Enable a position for a PTZ camera to point to when an event takes place: Menu > Camera > PTZ > More Settings.

1. Check Call Preset.
2. Choose preset number.



Calling Presets in Live View Mode

1. Click PTZ button.
2. Choose camera from list.
3. Double-click Preset from list.



Customizing Patrols

Patrols allow a PTZ camera to move to different points for set durations before moving to the next point. Key points correspond to presets: Menu > Camera > PTZ > More Settings.

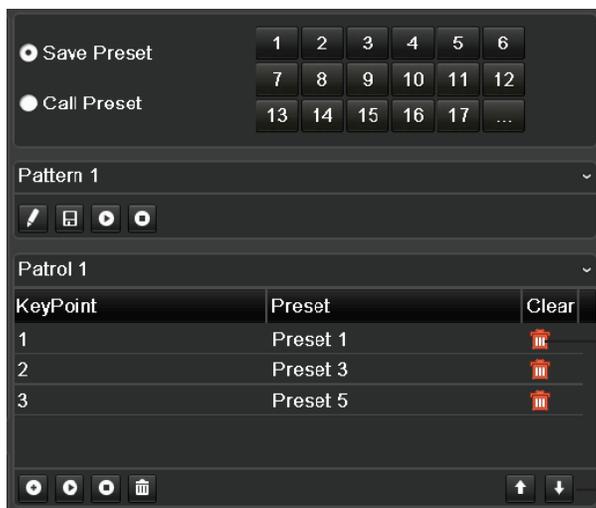
1. Select patrol number from dropdown.
2. Click  to add key point.
3. Configure key point parameters. The Key Point No. determines order.
4. Click OK.



Choose corresponding preset number.

Choose time duration to stay at key point.

Choose speed at which PTZ camera will move to next key point.



Delete key point

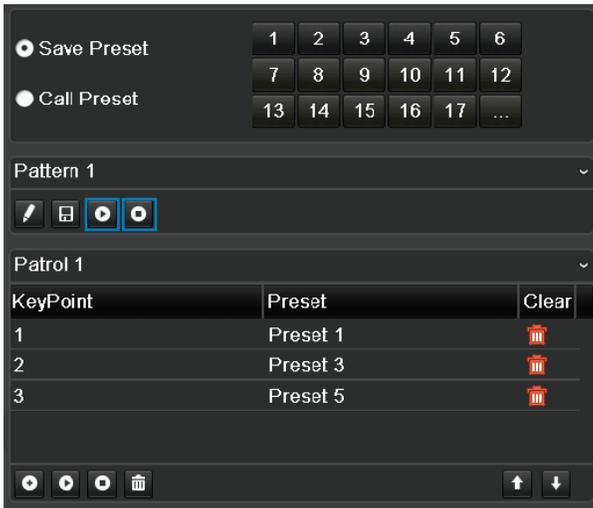
To reorder key points, select a key point and use the arrows

PTZ Controls

Calling Patrols in PTZ Setting Interface

Start moving PTZ camera according to pre-defined patrol path in the PTZ setting interface: Menu > Camera > PTZ > More Settings.

1. Select patrol number and click  to call the patrol.
2. Click  to stop it.



Calling Patrols in Live View Mode

Start moving PTZ camera according to pre-defined patrol path in Live View mode by clicking the PTZ button in the PTZ Setting interface or by pressing the PTZ icon  on the front panel.

1. Choose Patrol on control bar.
2. Double click patrol or select the patrol and click  to call it.



Customizing Patterns

Set patterns by recording the movement of the PTZ camera and call the pattern to make the PTZ camera movement according to the predefined path: Menu > Camera > PTZ > More Settings.

1. Choose pattern number.
2. Click  and use mouse to drag image or click directional buttons. The movement of the PTZ camera is recorded as the pattern.
3. Click  to save.



Calling Patterns in PTZ Setting Interface

Move PTZ camera according to predefined patterns in PTZ setting interface: Menu > Camera > PTZ > More Settings.

1. Choose pattern number.
2. Click . The PTZ moves according to the pattern.
3. Click  to stop it.



PTZ Controls

Calling Patterns in Live View Mode

Move PTZ camera according to predefined patterns in Live View mode by clicking the PTZ button on the screen or pressing the PTZ button on the front panel.

1. Choose pattern number.
2. Double click pattern or select pattern and click  to call it.

PTZ Control Panel

Option 1: In PTZ settings interface, click PTZ button in lower right corner.

Option 2: In Live View mode, press PTZ Control button on front panel or remote control, or choose  PTZ icon.

Click configuration button on control panel.



NOTE: In PTZ control mode, the PTZ panel will be displayed when mouse is connected. If no mouse is connected, **PTZ** icon appears in lower left corner of window, indicating that camera is in PTZ control mode.

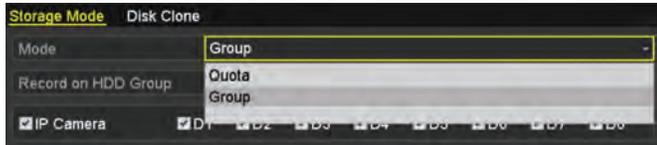
ICON	DESCRIPTION	ICON	DESCRIPTION
	Direction and auto-cycle		Zoom + / Focus + / Iris +
	Speed of PTZ movement		Zoom - / Focus - / Iris -
	3D-Zoom		Light On / Off
	Previous item		Wiper On / Off
	Next item		Image centralization
	Patrol		Menu
	Pattern		Start pattern / patrol
	Preset		Minimize window
	Stop patrol or pattern movement		Exit

RECORDING AND CAPTURE SETTINGS

Configuring Parameters

Check the storage mode of the HDD: Menu > HDD > General.

1. Click Advanced
2. If HDD mode is Quota: Set maximum record capacity and maximum picture capacity. If HDD mode is Group: Set the HDD group.



Configure parameters to define image quality including transmission stream type and resolution. Enter the Record Settings interface to set recording parameters: Menu > Record > Parameters > Record.

1. Configure parameters according to table below.
2. Click Apply.



Before you start
Make sure the HDD has already been installed and initialized.

Camera	IP Camera 1	
Encoding Parameters	Main Stream(Continuous)	Main Stream(Event)
Stream Type	Video & Audio	Video & Audio
Resolution	704*576(4CIF)	704*576(4CIF)
Bitrate Type	Variable	Variable
Video Quality	Medium	Medium
Frame Rate	Full Frame	Full Frame
Max. Bitrate Mode	General	General
Max. Bitrate(Kbps)	2048	2048
Max. Bitrate Range Reco...	1152~1920(Kbps)	1152~1920(Kbps)
Pre-record	5s	
Post-record	5s	
Expired Time (day)	0	
Redundant Record/Capl...	<input type="checkbox"/>	

SETTING	FUNCTION
Pre-Record	Time set to record before a scheduled event
Post-Record	Time set to record after a scheduled time or event
Expired Time	The longest time for a record file to be kept in the HDD before deleting. "0" will keep a file from being deleted.
Redundant Record / Capture	Enable to save record and captured picture in redundant HDD
Record Audio	Enable / Disable audio recording
Video Stream	Choose between main stream or sub-stream (Sub-stream allows longer record time with the same storage space)

NOTE: Redundant HDD must be configured in HDD settings prior to use.

NOTE: Main stream parameters are read-only.

To set sub-stream parameters, enter sub-stream tab page.

Camera	IP Camera 1
Stream Type	Video
Resolution	352*288(CIF)
Bitrate Type	Variable
Video Quality	Medium
Frame Rate	Full Frame
Max. Bitrate Mode	General
Max. Bitrate(Kbps)	256
Max. Bitrate Range Reco...	384~640(Kbps)

1. Use the dropdown lists to set each parameter.
2. Click Apply.

To set parameters for capture, click Capture.

Record	Substream	Capture
Camera	IP Camera 4	
Parameter Type	Continuous	Event
Resolution	704*480(4CIF)	704*480(4CIF)
Picture Quality	Medium	Medium
Interval	2s	2s

1. Use the dropdown lists to set each parameter.
2. Click Apply.

NOTE: The interval is the time period between two capturing actions. You can configure all the parameters on this menu on your demand.

RECORDING AND CAPTURE SETTINGS

Configuring Recording/Capture Schedule

Record schedules are used to set times for cameras to automatically start or stop. The following steps can also be taken to set a schedule for automatic capture by entering the Capture tab in the Schedule interface: Menu > Record/Capture > Schedule > Record/Capture Schedule.



1. Choose the camera to schedule.
2. Check Enable Schedule.
3. Click Edit or choose a color icon under the Edit button and draw the schedule line on the panel.

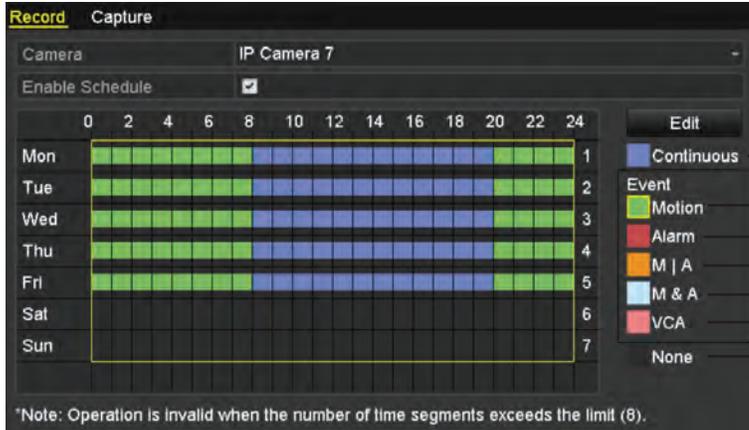


1. Select the day of the week to schedule
 2. Check All Day item to schedule an all-day recording. Click on the the  clock to set the accurate Start / End times for the recording.
 3. For a non-All Day schedule, leave All Day unchecked and set the Start / End time (up to eight recording periods can be schedule for each day and times cannot overlap).
 4. Select the record type from the dropdown list.
- NOTE:** To enable Motion, Alarm, M | A (motion or alarm), M & A (Motion and alarm) and VCA (Video Content Analysis) triggered recording and capture, configure motion detection settings, alarm input settings or VCA settings. The VCA settings are only available to the smart IP cameras.
5. Click Copy to copy settings to another day of the week.
 6. Click OK to save setting and return to upper level menu.
 7. Click Apply in Record Schedule interface.

RECORDING AND CAPTURE SETTINGS

Drawing a Schedule

1. Click on the color to determine the schedule type as continuous or an event.

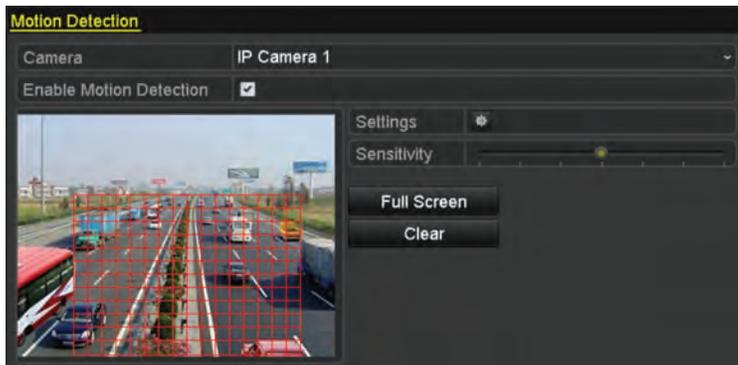


- Normal recording
- Recording triggered by motion
- Recording triggered by alarm
- Recording triggered by either motion or alarm
- Recording triggered by both motion and alarm
- Recording triggered by VCA
- Delete set schedule

2. Click Apply. (To apply to other channels, click Copy and select channels).

Configuring Motion Detection Recording and Capture

The motion detection setting can automatically trigger recording, full screen monitoring, audio warning, notification to surveillance center, and more when enabled. To enable: Menu > Camera > Motion.



1. Choose the camera.
2. Check Enable Motion Detection.
3. Drag and draw a box on area for motion detection using left mouse button or choose "Full Screen" to enable motion detection for the entire viewing area. Click Clear to remove a motion detection area.
4. Click Settings for the Channel Information pop up.

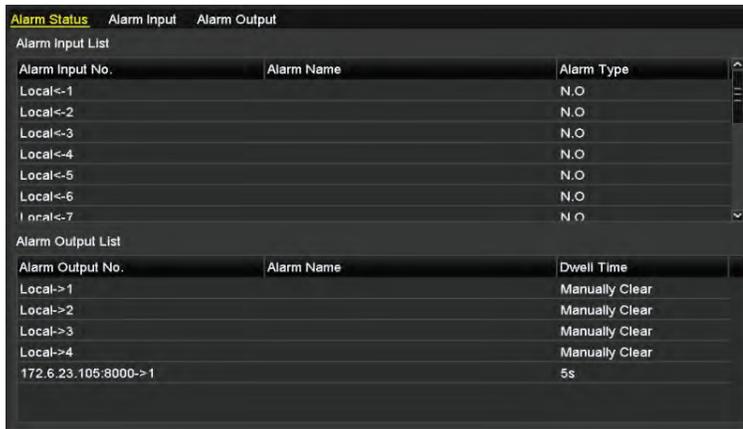


5. Select the channels which you want the motion detection event to trigger recording.
6. Click Apply
7. Click OK to return to the previous menu and exit the motion detection menu.

RECORDING AND CAPTURE SETTINGS

Configuring Motion Detection Recording and Capture

Enter the Alarm Setting interface: Menu > Configuration > Alarm and click Alarm Input.



1. Select Alarm Input No and configure parameters.
2. Choose N.O (Normally Open) or N.C (Normally Closed).
3. Check Enable.
4. Click Settings.
5. Choose the alarm triggered recording channel.
6. Click Apply to save the settings.
7. Click OK to return to upper level menu.



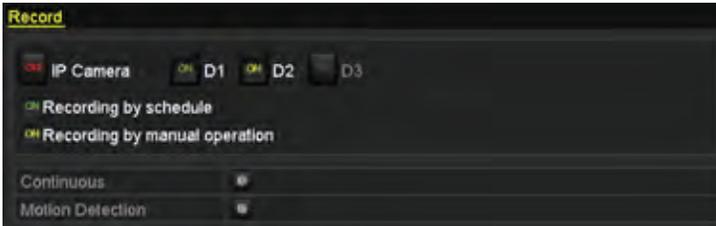
NOTE: Alarm Inputs can be copied by clicking Copy and selecting the alarm input numbers.



RECORDING AND CAPTURE SETTINGS

Manual Recording and Continuous Capture

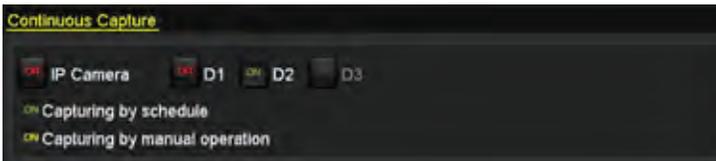
Enter the Manual Settings interface: Menu > Manual or press the REC/SHOT button on the front panel.



1. Click Record.
2. Click status button to change **OFF** to **ON**.
3. Click **ON** to enable manual recording. Click **OFF** to disable manual recording.

NOTE: Green **ON** icon means the channel is configured to the record schedule. Reboot will activate all changes.

To set continuous capture, click Continuous Capture.



1. Click Continuous Capture.
2. Click status button to change **OFF** to **ON**.
3. Click **ON** to enable continuous capture. Click **OFF** to disable continuous capture.

NOTE: Green **ON** icon means the channel is configured to the capture schedule. Reboot will activate all changes.

Configuring Holiday Recording and Capture

To configure recording and capture settings for holidays, enter the Record Setting interface: Menu > Record > Holiday. Click on the holiday and then press the  button.

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



1. Check Enable Holiday.
2. Select Mode from dropdown list.
3. Set Start Date and End Date.
4. Click Apply.
5. Click OK.

RECORDING AND CAPTURE SETTINGS

Configuring Redundant Recording and Capture



Before you start

Storage mode in HDD Advanced Settings must be set to Group before the HDD Property can be set to Redundant.

Redundant recording and capture enhances data safety and reliability. To configure, enter the HDD Information interface: Menu > HDD. Select the HDD and click .

HDD Information							
L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit D...
5	931 51GB	Normal	R/W	Local	846GB	1	

Local HDD Settings

HDD No. 3

HDD Property

R/W

Read-only

Redundancy

Group

1 2 3 4 5 6 7 8

9 10 11 12 13 14 15 16

HDD Capacity 76,319MB

Apply OK Cancel

1. Set HDD Property to Redundancy.
2. Click Apply.
3. Click OK.

NOTE: You must set the Storage mode in the HDD advanced settings to Group before you set the HDD property to Redundant. There should be at least another HDD which is in Read/Write status.

Enter the Record Setting interface: Menu > Record > Parameters.

Camera	IP Camera 1	
Encoding Parameters	Main Stream(Continuous)	Main Stream(Event)
Stream Type	Video & Audio	Video & Audio
Resolution	704*576(4CIF)	704*576(4CIF)
Bitrate Type	Variable	Variable
Video Quality	Medium	Medium
Frame Rate	Full Frame	Full Frame
Max. Bitrate Mode	General	General
Max. Bitrate(Kbps)	2048	2048
Max. Bitrate Range Reco...	1152~1920(Kbps)	1152~1920(Kbps)
Pre-record	5s	
Post-record	5s	
Expired Time (day)	0	
Redundant Record/Capt...	<input checked="" type="checkbox"/>	
Record Audio	<input checked="" type="checkbox"/>	
Video Stream	Main Stream	

1. Select Record.
2. Select Camera to configure from dropdown list.
3. Check Redundant Record/Capture.
4. Click OK.

RECORDING AND CAPTURE SETTINGS

Configuring HDD Group for Recording and Capture

Record files and captured pictures can be saved to certain HDD groups. To configure HDD groups, enter the HDD Setting interface: Menu > HDD.



L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit D...
5	931.51GB	Normal	RAW	Local	846GB	1	

Local HDD Settings

HDD No.

HDD Property

RAW

Read-only

Redundancy

Group 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

HDD Capacity

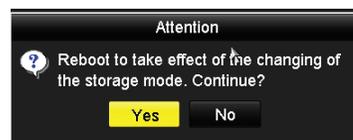
Mode

Record on HDD Group

IP Camera D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16

1. Click Advanced.

2. Set Mode to Group, click Apply and select Yes to Reboot.



3. Select General.

4. Click  to enter Editing interface.

5. Configure HDD group:

- Choose a group number.
- Click Apply.
- Click Yes in pop-up window.
- Click OK.

6. Choose destination channels to save record files in HDD group:

- Select Advanced.
- Choose Group Number in dropdown list.
- Check appropriate channels.
- Click Apply.

NOTE: After configuring HDD groups, you can configure Recording and Capture settings.

RECORDING AND CAPTURE SETTINGS

File Protection

Record files can be protected from deletion by locking record files or setting the HDD Property to Read-Only.

Locking Recording Files in Playback

Enter the Playback interface: Menu > Playback.



1. Check the channel and double-click to set calendar date.

2. During playback, click the  button to lock current recording file.

NOTE: In multi-channel playback mode, click the  button to lock all recorded files related to playback channels.

3. Click the  button to open File Management interface.



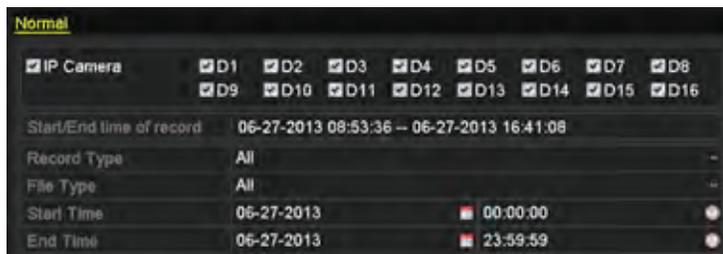
4. Click the Locked File tab.

5. Click  to lock file and  to unlock file.

RECORDING AND CAPTURE SETTINGS

Locking Recording Files in Export

Enter the Export Setting interface: Menu > Export.

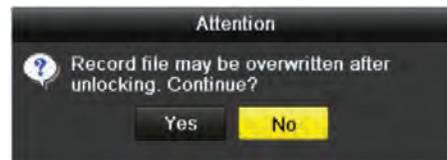


1. Select channels to review.
2. Configure Record Type, File Type, Start Time and End Time.
3. Click Search to view results.



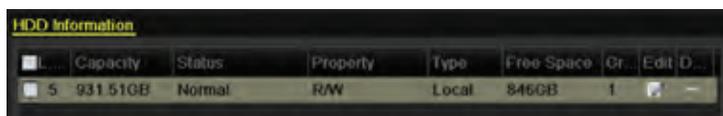
4. Select files to protect.
5. Click  to unlock file and  to lock and protect file.

NOTE: When unlocking a previously locked file, this message will appear:



Setting HDD Property to Read-Only

Enter the HDD Setting interface: Menu > HDD.



1. Click  to edit the preferred HDD.

NOTE: To edit HDD property, set the storage mode of the HDD to Group.



2. Set HDD Property to Read-only.

3. Click OK.

NOTE: Files can only be saved when HDD Property is set to R/W.

NOTE: NVR cannot record files with HDD if it is set to Read-only.

PLAYBACK

Playing Back Record Files

Instant Playback by Channel

In Live View mode, choose a channel to view by clicking the  button on the quick setting toolbar.

(NOTE): Instant playback will only play files recorded on the selected channel during the previous five minutes.



Playback by Channel

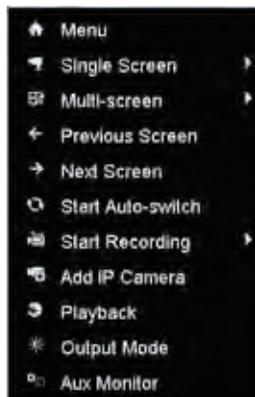
Enter the Playback interface: Menu > Playback (on mouse) or by pressing PLAY on front panel.

Use bottom toolbar to control playing progress. Use the mouse to click any point of the progress bar to locate special frames, and drag the cursor to show thumbnails of the current time.

06-27-2013 08:58:59 – 06-27-2013 09:44:02

Indicates the start / end time of the record.

-  Represents normal recording
-  Represents event recording



BUTTON	OPERATION	BUTTON	OPERATION	BUTTON	OPERATION
	Audio On / Mute		Digital Zoom		Previous Day
	Adjust Volume		Pause / Reverse Play / Single-Frame Reverse Play		Next Day
	Start / Stop Clipping		Stop		Scaling Up / Down Timeline
	Capture		Pause / Play / Single-Frame Play		Progress Bar
	File Lock		30s Forward		Video Type Bar
	Add Default Tag		30s Reverse		Playback Type / Picture
	Add Customized Tag		Slow Down		Full Screen
	File Management		Speed Up		Exit

Playback by Time

To play recorded files from a specified time duration, enter the Playback interface: Menu > Playback. Choose the desired channel and click the calendar. See table on page 34 for details on Playback Controls.



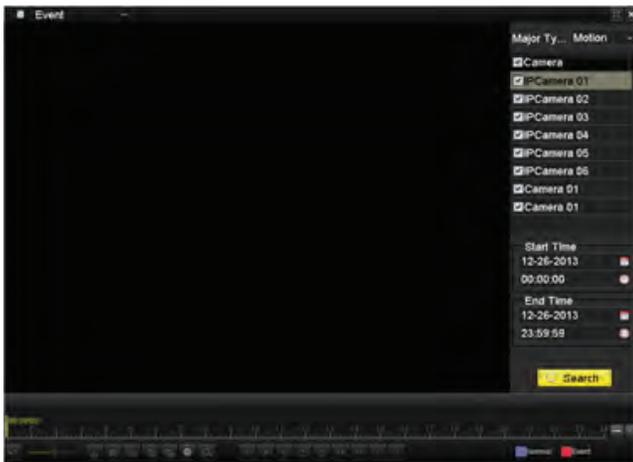
NOTE: Dates highlighted as **10** contain recorded files.

NOTE: Dates displayed as **10** do not contain recorded files.



Playback by Event Search

To play recorded files on one or more channels by a restricting event type, enter the Playback interface: Menu > Playback. Choose the Event on the left.



1. Select the Event from dropdown list (Alarm Input, Motion or VCA).
2. Edit the Start Time and End Time.
3. Click Search.
4. Play back the preferred file by clicking the  button.



Return to previous screen

PLAYBACK

Playback by Tag

Video tags allow records to be tagged with labels in order to appear in future searches. Before tags can be searched, they must be added. To add a tag, enter the Playback interface: Menu > Playback and find the record to tag.

Click  to add default tag.

Click  to add customized tag and input tag name.

NOTE: Maximum 64 tags can be added to a single video file.

See table on page 34 for more details on Playback Controls.



To manage tags through the File Management interface:

1. Click  to enter the File Management interface.
2. Click the Tag tab.
3. Check, edit and delete tags.

To search available tags, access the Playback interface: Menu > Playback.



1. Select the Tag from dropdown list in Playback interface.
2. Choose the channels and edit Start Time and End Time.
3. Click Search.

NOTE: Enter keyword in the **Keyword** textbox to search the tag on your demand.



4. Click  to play back the file.
5. Click Back to return to search interface.

See table on page 34 for more details on Playback Controls.

Smart Playback

Smart Playback allows the system to analyze video containing motion or VCA information, mark it green, and play it back at normal speed while video without motion plays at 16 times faster. This makes it easy to work through uneventful data. To use, enter the Playback interface: Menu > Playback.

1. Select Smart from the dropdown list.
2. Select the camera and select date in calendar.
3. Click the  button to play.

 Represents normal recording

 Represents event recording

 Represents smart search result

 Enters the search area editing interface.

See table on page 34 for more details on Playback Controls.



PLAYBACK

Playback by System Logs

To play record files associated with system logs, enter the Log Information interface: Menu > Maintenance > Log Information. Click the Log Search tab.

1. Set search time and type.
2. Click Search.
3. Choose a log with record file and click  to enter the Playback interface. See table on page 34 for more details on Playback Controls.

NOTE: If there is no record file at the time point of the log, the message box “No Result Found” will pop up.



No.	Major Type	Time	Minor Type	Parameter	Play	Details
187	Alarm	12-26-2013 11:25:54	Video Tamperin...	N/A		
188	Alarm	12-26-2013 11:26:01	Video Tamperin...	N/A		
189	Alarm	12-26-2013 11:26:12	Video Tamperin...	N/A		
190	Alarm	12-26-2013 11:26:17	Video Tamperin...	N/A		
191	Alarm	12-26-2013 11:26:23	Video Tamperin...	N/A		
192	Information	12-26-2013 11:26:51	System Running...	N/A	—	—
193	Information	12-26-2013 11:27:02	System Running...	N/A	—	—
194	Operation	12-26-2013 11:27:12	Remote Operati...	IP Camera	—	
195	Operation	12-26-2013 11:27:12	Remote Operati...	N/A	—	
196	Operation	12-26-2013 11:27:12	Remote Operati...	Device	—	
197	Operation	12-26-2013 11:30:12	Remote Operati...	IP Camera	—	
198	Operation	12-26-2013 11:30:12	Remote Operati...	N/A	—	
199	Operation	12-26-2013 11:30:12	Remote Operati...	Device	—	
200	Operation	12-26-2013 11:33:11	Remote Operati...	IP Camera	—	

Total: 1067 P: 2/11

Export Back



External File Playback

To play record files from external devices, enter the Playback interface: Menu > Playback.



1. Select External File in dropdown list.
2. Select file and click  to play back the file.
3. Adjust playback speed by clicking  and .

NOTE: Click  Refresh to refresh the file list.

Auxiliary Functions of Playback

Frame-by-Frame Playback

Enter the Playback interface: Menu > Playback.

USING MOUSE	USING FRONT PANEL
In record file, click  until speed adjusts to single-frame and one click on the playback screen represents the playback of one frame.	Rotate and hold outer ring on Jog Shuttle counter clockwise or click  to adjust speed to single-frame.
To reverse playback, click  until speed adjusts to single-frame and one click on the playback screen represents the reverse playback of one frame.	One click on  , one click on the Playback screen or Enter button represents reverse playback of one frame.

Digital Zoom

Enter the Digital Zoom interface by clicking  on the playback control bar. Use the mouse to draw a red rectangle to enlarge the image inside the rectangle up to 16 times its size. Right-click to exit.



Reverse Playback of Multi-Channel

To play multi-channel record files in reverse, enter the Playback interface: Menu > Playback. Select channel(s) and date on the calendar. Click  to play file in reverse.

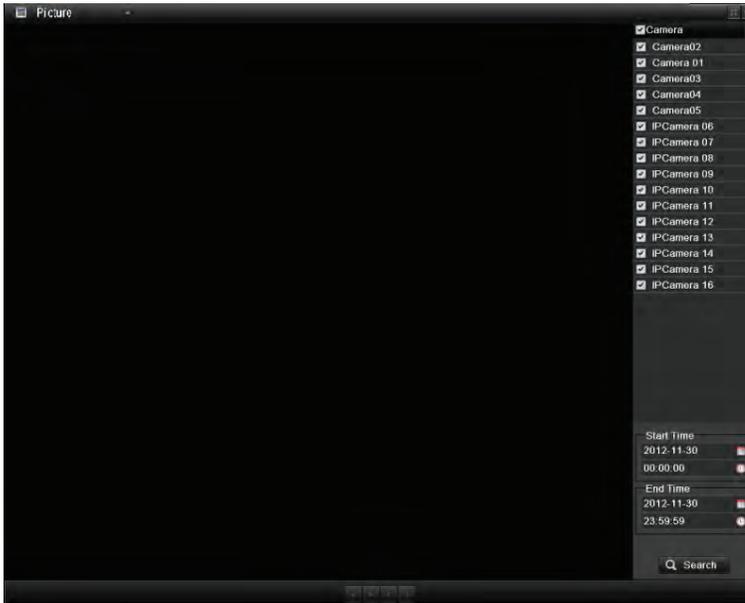
NOTE: The record files will be marked by two lines on the process bar. The upper indicates the record files of the selected channel. The lower indicates the record files of all the selected channels.



PLAYBACK

Picture Playback

To play captured pictures that are stored in the HDD, enter the Playback interface: Menu > Playback. Select the picture in the dropdown list. Select channels and edit start/end times. Click Search. Choose a picture you want to view and click . You can click Back to return to search interface.



BUTTON	OPERATION
	Play in Reverse
	Play
	Previous Picture
	Next Picture

Backing Up Record Files

Quick Export

To quickly export record files to a backup device, enter the Video Export interface: Menu > Export > Normal.

1. Choose the channel to back up.
2. Click Quick Export.
3. Click Export to begin exporting.



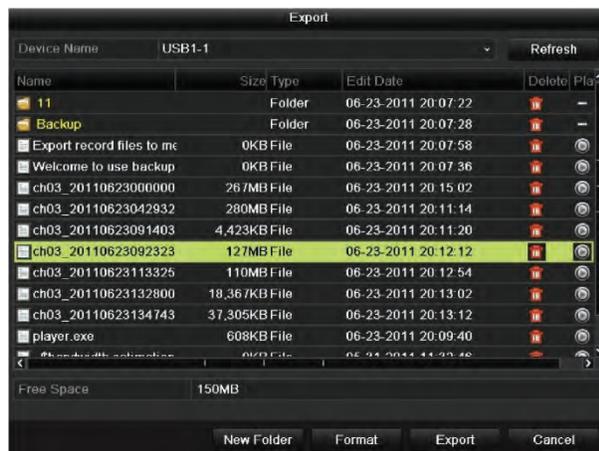
NOTE: If duration of record files on a specified channel exceed one day, the following message will appear: "Max 24 hours are allowed for quick export."

NOTE: Stay in Exporting interface until all files are exported.



4. To check backup result, choose the file in the Export interface and click .

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



BACKUP

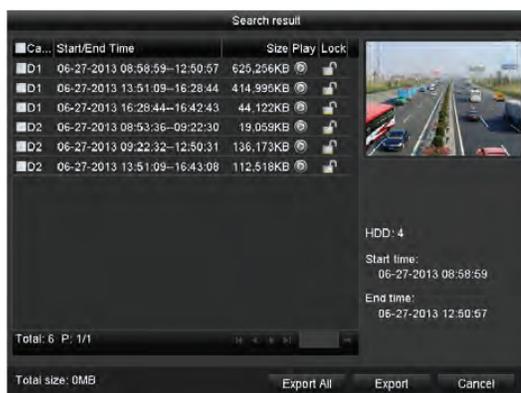
Normal Video Search Backup

Backup Using USB Flash Drive and USB HDD- enter the Export interface: Menu > Export > Normal.

1. Set search condition and click Search.

2. Select the files to back up. Click  to play the record file if you want to check it.

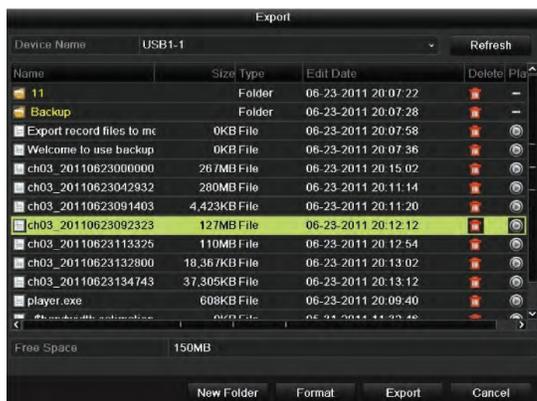
NOTE: The size of the currently selected files is displayed in the lower-left corner.



3. Click Export All to export all recording files, or click Export to enter the Export interface.

NOTE: If USB not recognized, click Refresh, reconnect device, or check compatibility. You can also reformat USB flash drives or USB HDDs via the device.

NOTE: Stay in interface until “Export finished” message appears.



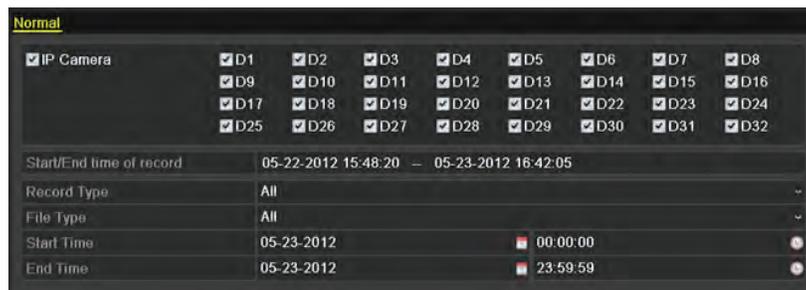
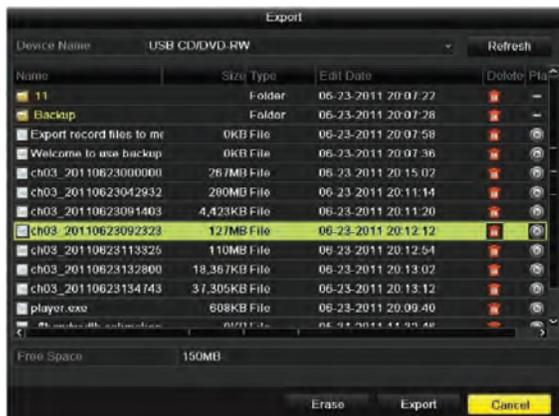
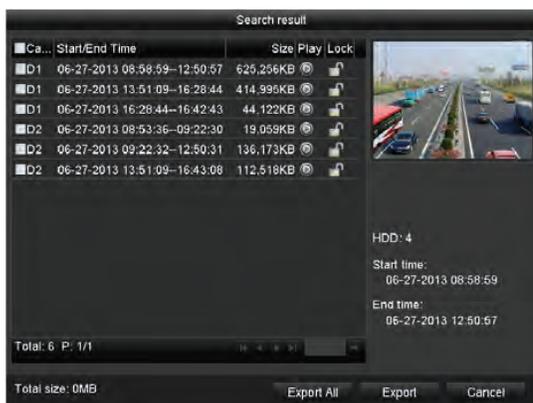
4. To check backup result, choose the file in the Export interface and click .

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

Backup Using USB Writer and SATA Writer-
enter the Export interface: Menu > Export > Normal.

1. Set search condition and click Search.
2. Select the files to back up. Click  to play the record file if you want to check it.

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



3. Click Export.

NOTE: If USB writer or SATA is not recognized, click Refresh, reconnect device, or check compatibility.

NOTE: Stay in interface until “Export finished” message appears.



4. To check backup result, choose the file in the Export interface and click .

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

BACKUP

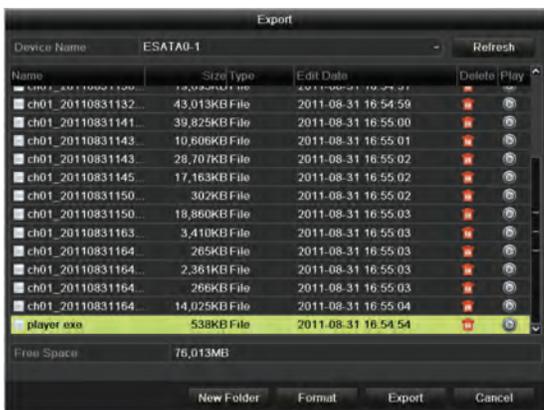
Backup Using eSATA HDDs-

Enter Menu > Record > Advanced.

1. Choose eSATA and set usage at Export.
2. Click Yes to reboot system.

NOTE: The usages of eSATA HDD contain Record/Capture and Export. Changes in usage will take effect after rebooting.

3. Enter Export interface: Menu > Export > Normal.



4. Set search condition and click Search.

5. Select files to back up. Click to play the record file if you want to check it.

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

6. Click Export All to export all recording files, or click Export to enter the Export interface.

NOTE: Format the eSATA first when using it for the first time. If the inserted eSATA HDD is not recognized, click Refresh, reconnect device, or check compatibility. You can also reformat SATA HDD via the device.

NOTE: Stay in interface until "Export finished" message appears.



7. To check backup result, choose the file in the Export interface and click .

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

BACKUP

Backup Video Clips

Enter the Playback interface: Menu > Playback.

1. During playback, use  and  buttons in playback toolbar to start and stop clipping.

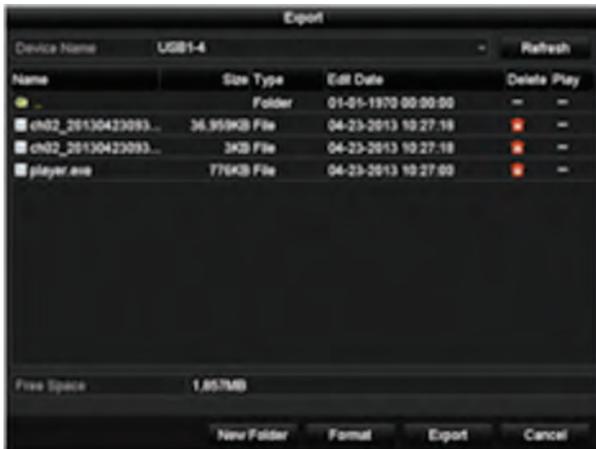
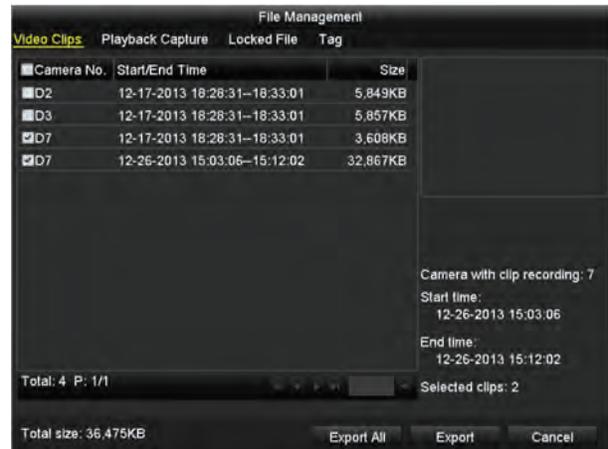
2. Click the  button to enter the File Management interface.

3. Click the Video Clips tab to check and export files.

NOTE: A maximum of 30 clips can be selected per channel.

4. Check files and click Export to start backup or click Export All to export all recording files.

NOTE: If USB device is not recognized, click Refresh, reconnect device, or check compatibility. You can also format the USB flash drive or USB HDDs via the device.



NOTE: Stay in interface until "Export finished" message appears.

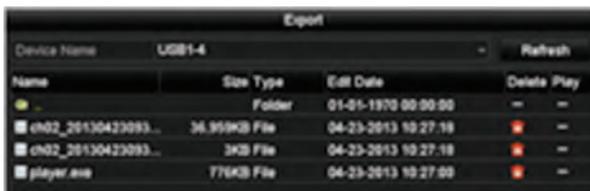
7. Check backup result.

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

Backing Up Pictures

Backup Using Captured Pictures in Playback-
Enter the Playback interface: Menu > Playback.

1. During playback, click the  button to capture picture.
2. Click the  button to enter the File Management interface.
3. Click the Playback Capture tab to check and export pictures.



Backup All Types of Captured Pictures-
Enter the Export interface: Menu > Export > Picture.

1. Select the channel, image type, Start Time and End Time.
2. Click Search.
3. Select pictures to back up.
4. Click Export All to export all recording files, or click Export to enter the Export interface.
5. Check backup result.



NOTE: Stay in interface until "Export finished" message appears.

Managing Backup Devices

Management of USB Flash Drives, USB HDDs, and eSATA HDDs - Enter the Search Result interface: Menu > Export > Normal.

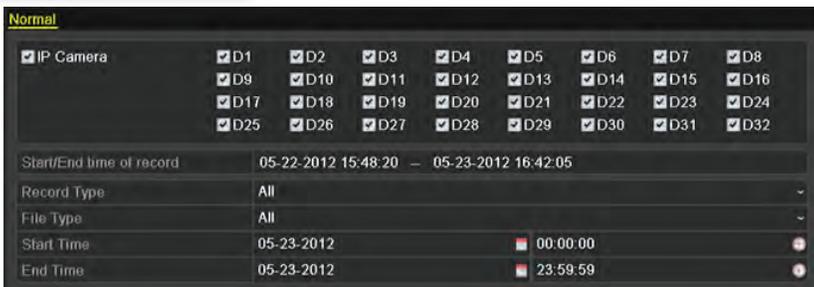
1. Set search condition and click Search.

NOTE: At least one channel should be selected.

2. Click Export All to export all recording files, or click Export to enter the Export interface.

NOTE: At least one file should be selected.

3. Select pictures to back up.
4. Click Export or Export All

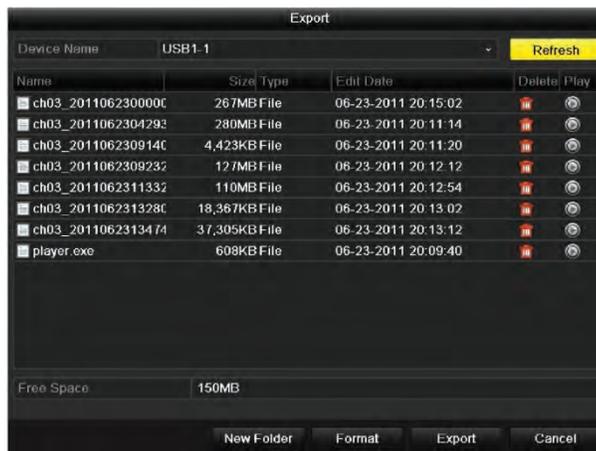


BACKUP

To manage backup device:

1. Click New Folder if needed.
2. Select a record file or folder in backup device and click  button to delete or  button to play.
3. Click Format to format backup device.

NOTE: If USB not recognized, click Refresh, reconnect device, or check compatibility.



Management of USB Writers and DVD-R/W-
Enter the Search Result interface: Menu > Export > Normal.

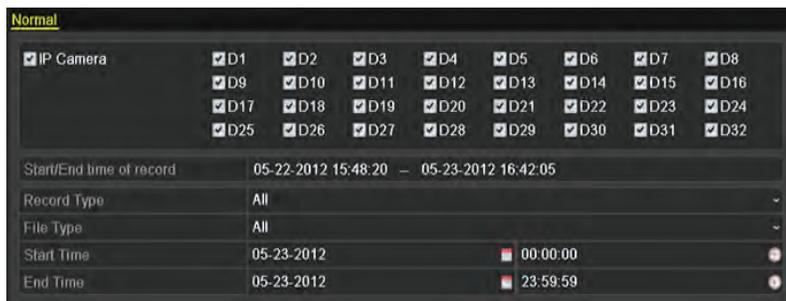
1. Set search condition and click Search.

NOTE: At least one channel should be selected.

3. Select files to back up.

4. Click Export All to export all recording files, or click Export to enter the Export interface.

NOTE: At least one file should be selected.



Click Erase if files from a rewritable CD/DVD need to be erased.

NOTE: Rewritable CD/DVD must be inserted at time of operation.

NOTE: If USB Writer is not recognized, click Refresh, reconnect device, or check compatibility.

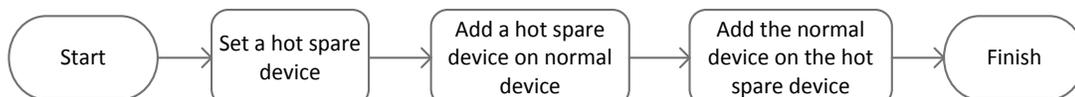


Hot Spare Device Backup



Before you start

At least two devices must be online. A bidirectional connection is required to be built between the hot spare device and each working device.



Setting Hot Spare Device

Enter the Hot Spare Settings interface:
Menu > Configuration > Hot Spare.

1. Set the Work Mode as Hot Spare.
2. Click Apply.
3. Click Yes to reboot device.



NOTE: The camera connection will be disabled when the device works in hot spare mode. It's highly recommended to restore the defaults of the device after switching the working mode of the hot spare device to normal mode to ensure the normal operation afterwards.

Setting Working Device

Enter the Hot Spare Settings interface:
Menu > Configuration > Hot Spare.

1. Set the Work Mode as Normal (default).
2. Check Enable.
3. Enter IP address and admin password of hot spare device.
4. Click Apply.



BACKUP

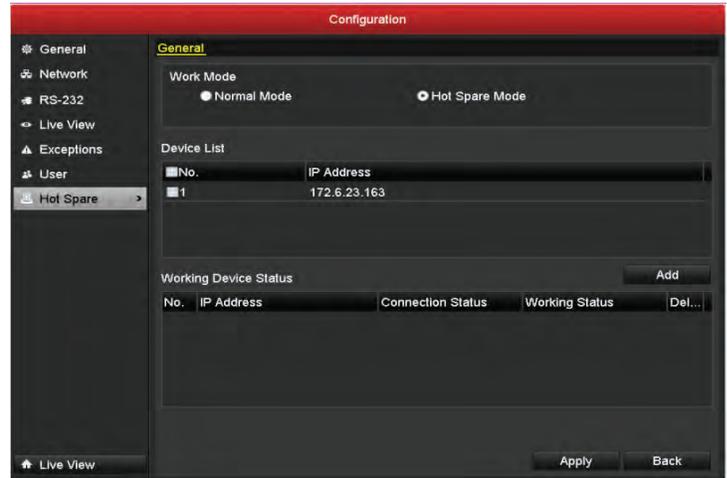
Managing Hot Spare System

Enter the Hot Spare Settings interface:
Menu > Configuration > Hot Spare.

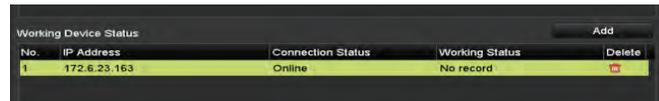
1. Check the box to select the working device from the device list.

2. Click Add.

NOTE: A hot spare device can connect up to 32 working devices.



View the working status on the Working Status list. When working properly, "No Record" displays.

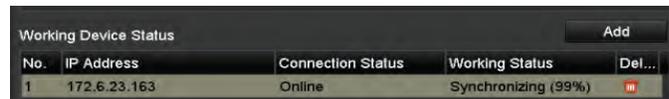


When offline, the hot spare device will record the video of the IP Camera connected to the working device for backup. The status of the hot spare device will display as "Backing Up."



NOTE: The record backing up can be functioned for 1 working device at a time.

When working device comes online, the lost files will be restored by the record synchronization function, and the working status of the hot spare device will display as "Synchronizing."

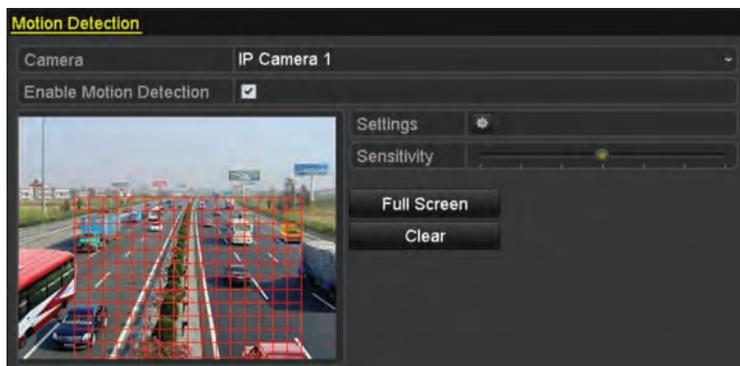


NOTE: Record synchronization can be enabled for one working device at a time.

ALARM SETTINGS

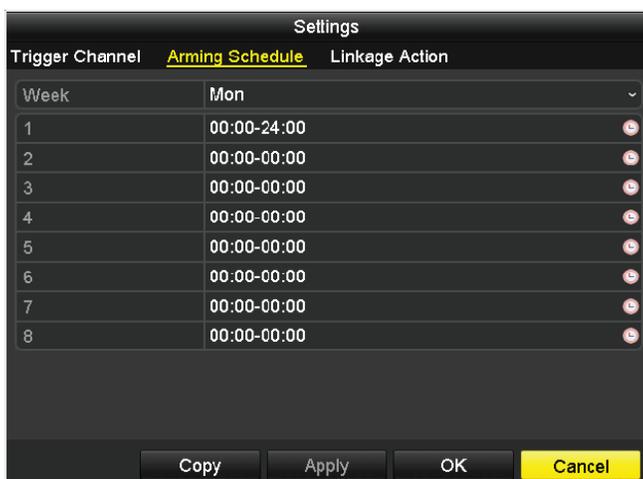
Setting Motion Detection Alarm

Enter the Motion Detection interface of Camera Management Management and choose a camera you want to set up motion detection: Menu > Camera > Motion.



1. Check Enable Motion Detection and draw the detection area with the mouse.
2. Drag the Sensitivity bar to set sensitivity level.
3. Click the  button to set alarm response options.

4. Click the Trigger Channel tab.
5. Select one or more channels to start record/capture or to monitor in full-screen when motion alarm is triggered.
6. Click Apply.



To set arming schedule of a channel:

1. Select Arming Schedule.
2. Choose one day of the week and time periods (up to eight per day – time periods cannot overlap).
3. Click Apply.

NOTE: To set alarm response actions of a motion alarm, click Handling.

NOTE: Settings can be copied to other channels by clicking Copy.

ALARM SETTINGS

Setting Sensor Alarms

Enter Alarm Settings of System Configuration interface:
Menu > Configuration > Alarm > Alarm Input.

Check Enable and click Settings.



1. Select Trigger Channel and select channels to start record/capture or to monitor in full-screen when an external alarm is input.
2. Click Apply and then select Arming Schedule.
3. Choose day of the week and up to eight time periods.
4. Click Apply.

NOTE: Settings can be copied to other days by clicking Copy.

The Linkage Action tab can be used to set up alarm response actions of the alarm input.

To set PTZ linkage of the alarm input, click on PTZ Linking. Complete the settings and click OK.

NOTE: Check whether the PTZ or speed dome supports PTZ linkage. One alarm input can trigger presets, patrol or pattern of more than one channel. But presets, patrols and patterns are exclusive.



NOTE: Settings can be copied by clicking the Copy button on the Alarm Input Setup interface.

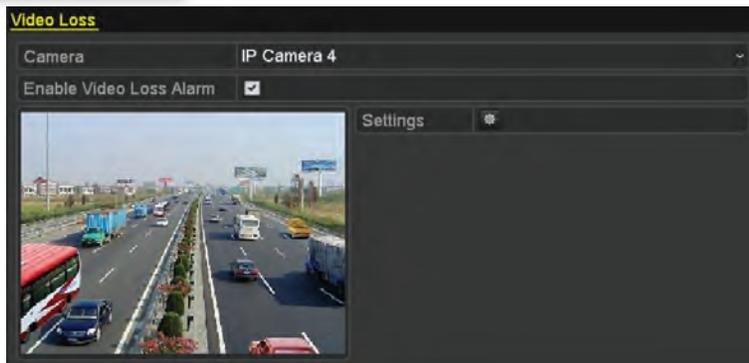


ALARM SETTINGS

Detecting Video Loss Alarm

Enter the Video Loss interface of Camera Management: Menu > Camera > Video Loss and select the channel to detect.

1. Check Enable Video Loss Alarm and click  to set up handling of video loss.

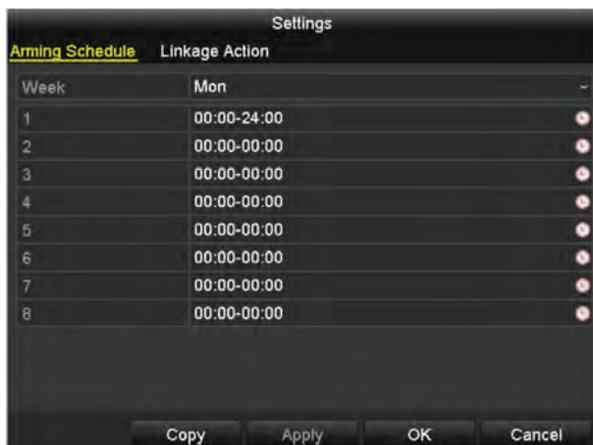


2. Select Arming Schedule.

3. Choose a day of the week and up to eight time periods (time periods cannot overlap).

4. Click Apply.

5. Select Linkage Action to set up alarm response action of video loss. Click OK.

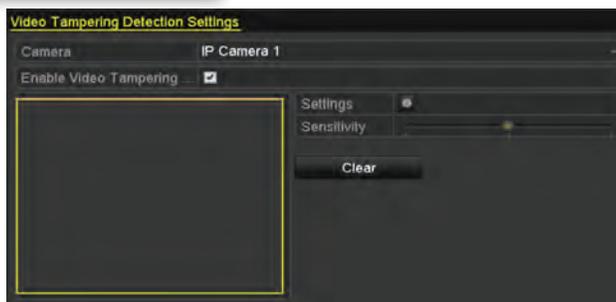


Detecting Video Tampering Alarm

Video tampering triggers an alarm when a lens is covered. To configure a video tampering alarm, enter the Video Tampering interface of Camera Management: Menu > Camera > Video Tampering and select the channel to detect.

1. Check Enable Video Tampering and drag sensitivity bar to adjust the sensitivity.

2. With the mouse, draw the area you want to detect video tampering.



3. Click  to set up handling of video tampering.

4. Select Arming Schedule tab.

5. Choose one day of week up to eight time periods (time periods cannot overlap).

6. Click Apply.

7. Select Linkage Action to set up alarm response actions of video tampering. Click OK.



ALARM SETTINGS

Handling Exceptions Alarm

To handle various exception alarms, enter the Exception interface: Menu > Configuration > Exceptions.



Enable Event Hint	<input checked="" type="checkbox"/>
Event Hint Settings	⚙️
Exception Type	HDD Full
Audible Warning	<input checked="" type="checkbox"/>
Notify Surveillance Center	<input checked="" type="checkbox"/>
Send Email	<input checked="" type="checkbox"/>
Trigger Alarm Output	<input checked="" type="checkbox"/>

EXCEPTION	DESCRIPTION
HDD Full	The HDD is full
HDD Error	A writing error occurred or the HDD is not formatted
Network Disconnected	Disconnected network cable
IP Conflicted	Duplicated IP address
Illegal Login	Incorrect user ID or password
Record/Capture Exception	No space for saving recorded files or captured images
Hot Spare Exception	Disconnected from working network device

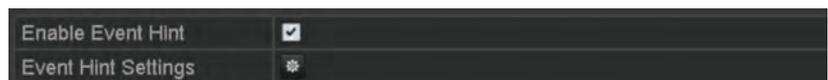
Setting Alarm Response Actions

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

To configure, enter the Exception interface: Menu > Configuration > Exceptions.

1. Check Enable Event Hint and click .
2. Set event type to be displayed on image.
3. Click OK.

NOTE: When an event or exception happens, a hint will be displayed on the lower-left corner of live view. Click the icon to check the details.



Enable Event Hint	<input checked="" type="checkbox"/>
Event Hint Settings	⚙️



Event Hint Settings	
<input type="checkbox"/>	All
<input checked="" type="checkbox"/>	HDD Full
<input checked="" type="checkbox"/>	HDD Error
<input checked="" type="checkbox"/>	Network Disconnected
<input checked="" type="checkbox"/>	IP Conflicted
<input checked="" type="checkbox"/>	Illegal Login
<input checked="" type="checkbox"/>	Video Signal Loss
<input checked="" type="checkbox"/>	Alarm Input Triggered
<input checked="" type="checkbox"/>	Video Tamper Detected
<input checked="" type="checkbox"/>	Motion Detection
<input checked="" type="checkbox"/>	Record/Capture Exception
<input checked="" type="checkbox"/>	IP Camera Conflicted
<input checked="" type="checkbox"/>	Hard Temperature Exception

ALARM SETTINGS

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

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

Auto-switch will terminate once the alarm stops and the Live View interface will appear.

NOTE: You must select the channel you want to make full screen in "Trigger Channel" settings.

Trigger Alarm Output - To configure, enter the Alarm Output interface: Menu > Configuration > Alarm > Alarm Output.

1. Select an alarm output and set alarm name and dwell time.

NOTE: If "Manually Clear" is selected in the dropdown list of Dwell Time, you can only clear it by going to Menu > Manual > Alarm.

2. Click Schedule to set up arming schedule of alarm output. Choose one day of week up to eight time periods (time periods cannot overlap).

3. Click OK

NOTE: Settings can be copied to other days and to other Channels by clicking Copy.

Audible Warning - Trigger an audible beep when an alarm is detected.

Notify Surveillance Center - Send an exception or alarm signal to the remote alarm host when an event occurs. The alarm host refers to the PC installed with Remote Client.

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

Email Linkage - Send an email with alarm information to a user or users when an alarm is detected.

The screenshot shows the 'Alarm Output' configuration screen. It has a dark background with white text. At the top, there are three tabs: 'Alarm Status', 'Alarm Input', and 'Alarm Output' (which is highlighted in yellow). Below the tabs, there are four rows of configuration options:

Alarm Output No.	Local->1
Alarm Name	
Dwell Time	5s
Settings	⚙️

The screenshot shows the 'Arming Schedule' settings screen. It has a dark background with white text. At the top, there is a title 'Settings' and a sub-title 'Arming Schedule' (highlighted in yellow). Below the sub-title, there is a table with columns 'Week' and 'Mon'. The table has 8 rows, each representing a time period. Each row has a red 'X' icon in the right column. At the bottom of the screen, there are four buttons: 'Copy', 'Apply', 'OK', and 'Cancel'.

Week	Mon
1	00:00-24:00
2	00:00-00:00
3	00:00-00:00
4	00:00-00:00
5	00:00-00:00
6	00:00-00:00
7	00:00-00:00
8	00:00-00:00

ALARM SETTINGS

Setting Alarm Response Actions

To manually trigger or clear an alarm output, enter the Alarm interface: Menu > Manual > Alarm.

Alarm Output No.	Alarm Name	Trigger
Local->1		No
Local->2		No
Local->3		No
Local->4		No
172.6.23.105:8000->1		No

Click Trigger/Clear if you want to trigger or clear an alarm output.

Click Trigger All if you want to trigger all alarm outputs.

Click Clear All if you want to clear all alarm outputs.

Configuring General Settings

Enter the Network Settings interface: Menu > Configuration > Network > General. Set the appropriate parameters and click Apply.

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

NOTE: If the DHCP server is available, click the checkbox to automatically obtain an IP address and other network settings from that server.

NIC Type	10M/100M/1000M Self-adaptive
Enable DHCP	<input checked="" type="checkbox"/>
IPv4 Address	172.6.23.190
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	172.6.23.1
IPv6 Address 1	fe80::212:42ff:fed:ec46/64
IPv6 Address 2	
IPv6 Default Gateway	
MAC Address	00:12:42:fd:ec:46
MTU(Bytes)	1500
Preferred DNS Server	
Alternate DNS Server	
Internal NIC IPv4 Address	192.168.254.1

Configuring Advanced Settings

Configuring PPPoE Setting

To configure the Point-to-Point Protocol over Ethernet (PPPoE) setting, enter the Network Settings interface: Menu > Configuration > Network > PPPoE.

Enable PPPOE	<input checked="" type="checkbox"/>
User Name	
Password	

1. Check Enable PPPOE.

2. Enter user name and password and click Apply.

NOTE: The User ID and password should be assigned by your ISP.

3. Reboot system to enable changes.

Enable DDNS	<input type="checkbox"/>
DDNS Type	IPServer
Server Address	
Device Domain Name	
User Name	
Password	
Confirm	

Configuring DDNS

To configure the Dynamic DNS (DDNS), enter the Network Settings interface: Menu > Configuration > Network > DDNS.

NOTE: Prior registration with your ISP is required before configuring the system to use DDNS.

1. Check Enable DDNS.
2. Select the DDNS Type (options include IPServer, DynDNS, PeanutHull, NO-IP, and SimpleDDNS). Follow the instructions in the table below.
3. Click Apply.

DDNS TYPE	INSTRUCTIONS
IPServer	Enter Server Address for IPServer.
DynDNS	Enter Server Address. Enter domain obtained from DynDNS website in NVR Domain Name field. Enter User Name and Password registered in the DynDNS website.
PeanutHull	Enter User Name and Password obtained from PeanutHull website.
NO-IP	Enter Server Address for NO-IP. Enter domain obtained from NO-IP website in NVR Domain Name field. Enter User Name and Password registered in the NO-IP website.
HiDDNS	Server Address of SimpleDDNS server appears by default: www.simpleddns.com. Enter Device Domain Name. You can enter domain name directly on NVR to create a new one.

Configuring NTP Server

A Network Time Protocol (NTP) can be configured to ensure the accuracy of system date and time. To configure, enter the Network Settings interface: Menu > Configuration > Network > NTP.

1. Check Enable NTP.
2. Set the Time Interval, NTP Server, and NTP Port.
3. Click Apply.

Enable NTP	<input checked="" type="checkbox"/>
Interval (min)	60
NTP Server	
NTP Port	123

Time interval between the two synchronizing actions with NTP server (can be set from 1 to 10080 minutes - default is 60 minutes).

IP address of NTP server

NETWORK SETTING

Configuring SNMP



Before you start

Download the SNMP software and manage to receive device information via SNMP port before configuring the SNMP. By setting the Trap Address, the NVR is allowed to send the alarm even and exception message to the surveillance center.

Access the SNMP to get device status and parameter-related information by entering the Network Settings interface: Menu > Configuration > Network > SNMP.

1. Check Enable SNMP.
2. Configure Trap Address and Trap Port.
3. Click Apply.

Enable SNMP	<input checked="" type="checkbox"/>
SNMP Version	V2
SNMP Port	161
Read Community	public
Write Community	private
Trap Address	
Trap Port	162

Configuring Remote Alarm Host

Configuring the Remote Alarm Host allows the NVR to send the alarm event or exception message to the host whenever an alarm is triggered. The Network Video Surveillance software must be installed.

To configure, enter the Network Settings interface: Menu > Configuration > Network > More Settings.

- 1, Enter Alarm Host IP and Alarm Host Port.
2. Click Apply.

Alarm Host IP	
Alarm Host Port	0
Server Port	8000
HTTP Port	80
Multicast IP	
RTSP Port	554
Enable High-speed Dow...	<input type="checkbox"/>

Alarm Host IP refers to the IP address of the remote PC on which the Network Video Surveillance Software is installed.

Alarm Host Port must be the same as the alarm monitoring port configured in the software.

Configuring Multicast

Configure the Multicast to realize Live View for more than 128 connections through the network. To configure, enter the Network Settings interface: Menu > Configuration > Network > More Settings.

1. Set Multicast IP (address can span the Class-D IP range of 224.0.0.0 to 239.255.255.255 — a range of 239.252.0.0 to 239.255.255.255 is recommended).
2. Click Apply.

Server Port	8000
HTTP Port	80
Multicast IP	239.221.2.78

When adding a device Network Video Surveillance Software, the multicast address must be the same as the NVR's multicast IP.

NOTE: The multicast function should be supported by the network switch to which the NVR is connected.

Configuring RTSP

The Real Time Streaming Protocol (RTSP) controls streaming media servers. To configure, enter the Network Settings interface: Menu > Configuration > Network > More Settings.

1. Enter the RTSP port in the RTSP Service Port field (the default RTSP port is 554).
2. Click Apply.

RTSP Port	554
-----------	-----

Configuring Server and HTTP Ports

To configure, enter the Network Settings interface: Menu > Configuration > Network > More Settings.

1. Enter new Server Port (the default is 8000).
2. Enter HTTP Port (the default is 80).
3. Click Apply.

Server Port	8000
HTTP Port	80
Multicast IP	239.221.2.78

NOTE: The Server Port should be set to a range of 2000- 65535 and it is used for remote client software access. The HTTP port is used for remote web browser access.

Configuring and HTTPS Port

HTTPS provides protection against attacks. The HTTPS Port must be configured through the web browser.

The screenshot shows the HTTPS configuration page. At the top, there is a checkbox for 'Enable HTTPS'. Below it are four sections: 'Create' with buttons for 'Create Self-signed Certificate' and 'Create Certificate Request'; 'Install Stored Certificate' with a 'Certificate Path' field and 'Browse'/'Upload' buttons; 'Created Request' with a 'Created Request' field and 'Delete'/'Download' buttons; and 'Installed Certificate' with an 'Installed Certificate' field and a 'Delete' button. A 'Save' button is located at the bottom left.

To configure:

1. Open browser and input IP address of device.
2. Input user name and password.
3. Click Login.
4. Enter HTTPS Settings interface: Configuration > Remote Configuration > Network Settings > HTTPS.
5. Create a self-signed certificate or authorized certificate.

To create the self-signed certificate:

1. Click Create.
2. Complete the fields.
3. Click OK.

The screenshot shows a form for creating a self-signed certificate. Fields include: Country (CN), Hostname/IP (172.6.23.67), Validity (200), Password, State or province, Locality, Organization, Organizational Unit, and Email. There are 'OK' and 'Cancel' buttons at the bottom.

To create the authorized certificate:

1. Click Create.
2. Download the certificate request.
3. Submit to the trusted certificate authority for a signature.
4. Import certificate to the device after receiving the signed valid certificate.

The screenshot shows the 'Installed Certificate' section. The 'Installed Certificate' field contains 'C=CN, H/IP=172.6.23.110' and has a 'Delete' button. Below it, the 'Property' section lists: Subject: C=CN, H/IP=172.6.23.110; Issuer: C=CN, H/IP=172.6.23.110; Validity: 2013-06-28 10:42:40 ~ 2013-06-30 10:42:40.

5. Enable the HTTPS function.
6. Click Save.

NETWORK SETTING

Configuring Email



Before you configure email settings

The NVR must be connected to a local area network (LAN) that maintains an SMTP mail server. It must also be connected to either an intranet or the Internet – depending on the location of the email accounts to which the emails will be sent.

Email notifications can be sent to all designated users when an alarm event is detected, when a motion event is detected, or when the administrator password is changed. To configure emails, enter the Network Settings interface: Menu > Configuration > Network.

Working Mode	Net Fault-tolerance
Select NIC	bond0
NIC Type	10M/100M/1000M Self-adaptive
Enable DHCP	<input type="checkbox"/>
IPv4 Address	172 .6 .21 .159
IPv4 Subnet Mask	255 .255 .255 .0
IPv4 Default Gateway	172 .6 .21 .1
IPv6 Address 1	fec0::a:240:48ff:fe62:dcd/64
IPv6 Address 2	2002:ac06:1578:a:240:48ff:fe62:dcd/64
IPv6 Default Gateway	
MAC Address	00:40:48:62:0d:cd
MTU(Bytes)	1500
Preferred DNS Server	
Alternate DNS Server	
Main NIC	LAN1

1. Set the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway, and the Preferred DNS server.
2. Click Apply.
3. Click on Email.
4. Configure the settings according to the diagram/list below.
5. Click Apply.

Enable Server Authentication	<input type="checkbox"/>
User Name	
Password	
SMTP Server	xxx.smtp.com
SMTP Port	25
Enable SSL	<input type="checkbox"/>
Sender	name1
Sender's Address	name1@xxx.com
Select Receivers	Receiver 1
Receiver	name2
Receiver's Address	name2@xxx.com
Enable Attached Picture	<input checked="" type="checkbox"/>
Interval	2s

Enable Server Authentication: Optional.

User name: user account of sender's Email for SMTP server authentication.

Password: password of sender's Email for SMTP server authentication.

SMTP Server IP address or host name

SMTP Port No: The default TCP/IP port used is 25.

Enable SSL: Optional.

Sender: Name of sender.

Sender's Address: Email address of sender.

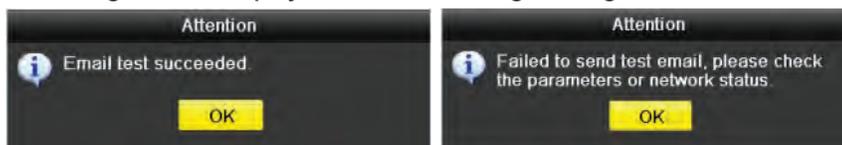
Receiver: Name of user to be notified.

Receiver's Address: Email address of notified user. Up to 3 can be configured.

Enable Attached Pictures: Enabling allows alarm images to be attached to emails.

Interval: Time (in seconds) between two actions of sending attached pictures.

6. Clicking Test will display one of the following messages.



Configuring NAT



Before you start

To utilize Universal Plug and Play (UPnP™) on the NVR, the UPnP™ function must first be enabled on the router connected to the NVR. When the network working mode of device is set as multi-address, the Default Route of the device should be in the same network segment as that of the LAN IP address of the router.

Universal Plug and Play (UPnP™) allows the NVR to seamlessly discover the presence of other devices on the network and establish functional network services for data sharing, communications, and more. Use the UPnP™ function to enable the fast connection of the device to the WAN via a router without port mapping.

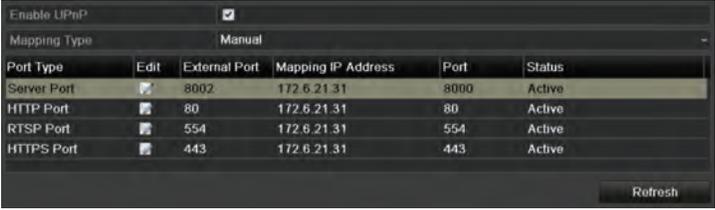
To configure, access the Network Settings interface: Menu > Configuration > Network.

1. Select NAT tab.
2. Check Enable UPnP.
3. Select Mapping Type.

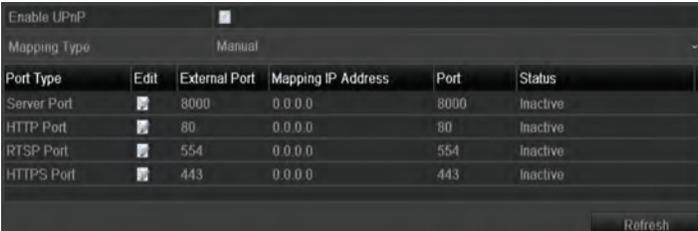
NOTE: For Auto Mapping, simply choose Auto in the Mapping Type dropdown list and click Apply. If Auto is selected, the Port Mapping items are read-only, and the external ports will be set by the router automatically.

NOTE: For Manual mapping, choose Manual in the Mapping Type dropdown list. Click the  button to activate the External Port Settings dialog box. Configure the port settings. If Manual is selected, you can edit the external port on your demand.

4. Click Apply.
5. Click Refresh to get the latest status of the port mapping.



Port Type	Edit	External Port	Mapping IP Address	Port	Status
Server Port		8002	172.6.21.31	8000	Active
HTTP Port		80	172.6.21.31	80	Active
RTSP Port		554	172.6.21.31	554	Active
HTTPS Port		443	172.6.21.31	443	Active



Port Type	Edit	External Port	Mapping IP Address	Port	Status
Server Port		8000	0.0.0.0	8000	Inactive
HTTP Port		80	0.0.0.0	80	Inactive
RTSP Port		554	0.0.0.0	554	Inactive
HTTPS Port		443	0.0.0.0	443	Inactive



Before you start

Make sure the router supports the configuration of internal port and external port in the interface of Forwarding.



Port Type	Server Port
External Port	8001

OK Cancel

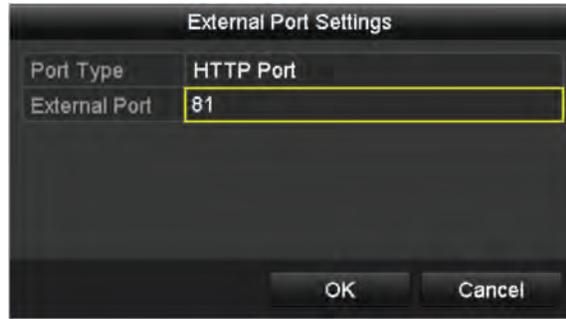
NOTE: The RTSP Port number should be 554 or between 1024 and 65535 while the other port numbers should be between 1 and 65535. The value for each must be different.

NETWORK SETTING

If router does not support the UPnP™ function, follow these steps:

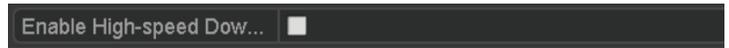
Enter the Network Settings interface: Menu > Configuration > Network.

1. Select NAT tab
2. Leave Enable UPnP box unchecked.
3. Click the  button to activate the External Port settings dialog box.
4. Configure as mentioned on the previous page.
5. Click OK and then Apply.
6. Enter virtual server setting page of router and populate Internal Source IP.



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

NOTE: Each item should correspond with the device port, including server port, http port, RTSP port and https port. The above virtual server setting is for reference only, it may be different due to different router manufacturers.



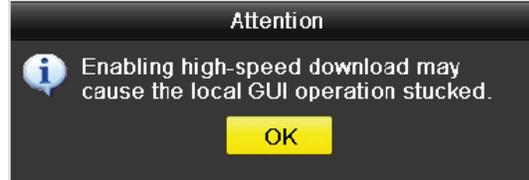
Configuring High-Speed Download

The High-Speed Download function widens the outgoing bandwidth of the NVR. This helps to speed up the download of record files through the web browse or CMS software.

NOTE: This function affects local menu operation. Disable this function after completing remote downloading.

To configure, enter the Network Settings interface: Menu > Configuration > Network > More Settings.

1. Check box and click OK.
2. Then click Apply.

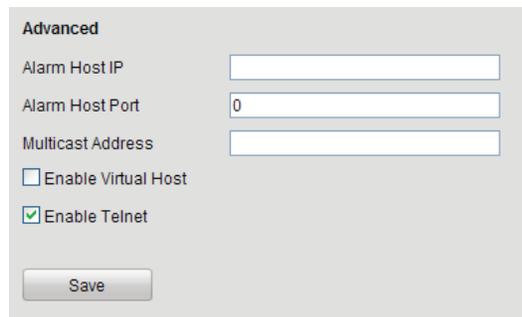


Virtual Host Settings

NOTE: This function can only be configured through the web browser.

Enter the Advanced settings interface: Configuration > Remote Configuration > Network Settings > Advanced.

1. Check Enable Virtual Host.
2. Click Save.
3. Enter IP Camera Management interface: Configuration > Remote Configuration > Camera Management > IP Camera.



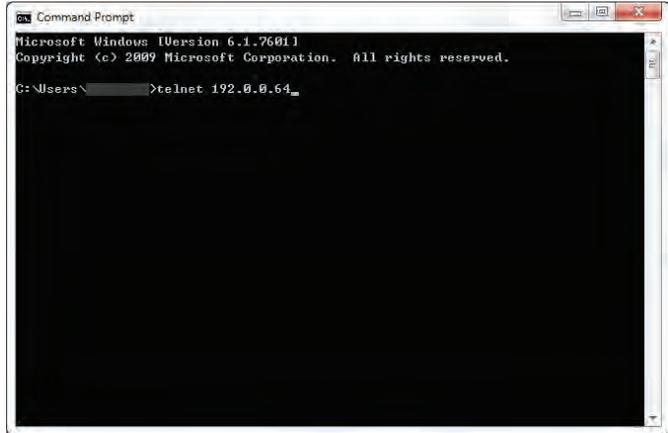
Channel No.	IP Camera Address	Channel No.	Management Port	Status	Protocol	Connect
<input type="checkbox"/> D01	192.168.254.8	1	8000	Offline(IP camera does not exist)	HIKVISION	http://172.6.23.198:65001
<input type="checkbox"/> D02	192.168.254.3	1	8000	Offline(IP camera does not exist)	HIKVISION	http://172.6.23.198:65002
<input type="checkbox"/> D03	192.168.254.4	1	8000	Offline(IP camera does not exist)	HIKVISION	http://172.6.23.198:65003
<input type="checkbox"/> D04	192.168.254.7	1	8000	Offline(IP camera does not exist)	HIKVISION	http://172.6.23.198:65004
<input type="checkbox"/> D05	192.168.254.6	1	8000	Offline(IP camera does not exist)	HIKVISION	http://172.6.23.198:65005
<input type="checkbox"/> D06	172.6.23.177	1	8000	Offline(Network Abnormal)	HIKVISION	http://172.6.23.198:65006
<input type="checkbox"/> D07	172.6.23.123	1	8000	Online	HIKVISION	http://172.6.23.123:80
<input type="checkbox"/> D08	172.6.23.12	1	8000	Online	HIKVISION	http://172.6.23.12:80

NETWORK SETTING

Telnet Settings

The Telnet function provides easy access to the NVR. Enter the Advanced settings interface: Configuration > Remote Configuration > Network Settings > Advanced.

1. Check Enable Telnet.
2. Click Save.
3. Open the Command Prompt window on the PC, and input "telnet *IP Address*" to connect with the NVR.



For example, if the IP address of the NVR is 192.0.0.64, you can input "telnet 192.0.0.64" and then press Enter to connect.

Checking Network Traffic

To check network traffic and real-time information of the NVR, access the Network Traffic interface: Menu > Maintenance > Net Detect.

NOTE: Traffic data is refreshed every one second.

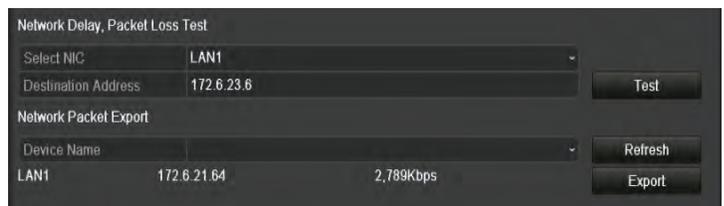


Configuring Network Detection

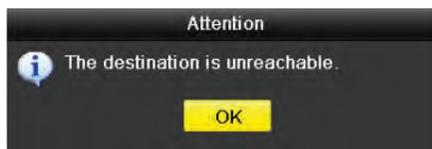
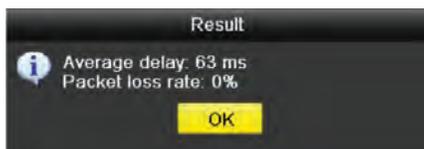
Testing Network Delay and Packet Loss

Enter the Network Traffic interface: Menu > Maintenance > Net Detect > Network Detection.

1. Enter Destination Address.
2. Click Test.



NOTE: Clicking Test will display one of the following messages.



NETWORK SETTING

Exporting Network Packet

To export the captured network data packet to a USB-flash disk, SATA/eSATA, DVD-R/W and other local devices, enter the Network Traffic interface: Menu > Maintenance > Net Detect > Network Detection.

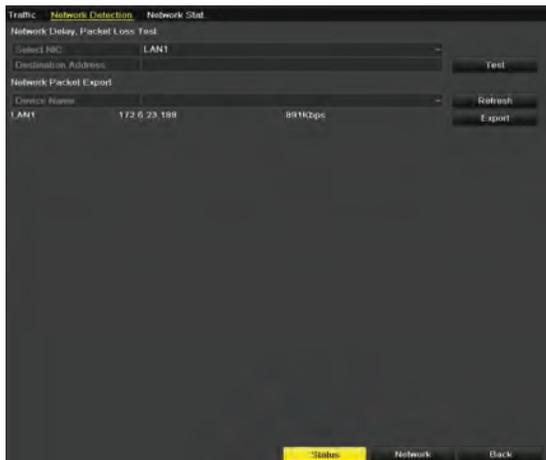
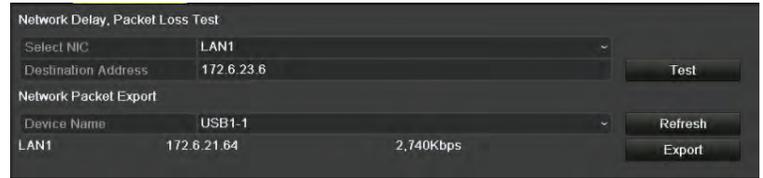
1. Select backup device from Device Name dropdown list

NOTE: Click Refresh if connected local backup device is not 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.

3. Click Export.

4. After export is complete, click OK.

NOTE: Up to 1M data can be exported each time.

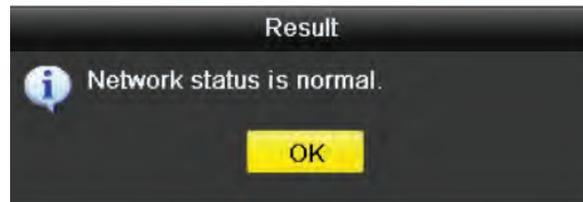


Checking Network Status

To check network status and quick set the network parameters, enter the Network Detection page: Menu > Maintenance > Net Detect > Network Detection

1. Click Status.

NOTE: If the network is normal the following message will appear:



Checking Network Statistics

To obtain real-time information on the NVR, enter the Network Detection interface: Menu > Maintenance > Net Detect > Network Stat.

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

Refresh

NOTE: Check the bandwidth of IP Camera, bandwidth of Remote Live View, bandwidth of Remote Playback, bandwidth of Net Receive Idle and bandwidth of Net Send Idle.

NOTE: Click Refresh to get the newest status.

HDD MANAGEMENT

Initializing HDDs

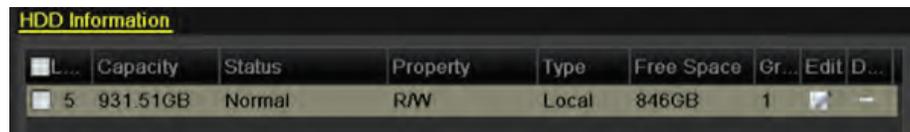
If a hard disk drive (HDD) has not been initialized, the following message will appear when the NVR starts.

Click Yes to immediately initialize.

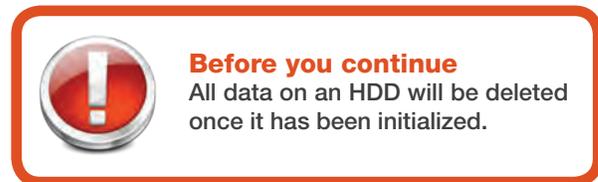


The HDD can also be initialized through the HDD Information interface: Menu > HDD > General.

1. Select the HDD.
2. Click Init.

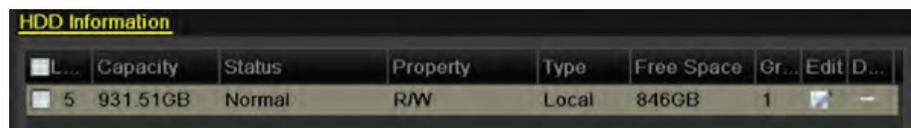


L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit	D...
5	931.51GB	Normal	R/W	Local	846GB	1		-



3. Click OK.

Once initialized, this menu will appear with the status Normal.



L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit	D...
5	931.51GB	Normal	R/W	Local	846GB	1		-

HDD MANAGEMENT

Managing a Network HDD

To use an allocated NAS or disk of IP SAN as the network HDD of the NVR.

Enter the HDD Information interface:
Menu > HDD > General.

1. Click Add to enter the Add NetHDD interface.
2. Add the allocated NetHDD.
3. Choose NAS or IP SAN as the type.

4. Configure the NAS or IP SAN settings.
 - Add NAS disk:
 - a. Enter the NetHDD IP address in the text field.
 - b. Click Search to find available NAS disks.
 - c. Select from the list or manually enter the directory in the NetHDD Directory field.
 - d. Click OK to add the configured NAS disk.

NOTE: Up to 8 NAS disks can be added.

• Add IP SAN:

1. Enter the NetHDD IP address in the text field.
2. Click Search to find available IP SAN disks.
3. Select from the list.
4. Click OK to add the selected IP SAN disk.

NOTE: Up to 1 IP SAN disk can be added.

After having successfully added the NAS or IP SAN disk, return to the HDD Information menu. The added NetHDD will be displayed in the list.

NOTE: If the added NetHDD is uninitialized, please select it and click the Init button for initialization.

Managing eSATA

When there is an external eSATA device connected to NVR, you can configure eSATA for the use of Record/Capture or Export, and you can manage the eSATA in the NVR. Enter the Advanced Record Settings interface: Menu > Record > Advanced.

1. Select the eSATA type to Export or Record/Capture from the dropdown list of eSATA. Export: use the eSATA for backup. Record/Capture: use the eSATA for record/capture.



2. When the eSATA type is selected to Record/Capture, enter the HDD Information interface: Menu > HDD > General

3. Edit the property of the selected eSATA, or initialize it is required.

(NOTE): Two storage modes are supported for eSATA when it is used.

Label	Capacity	Status	Property	Type	Free Space	Gr...	Edit	Del...
4	931.51GB	Normal	R/W	Local	921GB	1		-
18	10,048MB	Uninitialized	R/W	NAS	0MB	1		
25	931.51GB	Normal	R/W	eSATA	894GB	1		

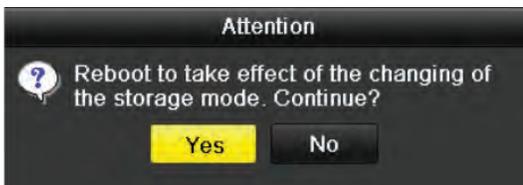
Managing HDD Group

Setting HDD Groups

Multiples HDDs can be managed in groups. To record video from specified channels onto a particular HDD group,

Enter the Storage Mode interface:
Menu > HDD > Advanced > Storage Mode.

1. Set the Mode to Group.



2. Click the Apply button and the Attention box to the left will pop up.

3. Click Yes to reboot the device to activate the changes.

4. After reboot of device, enter the HDD information interface.
Menu > HDD > General.

HDD MANAGEMENT

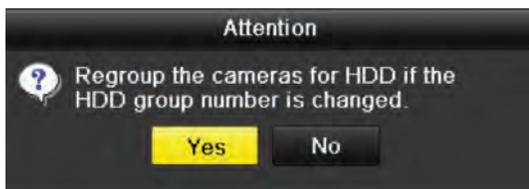
5. Select HDD from the list and click  icon to enter the Local HDD settings interface.



6. Select the Group number for the current HDD.

NOTE: The default group No. for each HDD is 1.

7. Click OK to confirm the settings.



8. Click Yes to finish the settings.

Setting HDD Property



Before you start

Set storage mode to Group before setting the HDD property.

Enter the HDD Information interface:
Menu > HDD > General.

1. Select HDD from the list and click the  icon to enter the Local HDD Settings interface.
2. Set the HDD property to either R/W, Read-Only, or Redundancy. 3. Click Apply and then the OK button.

NOTE: Read-only to prevent recorded files from being overwritten when the HDD becomes full in overwrite recording mode.

NOTE: Redundancy allows video to be recorded both onto the redundancy HDD and the read/write HDD simultaneously to ensure high security and reliability of video data.

NOTE: At least two hard disks must be installed on the NVR when the HDD is set to Redundancy and one is set to R/W.

3. Click Apply and then the OK button.

4. In the HDD Information menu, the HDD property will be displayed in the list.



Configuring Quota Mode

To configure each camera with allocated quota for the storage of recorded files and captured pictures.

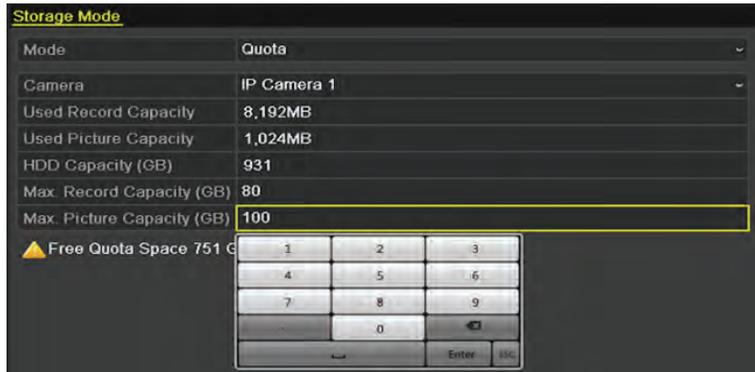
Enter the Storage Mode interface:
Menu > HDD > Advanced.

1. Set Mode to Quota.

NOTE: Reboot the NVR to enable changes.

2. After the reboot, return to this screen and select a camera.

3. Enter the storage capacity.



NOTE: Settings can be copied to other cameras if needed by clicking Copy. Select the camera to apply the settings to and click OK.

NOTE: You can also click the checkbox of IP Camera to select all cameras.

4. In the next screen, click Apply.

NOTE: A quota setting of "0" means that all cameras will use the total capacity of HDD for record and picture capture.



HDD MANAGEMENT

Configuring Disk Clone



Before you start

An eSATA disk should be connected to the NVR before starting.

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

An eSATA disk should be connected to the device.

1. Enter the HDD Advanced Setting interface:
Menu > HDD > Advanced.
2. Click the Disk Clone tab.

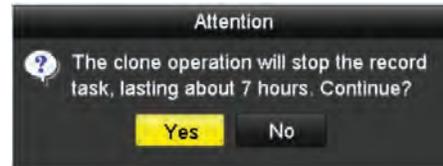


3. Make sure usage of the eSATA disk is set to Export. If it is not, click Set, choose Export and click OK.



NOTE: Capacity of the destination disk should match the clone source disk.

4. Check the box of the HDD to be cloned in the Clone Source list.
5. Click the Clone button and a message box pops up.



6. Click Yes.

NOTE: If it is not, click "Set", choose "Export" and click "OK."

HDD MANAGEMENT

Checking HDD Status

To check the status on the installed HDDs, enter the HDD Information interface: Menu > HDD > General.

NOTE: Normal or Sleeping status means the HDD is working normally. Uninitialized or Abnormal means the HDD needs to be initialized or possibly replaced.

1. Enter the System Information Interface: Menu > Maintenance > System Info.
2. Click the HDD tab to view the status of each HDD displayed on the list.

Label	Capacity	Status	Property	Type	Free Space	Gr...	Edit	Del...
4	931.51GB	Normal	R/W	Local	921GB	1		
18	10,048MB	Uninitialized	R/W	NAS	0MB	1		
25	931.51GB	Normal	R/W	eSATA	894GB	1		

Total Capacity: 1,872GB
Free Space: 1,815GB

HDD Detection

Continue to use this disk when self-evaluation is failed.

HDD: 4
Self-test Status: Not tested
Self-test Type: Short Test
S.M.A.R.T.:
Temperature (°C): 21
Power On (days): 269
Self-evaluation: Pass
All-evaluation: Functional

ID	Attribute Name	Status	Flags	Threshold	Value	Worst	Raw Value
0x1	Raw Read Error Rate	OK	2f	51	200	200	0
0x3	Spin Up Time	OK	27	21	154	107	5258
0x4	Start/Stop Count	OK	32	0	100	100	380
0x5	Reallocated Sector Count	OK	33	140	200	200	0
0x7	Seek Error Rate	OK	2e	0	200	200	0
0x9	Power-on Hours Count	OK	32	0	92	100	6466
0xa	Spin Up Retry Count	OK	32	0	100	100	0

To detect the HDD with the S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology), enter the S.M.A.R.T. Settings interface: Menu > Maintenance > HDD Detect.

Select the HDD to view its S.M.A.R.T. information. The related information of the S.M.A.R.T. is shown on the interface.

Choose self-test types as Short Test, Expanded Test, or the Conveyance Test. Click Star” to start the S.M.A.R.T. self-evaluation.

S.M.A.R.T.

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 the disk when evaluation is failed** item.

To detect the HDD with the Bad Sector Detection:

1. Select the Bad Sector Detection tab.
2. Select the HDD number.
3. Choose All Detection or Key Area Detection as the Detection type.
4. Click Detect.

S.M.A.R.T. Settings **Bad Sector Detection**

HDD No. 4

Key Area Detection Detect

HDD Capacity: 931.51GB
Block Capacity: 232MB
Status: Testing... 39%
Error Count: 0

Error info Pause Cancel

Legend:
Normal (Green)
Damaged (Red)
Shield (Yellow)

HDD MANAGEMENT

Configuring HDD Error Alarms

When HDD status is Uninitialized or Abnormal, configure the HDD through the Exception interface: Menu > Configuration > Exceptions.

The screenshot shows the 'Exception' configuration window. The 'Exception Type' is set to 'HDD Error'. The 'Audible Warning', 'Notify Surveillance Center', and 'Send Email' options are unchecked. The 'Trigger Alarm Output' option is checked. Below this, there is a table for 'Alarm Output No.' and 'Alarm Name'.

Alarm Output No.	Alarm Name
<input type="checkbox"/> Local->1	
<input type="checkbox"/> Local->2	
<input type="checkbox"/> Local->3	
<input type="checkbox"/> Local->4	
<input checked="" type="checkbox"/> 172.6.23.105:8000->1	

1. Choose HDD Error as the Exception Type and then check the box for the desired alarm type.

NOTE: When the Trigger Alarm Output is selected, the Alarm Output can also be detected.

2. Click Apply.

CAMERA SETTINGS

Configuring OSD Settings

Enter the OSD Configuration interface: Menu > Camera > OSD. Make appropriate changes and click Apply.



1. Select camera to configure.
2. Edit camera name.
3. Check boxes to configure display name, date, and week.
4. Select date and time formats and display mode.

NOTE: Click and drag mouse on preview window to adjust OSD position.

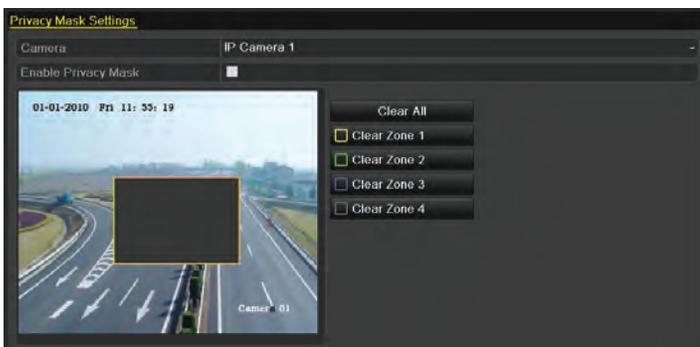
Configuring Privacy Mask

To prevent certain surveillance areas from being viewed by the Operator or recorded, configure a four-sided privacy mask. Enter the Privacy Mask Settings interface: Menu > Camera > Privacy Mask. Make appropriate changes and click Apply.



1. Select camera to set mask.
2. Check box to enable mask.
3. Select camera to set mask.

NOTE: Up to four privacy mask zones can be set. Size can be adjusted. Each zone will be marked with a different color frame.



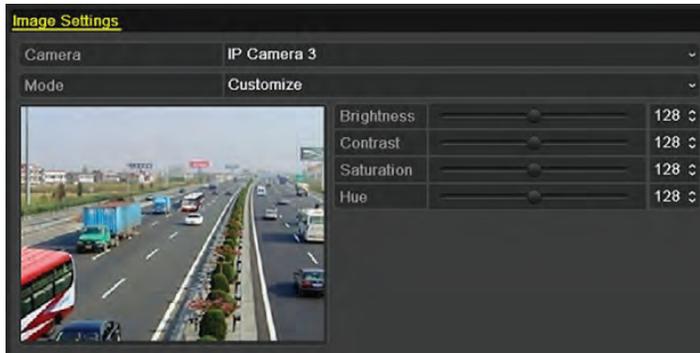
NOTE: Left-click and hold mouse to drag and draw mask zone on window.

NOTE: Clear zones individually or all at one time.

CAMERA SETTINGS

Configuring Video Parameters

Enter the Image Settings interface: Menu > Camera > Image. Make appropriate changes and click Apply. Select camera to configure.



NOTE: Use the arrows to change each parameter value.

MANAGEMENT AND MAINTENANCE

Viewing Device Information

Enter the System Information interface:
Menu > Maintenance > System Info > Device Info.

Device Info		Camera	Record	Alarm	Network	HDD
Device Name	Embedded Net DVR					
Model						
Serial No.	1620120518BBRR408508857WCVU					
Firmware Version						
Encoding Version	V1.0, Build 121210					

Viewing Camera Information

Enter the System Information interface:
Menu > Maintenance > System Info > Camera.

Device Info		Camera	Record	Alarm	Network	HDD
Camera ...	Camera Name	Status	Motion Detection	Tamper-proof	Video Loss	
D1	Camera02	Connected	Occur	Used	Not used	
D2	Camera 01	Disconnected	Not supported	Not supported	Not supported	
D3	Camera03	Disconnected	Not supported	Not supported	Not supported	
D4	Camera04	Disconnected	Not supported	Not supported	Not supported	
D5	Camera05	Disconnected	Not supported	Not supported	Not supported	

Viewing Record Information

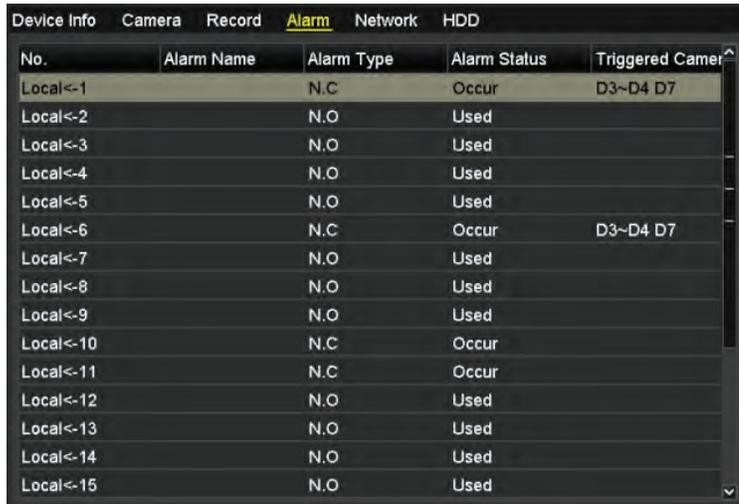
Enter the System Information interface:
Menu > Maintenance > System Info > Record.

Device Info		Camera	Record	Alarm	Network	HDD		
Camera No	Recording	Stream Type	Frame Rate	Bitrate(Kbps)	Resolution	Record Type	Encoding P	Redundant
D1	Used	Video & Au	30fps	2048	704*576(4CIF)	Manual	Event	No
D2	Used	Video	30fps	2048	1600*1200(UXG)	Manual	Normal	No
D3	Not used	Video & Au	30fps	2048	704*576(4CIF)		Normal	No
D5	Not used	Video	30fps	2048	4CIF		Normal	No
D6	Not used	Video & Au	30fps	2048	4CIF		Normal	No
D7	Not used	Video	30fps	2048	4CIF		Normal	No

MANAGEMENT AND MAINTENANCE

Viewing Alarm Information

Enter the System Information interface:
Menu > Maintenance > System Info > Alarm.



The screenshot shows a table with the following columns: No., Alarm Name, Alarm Type, Alarm Status, and Triggered Camera. The table contains 15 rows of data, with the first and sixth rows having a value in the Triggered Camera column.

No.	Alarm Name	Alarm Type	Alarm Status	Triggered Camera
Local<-1		N.C	Occur	D3~D4 D7
Local<-2		N.O	Used	
Local<-3		N.O	Used	
Local<-4		N.O	Used	
Local<-5		N.O	Used	
Local<-6		N.C	Occur	D3~D4 D7
Local<-7		N.O	Used	
Local<-8		N.O	Used	
Local<-9		N.O	Used	
Local<-10		N.C	Occur	
Local<-11		N.C	Occur	
Local<-12		N.O	Used	
Local<-13		N.O	Used	
Local<-14		N.O	Used	
Local<-15		N.O	Used	

Viewing Network Information

Enter the System Information interface:
Menu > Maintenance > System Info > Network.



The screenshot shows the Network configuration page with the following fields and values:

NIC	bond0
IPv4 Address	172.8.2.250
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	172.8.2.1
IPv6 Address 1	fe80::240:48ff:fe4c:7ff7/64
IPv6 Address 2	
IPv6 Default Gateway	
Preferred DNS Server	192.0.0.200
Alternate DNS Server	
Enable DHCP	Disabled
Enable PPPOE	Disabled
PPPOE Address	
PPPOE Subnet Mask	
PPPOE Default Gateway	
Main NIC	LAN1

A yellow 'Back' button is located at the bottom right of the page.

Viewing HDD Information

Enter the System Information interface:
Menu > Maintenance > System Info > HDD.

The screenshot shows the 'System Maintenance' interface with the 'HDD' tab selected. It displays a table of HDD information and summary statistics.

Label	Status	Capacity	Free Space	Property	Type	Count
5	Normal	931GB	931GB	R/W	Local	1
6	Normal	931GB	931GB	Redundancy	Local	1
17	Normal	40,000MB	22,528MB	R/W	IP SAN	1

Total Capacity	1,902GB
Free Space	1,884GB

Search Log Files

Operation, alarm, exception, and NVR information stored in log files can be viewed or exported at any time. Enter the Log Search interface: Menu > Maintenance > Log Information > Log Search.

The screenshot shows the 'Log Search' interface with search criteria set. The 'Start Time' is 06-04-2012 00:00:00 and the 'End Time' is 06-04-2012 23:59:59. Both 'Major Type' and 'Minor Type' are set to 'All'. A table below shows search results, currently empty. The status at the bottom indicates 'Total: 0 P: 1/1'.

No.	Major Type	Time	Minor Type	Paramet...	Play	Details
-----	------------	------	------------	------------	------	---------

1. Set conditions for log search.
2. Click Search.

MANAGEMENT AND MAINTENANCE

Log Search Log Export

Start Time 06-04-2012 00:00:00
End Time 06-04-2012 23:59:59
Major Type All
Minor Type All

No.	Major Type	Time	Minor Type	Paramet...	Play	Details
100	Alarm	06-04-2012 06:12:35	Stop Motion Det...	N/A		
99	Alarm	06-04-2012 06:12:21	Start Motion Det...	N/A		
98	Alarm	06-04-2012 06:10:30	Stop Motion Det...	N/A		
97	Alarm	06-04-2012 06:10:16	Start Motion Det...	N/A		
96	Alarm	06-04-2012 06:07:49	Stop Motion Det...	N/A		
95	Alarm	06-04-2012 06:07:36	Start Motion Det...	N/A		
94	Alarm	06-04-2012 06:02:39	Stop Motion Det...	N/A		
93	Alarm	06-04-2012 06:02:26	Start Motion Det...	N/A		
92	Alarm	06-04-2012 05:59:26	Stop Motion Det...	N/A		
91	Alarm	06-04-2012 05:59:13	Start Motion Det...	N/A		
90	Alarm	06-04-2012 05:45:13	Stop Motion Det...	N/A		
89	Alarm	06-04-2012 05:44:59	Start Motion Det...	N/A		
88	Alarm	06-04-2012 05:43:15	Stop Motion Det...	N/A		

Total: 1052 P: 1/11

3. Click the button to view the log details.

4. Click the button to view a log's related video files.

NOTE: All logs meeting set conditions will display (up to 2,000 at a time).

Export Log Files

To export log files, enter the Log Information interface: Menu > Maintenance > Log Information > Log Export. Select the backup device and click Export.

NOTE: Exports are named by time.

Export

Device Name USB1-1 Refresh

Name	Size	Type	Edit Date	Delete	Play
FOUND.000		Folder	2010-09-17 11:19:04		
FOUND.001		Folder	2011-04-02 17:45:24		
RECYCLER		Folder	2010-08-04 17:35:20		
Work		Folder	2011-06-21 17:55:42		
Book1.xls	23KB	File	2011-05-26 18:32:14		
Compare Excel.exe	129KB	File	2011-04-20 09:51:42		
Recycled	4KB	File	2011-02-22 14:16:18		
bond0_201106241720	1,024KB	File	2011-06-24 17:20:48		
digicap.mav	19,790KB	File	2011-06-23 09:05:20		

Free Space 180MB

New Folder Format Export Cancel



Connecting Backup Device NVR

Make sure the backup device is connected to the NVR before attempting a log export.

NOTE: Please connect the backup device to NVR before operating log export.

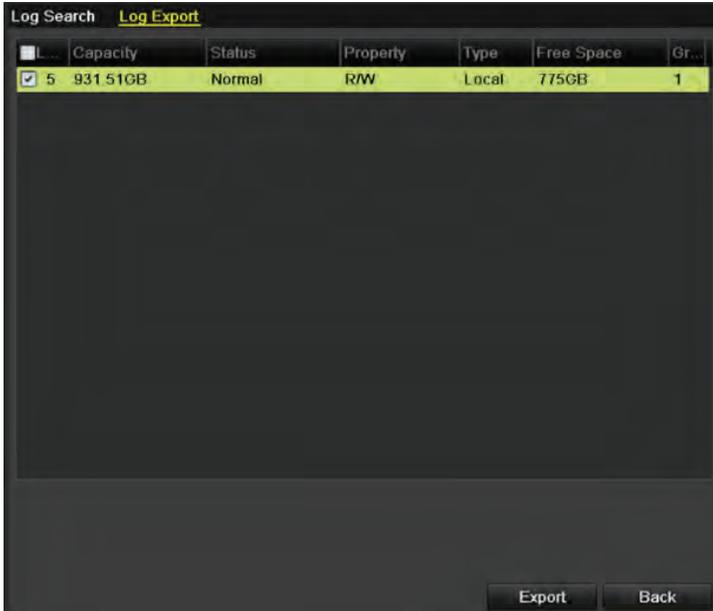
NOTE: The log files exported to the backup device are named by exporting time.

1. Create a new folder in backup device.

2. Formate backup device before log export.

MANAGEMENT AND MAINTENANCE

To export all log files, enter the Log Information interface: Menu > Maintenance > Log Information > Log Export. Check the HDD checkbox and click Export.



Export/Import IP Camera Information

To export IP camera information to an Excel file or local device for backup, enter the Camera Management interface: Menu > Camera > IP Camera Import/Export and click Export.

To import a file, select the file from the backup device and click Import.

NOTE: NVR must be rebooted after an import.



MANAGEMENT AND MAINTENANCE

Export/Import Configuration Files

To export configuration files to a device for backup, enter the Import/Export Configuration File interface: Menu > Maintenance > Import/Export > and click Export.

To import a file, select the file from the backup device and click Import.

NOTE: NVR must be rebooted after an import and will reboot automatically after import completes.



Upgrading by Local Backup Device

Enter the Upgrade interface: Menu > Maintenance > Upgrade > Local Upgrade. Select the update file and click Upgrade.

NOTE: NVR must be rebooted after upgrade to activate new firmware.



Before you start

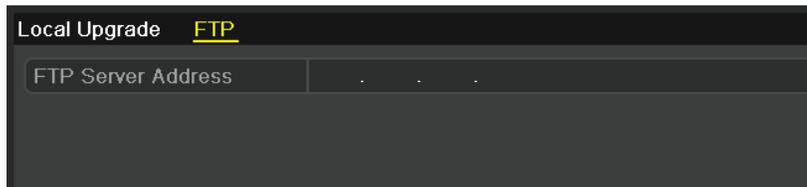
Connect NVR to local backup device where firmware file is located.

MANAGEMENT AND MAINTENANCE

Upgrading by FTP

Enter the Upgrade interface: Menu > Maintenance > Upgrade > FTP.
Enter the FTP Server Address and click Upgrade.

NOTE: NVR must be rebooted after upgrade to activate new firmware.



The screenshot shows a web interface for upgrading via FTP. At the top, there are two tabs: "Local Upgrade" and "FTP", with "FTP" selected. Below the tabs is a text input field labeled "FTP Server Address".



Before you start

Configure PC and NVR to same Local Area Network before starting. Run the third-party software on the PC and copy firmware into the root directory of FTP.

Restore Default Settings

Enter the Default interface: Menu > Maintenance > Default. Click OK.



The screenshot shows a "System Maintenance" window with a "Default" tab selected. The main content area displays the text: "System will restore factory settings after reboot. Continue?". At the bottom right, there are two buttons: "OK" (highlighted in yellow) and "Back".

NOTE: All NVR parameters will revert to the default settings excluding the network parameters: IP address, subnet mask, gateway, MTU, NIC working mode, default route, and server port.

ADDITIONAL INFORMATION

RS-232 Serial Port Configuration

Enter the RS-232 Settings interface to use the RS-232 port for connecting a PC to the NVR or to connect a serial device to the NVR: Menu > Configuration > RS-232. Configure settings and then click Apply.



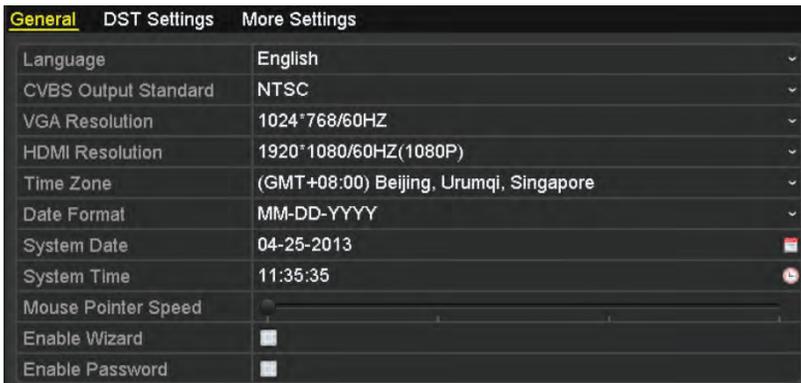
The screenshot shows the RS-232 Settings interface with the following configuration:

Setting	Value
Baud Rate	115200
Data Bit	8
Stop Bit	1
Parity	None
Flow Ctrl	None
Usage	Console

General Settings

Configuration

BNC output standard, VGA output resolution, and mouse pointer speed can all be configured through the General Settings interface: Menu > Configuration > General > General. Configure settings and click Apply.



The screenshot shows the General Settings interface with the following configuration:

Setting	Value
Language	English
CVBS Output Standard	NTSC
VGA Resolution	1024*768/60HZ
HDMI Resolution	1920*1080/60HZ(1080P)
Time Zone	(GMT+08:00) Beijing, Urumqi, Singapore
Date Format	MM-DD-YYYY
System Date	04-25-2013
System Time	11:35:35
Mouse Pointer Speed	4 levels
Enable Wizard	<input type="checkbox"/>
Enable Password	<input type="checkbox"/>

SETTING	FUNCTION
Language	The default language is English
CVBS Output Standard	Set CVBS output standard to NTSC or PAL, which must be the same with video input standard
VGA Resolution	VGA output resolution must be the same with monitor screen resolution
HDMI Resolution	HDMI output resolution must be the same with monitor screen resolution
Time Zone / Date Format	Set time zone and date format
System Time / Date	Set system time and date
Mouse Pointer Speed	Set speed of mouse pointer; 4 levels are configurable
Enable Wizard	Enable / Disable Wizard when device starts up
Enable Password	Enable / Disable use of login password

ADDITIONAL INFORMATION

DST Settings

Enter the General Settings interface: Menu > Configuration > General > DST Settings.

Auto DST Adjustment						
Enable DST	<input checked="" type="checkbox"/>					
From	Apr	1st	Sun	2	:00	
To	Oct	last	Sun	2	:00	
DST Bias	60 Minutes					

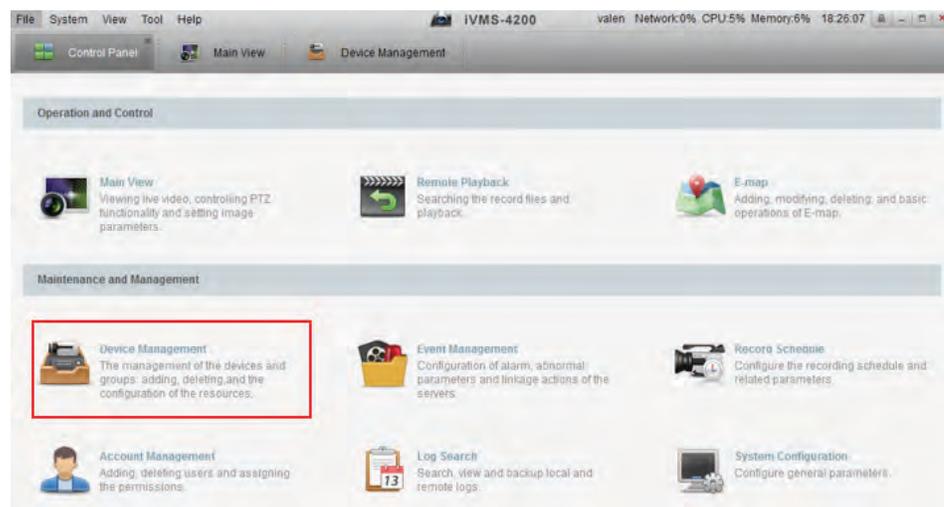
NOTE: You can check the checkbox before the Auto DST Adjustment Item, or you can manually check the Enable DST checkbox, and then choose the date of the DST period.

Smartbridge Function

The NVR must be connected to the Internet to enable the P2P feature. The P2P feature can be enabled through the DDNS interface: Configuration > Network > DDNS.

Configuration	
General PPPOE DDNS NTP Email SNMP NAT More Settings	
Enable P2P	<input checked="" type="checkbox"/>
Enable Stream Encryption	<input checked="" type="checkbox"/>
Verification Code	QWEASDI
Enable DDNS	<input type="checkbox"/>
DDNS Type	SimpleDDNS
Server Address	www.simpleddns.com
Device Domain Name	
User Name	
Password	
Confirm	

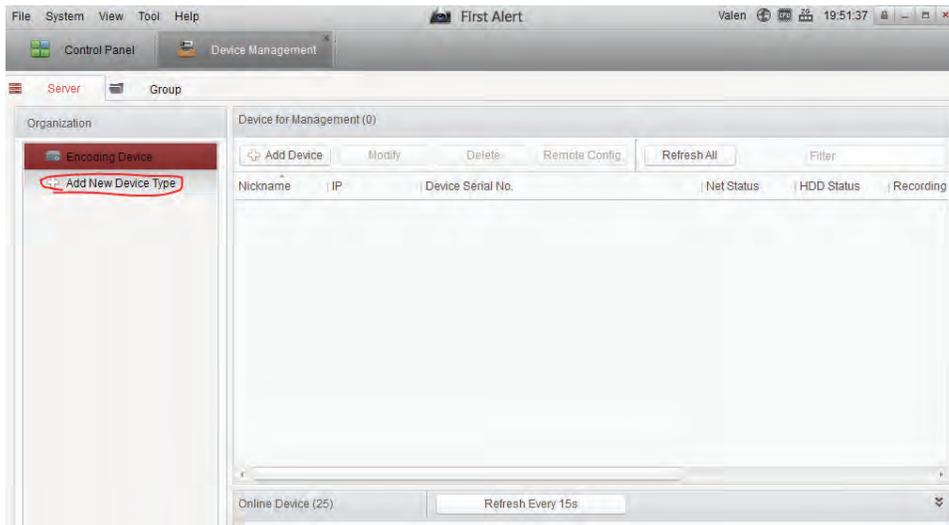
1. Check the box to enable.
2. Define a six-letter, all-uppercase custom verification code.



3. Click on Device Management to install and open a PC.

ADDITIONAL INFORMATION

1. Click Add New Device Type.



2. Select Device on Cloud and click Register.



3. Complete fields and click Register.

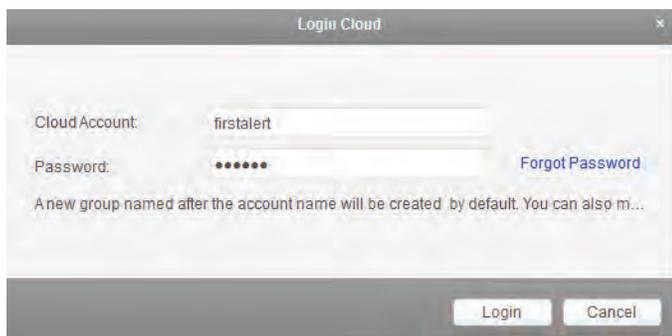
The 'Register Cloud Account' dialog box contains the following fields and buttons:

- Cloud Account:
- Password:
- Verify:
- Email:
- Verification Code:  Refresh
- Get Email Code:
- Email Code: (Placeholder: Please input your verification code)
- Register:
- Cancel:

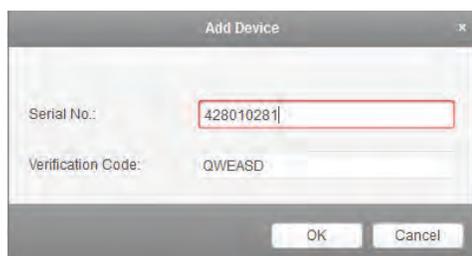
NOTE: Clicking the Get Email Code will trigger an email with the code needed to register.

ADDITIONAL INFORMATION

4. Click Login and enter the information from the previous step.



5. Enter Serial No. and Verification Code.



Find this in Configuration > System Info > Device Info > Serial No. Choose just the middle part of the number beginning from “4”.

This is the six-letter, all-uppercase custom verification code previously created.

More Settings

To configure more settings, access the General Settings interface: Menu > Configuration > General > More Settings. Once configured, click Apply.



SETTING	FUNCTION
Device Name	Edit the name of NVR
Device No.	Edit serial number of NVR. The Device No. can be set in the range of 1-255. (Default is 255)
CVBS Output Brightness	Adjust the video output brightness
Auto Logout	Set timeout for menu inactivity.
Enable HDMI/VGA Simultaneous Output	By default the video outputs from HDMI and VGA can be operated separately. Set the simultaneous output by checking the option.
Menu Output Mode	Choose the menu display on different video output: Auto, HDMI, VGA, and Main CVBS.

ADDITIONAL INFORMATION

User Account Management

The Administrator is the default account for the NVR with a username of “admin” and a password of “12345”. Administrator permissions allow the ability to add and delete users and to configure user parameters.

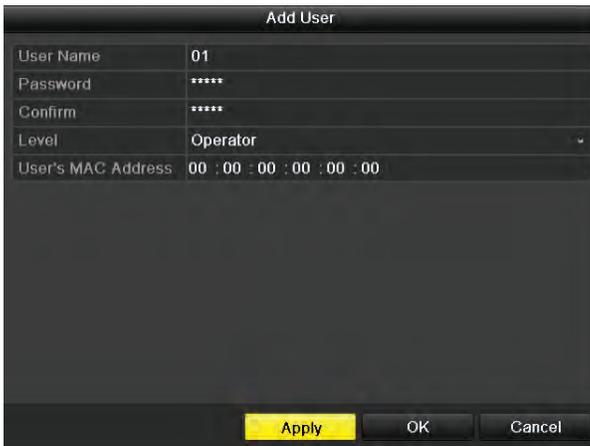
Adding a User

Access the User Management interface: Menu > Configuration > User and then click Add.



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

Enter the new user's information, click Apply and then click OK.



Add User	
User Name	01
Password	*****
Confirm	*****
Level	Operator
User's MAC Address	00 : 00 : 00 : 00 : 00 : 00

Apply OK Cancel

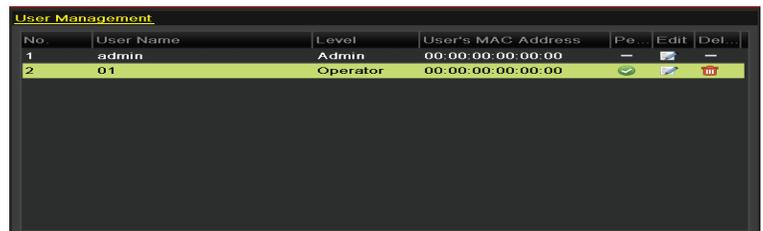
Level options include Guest or Operator.

- By default, Operator can use two-way audio in remote configuration and has all operating permission in camera configuration.
- By default, Guest only has permission for local/remote playback in camera configuration.

The MAC address of the remote PC that logs into the NVR. If configured and enabled, it only allows the remote user with this MAC address to access the NVR.

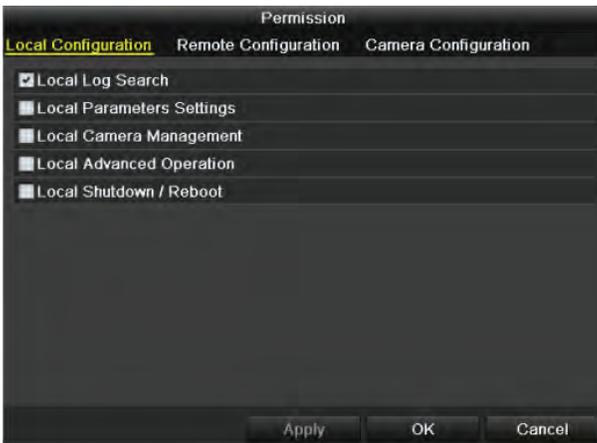
Click OK to save the settings.

The new user will appear in this screen. Click the  button to enter permission settings.



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

ADDITIONAL INFORMATION



Set each configuration for the user and then click OK.

Local Configuration

- Local Log Search to search and view logs and system information
- Local Parameters Settings to configure parameters, restore factory defaults, and import/export configuration files (*only Admin can restore factory defaults)
- Local Camera Management to add, delete, and edit IP cameras
- Local Advanced Operation to initialize HDD and set HDD properties, upgrade system firmware, and clear I/O alarm output
- Local Shutdown/Reboot to shutdown or reboot NVR

Remote Configuration

- Remote Log Search to remotely view logs on NVR
- Remote Parameter Settings to remotely configure parameters, restore factory defaults, and import/export configuration files (*only Admin can restore factory defaults)
- Remote Camera Management to remotely add, delete, and edit IP cameras
- Remote Serial Port Control to configure RS-232 and RS-485 port settings
- Remote Video Output Control to send remote button control signal
- Two-Way Audio to realize two-way radio between remote client and NVR
- Remote Alarm Control to remotely arm and control alarm output
- Remote Advanced Operation to remotely initialize HDD and set HDD properties, upgrade system firmware, and clear I/O alarm output
- Remote Shutdown/Reboot to remotely shutdown or reboot NVR

Camera Configuration

- Remote Live View to remotely view live video of selected camera(s)
- Local Manual Operation to locally start or stop manual recording, picture capture, and alarm output of selected camera(s)
- Remote Manual Operation to remotely start or stop manual recording, picture capture, and alarm output of selected camera(s)
- Local Playback to locally play recorded files of selected camera(s)
- Remote Playback to remotely play recorded files of selected camera(s)
- Local PTZ Control to locally control PTZ movement of selected camera(s)
- Remote PTZ Control to remotely control PTZ movement of selected camera(s)
- Local Video Export to locally export recorded files of selected camera(s)

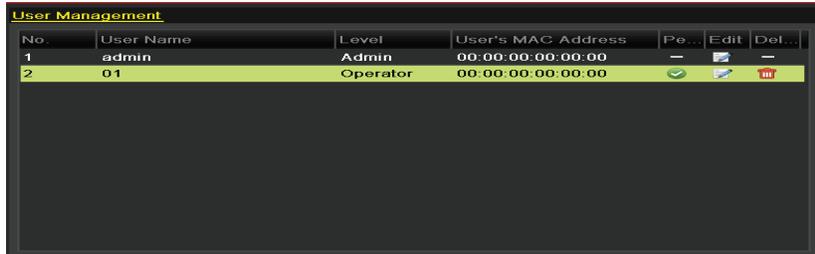
NOTE: Only the admin user account has the permission of restoring factory default parameters.

ADDITIONAL INFORMATION

Deleting a User

Access the User Management interface: Menu > Configuration > User.

1. Select the user
2. Click the  button to delete.



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

Editing a User

Access the User Management interface: Menu > Configuration > User.

1. Select the user
2. Click the  button to edit.
3. Make necessary edits and click OK.

NOTE: The admin user can also be edited.



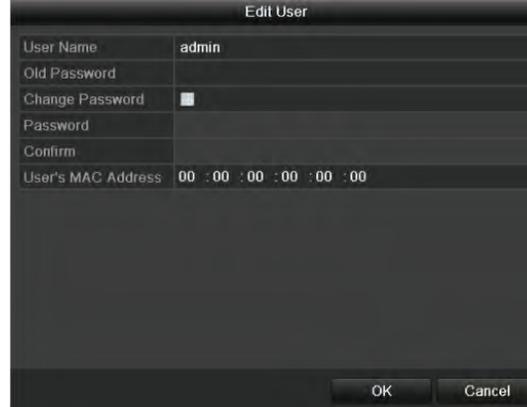
User Name	01
Password	*****
Confirm	*****
Level	Operator
User's MAC Address	00 : 00 : 00 : 00 : 00 : 00

Apply OK Cancel

Screen for editing Operator and Guest.

NOTE: Operator and Guest:

You can edit the user information, including user name, password, permission level and MAC address. Check the checkbox of Change Password if you want to change the password, and input the correct old password, and the new one in the text field of Password and Confirm.



User Name	admin
Old Password	
Change Password	<input type="checkbox"/>
Password	
Confirm	
User's MAC Address	00 : 00 : 00 : 00 : 00 : 00

OK Cancel

Screen for editing Admin.

NOTE: Admin:

You are only allowed to edit password and MAC address. Check the checkbox of Change Password if you want to change the password, and input the correct old password, and the new one in the text field of Password and Confirm.

SmartBridge High Definition Mobile App

First Alert offers both a Smartphone as well as Tablet optimized app for mobile access to your live video stream!

This manual was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, additional features and functions may have been added since that time and on-screen displays may change. We encourage you to visit our website at www.firstalert.com to check for the latest manuals (English and Spanish), firmware updates, downloads, other security camera products and announcements.

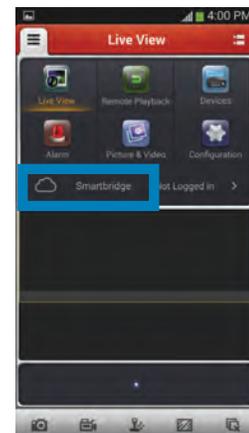


ACCESSING YOUR DEVICE FROM THE APP

To control your NVR system from a tablet or smartphone, download the Smartbridge HD App and follow the steps below.

1. From the main dropdown menu , click the Cloud and log into your Cloud Account. Click Add Device. Enter 9 digit Device Code from NVR. If you do not have a Cloud Account, register for one using a valid e-mail address. A four-digit code will be e-mailed to you within minutes which you will need to reference to complete registration.

Serial No. R123456789W



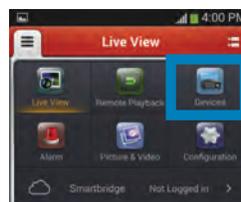
NOTE:

To obtain your Device Code, access your NVR system directly using the mouse provided with the NVR. Right click, select Menu and enter login info. Click Maintenance. Find the 9-digit code within the Serial No. field highlighted above and write it below for future reference:

2. Click back into Devices, and click on the Icon in the list. Hit Live View.



3. Simple DDNS (on remote network). Click Devices. Click the  icon. In the Register Mode field, select simpleddns. Enter your NVR login information.



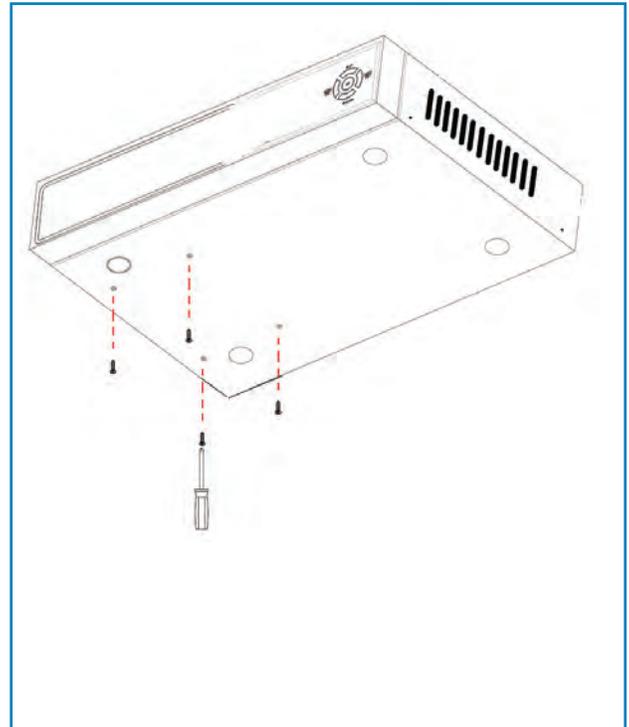
APPENDIX HARD DRIVE

Hard Drive Removal and Installation

HDD Installation

To replace the hard drive in the NVR:

1. CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. UNPLUG ALL POWER SOURCES, INCLUDING CAMERAS FROM THE NVR BEFORE REMOVING COVER. FAILURE TO DO SO CAN RESULT IN DAMAGE TO THE NVR OR ITS COMPONENTS AS WELL AS INJURY OR DEATH
2. Remove screws securing the cover of the NVR and remove cover.
3. Disconnect the hard drive power and data cables.
4. Remove old hard drive and replace with the new one.
5. Re-install the screws securing the hard drive to the bottom of the NVR.
6. Re-connect the hard drive power and data cables.
7. Replace the cover and screws. NOTE: Format hard drive per instructions in HDD MANAGEMENT section.



Hard Drive Remove/Install Screws from Below



Caution!

When working with electrostatic sensitive devices such as hard disk or NVR unit, make sure you use a static-free workstation. Any electrostatic energy coming in contact with the hard disk or NVR can damage it permanently.



Hard Drive Format

NOTE: A new hard drive must be formatted after installation. Format per instructions in the HDD MANAGEMENT section of this manual.



CAUTION!

RISK OF ELECTRIC SHOCK



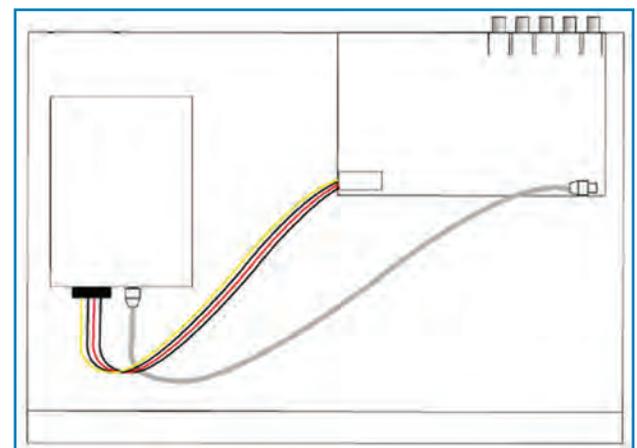
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. UNPLUG ALL POWER SOURCES, INCLUDING CAMERAS FROM THE NVR BEFORE REMOVING COVER. FAILURE TO DO SO CAN RESULT IN DAMAGE TO THE NVR OR ITS COMPONENTS AS WELL AS INJURY OR DEATH.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Hard Drive - Connected to Circuit Board

Technical Specifications

-000 (NVR16XX-360H)	DS-7716NI-SP
Video/Audio input	
IP video input	16-ch
Two-way audio input	1-ch, BNC (2.0 Vp-p, 1k Ω)
Incoming bandwidth	80Mbps
Video/Audio output	
Recording resolution	5MP / 3MP / 1080P / UXGA / 720P / VGA / 4CIF / DCIF / 2CIF / CIF / QCIF
CVBS output	1-ch, BNC (1.0 Vp-p, 75 Ω) Resolution: 704 \times 576 (PAL); 704 \times 480 (NTSC)
HDMI output	2-ch audio input, impedance 600 Ω , RCA: 1920 \times 1080P /60Hz, 1920 \times 1080P / 50Hz, 1600 \times 1200 /60Hz, 1280 \times 1024 /60Hz, 1280 \times 720 /60Hz, 1024 \times 768 /60Hz
VGA output	1-ch, resolution: 1920 \times 1080P /60Hz, 1600 \times 1200 /60Hz, 1280 \times 1024 /60Hz, 1280 \times 720 /60Hz, 1024 \times 768 /60Hz
Audio output	2-ch, BNC (Linear, 600 Ω)
Playback resolution	5MP / 3MP / 1080P / UXGA / 720P / VGA / 4CIF / DCIF / 2CIF / CIF / QCIF
Synchronous playback	16-ch
Hard disk	
SATA	4 SATA interfaces for 2 HDDs + 1 DVD-R/W (default), or 4HDDs
eSATA	1 eSATA interface
Capacity	Up to 4TB capacity for each HDD
External Interface	
Network interface	1 RJ-45 10 / 100 / 1000 Mbps self-adaptive Ethernet interface 16 independent 100 Mbps PoE network interfaces
Serial interface	1 RS-232 interface (for parameters configuration, maintenance, transparent channel); 1 RS-485 interface (reserved);1 RS-485 keyboard interface (for special keyboard control)
USB interface	3 \times USB 2.0
Alarm in	16
Alarm out	4
General	
Power supply	100 ~ 240VAC, 6.3A, 50 ~ 60Hz
Consumption	\leq 40 W
PoE	12VDC @ 1A X 16
Working temperature	-10 oC ~ +55 oC
Working humidity	10% ~ 90%
Chassis	19-inch rack-mounted 1.5U chassis
Dimensions (W \times D \times H)	445mm \times 390mm \times 70mm
Weight	\leq 8 Kg (17.64 lb) (without hard disk or DVD-R/W)
Revision Numbers	
Firmware Version	V3.1.1, Build 141203
Encoding Version	V1.0, Build 140508

APPENDIX

FAQ's

FAQ's

If your problem is not listed below, please call our toll-free number for more support. **Tech Services: 800-323-9005.**

Question: Why does NVR not work after starting? Why did the NVR stop working?

Answer:

- Check that the power adapter is plugged into the **NVR** properly
- Check the power source and all power cord connections are properly connected
- Make sure the power on-off switch on the back of the **NVR** unit is on

Question: Why does the NVR reboot automatically? Or stop for several minutes after starting?

Answer:

- Check the supply voltage to be sure it is stable
- Bad track on hard drive or the hard drive is bad
- Instability of the front-end video signal
- High temperature, too much dust, bad **NVR** operating environment

Question: Why is there no video output on single, multi or all channels?

Answer:

- Check if the camera adaptor is properly connected
- Check the cable for connecting video input/output in the back panel of **NVR**
- Insert the video source directly into the display device and check if they are causing the problem.
- Check the brightness of the picture and bring it back to its original default setting
- No video input signal or too weak

Question: What is the meaning of?

Answer:

	Start / Stop Recording
	Instant Playback
	Audio On
	Capture
	PTZ Control
	Digital Zoom
	Image Settings
	Live View Strategy
	Information
	Close

Question: Why does NVR have problems with real-time images, such as bad image color or serious brightness distortion?

Answer:

- If PAL and NTSC are not correctly selected, the images will be in black and white and possibly a rolling screen.
- **NVR** is not compatible with monitor
- Adjust the **NVR** color settings

Question: Why is there no audio sound when monitoring?

Answer:

- Check sound box or speaker functions. Also check possible short circuit.
- Audio source may be connected to the video channel. You can click to full-screen to check.
- The hardware of **NVR** is defective
- Cameras are not audio capable
- Speakers need to have an amplifier
- Channel being monitored is not connected to an audio camera
- Volume regulate is turned down

Question: Why is there no audio when playing back?

Answer:

- Check to see that the audio settings for the channels are correct.
- Audio is off in record menu

Question: Why is my system time not correct?

Answer:

- Wrong setting or user did not click OK to confirm

Question: Why doesn't motion detection work?

Answer:

- The setting of motion detection area is not correct
- Sensitivity is too low

Question: Why do I have no disc or disc mount error?

Answer:

- The data being downloaded exceeds the capacity of backup device
- The backup device is incompatible
- The backup device is damaged

Question: Why doesn't the Remote Control work?

Answer:

- The remote control is too far from the **NVR**
- Remote control batteries are dead or low
- Remote control is damaged, check by using the control on the **NVR**

Question: Why can't I log in over the Internet?

Answer:

- Check the network to see if it is connected. Check if LINK or 100M LED is displayed normally on the panel; use ping xxx.xxx.xxx.xxx (**NVR** IP) to check if the Internet is linked properly.
- Make sure you are running Windows 7, Vista or XP operating system and Internet Explorer 6.0 - 8.0
- Refer to the network setup section in the manual.

Troubleshooting

Error	Possible Cause	Solutions
System is not receiving power or is not powering up	Cable from power adapter is loose or is unplugged	<ul style="list-style-type: none"> • Confirm that all cables are connected correctly • Confirm that the power adapter is securely connected to the back of the unit
	Cables are connected, but system is not receiving sufficient power	<ul style="list-style-type: none"> • Confirm that the system is powered on (LED indicators on the front should be ON) • If the unit is connected through a power bar or surge protector, try bypassing the bar and connecting the power directly to the wall outlet • Confirm that there is power at the outlet <ul style="list-style-type: none"> • Connect the power cable to another outlet • Test the outlet with another plugged device
Remote control not detected by the system	Battery in the remote control is drained or is missing	<ul style="list-style-type: none"> • Install two fresh AAA alkaline batteries in the remote control
Hard drive is not detected by the system	Hard drive cables are loose or not properly connected	<ul style="list-style-type: none"> • Remove the housing and check that hard drive cables are firmly connected
		<ul style="list-style-type: none"> • Open the housing and install a 3.5 SATA hard drive
Mouse not detected by system	Mouse cable is not connected or is not firmly connected to the system	<ul style="list-style-type: none"> • Firmly connect the mouse cable to the USB Mouse port (not the USB Data port) on the front panel.
	System needs to be reset	<ul style="list-style-type: none"> • Power off the system (Turn power switch off position on back of unit). Firmly connect a USB mouse to the USB Mouse port on the front panel of the system. Power on the system (Turn power switch to on position on back of unit).
There is no picture on selected channels/camera picture is not being displayed	Camera cables are loose or have become disconnected	<ul style="list-style-type: none"> • Check the camera video cable and connections • Disconnect and reconnect the cable at the system and at the camera • Try moving the camera to another channel or use another cable
The image on the NVR appears but does not have sound	Audio cables are loose or have been disconnected	<ul style="list-style-type: none"> • Check the AUDIO connections to the NVR
	Audio channels are disabled insert check the system settings	<ul style="list-style-type: none"> • Check the Configurations: System Setup>Channel>Audio
	Volume on external speakers (not included) is low or off	<ul style="list-style-type: none"> • Increase volume on external speakers (not included)
	Cameras are not audio capable or a powered microphone is not attached	<ul style="list-style-type: none"> • Add audio capable cameras or a powered microphone (not included with this kit)
The system beeps at startup	The beep at startup is normal	

APPENDIX WARRANTY

Warranty

PRODUCT LIMITED WARRANTY

BRK Brands, Inc., (“BRK”) the maker of First Alert® brand products warrants that for a period of one year from the date of purchase (the “Warranty Period”), this product will be free from defects in material and workmanship. BRK, at its sole option, will repair or replace this product or any component of the product found to be defective during the Warranty Period. Replacement or repair will be made with a new or remanufactured product or component. If the product is no longer available, replacement may be made with a similar product of equal or greater value. This is your exclusive warranty.

This warranty is valid for the original retail purchaser only from the date of initial retail purchase and is not transferable. In order to obtain warranty service, you must keep the original sales receipt and proof of purchase in the form of the UPC code from the package. BRK dealers, service centers, or retail stores selling BRK products do not have the right to alter, modify or any way change the terms and conditions of this warranty.

WARRANTY EXCLUSIONS

Parts and Labor: 1 year limited (warranted parts do not include bulbs, LEDs, and batteries)

This warranty does not apply to bulbs, LEDs, and batteries supplied with or forming part of the product.

This warranty is invalidated if non- BRK accessories are or have been used in or in connection with the product or in any modification or repair is made to the product.

This warranty does not apply to defects or damages arising by use of the product in other than normal (including normal atmospheric, moisture and humidity) conditions or by installation or use of the product other than in strict accordance with the instructions contained in the product owner’s manual.

This warranty does not apply to defects in or damages to the product caused by (i) negligent use of the product, (ii) misuse, abuse, neglect, alteration, repair or improper installation of the product, (iii) electrical short circuits or transients, (iv) usage not in accordance with product installation, (v) use of replacement parts not supplied by BRK, (vi) improper product maintenance, or (vii) accident, fire, flood or other Acts of God.

This warranty does not cover the performance or functionality of any computer software included in the package with the product. BRK makes no warranty that the software provided with the product will function without interruption or otherwise be free of anomalies, errors, or “Bugs.” This warranty does not cover any costs relating to removal or replacement of any product or software installed on your computer.

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OBTAINING SERVICE

If service is required, do not return the product to your place of purchase. In order to obtain warranty service, contact the Consumer Affairs Division at 1-800-323-9005, 7:30 a.m. – 5:00 a.m. Central Standard Time, Monday through Friday. To assist us in serving you, please have the model number and date of purchase available when calling.

After contacting the Consumer Affairs Division and it is determined that the product should be returned for Warranty Service, please mail the product to: BRK Brands, Inc., 3901 Liberty Street Road, Aurora, IL 60504-8122.

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