HIKVision DS-7604, DS-7608, DS-7616 Analogue CCTV Recorder USER MANUAL

HIKVISION

DS-7600 Series DVR

USER MANUAL

Version 1.2.0

Hikvision® Network Digital Video Recorder User's Manual

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Regulatory Information

FCC Information

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

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.

2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

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

Description on Laser Specification

The optical disc drive such as DVD Super Multi (Double Layer) Drive 22X that is used in this computer is equipped with laser. The classification label with the following sentence is affixed to the surface of the drive.

CLASS 1 LASER
PRODUCT TO IEC60825-1
LASER KLASSE 1
The drive with the above label is certified by the manufacturer that the drive complies with the requirement for laser product on the date of manufacturing pursuant to article 21 of Code of Federal Regulations by the United States of America, Department of Health & Human Services, Food and Drug Administration.
In other countries, the drive is certified to comply with the requirement pursuant to IEC 60825-1 and EN 60825-1 on class 1 laser product.
This computer is equipped with the optical disc drive in the following list according to the model.
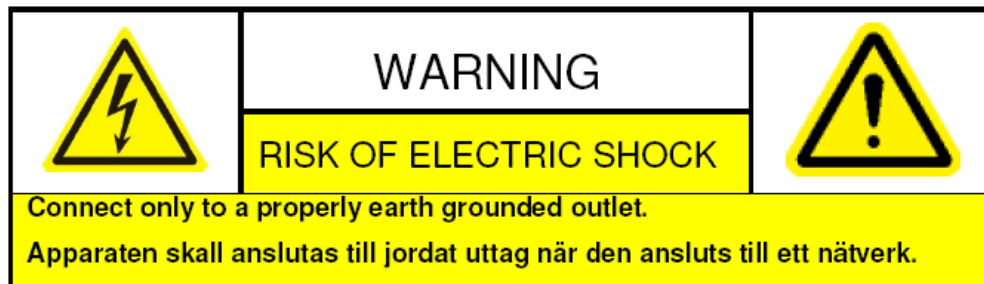
Safety Warnings and Cautions

Please pay attention to the following warnings and cautions:

Hazardous Voltage may be present: Special measures and precautions must be taken when using this device. Some potentials (voltages) on the device may present a hazard to the user. This device should only be used by the Employees from our company with knowledge and training in working with these types of devices that contain live circuits.

> **Caution**
> The power supply in this product contains
> no user-serviceable parts.
> Refer servicing only to
> qualified personel.

Power Supply Hazardous Voltage: AC mains voltages are present within the power supply assembly. This device must be connected to a UL approved, completely enclosed power supply, of the proper rated voltage and current. **No user serviceable parts inside the power supply.**
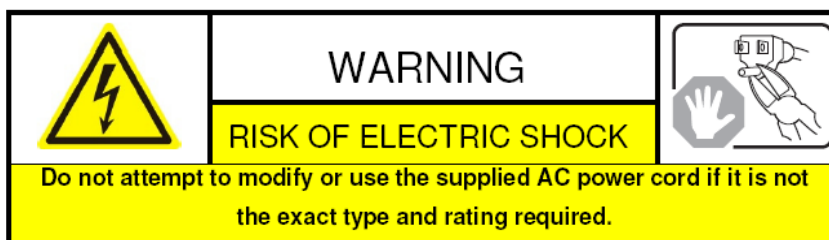
> **WARNING**
> **RISK OF ELECTRIC SHOCK**
> Connect only to a properly earth grounded outlet.
> Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.

System Grounding (Earthing): To avoid shock, ensure that all AC wiring is not exposed and that the earth grounding is maintained. Ensure that any equipment to which this device will be attached is also connected to properly wired grounded receptacles and are approved medical devices.

Power Connect and Disconnect: The AC power supply cord is the main disconnect device to mains (AC power).The socket outlet shall be installed near the equipment and shall be readily accessible.

Installation and Maintenance: Do not connect/disconnect any cables to or perform installation/maintenance on this device during an electrical storm.

> **WARNING**
> **RISK OF ELECTRIC SHOCK**
> Do not attempt to modify or use the supplied AC power cord if it is not the exact type and rating required.

Power Cord Requirements: The connector that plugs into the wall outlet must be a grounding-type male plug designed for use in your region. It must have certification marks showing certification by an agency in your region. The connector that plugs into the AC receptacle on the power supply must be an IEC 320, sheet C13, female connector. See the following website for more information http://kropla.com/electric2.htm.

Lithium Battery: This device contains a Lithium Battery. There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the vendor's instructions and in accordance with local environmental regulations.

Perchlorate Material: Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate. This notice is required by California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This device includes a battery which contains perchlorate material.

Taiwan battery recycling:

Please recycle batteries.

Thermal and Mechanical Injury: Some components such as heat sinks, power regulators, and processors may be hot; care should be taken to avoid contact with these components.

Electro Magnetic Interference: This equipment has not been tested for compliance with emissions limits of FCC and similar international regulations. This device is not, and may not be, offered for sale or lease, or sold, or leased until authorization from the United States FCC or its equivalent in other countries has been obtained. Use of this equipment in a residential location is prohibited. This equipment generates, uses and can radiate radio frequency energy which may result in harmful interference to radio communications. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is required to take measures to eliminate the interference or discontinue the use of this equipment.

Lead Content:
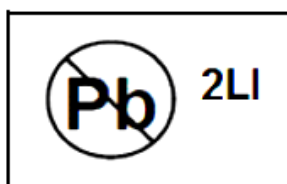
Please recycle this device in a responsible manner. Refer to local environmental regulations for proper recycling; do not dispose of device in unsorted municipal waste.

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Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer.

This manual is applicable to DS-7604HI-S, DS-7604NI-S, DS-7604NI-S/M and DS-7608NI-S series DVR.

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual. We will readily improve or update the products or procedures described in the manual.

Preventive and Cautionary Tips

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

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

- Unit is designed for indoor use only.

- Keep all liquids away from the DVR.

- Ensure environmental conditions meet factory specifications.

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

- Use the DVR in conjunction with an UPS if possible.

- Power down the unit before connecting and disconnecting accessories and peripherals.

- A factory recommended HDD should be used for this device.

- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

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CHAPTER 1

Introduction

Overview

Developed on the basis of the latest technology, DS-7600 Series Digital Video Recorder combines the latest advanced H.264 video encoding and decoding technologies delivering high performance rock-solid reliability and longer recording times.

DS-7600 Series Digital Video Recorder can be used as a standalone DVR or NVR, as well as to build up a powerful surveillance network making it is perfect for home or small business applications.

Figure1. DS-7604 Series DVR

Figure2. DS-7608NI-S Series DVR

Product Features

- **Compression**
- DS-7604HI-S can be connected with analog camera, network camera and IP speed dome.
- DS-7604NI-S, DS-7604NI-S/M and DS-7608 NI-S support connection of IP camera from third-party manufacturers.
- Dual stream compression and up to 720P / 1080P / UXGA / 2560×1290 resolution supported by each IP camera.
- Up to 4CIF resolution supported by each analog camera connected to DS-7604HI-S.
- Resolution, frame rate, bit rate and image quality settings programmable per individual camera.
- Scheduled and event recording parameters configurable per individual camera.
- Encoding for both audio/video composite stream and video stream; audio and video synchronization during composite stream encoding.

- **Local Monitoring**
- DS-7604HI-S supports 1/4/9-division video live view, with adjustable cameras order for display.
- DS-7604 NI-S and DS-7604NI-S/M support 1/4-division video live view.
- DS-7608 NI-S support 1/4/9-division video live view.
- Group switch, manual switch and automatic cycle modes selectable for video live view, with the auto cycle period configurable.
- Digital zooming in live view mode.
- Shield of assigned channel for live view.
- Motion detection, video loss detection, video tampering detection and video input exception detection configurable.
- Privacy masking capability.
- Multiple PTZ protocols supported.
- Configuration and call presets, patrols and patterns.
- Zoom in by clicking the mouse and tracing by dragging mouse in PTZ control.

- **HDD Management**
- Connection to 2 SATA hard disks supported, with up to 2TB storage capacity for each disk.
- Support connection to network HDD (NAS, IP SAN).
- S.M.A.R.T technology.
- HDD standby function.
- HDD management in groups.

- HDD file system is compatible with Windows. Use pre-allocating hard disk management technology, and no disk fragments.

- **Record & Playback**
- Cycle and non-cycle recording mode.
- Supports normal and event video encoding parameters.
- Multiple recording types, including manual, continuous, alarm, motion, motion | alarm and motion & alarm recording, etc.
- Eight recording time periods with separate recording types.
- Pre-record and Post-record time for alarm and motion detection, and pre-record time for schedule and manual recording.
- Lock and unlock of video files.
- Local redundant recording.
- Hard disk property can be set to read-only.
- Video data search and playback by channel number, recording type, time, and event.
- Supports video data search by events such as alarm input, motion detection and intelligent alarm.
- Digital zoom function in playback.
- Supports pause, play fast, play slow, skip forward, and skip backward when playback, locating in progress bar by dragging the mouse.
- Up to 4-channel synchronous playback.

- **Backup**
- Record files backed up via USB device or SATA CD-RW.
- Backup by file, time or event.
- Record files edited for backup in playback.
- Management and maintenance for backup devices.

- **Alarm & Exception**
- Unified management of alarm in/out of DVR and IP cameras.
- Unified management of video tempering alarm, motion and video loss alarm of DVR and IP cameras.
- Configurable arming time of alarm in/out.
- Various alarm types supported: alarms for video loss, motion detection, video tempering, video signal abnormal, video in/out format unmatched, illegal access, network disconnection, IP conflict, hard disk error and hard disk full.
- Various alarm response actions supported: camera recording, relay out, on-screen warning, audible warning and upload to center, etc.
- Auto recovery from exceptions.

- **Other Local Functions**
- Control of DVR via front panel keys, mouse, IR control and special keyboard.
- Three-level user management, each user with individual operating permission for DVR and IP camera.
- Powerful record and search for log of operation, alarm and exceptions.
- Import/export of device configuration files.

- **Network**
- 10/100M adaptive network interface.
- TCP/IP protocol suites, PPPoE, DHCP, DNS, DDNS, NTP, SADP protocols, etc.
- Unicast and multicast supported; TCP, UDP, and RTP protocols applicable in unicast.
- Remote search, playback and download, lock/unlock of video files; support breakpoint resume.
- Remote access and configuration of parameters; remote import/export of device configuration parameters.
- Remote access of device running status, system log and alarm status.
- Remote control of DVR via button operation.
- Remote lock/unlock of panel buttons and mouse.
- Remote formatting of hard disk, upgrade, reboot/shutdown and other system maintenance operations.
- RS -485 transparent channel transmission.
- Event alarm and exceptions upload to remote management host.
- Remote manual recording.
- Remote video image capture in JPEG format.
- Remote PTZ control.
- Voice talk and broadcast.
- Built-in WEB Server.

- **Development Support**
- Provision of SDK in Windows and Linux operating systems.
- Application software source code of Demo.
- Support and training service for application system development.

Product Application Diagram
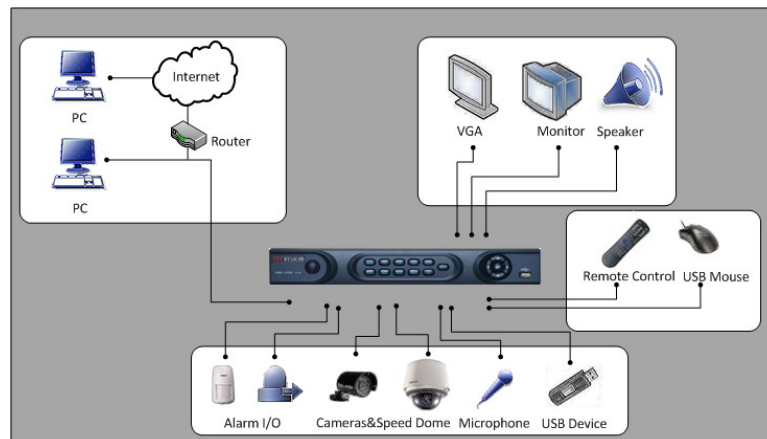
Figure3. Product Application Diagram

Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connections, and DS-7604NI-S/M model has no VGA output.

Operating Your DVR

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

Using the Front Panel Controls

Your DVR comes with built-in front panel controls, as shown in the following figure:

Figure4. DS-7604 Series DVR Front Panel

The controls on the front panel include:
1. **Status Indicators**:
    - **POWER**: the POWER indicator turns green when DVR is powered up.
    - **STATUS**: the indicator: 1. Lights in green when the compound key (SHIFT) is used; 2. Flickers in red when the HDD is reading/writing.
    - **Tx/Rx**: TX/RX indictor flickers green when network connection is functioning normally.
2. **IR Receiver:** operation by IR remote control.
3. **Compound Buttons:**
    - **1 MENU**: (1) Enter numeral "1"; (2) Access the main menu interface
    - **2ABC/F1**: (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
    - **3DEF/F2**: (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle

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through tab pages. It will also bring up the Channel & OSD Position settings.

- **4GHI/ESC**: (1) Enter numeral "4"; (2) Enter letters "GHI"
  (3) Exit and back to the previous menu
- **5JKL/EDIT**: (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor;
  (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback
- **6MNO/PLAY**: (1) Enter numeral "6"; (2) Enter letters "MNO"; (3) Playback, for direct access to playback interface
- **7PQRS/REC**: (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record
- **8TUV/PTZ**: (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface
- **9WXYZ/PREV**: (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in live view.
- **0/A**: (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)

4. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
5. **Control Buttons:**
   - **Directional buttons:** In menu mode, the *direction* buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the *Up* and *Down* buttons are used to speed up and slow down record play, and the *Left* and *Right* buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
   - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence view mode, the buttons can be used to pause / resume auto sequence.
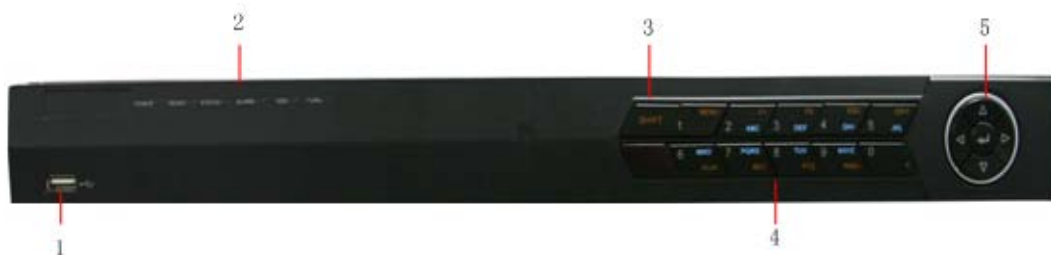6. **USB Interface:** Connects USB mouse or USE flash memory devices.

Figure5. DS-7608NI-S DVR Front Panel

The controls on the front panel include:
1. **USB Interface:** Connect USB mouse or USE flash memory devices.
2. **Status Indicators**:
   - **POWER**: the POWER indicator turns green when NVR is powered up.
   - **READY**: the indicator lights in green when the device is running normally.
   - **STATUS**: the indicator: 1. Lights in green when the IR remote control is enabled; 2. Lights in red when the compound key (SHIFT) is used.
   - **ALARM**: the indicator lights in red when there is sensor alarm occurring.
   - **HDD**: the indicator flickers in red when HDD is reading/writing.
   - **Tx/Rx**: TX/RX indicator flickers green when network connection is functioning normally.
3. **SHIFT**: Switch of compound keys between the numeric/letter input and functional control.
4. **Compound Buttons:**
   - **1 MENU:** (1) Enter numeral "1"; (2) Access the main menu interface.
   - **2ABC/F1**: (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
   - **3DEF/F2**: (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
   - **4GHI/ESC**: (1) Enter numeral "4"; (2) Enter letters "GHI"; (3) Exit and back to the previous menu.
   - **5JKL/EDIT**: (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor; (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
   - **6MNO/PLAY**: (1) Enter numeral "6"; (2) Enter letters "MNO"; (3) Playback, for direct access to playback interface**.**

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- **7PQRS/REC**: (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
- **8TUV/PTZ**: (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface.
- **9WXYZ/PREV**: (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in live view.
- **0/A**: (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input).

5. **Control Buttons:**
- **Directional buttons:** In menu mode, the direction buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the Up and Down buttons are used to speed up and slow down record play, and the Left and Right buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
- **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence view mode, the buttons can be used to pause / resume auto sequence.

IR Remote Control

Your DVR may also be controlled with the included IR remote control, shown in Figure 6. Batteries (2×AAA) must be installed before operation.
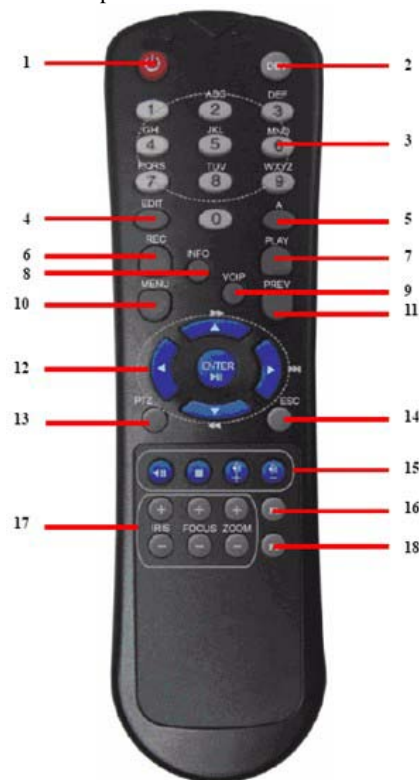

Figure6. IR Remote Control

The keys on the remote control closely resemble the ones found on the front panel. Referring to Figure 4, they include:

1. **POWER:** Turn on/off DVR.
2. **DEV:** Enable/Disable Remote Control.
3. **Alphanumeric:** Same as Alphanumeric buttons on front panel.

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4. **EDIT:** Same as JKL/EDIT button on front panel.
5. **A:** Same as A/FOCUS+ button on front panel.
6. **REC:** Same as REC/SHOT button on front panel.
7. **PLAY:** Same as MNO/PLAY button on front panel.
8. **INFO:** Same as ZOOM+ button on front panel.
9. **VOIP:** Same as MAIN/SPOT/ZOOM- button on front panel.
10. **MENU:** Same as MENU/WIPER button on front panel.
11. **PREV:** Same as PREV/FOCUS- button on front panel.
12. **DIRECTION/ENTER Buttons:** Same as DIRECTION/ENTER buttons on front panel.
13. **PTZ:** Same as PTZ/IRIS- button on front panel.
14. **ESC:** Same as ESC button on front panel.
15. **RESERVED:** Reserved.
16. **F1:** Same as F1/LIGHT button on front panel.
17. **PTZ CONTROL Buttons:** Buttons to adjust the iris, focus and zoom of a PTZ camera.
18. **F2 Button:** Same as F2/AUX button on front panel.

Aim the remote control at the IR receiver located at the front of the unit to test operation. If there is no response:
1. Using the front control panel or the mouse, go into Menu > Settings > General > More Settings.
2. Check and remember DVR ID#. The default ID# is 255. This ID# is valid for all IR controls.
3. Press the DEV button on the remote.
4. Enter the DVR ID# from step 2.
5. Press the ENTER button on the remote control.

If the Status indicator on the front panel turns blue, the remote control is operating properly. If the Status indicator does not turn blue and there is still no response from the remote, please check the following:

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

Using a USB Mouse

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

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

The buttons on the mouse corresponds to:

1. **Left Button:**
   - **Single-Click:** Select a component of a menu, such as a button or an input field. This is similar to pressing the ENTER button on the remote/front panel controls.
   - **Double-Click:** Switch between single screen and multi-screen mode in Live View/ Playback mode.
   - **Click and Drag:** Clicking and dragging the Left mouse button can be used to control the pan/tilt of a PTZ camera as well as to vary the position of digital zoom area and camera OSD. It can also be used to set the alarm areas.
2. **Right Button:**
   - **Single-Click:** Shows pop-up menu.
3. **Scroll-Wheel:**
   - **Scroll Up:** In live view mode, scrolling up will switch to the previous screen. In Menu mode, it will move the selection to the previous item.
   - **Scroll Down:** In live view mode, scrolling down will switch to the next screen. In Menu mode, it will move the selection to the next item.
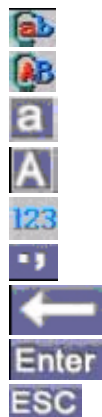
Using the Soft Keyboard

When a mouse is used to perform task on the DVR, clicking on a text input field will bring up the Soft Keypad,

shown in Figure 7.

Figure7. Soft Keypad

The buttons on the soft keyboard represents:

Lowercase: Designates lowercase input is being used.

Uppercase: Designates uppercase input is being used.

Switch to Lowercase: Switch to lowercase input.

Switch to Uppercase: Switch to uppercase input.

Number: Designates number input is being used.

Symbols: Switch to symbols input.

Backspace: Delete the character in front of the cursor.

Enter: Confirm selection.

ESC: Exit Soft Keyboard.

Figure8. Soft Keyboard Buttons

Rear Panel
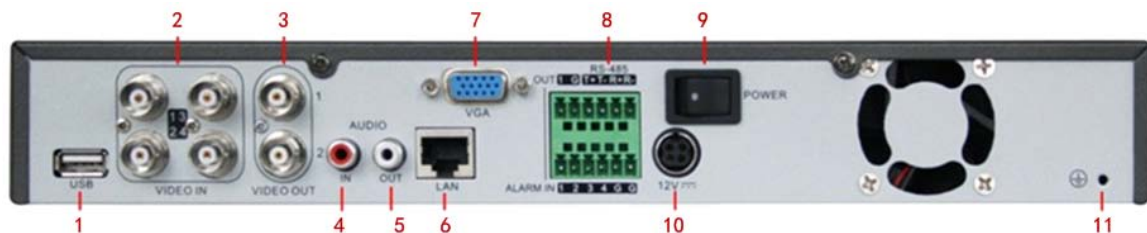
Figure9. Rear Panel of DS-7604HI-S

No.	Item	Description
1	USB Interface	Connector for USB devices
2	VIDEO IN	BNC connectors for video input
3	VIDEO OUT	BNC connector for video output. If VGA output has been connected, then the VIDEO OUT port provides no output. VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out.
4	AUDIO IN	RCA connectors for analog audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)

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7	VGA	DB15 connector for VGA output. Display local video output and menu
8	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
	ALARM IN	Connector for alarm input (up to 4 alarm inputs)
	ALARM OUT	Connector for alarm output (1 alarm output)
9	POWER	Switch for turn on/off the device
10	12V	12VDC power supply
11	GND	Ground(needs to be connected when DVR startup)
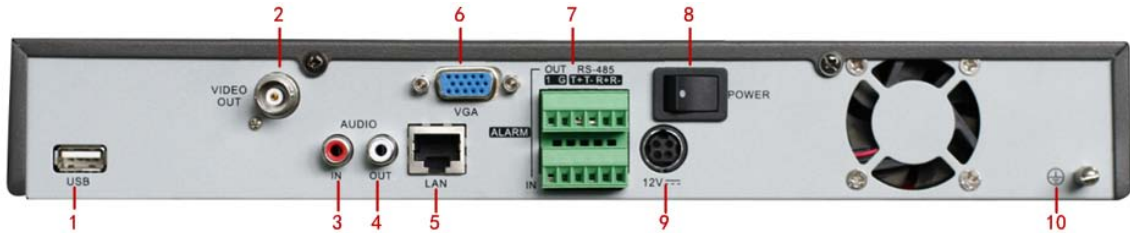
Figure10. Rear Panel of DS-7604NI-S

No.	Item	Description
1	USB Interface	Connector for USB devices
2	VIDEO OUT	BNC connector for video output. If VGA output has been connected, then the VIDEO OUT port provides no output
3	AUDIO IN	RCA connectors for analog audio input
4	AUDIO OUT	RCA connector for audio output
5	LAN	Connector for LAN (Local Area Network)
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
	ALARM IN	Connector for alarm input (up to 4 channels)
	ALARM OUT	Connector for alarm output (1 channel)
8	POWER	Switch for turn on/off the device
9	12V	12VDC power supply
10	GND	Ground (needs to be connected when DVR startup)

14
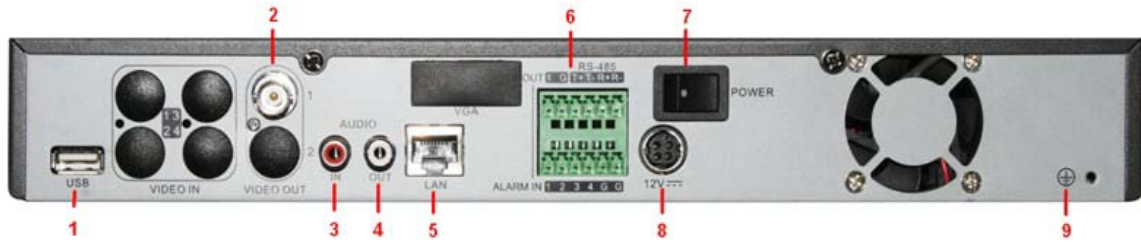
Figure11. Rear Pane of DS-7604NI-S/M

No.	Item	Description
1	USB Interface	Connector for USB devices
2	VIDEO OUT	BNC connector for video output
3	AUDIO IN	RCA connectors for analog audio input
4	AUDIO OUT	RCA connector for audio output
5	LAN	Connector for LAN (Local Area Network)
6	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
	ALARM IN	Connector for alarm input (up to 4 channels)
	ALARM OUT	Connector for alarm output (1 channel)
7	POWER	Switch for turn on/off the device
8	12V	12VDC power supply
9	GND	Ground(needs to be connected when DVR startup)

Figure12. Rear Pane of DS-7608NI-S

No.	Item	Description
1	USB Interface	Connector for USB devices
2	VIDEO OUT	BNC connector for video output
3	AUDIO IN	RCA connectors for analog audio input
4	AUDIO OUT	RCA connector for audio output
5	LAN	Connector for LAN (Local Area Network).
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
	ALARM IN	Connector for alarm input (up to 4 channels)
	ALARM OUT	Connector for alarm output (1 channel)
8	12V	12VDC power supply
9	GND	Ground(needs to be connected when DVR startup)
10	POWER	Switch for turn on/off the device

C H A P T E R 2

Getting Started

Starting and Shutting Down Your DVR

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

To start your DVR:

1.   Please make sure the input voltage meets the requirements of DVR, and the GND is in grounding.
2.   For DS-7604HI-S, DS-7604NI-S DVR and DS-7608NI-S, please make sure the VGA port on its rear panel has connected with a display device or the VIDEO OUT port has connected to a monitor, or else no prompt message will be displayed on screen after device startup and the menu operation is inaccessible as well.
3.   For DS-7604NI-S/M DVR, please make sure the VIDEO OUT port on its rear panel has connected with a monitor, or else no prompt message will be displayed on screen after device startup and the menu operation is inaccessible as well.
4.   In case the POWER indicator on the front panel does not light, please apply power to the device to start it.

After the power has been started up, the POWER indicator will light green, and the startup window will appear:

To shut down the DVR:

> **1.**   Enter the **Shut Down** menu, shown in Figure 1 by clicking on Menu > Shutdown.

Figure1. Shutdown Menu

> **2.**   Select the *Shutdown* button.
> **3.**   Click the *Yes* button.

Rebooting and Locking Your DVR

While in the Shutdown menu (Figure 12), you may also reboot or lock your DVR. Locking your DVR will return you to the Live View mode, which will require a user name and password to exit out of it. The Reboot button will reboot your DVR.

To reboot or lock your DVR:
> **1.**   Enter the Shutdown menu by clicking Menu > Shutdown.
> **2.**   Select the Lock button to lock the DVR or the Reboot button to reboot the DVR.

Using the Setup Wizard

Note: Please make the DVR has been installed with HDD before access to the Setup Wizard.

By default, the Setup Wizard will start once the DVR has loaded, as shown in Figure 2. The Setup Wizard will guide you through some important settings of your DVR. Select *Next* if the DVR has been installed with HDD, or click *Cancel* to access Live View window if no HDD is installed.

Note: If the checkbox is changed to ☐, then the Setup Wizard dialog box will not appear next time until the factory default settings are resumed; and if you select the checkbox as ☑, the device will automatically access the Setup Wizard dialog box when it starts up next time.

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Figure2. Setup Wizard

To start menu operation by using the Setup Wizard:

1. Click the *Next* button on the Wizard window. This will take you to the **User Permission** window, shown in Figure 3.

Figure3. User Permission

2. Navigate to the Admin Password text box.
3. Type the admin password into the Admin Password text box. By default, the password is 12345.
4. To change the admin password, check the New Admin Password checkbox. Type new password and confirm it in the given text boxes.
5. Click the Next button. This will take you to the **General Settings** dialog box, shown in Figure 4.
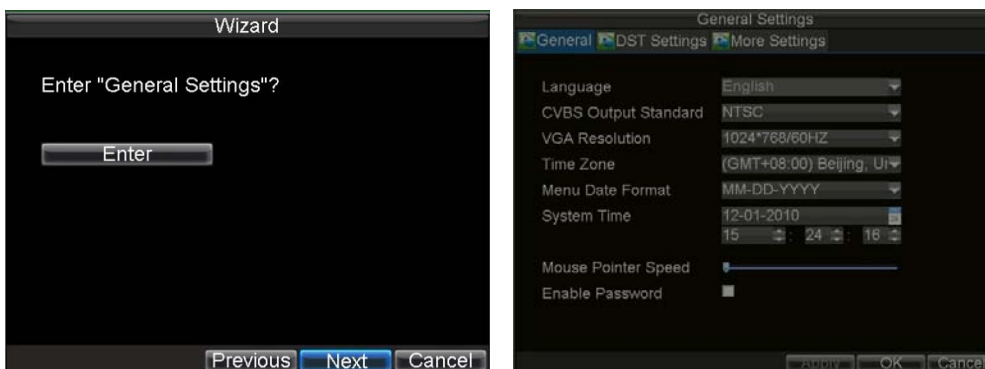

Figure4. General Settings

6. Click the Enter button to enter the General Settings interface.
7. Select the language, output standard, VGA resolution and time zone here. If you do not need to

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input password whenever you enter the menu, you can disable password.

8. Enter the correct date and time under **System Time**. Click the Apply button to save the setting.
9. Select the **DST Settings** tab to enable DST, and **More Settings** to change device name and number, shown in Figure5.
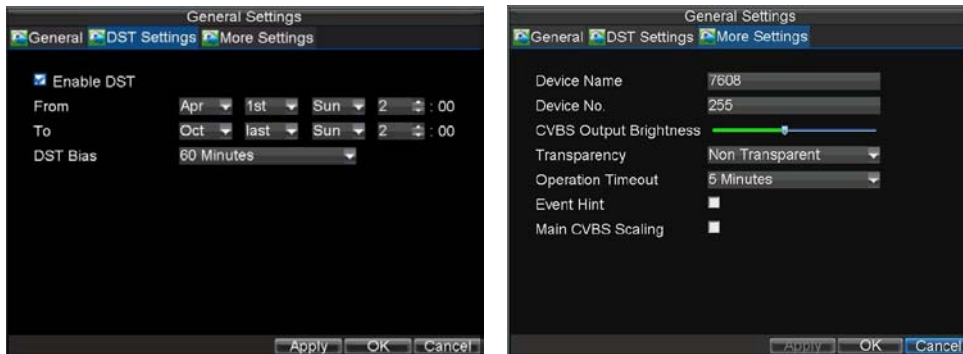

Figure5. General Settings-DST & More Settings

10. Click OK to return to the **Setup Wizard** window.
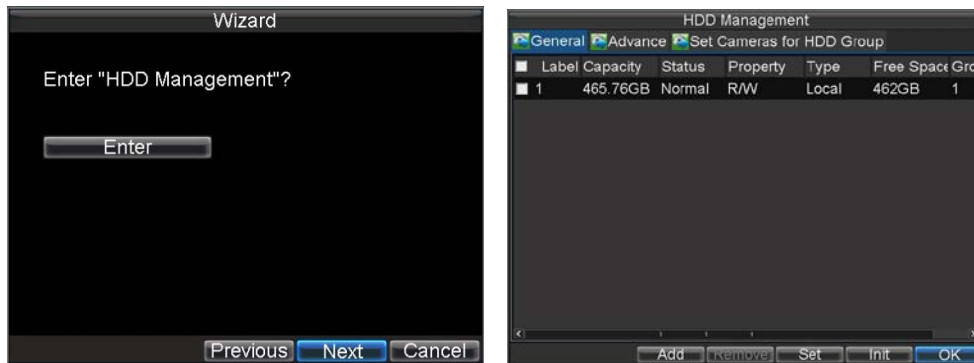11. Click *Next* button to enter the **HDD Management** dialog box, shown in Figure 6.

Figure6. HDD Management

12. To access HDD management interface, click the *Enter* button.
13. If a new HDD has been recently installed, select the HDD from the list to initialize it. Initializing the HDD will format and remove all data from it.
14. After the HDD has been initialized, click the *OK* button which will take you back to the **Setup Wizard** window.
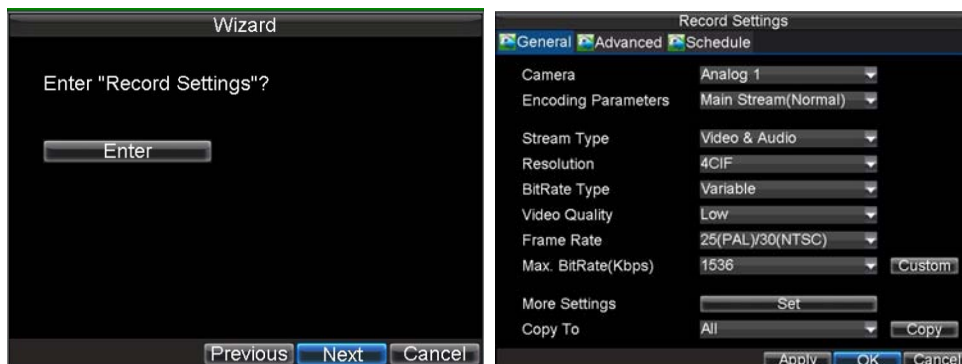15. Click *Next* button to enter the **Record Settings** dialogue box, as shown in Figure 7.

Figure7. Record Settings

16. To access **Record Settings** interface, click the *Enter* button.
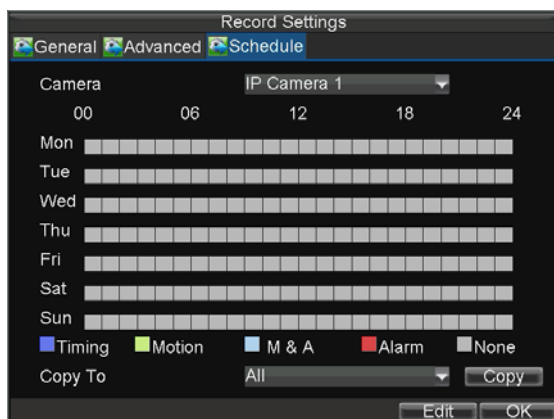17. Select the **Schedule** tab, shown in Figure 8.

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Figure8. Schedule Settings

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18. Click *Edit* button to enter a new recording schedule, shown in Figure 9.
19. Check both the *Enable Schedule* and *All Day* checkbox. This will enable the recording schedule and make it record continuously all day.

Figure9. Edit Schedule Settings

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20. Click the *OK* button. This will take you back to the **Schedule** tab. To copy the schedule to a different channel, select the channel or all under **Copy To** and click the *Copy* button.
21. Click *Next* button to access the **Network Settings** dialog box, shown in Figure 10.

Figure10. Network Settings

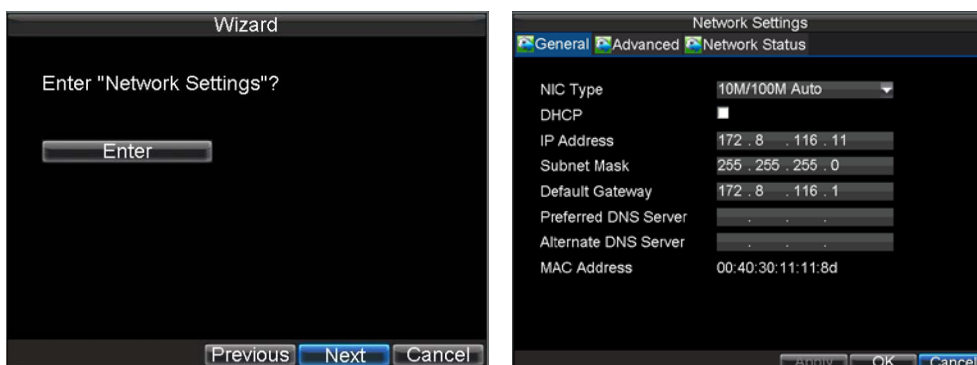16. To configure network settings, click the *Enter* button.
17. Enter the **IP Address**, **Subnet Mask** and **Default Gateway** settings.
18. Click *OK* button to return to the Setup Wizard.
19. If all the settings have been entered, click *Done* to finish and exit the Setup Wizard.

You've completed the Setup Wizard. The next step in the initial setup process is to setup the system date and time.

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After completion of Setup Wizard, enter the Live View window.

Setting Date & Time

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

To setup date and time:
1. Open the **Menu** window by clicking the *MENU* button on the remote or front panel. You can also go to the Menu window by right clicking with the mouse and clicking the Menu button.
2. Click the *Settings* icon.
3. Click the *General* icon. You will be taken to the **General Settings** window, as shown in Figure 11.
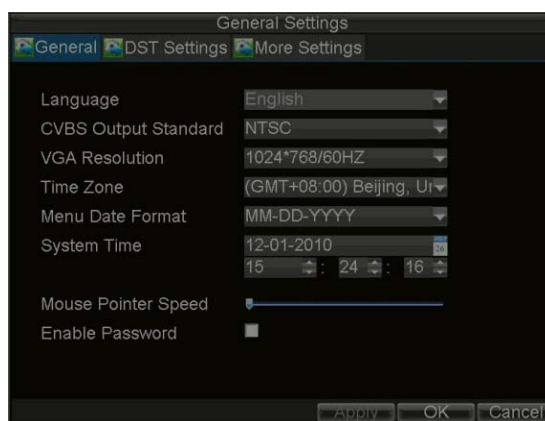

Figure11. General Settings

4. Enter the correct date and time in **System Time**.
5. Click the *Apply* button to save the setting.

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CHAPTER 3

Live View

Live View On-screen Display

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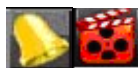
Live View Icons

Some icons are provided on screen in Live View mode to indicate different camera status. These icons include:

 Event Alarm: Indicates video loss, video tampering, motion detection or relay alarm.

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

 Event Alarm & Record

Figure1. Live View Icons

Note: Status for video loss alarm is only valid with analog cameras.

Live View Operation

In Live View mode, you can operate the following functions:

1. **Display Single Camera:**
   • **By Front Panel/Remote:** Use Alphanumeric buttons.
   • **By Mouse:** Select *Single Camera* in right-click menu.
2. **Multi-camera View:**
   • **By Front Panel/Remote:** Press *PREV* button.
   • **By Mouse:** Select *Multi Camera* in right-click menu.
3. **Manual Switch:**
   • **By Front Panel/ Remote:** Press the *Left* arrow button to access the previous screen; press the *Right* arrow button to access next screen.
   • **By Mouse:** Select *Next Screen* in right-click menu.
4. **Auto Sequence:**
   • **By Front Panel/Remote:** Press *Enter* button.
   • **By Mouse:** Select *Start Auto-switch* in right-click menu.
5. **Digital Zoom:**
   • **By Mouse:** Select Digital Zoom in right-click menu.

Mouse Operation in Live View

Some functions of the Live View can be quickly accessed by clicking the right-button of the mouse (shown in Figure 2). These functions include:

- **Single Camera:** Switch to a full-screen display of the selected camera by drop-down submenu.
- **Multi-Camera:** Switch between different multi-camera display modes by drop-down submenu.
- **Next Screen:** When displaying less than the maximum number of cameras in Live View, select this option to switch to the next camera display.
- **Playback:** Enter Playback mode of the selected camera.

- **PTZ:** Enter PTZ Control mode of the selected camera.
- **Digital Zoom:** Enter Digital Zoom interface of the selected camera.
- **Menu:** Enter Main menu.
- **Start Auto-switch: Enable multi-camera sequence in Live View mode.**

Note: The *dwell time* of the live view configuration should be set before using **Start Auto-switch** function.
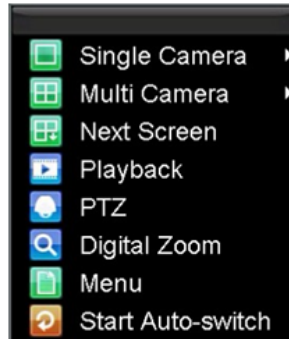
Figure2. Live View Mouse Menu

Digital Zoom

To use digital Zoom in Live View mode:

1. Right-click the mouse in Live View mode.
2. Select *Digital Zoom* from drop-down submenu.
3. Left-click and drag the red box to the desired area for zooming. The zoomed image will be magnified
   by 4 times. An example is given in the following figure:

16-11-2009 Mon 14:22:19

Figure3. Digital Zoom

Display

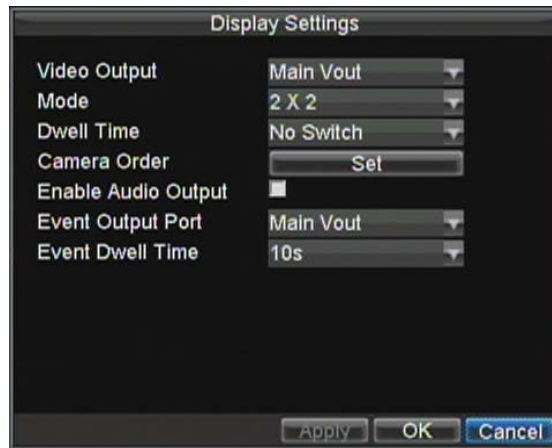Click Menu >Settings >Display to access the Display settings:

Figure4. Display Settings

Configure the following settings for Live View Display:

- **Video Output:** Set the video output modes, including Main Vout and Auxiliary Vout.
- **Mode:** Set the live view display mode to be 1*1, 2*2 or 3*3.
- **Dwell Time:** Set the dwell time for camera switching when **Start Auto-switch** is selected in Live View.
- **Camera Order:** Set the camera order for display in the selected mode (See *Setting Camera Order*).
- **Enable Audio Output:** Enable/disable audio output for the selected video output.
- **Event Output Port:** Set the port for event output to be Main Vout or Auxiliary Vout.
- **Event Dwell Time:** Set the dwell time for event video display.

Note:

1. DS-7604HI-S, DS-7604NI-S and DS-7608NI-S models will automatically detect if a VGA display is connected.

- When a VGA display is connected to DVR, the VGA will be used as the main output, and all Live View operations are accessible; the main video output port (VIDEO OUT1) has no video output and the auxiliary video output port (VIDEO OUT2) is used as the auxiliary output, which only allows user to access the full-screen live view for channel 01 as configured in the Live View Display and no operation is accessible.
- When there is no VGA display connected to DVR, the main video output port (VIDEO OUT1) will be used as the main output, and all operations are accessible; the auxiliary video output port (VIDEO OUT2) is used as the auxiliary output which only allows user to access the full-screen live view for channel 01 as configured in the Live View Display.
- When the VGA display is connected to DVR after the main video output port (VIDEO OUT1) has been used as the main output, then no VGA output display is provided.
- The connection or disconnection of VGA display in the process of device running will not affect its functions as shown above.

2. DS-7604NI-S/M model only provides the main video out (VIDEO OUT) port, and no VGA and auxiliary video out ports are available.
3. DS-7608NI-S model only provides the main video out.

Set Camera Order

The Camera Order settings allow you to set camera sequence in selectable live view display mode. See the following figure 5:
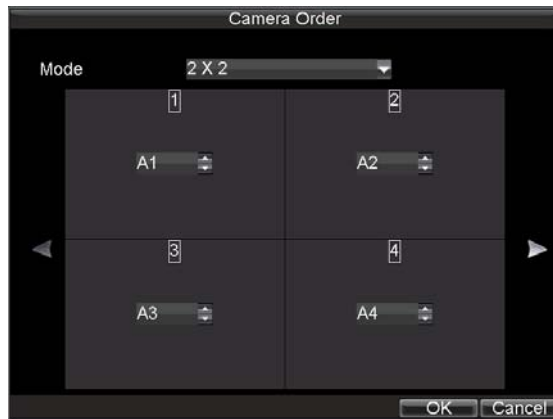
Figure5. Camera Order Settings

Operate the following steps to set camera order:

1. Enter the Display Settings menu (Menu > Settings > Display) and click *Set* in the Camera Order item.
2. Select the video output port and the display mode (1*1, 2*2 and 3*3 modes selectable).

Note: DS-7604NI-S/M and DS-7608NI-S model only provide the Main Vout.

3. Use the direction buttons on front panel to move to the display pane for setting press the *Enter* button to confirm the selection.
4. Use the direction buttons on front panel to select the camera you want to be view in the display pane. The option '*' indicates no display of camera.
5. Press Enter button to confirm the selection.

Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connection, and it only allows user to set the order for the added IP cameras.

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CHAPTER 4

Record Settings

Configure Record Settings

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

Before Record Settings

Before configuration, please make sure your DVR has been installed with HDD and has completed its initialization, otherwise, access Menu > HDD Management to install the HDD and perform initialization first.

Note: Please refer to *Initializing HDDs* for specific instructions for initializing HDD.

Initializing Record Settings

1. Click Menu > Settings > Record to access the Record Settings dialog box, shown in Figure 1.
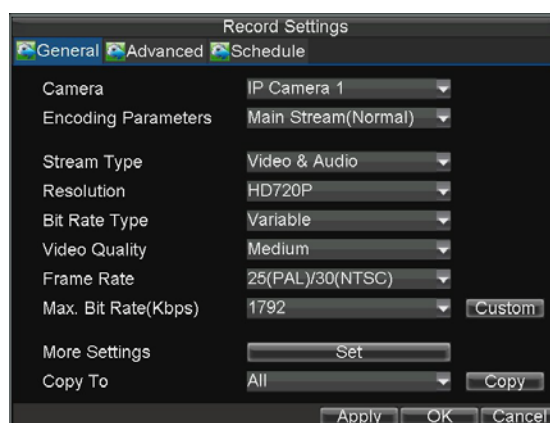

Figure1. General Record Settings

2. Select the camera you want to configure.

    Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connection; please select IP Cameras for configuration.
3. Configure the following settings:
    - **Encoding Parameters:** Set the encoding parameters to be Normal or Event.
    - **Stream Type:** Set the stream type to be Video or Video & Audio.
    - **Resolution:** Set recording at different resolution.
    - **Bit Rate Type:** Set the bit rate type to be Variable or Constant.
    - **Video Quality:** Set the video quality of recording, with 6 levels configurable.
    - **Frame Rate:** Set the frame rate of recording.
    - **Max Bit Rate:** Select or customize the maximum bit rate for recording.
4. Click the Set button under More Settings to configure more recording settings, as shown in Figure 2.

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Figure2. More Record Settings

- **Pre-Record:** Set the time in seconds to pre-record before the actual recording begins.
- **Post-Record:** Set the time in seconds to post-record after the actual recording has ended.
- **Recording Expired Time:** Set the expiration time in days for recorded video. Record files after expiration time will be deleted. If it is set to '0,' record files will not be option would be deleted. The actual period for record files storage is determined by the available HDD space.
- **Redundantly Record:** Enable or disable redundant recording of the selected camera on the redundant
  HDD. (Note: the redundant HDD must be configured before enabling the redundant recording; please refer to Section 12.4 Redundant HDD for specific settings).
- **Record Audio:** Enable or disable audio record of the selected camera.
  Click *OK* to finish settings and return to the previous menu.
5. Press the 3DEF/F2 button on DVR front panel to select the Advanced tab to access the Advanced Settings submenu, shown in Figure 3.
6. Enable or disable the Overwrite setting. Enabling the Overwrite setting will cause recorded files to be overwritten once the HDD is full.
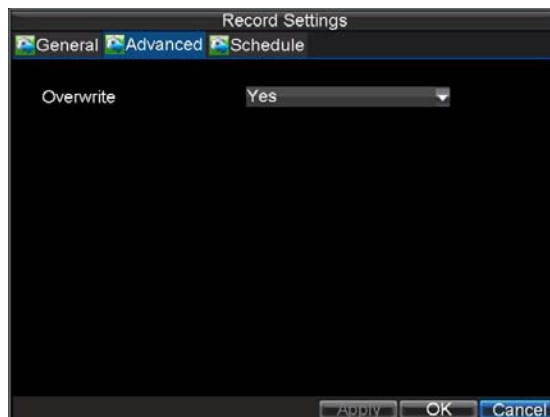7. Click *Apply* and then *OK* to back to the previous menu.

Figure3. Advanced Record Settings

Scheduling a Recording

The *Schedule* allows you to set up flexible recording schedules for daily or weekly recording.
To set up a recording schedule:
1. Click Menu > Settings > Record to enter the Record Settings menu.
2. Select the **Schedule** tab to enter the Schedule dialog box, shown in Figure 4.
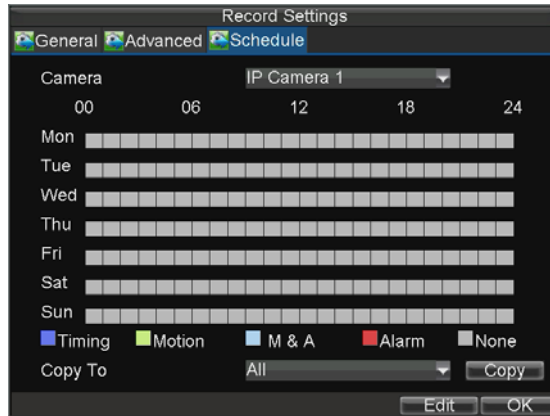
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Figure4. Scheduling a Recording

3. Select Camera you want to configure recording schedule.
4. Click the *Edit* button to enter the **Schedule Settings** dialog box.
5. Click and check **Enable Schedule** checkbox.
6. Select the day you want to set up the schedule or select **All Week** to record for entire week.
7. Click **All Day** to enable recording for entire day, or select different periods for each day. Up to 8 time periods can be scheduled.

   Note: The time periods scheduled cannot be overlapped with each other.

8. Select recording **Type**. Recording type can be selected to scheduled or triggered by motion detection and/or alarm. For more specific settings about motion detection and alarm recordings, please refer to the *Configuring Alarms*.
9. Click the *OK* button to finish configuration.
10. Repeat Steps 3-9 for other cameras or copy settings from one schedule to the others under the **Copy To** item.
11. Click *OK* to finish configuration and save the schedule settings.

Note: The **Event** encoding parameters will take effect when motion detection or alarm happens, and the **Timing** encoding parameters will take effect when there are no events happening.

Starting a Manual Recording

A manual recording can be enabled at any time by means of the following configuration:

1. Press the *REC* button on the front panel to access the **Manual Record** dialog box, shown in Figure 5.
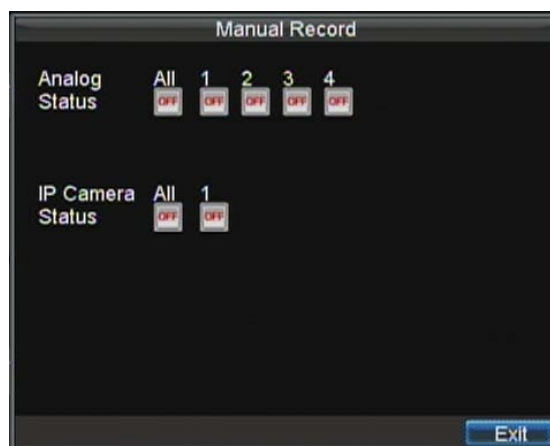

Figure5. Manual Record Menu

2. Start manual recording by selecting *ON* or *OFF* for each camera.

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Protect Recorded Files

Two methods are provided to prevent recorded files from being deleted from the HDD or overwritten during cycle recording: set the recorded files to be *locked* or set the HDD that the files reside on to be *read-only*.

Lock/Unlock Recorded Files

To lock or unlock a recorded file:
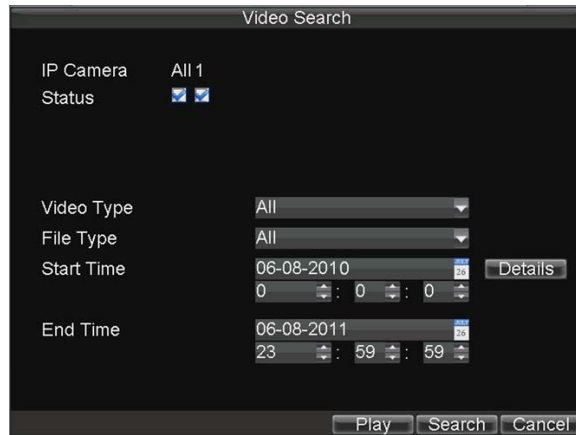1.   Click Menu > Video Search to enter the Video Search dialog box, shown in Figure 6.

Figure6. Video Search Menu

2.   Search for desired recording by entering search parameters. Search parameters include Camera ID, Video/File Type, and Start/End Time.
3.   Click the Search button. A list of record files (see Figure 7) matching the search parameters will be displayed.
4.   Select the file you want to lock/unlock.
5.   Click the Lock button to lock file. If the file is already locked, click the Unlock button to unlock file. Locked files will be shown with a closed lock while unlocked files, opened lock.
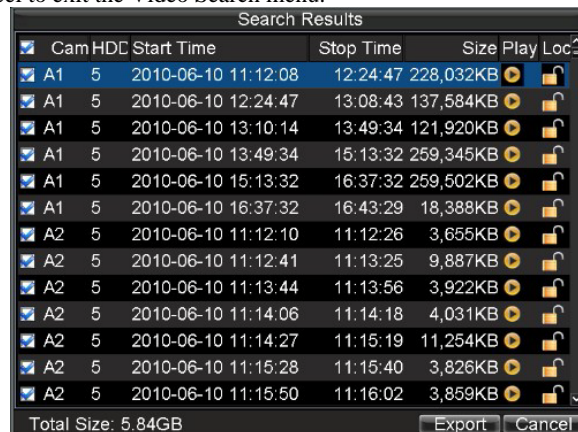6.   Click Cancel to exit the Video Search menu.

Figure7. Video Search Result List

Set HDD to Read-Only

To set a HDD to read-only:

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1. Click Menu > HDD to access the HDD Management dialog box, shown in Figure 8.
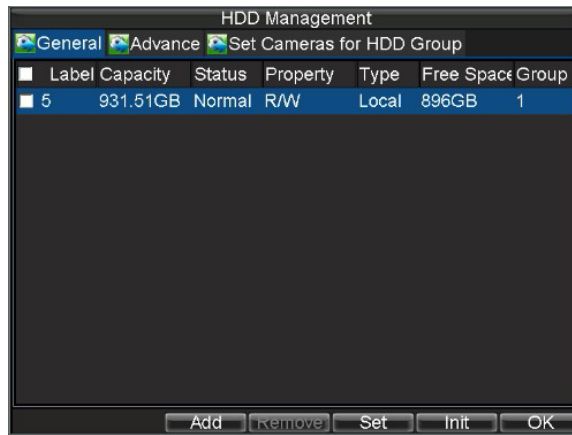

Figure8. HDD Management Menu

2. Select the **General** tab.
3. Select the HDD to set to read-only.
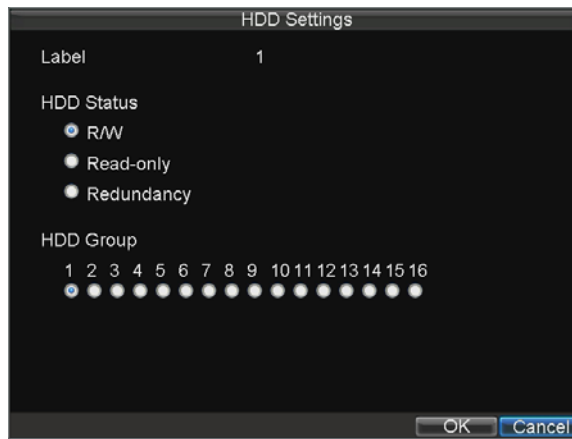4. Click the Set button. This will take you to the HDD Settings menu, shown in Figure 9.

Figure9. HDD Property Settings Menu

5. Set **HDD Status** to *Read-only* and then click *OK* to finish the setting.

Note: When a HDD is set to *read-only*, no more recordings can be written to the disk. In order to enable recordings on that particular disk again, you must set the HDD to R/W (Read/ Write) in the HDD Property Settings menu. If multiple HDDs are used, the DVR will automatically record to the next HDD that is not set to *read-only*.

Configuring Advanced HDD Settings

Setting up HDD Redundancy

To avoid unexpected failures of hard disk drives and enhance the reliability, it's recommended to set up HDD redundancy. Please note that for redundant recording, more than one HDD must be installed in your DVR.
To set up HDD redundancy:

1. Click Menu > HDD to access the HDD Management dialog box.
2. Click the **General** tab.

3. Select the HDD to be used for redundancy, as shown in Figure 10.
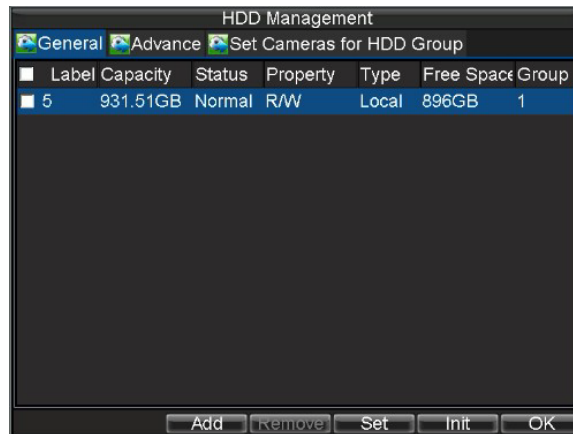
Figure10. HDD Management Menu

4. Click the Set button. This will take you to the HDD Settings menu.
5. Set **HDD Status** to Redundancy, shown in Figure 11. Verify at least one other
HDD is set to R/W (read/write).
6. Click *OK* to save settings and return to the previous menu.

Note: 1. When the selected HDD is set to redundancy, it is used for redundant recording only.
2. Make sure at least one HDD installed in DVR has been set to R/W (read/write).
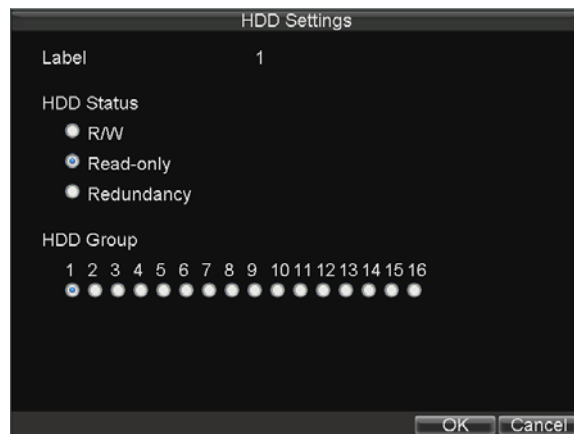
Figure11. HDD Settings

7. Click Menu > Settings > Record Setting to access the Record Settings dialog box.
8. Click the *General* tab.
9. Select the Camera to be used for redundancy.
10. Move the cursor to More Settings, and click the *Set* button to enter the additional settings for the
selected camera (shown in Figure 12).

Figure12. Additional Record Settings

11. Set Redundantly Record to *Yes*.
12. Click *OK* to save settings.
13. Repeat steps 8-12 for other cameras you want to set redundant recording.

CHAPTER 5

Playback

Video Playback

The Client application allows all users to play back record files of the specified period. Multi-camera simultaneous playback is supported.

Playback Interface

Multiple toolbar and buttons are provided on the playback interface to control the video playback. Refer to the following figure:

Figure1. Playback Interface

The Playback Control Panel, as shown in Figure 2, provides various control buttons for video playback.
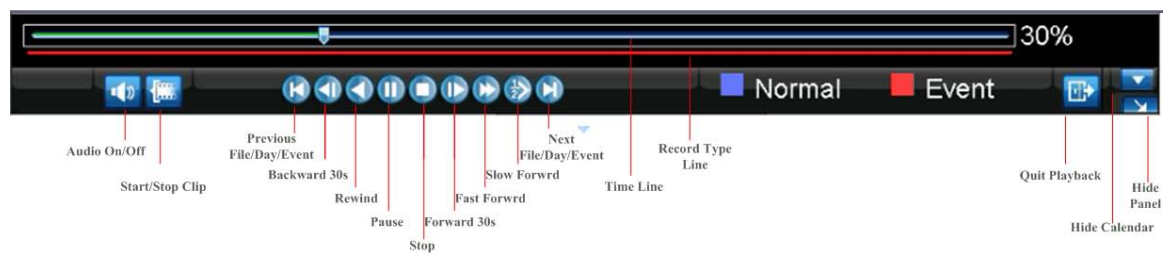

Figure2. Playback Control Panel

Note: A blue bar ▇ refers to the *Normal* recording (scheduled, manual), while the red bar ▇ indicates *Event* recording.

Play Back by Video Search

To play back record files by video search:

1. Enter the Video Search menu by clicking Menu > Video Search.
2. Set the search parameters by selecting cameras to search, video/file type and the start/end time (as shown in Figure 3).

   Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connection.
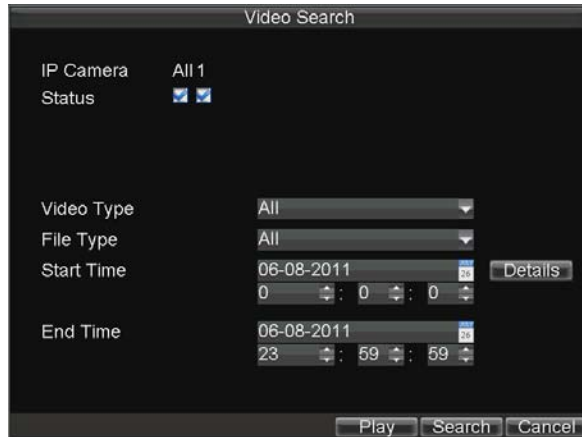
Figure3. Video Search Menu

3. Click the Play button on the front panel to start playback of all the files found, or click the Search button to access the list of search results. After search results are presented, select the file you want to play back and press Play button.
4. Record files will automatically be played back in the Playback interface, shown in Figure 4.

Figure4. Playback Interface

Playback by Event Search

To play back files by a video event search:

1. Enter into the Video Search menu by clicking Menu > Event Search
2. Set the search parameters by selecting event type to search, Alarm Input/ Motion Detection and the start/end time (as shown in Figure 5).

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Figure5. Video Event Search Menu

3. Click the Search button to start bring up the list of search results. After search results are presented, you can press play icon to playback the selected event, show in figure 7.

Figure6. File Selection Menu

4. Recordings will automatically be play backed in the Playback interface, shown in Figure 7.
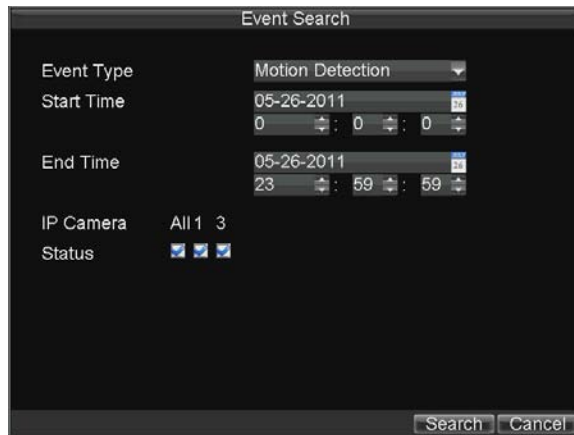

Figure7. Playback Interface

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Playback in Live View Mode

The Client application also allows you to play back record files in Live View mode.

To play back by channel in Live View mode:
- **By Using a Mouse:**
    1. Right-click the mouse on desired channel and select the *Playback* option.
    2. Record video from the selected channel will start playing back in the Playback window. An *Attention* message will appear if there are no recordings found in the previous 5 minutes.

        Note*:* DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connection.

    3. You may also select additional channels for playback from the channel list on the right side of the Playback interface, as shown in Figure 8.

Figure8. Playback Interface

- **By Using the Front Panel/Remote:**
    1. Press the *PLAY* button on front panel to access the Playback mode.
    2. Enter the channel you want to view record video from the front panel or remote control (i.e. press 'SHIFT', the STATUS light will turn green, then press '1' for channel 1, press '2' for channel 2).
    3. Recordings will start for the selected channel.

        Note*:* The record video for playback is of the previous 5 minutes.

- **Multi-camera Playback**
    1. Select the cameras from the camera list you want to have simultaneous playback.
    2. Click ▢ to stop the ongoing video playback.
    3. Click ▷ to start multi-camera simultaneous playback.

Note:
    1. Up to 4 cameras can be played back simultaneously.
    2. The camera list operation is accessible by mouse only. Please do not operate by front panel.
    3. If the camera numbered the lowest among the multiple cameras selected for simultaneous playback provides no record files of the current day selected from the calendar, then the warning message "Playback failed" will be displayed on the screen.
    4. The video for simultaneous playback by multiple cameras selected from the camera list refers to the all-day record files of the selected day.

Playback by System Log

To play back video from the system log:

1. Click Menu > Maintenance > Log Search to enter the Log Search dialog box, shown in Figure 9.
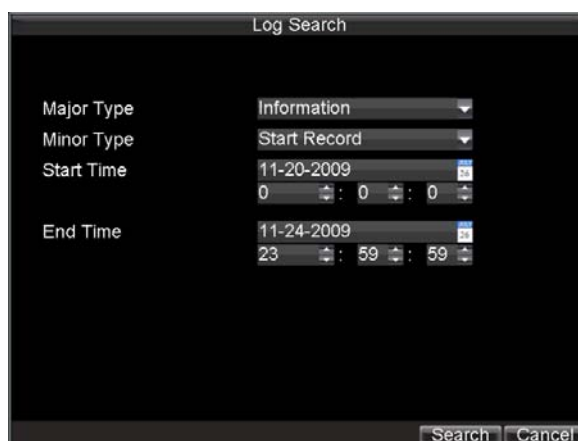
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Figure9. Log Search Menu

2. Set **Major Type** to *Information*; set **Minor Type** to *Start Record* or *End Record*; and then select the

   Start Time and **End Time** as well. Click the *Search* button.
3. Click the Search button. A list of search results will be displayed. Select the video log to play back and click *Play*.
4. The selected recording then will begin to play in the Playback interface.

Playback Frame-by-Frame

To play back frame-by-frame in the Playback interface:

   • **By Using a Mouse:**
   1. Click the Slow Forward button on the Playback Control Panel until the speed changes to Single frame.
   2. Click the Pause button to advance the video frame by frame.

   • **By Using the Front Panel/Remote Control:**
   1. Press the *Down* button to select the playback speed to *Single* frame.
   2. Press the *Enter* button to advance the video frame by frame.

Digital Zoom

To use digital zoom in Playback mode:

   1. Right click the mouse in Playback mode.
   2. Select *Digital Zoom* from drop-down submenu.
   3. Left click and drag the red box to the desired area for zooming. The zoomed image will be magnified by 4 times. An example is given in the following figure:

Figure10. Digital Zoom in Playback Mode

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C H A P T E R 6

Backup

Back Up Recorded Files

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

Exporting Files

To export recorded files via Video Search:

1. Enter the Video Search menu (shown in Figure 1) by clicking Menu > Video Search.
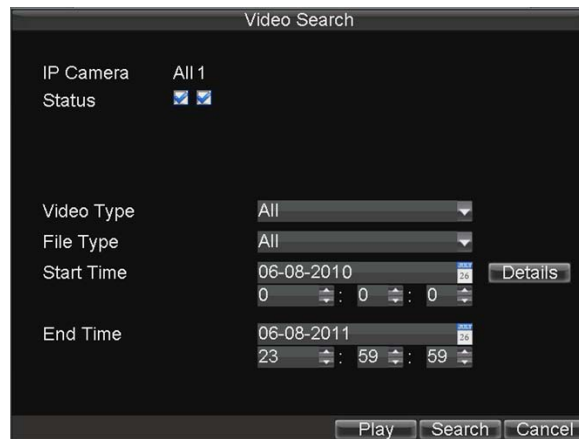
Figure1. Video Search Menu

2. Select desired parameters to search for files to export.
3. Press the Search button. This will take you to the Search Results menu.
4. Select the files to export, as shown in Figure 2. You may also click the Play icon to verify that these files are indeed the ones you would like to export.

Figure2. Video Search Results

5. The size of the currently selected files is displayed in the lower-left corner of the window. Select the Export button to enter the Export menu, shown in Figure 3.

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Figure 3. Export Menu

6. Select device to export to from drop-down list (USB Flash Drive, USB HDD, DVD Writer). If backup device is not recognized:
   • Click the Refresh button.
   • Reconnect device.
   • Check for compatibility from vendor.
7. Click Start to begin backup process, shown in Figure 4.
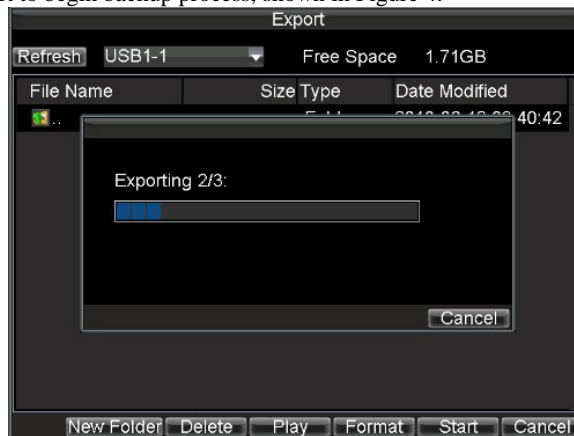
Figure4. Backup Progress

8. After the backup process has completed (Figure 5), you may select the files from your device and click the Play button to verify that it has been exported successfully.

Figure5. Export Successful Screen

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Note: Video Player software will automatically be copied on to the device that the recorded files were exported on.

To export recorded files via Event Search:

   **1.**   Enter the Event Search menu (shown in Figure 6) by clicking Menu > Event Search
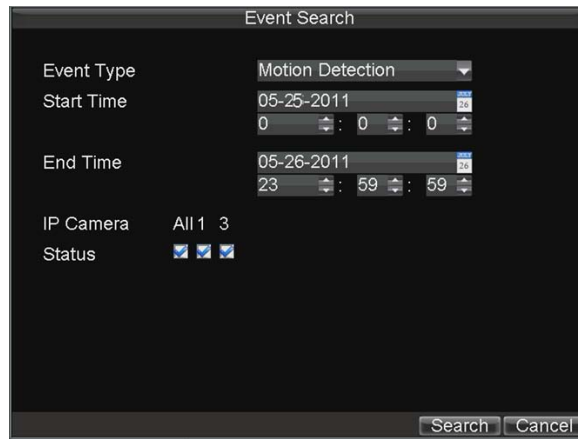
Figure6. Event Search Menu

      2.   Set the search parameters by selecting event type to search, alarm input/ channel and the start/end time , then click Search button, this will take you to search results interface.

Figure 7. Event Search Results

      3.   Select the files to export, you may also click the Play icon to verify that these files are indeed the ones you would like to export.
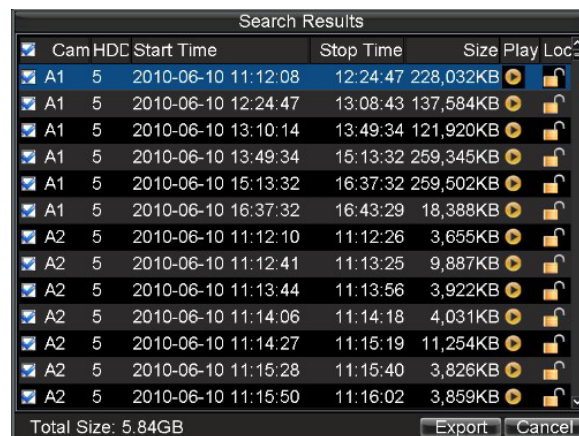   **4.**   Press Export button to enter Export menu, then you can export the files following the step 6 to step 8 as above explanation in this chapter.

Export Video Clips

You may also select video clips to export directly in Playback status. A maximum of 30 clips can be selected for each channel.

To export video clips during Playback:

- **By Using the Mouse:**
  1. Enter the Playback interface (See *Video Playback*).
  2. Click the *Clip Start/Stop* button on the Playback Control Panel, and select the start and end of the video clip during playback.
  3. Repeat for additional clips.
  4. Click the *Quit Playback* button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 6.

Figure6. Video Clips Saving Prompt

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  5. Click the *Yes* button to enter Backup interface or select *No* to exit Playback interface.
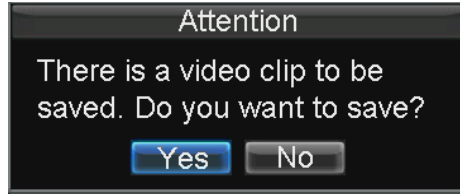 6. At the Backup interface, select the *Start* button to begin the Backup process.
- **By Using the Front Panel / Remote:**
  1. Enter the Playback interface (See *Video Playback*).
  2. During playback, press the *EDIT* button to mark start of clip.
  3. Press the *EDIT* button again to mark end of clip.
  4. Repeat for additional clips.
  5. Press the *ESC* button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 6.
  6. Click the *Yes* button to enter Backup interface or select *No* to exit Playback interface.
  7. At the Backup interface, select the Start button to begin the Backup process.

Manage Backup Devices

To manage backup devices, you must first be in the Export menu, shown in Figure 7. The Export menu can be accessed by following the steps shown in the previous section (See *Exporting Files*).

Figure7. Export Menu

Once in the Export menu, you may:

- **Create New Folder:** Creates a new folder on the export device.
- **Delete:** Delete a file or folder from the export device.
- **Play:** Play the selected video file from the export device.
- **Format:** Format the export device.
- **Erase:** Erase files from a re-writable CD/DVD.

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C H A P T E R 7

Alarm Settings

Configure Alarms

Motion Detection Alarm

Operate the following steps to configure Motion Detection Recording:

1. **Enter Camera Setting:**
    Click Menu > Settings > Camera to access the Camera Management dialog box, as shown in
    Figure 1. Select the channel to configure motion detection and click *Set*.

    Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera
    connection, please select IP camera for configuration.

Figure1. Camera Management Interface

2. Select the **Advanced** tab to enter the Advanced Camera Settings menu, shown in Figure 2.
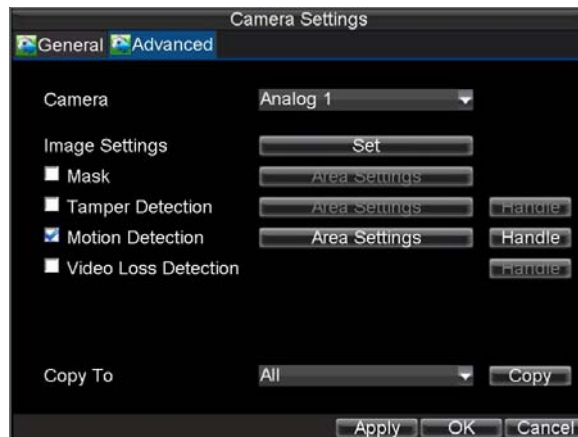
Figure2. Advanced Camera Settings

3. Select **Motion Detection** first and click the *Area Settings* button to enter the Motion Detection
    Area and Sensitivity settings interface.
4. As shown in Figure 3, the Motion Detection area allows you to mask areas you want to configure
    motion detection. The maximum area can be set to be full screen. You can left click mouse, hold
    and drag it to mask the Motion Detection area. Using *EDIT* button and direction buttons can also
    help you to select Motion Detection area.

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Figure3. Motion Detection Area

5. Right click mouse or press the *MENU* button on the front panel to set the Motion Detection Sensitivity, shown in Figure 4. Higher sensitivity value corresponds to higher sensitivity level.

Figure4. Motion Sensitivity Setting

6. Click *OK* to return to the **Advanced Camera Settings** menu.
7. Click the *Handle* button to enter the Exception Handle menu, shown in Figure 5. Select the Triggered Camera tab.
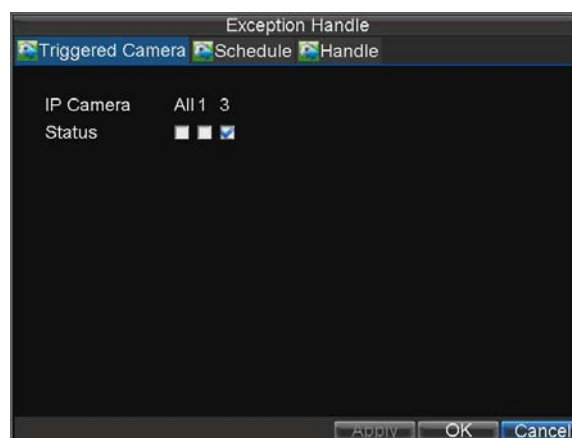
Figure5. Exception Handle Setting

8. Select cameras to trigger for recording when motion is detected by checking the checkboxes under the desired cameras.
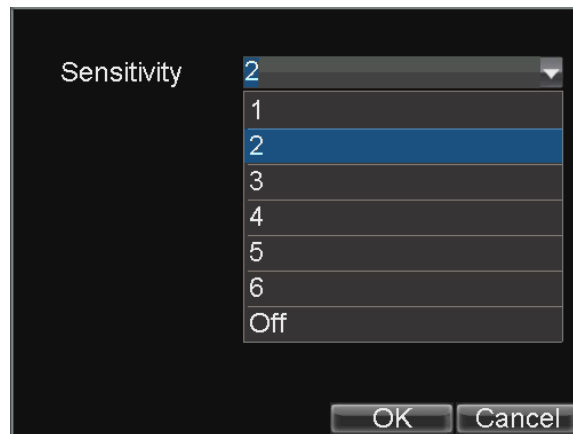
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9. Click OK to complete motion settings for the selected camera.
You may now add a schedule to start recording when motion is detected (See *Scheduling a Recording*).

Setting up Sensor Alarms

Recordings can also be triggered from an external relay alarm device. To set up sensor alarms:

1. Click Menu > Settings > Alarm to enter the Alarm Settings menu, shown in Figure 6.
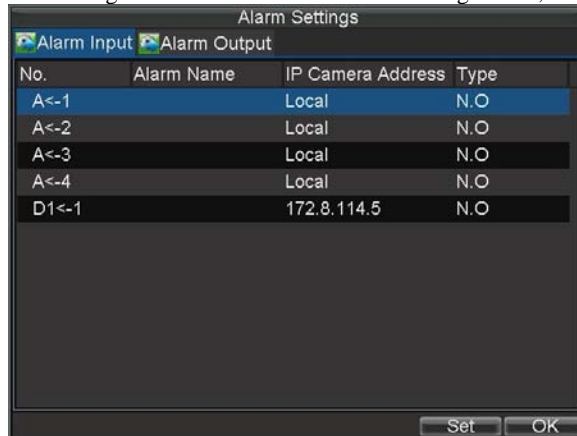
Figure6. Alarm Management Menu

2. Select the Alarm Input No. and click the *Set* button to enter the Alarm Input Settings menu, shown in Figure 7.
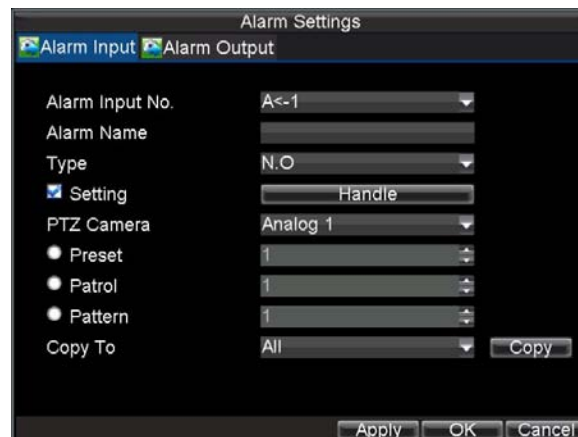
Figure7. Alarm Management Settings

3. Set the alarm input type to be Normally Opened (N.O.) or Normally Closed (N.C.).
4. Check the checkbox next to **Setting** and click the *Handle* button to enter the Alarm Input Handle menu.
5. Select the **Triggered Camera** tab.
6. Select cameras to trigger for recording when alarm occurs by checking the checkboxes under the desired cameras, as shown in Figure 8.

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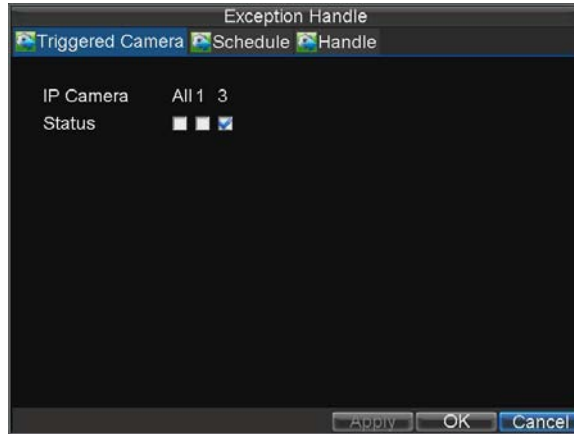
Figure8. Triggered Cameras Menu

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7. Click the *OK* button to complete setup.

You may now add a schedule to start recording when an alarm is triggered (See ***Scheduling a Recording***).
Alarm outputs may also be configured in the Alarm Management menu. To set up Alarm Output:

1. Select the **Alarm Output** tab. This will bring up the Alarm Output interface, shown in Figure 9.
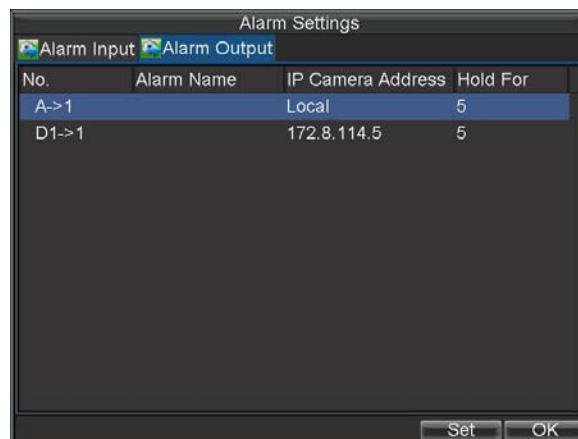
Figure9. Alarm Output Interface

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2. Select the output you would like to configure and click the Set button. This will bring up the settings page for the selected channel (Figure 10).
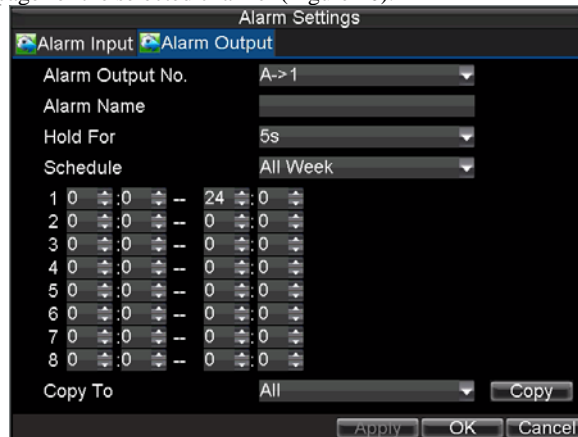
Figure10. Alarm Output Settings

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3. Configure the settings for selected output.
4. Select *OK* to save and exit.

Note: If the **Hold For** option is selected as *Manually Stop*, the alarm will only stop when you manually stop it (See ***Triggering Alarm Outputs Manually***).
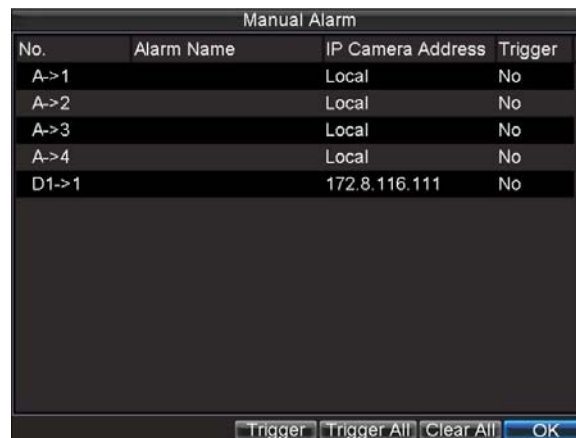
Note: Triggering an IP camera will require the necessary permissions from the camera.

Triggering Alarm Outputs Manually

You may also trigger alarm outputs manually through the Manual Alarm menu.

To trigger alarm outputs manually:

1. Click Menu > Manual Alarm to enter the Manual Alarm menu (Figure 11).

No.	Alarm Name	IP Camera Address	Trigger
A->1		Local	No
A->2		Local	No
A->3		Local	No
A->4		Local	No
D1->1		172.8.116.111	No

Trigger | Trigger All | Clear All | OK

Figure11. Manual Alarm Menu

2. Configure the following settings in the Manual Alarm menu:
 • **Trigger:** Select an alarm from the list and click *Trigger* to trigger its output.
 • **Trigger All:** Trigger all alarm outputs at once.
 • **Clear All:** Stop all alarm outputs at once.
3. Select *OK* to return to the previous menu.

Detecting Video Loss

Your DVR can be set up to detect video loss and trigger an action. To set up video loss detection:

1. Click Menu > Settings >Camera Management menu, shown in Figure 12.

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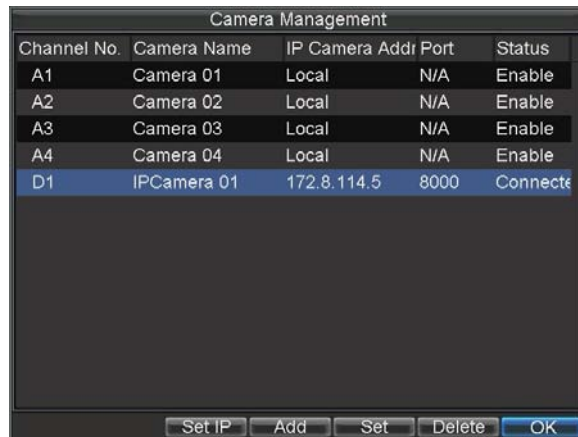
Figure12. Camera Management Menu

2. Select camera under **Channel No.** to configure video loss detection for and click the *Set* button.
3. Select the **Advanced** tab.
4. Check the **Video Loss Detection** checkbox to enable this feature, as shown in Figure 13.

Figure13. Camera Settings Menu

5. Click the *Handle* button to enter the Exception Handle menu, shown in Figure 14.
6. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See *Understanding Exception Trigger Options*).

Figure14. Exception Handle Menu

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7.   Select the **Schedule** tab. Set the schedule when you want video loss detection to be enabled.
      Schedule can be set for all week or any day of the week with up to 8 time periods per day.
8.   Click *Apply* to finish the settings.
9.   Repeat above steps to configure settings for other channels.

Detecting Video Tampering

The video tampering (i.e. moving camera to a different position) can also be detected and set to trigger an action on your DVR. To set up video tempering detection:

1.   Click Menu > Settings >Camera Management menu, shown in Figure 15.
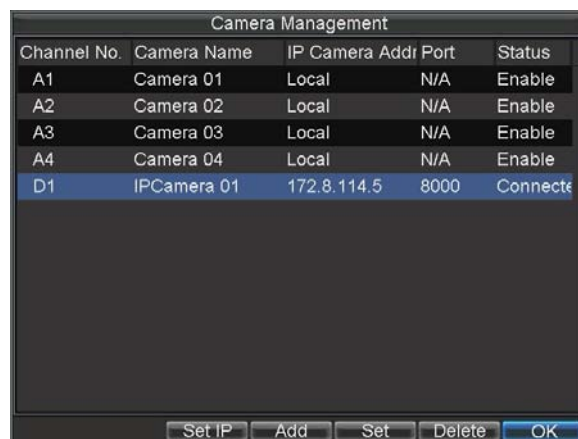
Figure15. Camera Management Menu

2.   Select camera under **Channel No.** to configure tamper detection and click the *Set* button.
3.   Select the **Advanced** tab.
4.   Check the **Tamper Detection** checkbox, as shown in Figure 16.
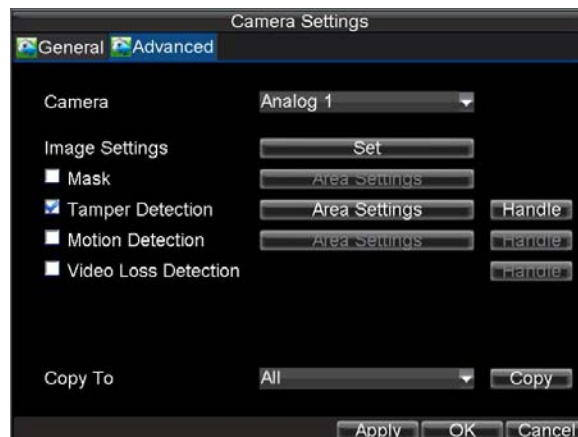
Figure16. Camera Settings Menu

5.   Click the *Area Settings* button to enter the area settings menu.
6.   Set tampering area, as shown in Figure 17. Only one tampering area can be set, with the full
      screen being the maximum area.

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Figure17. Tampering Area Setting

7. Set detection sensitivity. The higher the value set, the higher the sensitivity.
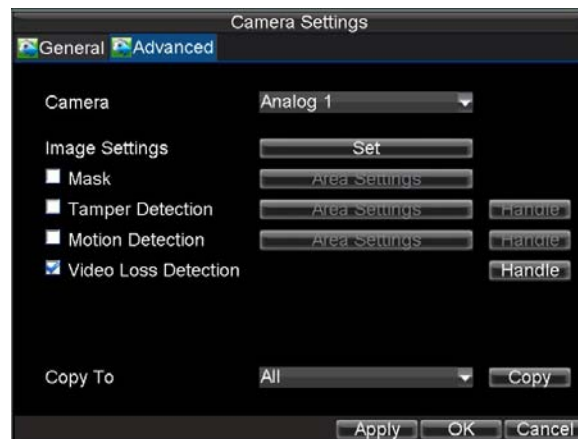8. Click *OK* to return to the Camera Settings/Management menu.
9. Click the *Handle* button to enter the Exception Handle menu, shown in Figure 18.
10. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See *Understanding Exception Trigger Options*).
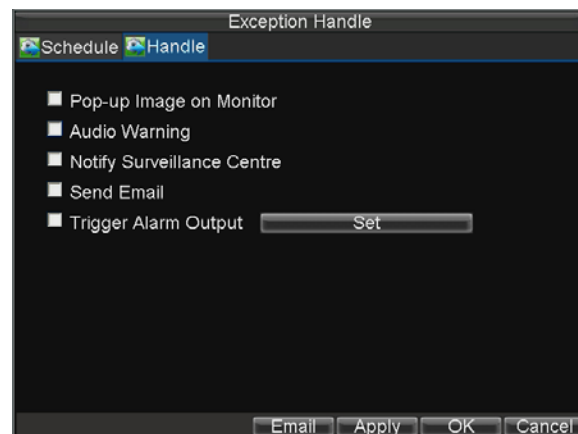

Figure18. Exception Handle Menu

11. Select the **Schedule** tab. Set the schedule when you want tamper detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.
12. Click *Apply* to finish the settings.
13. Repeat above steps to configure settings for other channels.

Setting Exception

The exception setting allows the DVR to alert you when irregular events occur. These events include:

- **HDD Full:** All installed HDD are full.
- **HDD Errors:** Errors occurred during writing of the HDD, no HDD installed or HDD had failed to initialize.
- **Network Disconnected:** Disconnected network cable.
- **IP Address Conflict:** Conflict in IP addresses setting.
- **Illegal Login:** Wrong user ID or password used.
- **Abnormal Recording:** Instable video signal detected.
- **Mismatched I/O Video Standards:** I/O video standards do not match.

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To set exceptions:

1. Click Menu > Settings> Exception to enter the Exception menu.
2. Select the exception to configure under **Exception Type**.
3. Select triggering options, as shown in Figure 19. Trigger options are further explained in the next section (See *Understanding Exception Trigger Options*).
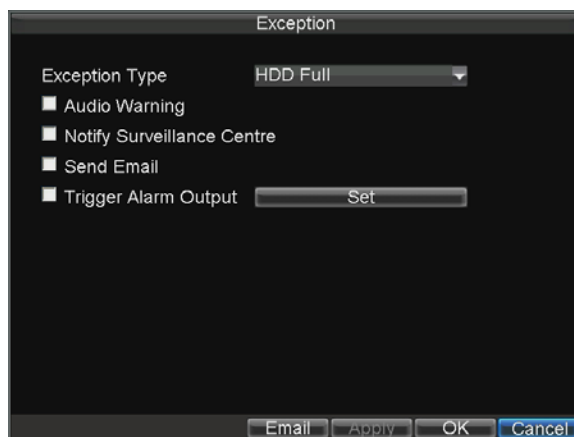
Figure19. Exception Menu

4. Click *OK* to save settings and exit Exception menu.

Understanding Exception Trigger Options

When setting up exception handlers for such features as motion detection and relay alarms, you may select triggering options to alert you of these exceptions.

The triggering options that you may select include:

- **Pop-up Image on Monitor:** When an alarm is triggered, the local monitor (VGA or BNC monitor) will display an image in Live View mode. This alarm can be configured under the Popup Alarm Image handle method. For alarms that are triggered simultaneously, images will be displayed one at a time every 10 seconds (default dwell time). A different dwell time can be set by going to Menu > Setting > Display > Dwell Time. Once the alarm stops, cycling of the images will also stop and you'll be returned to the Live View screen.

  Note: As DS-7604NI-S/M model only provides the pop-up alarm images from the main Vout.
- **Audio Warning:** Trigger an audible *beep* when exception is detected.
- **Notify Surveillance Center:** Sends a signal to remote alarm host when exception is detected (See *Configure Remote Alarm Host*).
- **Trigger Alarm Output:** Trigger an alarm output when exception is detected. Alarm output can be configured by following the steps listed in *Setting up Sensor Alarms*.

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C H A P T E R 8

Network Settings

Configuring Network Settings

Network settings must be configured if DVR is used for monitoring over network.

Configuring General Settings

To configure general network settings:

1. Click Menu > Settings > Network to enter the Network Settings menu, shown in Figure 1.
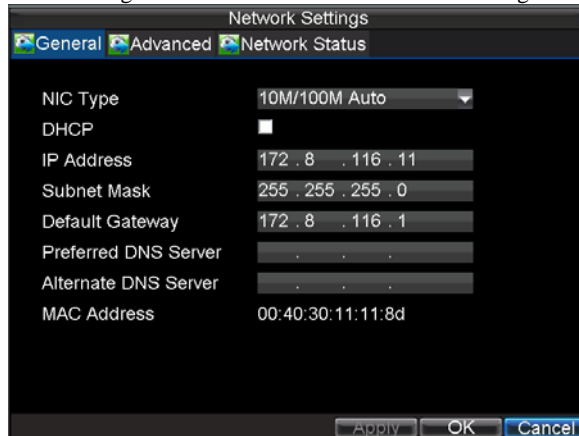
Figure1. Network Settings Menu

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2. Select the **General** tab. configure the settings on the interface.
3. If you have a DHCP server running and would like your DVR to automatically obtain an IP address and other network settings from that server, check the **DHCP** checkbox. You may check the DHCP status by going to the **Network Status** tab, as shown in Figure 2.
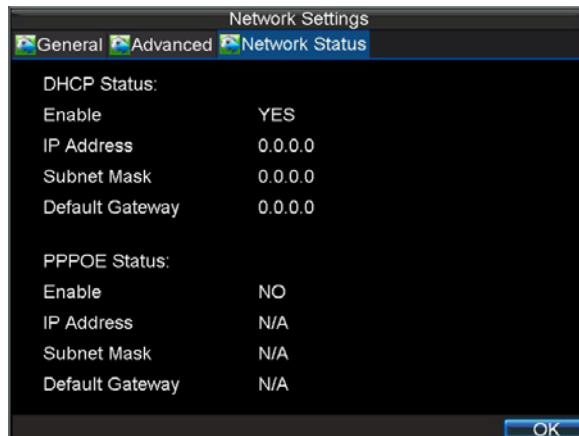
Figure2. Network Status

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4. If you want to configure your own settings, enter the settings for:
  • **IP Address:** IP address you would like to use for your DVR.
  • **Subnet Mask:** Subnet Mask of network.
  • **Default Gateway:** IP address of your Gateway. Typically the IP address of your router.
  • **Preferred/Alternate DNS Server:** The preferred and alternate Domain Name System (DNS) Server to be used with your DVR.
5. Click *OK* to save settings and exit the Network Settings menu.

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PPPoE Settings

Your DVR also allows for Point-to-Point Protocol over Ethernet (PPPoE) access. To set up PPPoE access:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **General** tab, as shown in Figure 3.
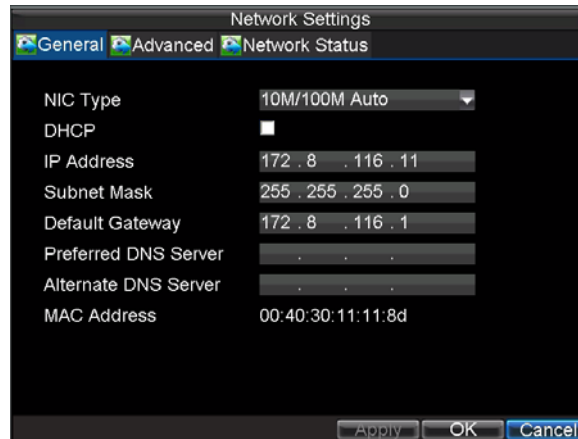
Figure3. Network Settings Menu

3. Select the **Advanced** tab to enter the Advanced Network Settings menu, shown in Figure 4.
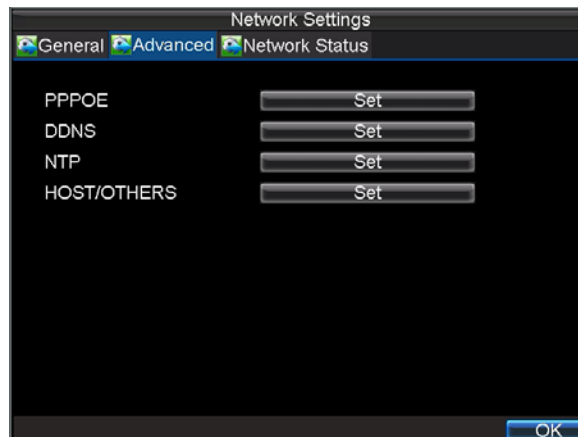
Figure4. Advanced Network Settings

4. Click the *Set* button next to **PPPoE** to enter PPPoE Settings menu, shown in Figure 5.

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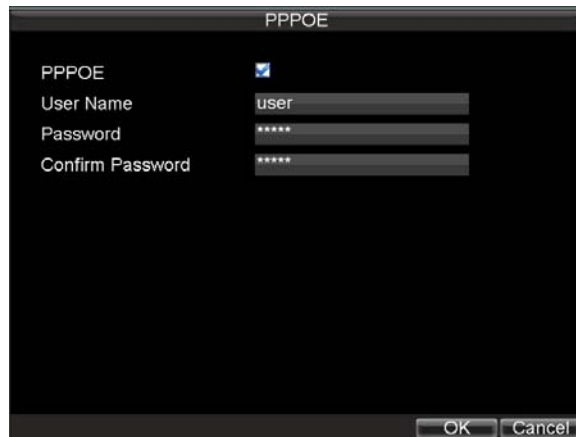
Figure5. PPPoE Settings

5. Check the **PPPoE** checkbox to enable this feature.
6. Enter **User Name**, **Password**, and **Confirm Password** for PPPoE access. PPPoE credentials can be obtained from your network administrator. Once the setup is completed, your DVR will automatically *dial-up* into your network after reboot.
7. Click *OK* to save settings and exit Network Settings menu. You may be now asked to restart your DVR for settings to take place. To check on the status of your PPPoE connection, go to Menu > Setting > Network and select the **Network Status** tab.

Configuring DDNS

If your DVR is setup to use PPPoE as its default network connection, you may set up Dynamic DNS (DDNS) to be used in connection.

To set up DDNS:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Select the *Set* button next to **DDNS** to enter the DDNS settings menu, shown in Figure 6.

Figure6. DDNS Settings Menu

4. Check the **DDNS** checkbox to enable this feature.
5. Select **DDNS Type**. Three different DDNS types are selectable: IpServer, PeanutHull and DynDNS.
   • **IpServer:** Enter **Server Address** for IpServer.
   • **PeanutHull:** Enter **User Name** and **Password** obtained from the PeanutHull website (Figure 6).
   • **DynDNS:** Enter **Server Address** for DynDNS (i.e. members.dyndns.org) (Figure 7). Under

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DVR Domain Name, enter the domain obtained from the DynDNS web site. Finally, enter the **User Name** and **Password** registered in the DynDNS network.

Figure7. DynDNS Settings

NTP Server Settings

A Network Time Protocol (NTP) Server may also be set up on your DVR to maintain accurate current date and time.

To set up an NTP server:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the *Set* button next to **NTP** to enter the NTP Settings menu, as shown in Figure 8.
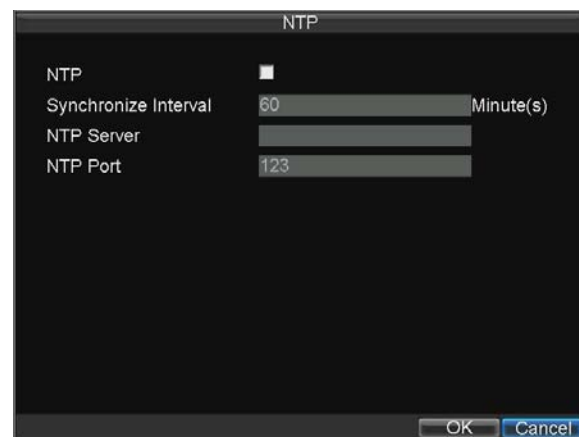
Figure8. NTP Settings Menu

4. Check the **NTP** checkbox to enable this feature.
5. Configure NTP settings:
   • **Synchronize Interval:** Time in minutes to synchronize with NTP server.
   • **NTP Server:** IP address of NTP server.
6. Click *OK* to save settings and exit the NTP Settings menu.

Note: Time synchronization interval has a range of 0-10080ms, normally 7200ms. If the DVR is used on a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the DVR is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

Remote Alarm Host Settings

With a remote alarm host set, the DVR will send a signal to the host when an alarm is triggered. The remote alarm host must have the Network Video Surveillance software installed.

To set up a remote alarm host:

1.   Enter Network settings menu by clicking Menu > Setting > Network.
2.   Select the **Advanced** tab.
3.   Click the Set butt next to **Host/Others** to enter the Host/Others menu, as shown in Figure 9.
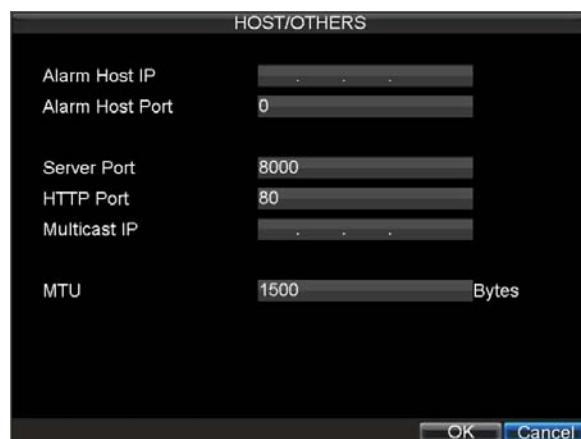
Figure9. Host/Others Menu

4.   Enter **Alarm Host IP** and **Alarm Host Port**. Alarm Host IP is the IP of the remote PC which has the Network Video Surveillance software installed. The Alarm Host Port must be the same as software's alarm monitor port (default port is 7200).

Configuring Multicast

Setting up multicasting solves limitation issues when streaming videos through a network access device. A multicast address spans the Class-D IP range of 224.0.0.0 to 239.255.255.255. It is recommended to use the IP address range from 239.252.0.0 to 239.255.255.255.

To set up multicast:

1.   Click Menu > Settings > Network to enter the Network Settings menu.
2.   Select the **Advanced** tab.
3.   Click the *Set* button next to **Host/Others** to enter the Host/Others menu.
4.   Set **Multicast IP**, as shown in Figure 10. When adding a device to the Network Video Surveillance software, the multicast address must be the same with the DVR's multicast IP.
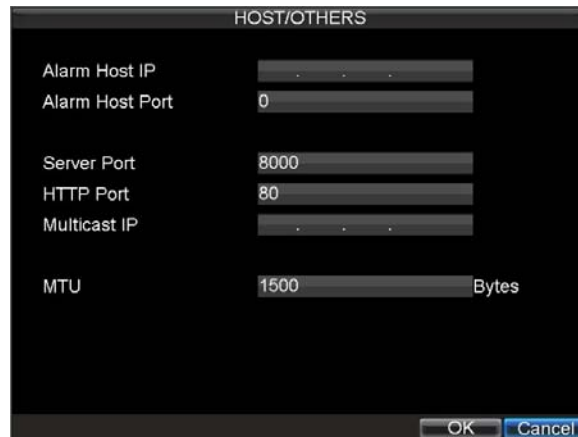
Figure10. Host/Others Menu

> **5.** Click *OK* to save settings and exit the Host/Others menu.

Configuring Server and HTTP Ports

If you would like to change the server and HTTP ports from the default settings, you can do so in the Network Settings menu. The default server port is 8000 while the default HTTP port is 80.

To change the default ports:

> **1.** Click Menu > Settings > Network to enter the Network Settings menu.
> **2.** Select the **Advanced** tab.
> **3.** Click the *Set* button next to **Host/Others** to enter the Host/Others menu.
> **4.** Enter new **Server Port** and **HTTP Port**, as shown in Figure 11.
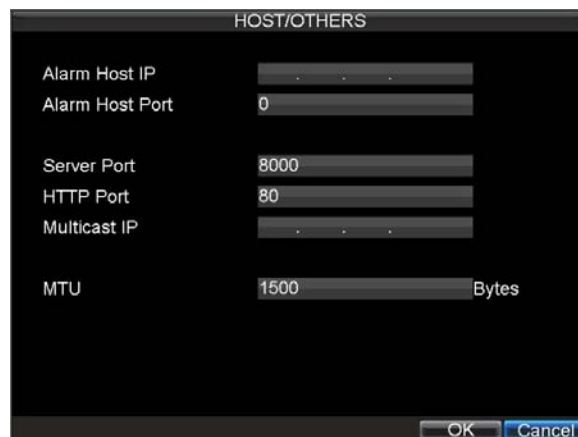
Figure11. Host/Others Menu

Note: The Server Port has a port range of 2000-65535 and is used for remote client software access. The HTTP port is used for remote Internet browser access.

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CHAPTER 9

PTZ Control

Navigate PTZ Menu

PTZ menus can be navigated through with either the mouse or the front panel/remote. For quick access to certain PTZ settings, right clicking with the mouse in the display while in PTZ control mode will enter the PTZ settings menu. This menu is shown in Figure 1.

Figure1. Mouse PTZ Settings Menu

The items that can be found on this menu include:

- **Camera:** Select a PTZ camera.
- **Call Preset:** Call a PTZ preset.
- **Call Patrol:** Call a PTZ sequence.
- **Call Pattern:** Call a PTZ pattern.
- **Patrol Setting:** Enter PTZ sequence configuration menu.
- **Pattern Setting:** Enter PTZ pattern configuration menu.
- **PTZ Setting:** Enter PTZ setting menu.

Configure PTZ Settings

Settings for a PTZ camera must be configured before it is used. Before proceeding, verify that the PTZ and RS-485 of the DVR are connected properly.

To configure PTZ settings:

1. Click Menu > Settings > PTZ to enter the PTZ Settings menu, shown in Figure 2.
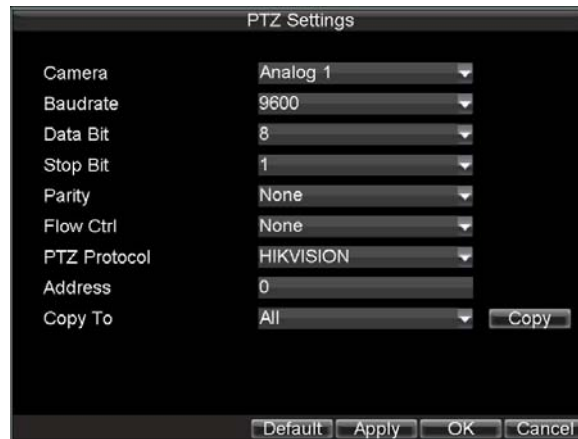
Figure2. PTZ Settings Menu

2. Select channel where PTZ camera is installed next to **Camera** label.
3. Configure the settings of baud rate, date bit, stop bit, parity, flow control, PTZ protocol and address.
4. Click *OK* to save settings and exit the PTZ Settings menu.

Note*:* All setting parameters (baud rate, date bit, stop bit, parity, flow control, PTZ protocol and address) must be consistent with the PTZ camera connected.

Note*:* DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S provide no analog camera connection; please select IP camera for configuration.

Setting PTZ Presets, Patrols & Patterns

The DVR allows you to program presets, patrols and patterns for a connected PTZ camera.

Understanding PTZ Controls

The PTZ control panel provides a series of PTZ controls, shown in Figure 3.

Figure3. PTZ Control Interface

The control buttons on the PTZ panel include:

1. **Directional Pad/Auto-scan Buttons:** Control the movements and directions of the PTZ. The center button is also used to start auto-scan of PTZ.
2. **Zoom:** Used to zoom in and out with the PTZ.
3. **Focus:** Used to adjust the focus of the PTZ.
4. **Iris:** Used to open up or close the iris of the PTZ.
5. **Speed:** Adjusts the movement speed of the PTZ.

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6. **Light:** Turns PTZ light (if applicable) on and off.
7. **Wiper:** Turns PTZ wiper (if applicable) on and off.
8. **Zoom In:** Instantly zooms PTZ in.
9. **Center:** Centers PTZ.

Customizing Presets

Presets can be set to move your PTZ camera to a desired preset location.

To set up and call custom PTZ presets:

1. Enter the PTZ Control interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
2. Select the *Preset* button to enter the Preset Management menu.
3. In the Preset Management menu, shown in Figure 4, you may:
   • **Configure Preset:** Use the PTZ control panel to adjust the position of the preset. Select a Preset number and click the *Set* button to save preset location.
   • **Clear Preset:** Select a Preset number and click the *Clear* button to delete the preset. You may also select the *Clear All* button to delete all presets.
   • **Call Preset:** Select a Preset and click the *Call* button.

Figure4. Preset Management Menu

Note: Only valid presets can be called and deleted.

Customizing Patrols

Patrols can be programmed to move the PTZ to different key points and make it stay there for a defined duration before moving on to the next point. The key points are defined by presets which can be set by following steps above in *Customize Presets*.

To set up and call PTZ patrols:

1. Enter the **PTZ Control** interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
2. Select the *Patrol* button to enter the Patrol Management menu, shown in Figure 5.

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Figure5. Patrol Management Menu

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3.   In the **Patrol Management** menu, you may:
   • **Configure Patrol:**
      1.   Select a **Patrol Number** to set.
      2.   Select valid presets (See *Customize Presets*) and click the Set button to enter the Patrol configuration menu. A sequence should have at least 2 valid presets.
      3.   Set the **Key Point No.**, **Duration**, and **Speed** (Figure 6). The **Key Point No.** determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the time span to stay at the corresponding key point. The **Speed** defines the rate at which the PTZ will move from one key point to the next.

Figure6. Patrol Configuration Menu

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      4.   Click *OK* to return to **Patrol Management** menu and repeat steps 2-3 to configure other key points.
      5.   After all key points have been configured, click OK to save and exit menu.
   • **Clear Patrol:**
      1.   Select a valid Patrol Number.
      2.   Click the *Clear* button to delete patrol.
   • **Call Patrol:**
      1.   Select a valid Patrol Number.
      2.   Click the Start button to call the patrol, and select the Stop button to stop the patrol, as shown in Figure 7.

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Figure7. Patrol Management Menu

Customize Patterns

Patterns can be setup by recording the movement of the PTZ.

To set up and call PTZ patterns:

1. Enter the PTZ Control interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
2. Select the *Pattern* button to enter the **Pattern Management** menu, shown in Figure 8.

Figure8. Pattern Management Menu

3. Select a **Pattern Number**.
4. To record a new pattern, select the Run Record button to start recording of the movements of the PTZ. Use the PTZ control panel to move the PTZ. The PTZ movements will be recorded until the Stop Record button is clicked.
5. To run a pattern, click the *Run Pattern* button on a valid pattern. The PTZ will move according to the path that was defined until Stop Pattern is clicked.
6. Click *OK* to save settings and exit the current menu.

C H A P T E R 1 0

Camera Management

Configure IP Cameras

1. DS-7604HI-S model can be used as the hybrid DVR or NVR.
   When DS-7604HI-S is used as a hybrid DVR, it can be connected with 4 analog cameras and 2 IP cameras at 4CIF or 1 IP camera at UXGA/1080P/720P resolution.
   When DS-7604HI-S is used as a NVR, it can be connected with 4 IP cameras at 4CIF or 2 IP cameras at UXGA/1080P/720P or 1 IP camera at 2560×1920 resolution.
2. DS-7604NI-S/M and DS-7604NI-S models provide no analog camera connection; therefore it can be used as NVR only, allowing 4 IP cameras at 4CIF or 2 IP cameras at UXGA/1080P/720P or 1 IP camera at 2560×1920 IP resolution to be connected.
3. DS-7608NI-S provide no analog camera connection; so it could be used as NVR only, allowing 8 IP cameras at 4CIF or 4 IP cameras at UXGA/1080P/720P or 2 IP cameras at 2560×1920 resolution to be connected.

Note: Each IP camera is allowable to be connected to a single DS-7604 unit so as to avoid confused control.

Before configuring IP cameras, please ensure that all IP cameras are connected to the same network as your DVR and the network settings for your DVR is properly set up (See *Configuring Network Settings*).

To configure IP cameras:
1. Click Menu > Settings > Camera to enter the Camera Management menu, shown in Figure1.

Channel No.	Camera Name	IP Camera Addr	Port	Status
A1	Camera 01	Local	N/A	Enable
A2	Camera 02	Local	N/A	Enable
A3	Camera 03	Local	N/A	Enable
A4	Camera 04	Local	N/A	Enable

Figure1. Camera Management Menu

2. Select the channel to be connected from the Camera Management menu.

   Note: When you want to connect more than 2 IP cameras at 4CIF resolution or 1 IP camera at 720P/UXGA/1080P/2560×1920 resolution with the DS-7604HI-S unit, it needs to adjust the number of analog cameras connected. 1 IP cameras at 4CIF resolution can be added by disabling 2 analog channels; and 2 IP cameras at 4CIF resolution or 1 IP camera at 720P/UXGA/1080P/2560×1920 resolution can be added by disabling 4 analog channels. Up to 4 IP cameras at 4CIF resolution, or 2 IP cameras at 720P/UXGA/1080P, or 1 IP camera at 2560×1920 resolution can be connected to the DS-7604HI-S unit.
   Operate the following steps to adjust the analog camera status:

   a) Click the Status button from the Camera Management menu to enter the following dialog box:

   Note: Only DS-7604HI-S has the *Status* button and menu.

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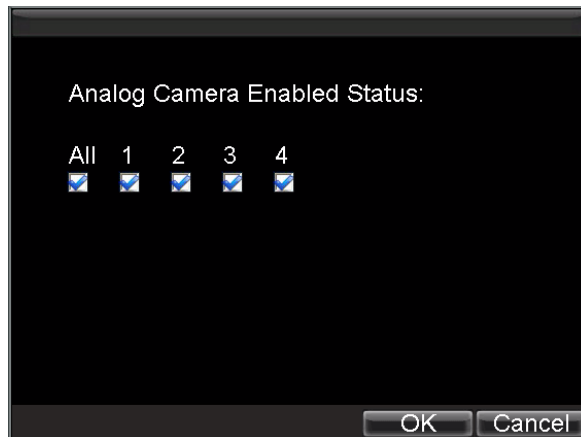
Figure2. Camera Enabled Status Menu

b) Uncheck the checkbox to disable corresponding camera. Click OK to save settings. A confirmation message then will appear on the screen asking you to reboot the DVR. Click *Yes* to reboot the unit. After the system has rebooted, enter the Camera Management menu to continue with the following steps.

3. Select the Add button to enter IP Channel Settings menu, shown in Figure 3.

Figure3. IP Channel Settings Menu

4. Select the IP device from the list. The devices found in the list are those supported by SADP and are found by the DVR. If no devices were found, you may manually enter the camera parameters in the fields below.

5. Configure IP camera settings, including IP camera address, manage port and channel port, user name and password of the IP camera.

   Note: The default user name for IP camera is *admin*; other user names are allowable.

6. Select OK to save settings and return to the Camera Management menu.

7. If the IP camera has been added successfully, the Status for that camera will be displayed Connected (Figure 4). If not, click the Set button to check that the parameters were entered correctly. You may also delete an added channel by clicking the Delete button.

   Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connection; please select IP cameras for configuration.

Figure4. Camera Management Menu

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8. Click *OK* to save settings and exit the Camera Management menu.

To adjust record settings parameters of IP camera:
1. Click Menu > Settings > Record to enter the Record Settings menu, shown in Figure 5.

Figure5. Record Settings Menu

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2. Select the **General** tab.
3. Select the IP camera to configure next to the **Camera** label.
4. Adjust the record settings parameters of IP camera. If the IP camera has been added successfully, the DVR will display the IP camera settings including OSD message, channel name and record settings parameters in accordance to the IP camera's current settings.
5. Click *OK* to save and exit out of menu.

Note: The quality of resolution, frame rate and bit rate depends on the performance of the IP camera.

Configure OSD Settings

On Screen Display (OSD) settings can be configured in the Camera Management menu. The OSD is shown in each display during Live View mode and includes the time and date as well as the camera name.

To configure OSD settings:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 1.
2. Select channel to set up OSD settings under **Channel No.**, and click the *Set* button.
   Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera

connection; please select IP cameras for configuration.
3. Configure desired OSD settings, as shown in Figure 6.
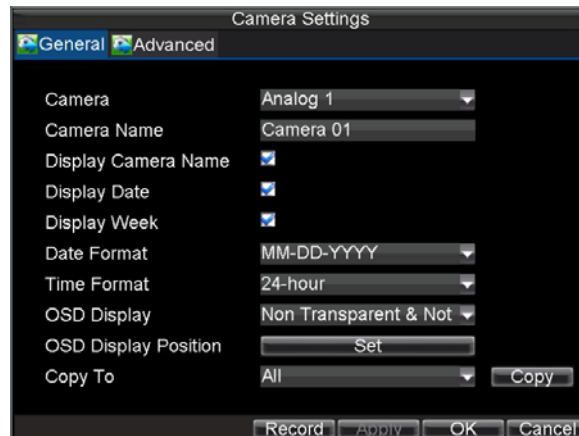
Figure6. OSD Settings Menu

Set up Privacy Mask

You may setup privacy mask to mask off sensitive or private areas in the field of view of a camera.

To setup privacy mask:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 1.
2. Select channel to setup privacy mask under **Channel No.**, and click the Set button.

   Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connection; please select IP cameras for configuration.

   Select the **Advanced** tab to enter the Advanced Camera Settings menu, shown in Figure 7.
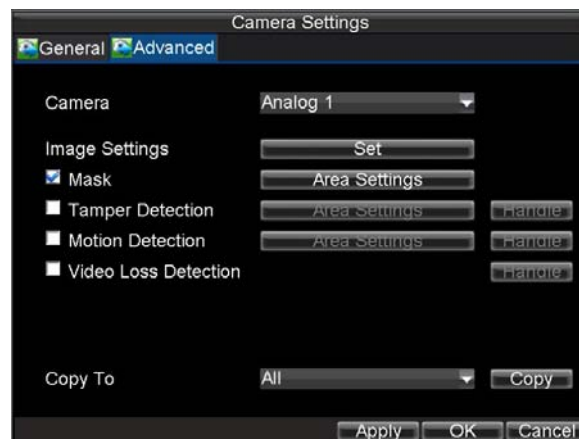
Figure7. Advanced Camera Settings Menu

3. Check the **Mask** checkbox to enable feature.
4. Click the *Area Settings* button to enter Area Settings menu.
5. Set mask area, as shown in Figure 8. Up to 4 areas can be set.

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Figure8. Setting Mask Area

6. Select *OK* to save settings and exit the **Mask Area** Settings interface.

Adjust Display Settings

Display settings such as the brightness, contrast, saturation and hue can also be adjusted in the Camera Management menu.

To adjust display settings:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 1.
2. Select channel to adjust display settings under **Channel No.**, and click the Set button.
    Note: DS-7604NI-S/M, DS-7604NI-S and DS-7608NI-S models provide no analog camera connection; please select IP cameras for configuration.
    Select the **Advanced** tab to enter the Advanced Camera Settings menu, shown in Figure 9.
3. Click the *Set* button next to the Color Settings label.
4. Adjust the display settings, as shown in Figure 10. Brightness, contrast, saturation and hue can be adjusted. The adjustments of display settings will affect the live images and the recorded images.

Figure 9. Display Settings

C H A P T E R 1 1

HDD Management

Manage HDDs

Initializing HDDs

A new installed hard disk drive (HDD) must be first initialize before it can be used with your DVR. Initializing the HDD will erase all data on it.

To initialize a HDD:

1. Click Menu > HDD to enter the HDD Management menu, shown in Figure 1.
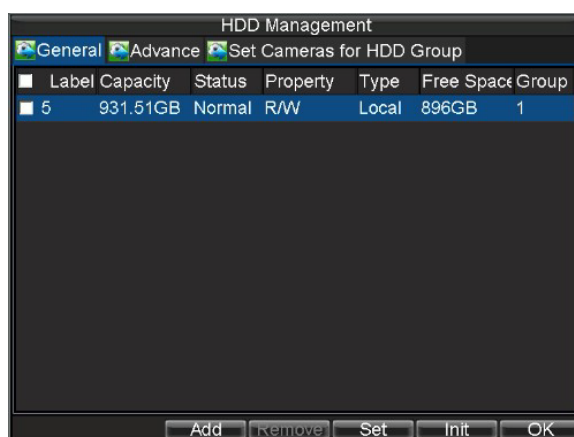
Figure1. HDD Management Menu

2. Select HDD to be initialized.
3. Click the *Init* button.
4. Select *OK* button to start initialization. After the HDD has been initialized, the status of the HDD will change from *Abnormal* to *Normal*.

Setting Network HDD

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

To set a network HDD:

1. Enter the HDD Management menu, shown in Figure 2 by clicking Menu > HDD.

www.cctvireland.ie   **shop@cctvireland.ie**

Figure2. HDD Management Menu

2. Click **Add** to enter **Network HDD** menu.
3. Select type as NAS or IP SAN, shown in Figure 3 when selected as NAS.
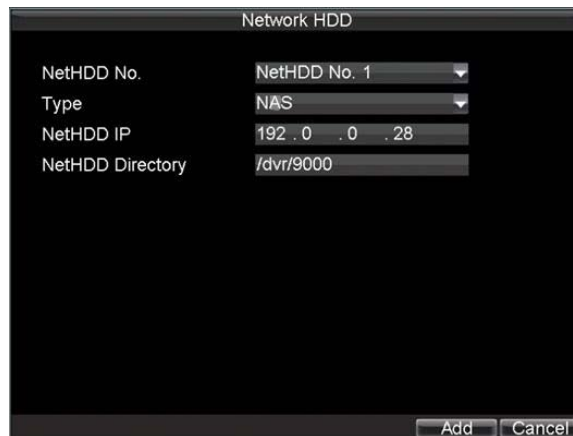
Figure3. Network HDD Menu

4. Select **Add** button to add network HDD to HDD list.
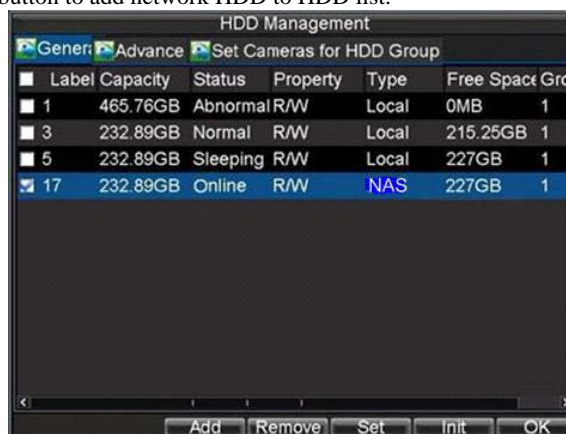
Figure4. HDD Management Menu

5. Select the network HDD to initialize. After initialization, the network HDD can be used.

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Set HDD Groups

Your DVR can separate multiple HDDs into groups. Videos from specified channels can be set to be recorded onto a particular HDD group.

To set up a HDD group:

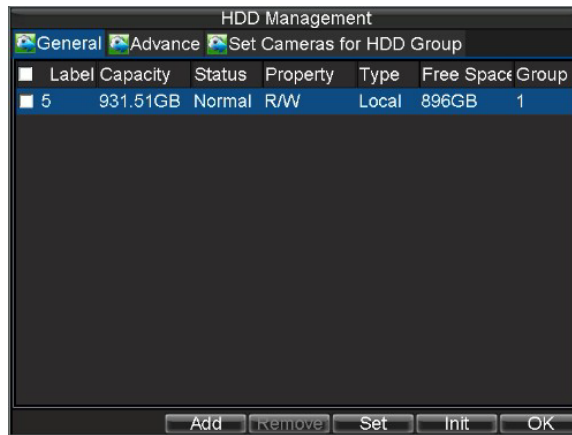1. Click Menu > HDD to enter the HDD Management menu.
2. Select HDDs to be added to group.
3. Select *Group* button to enter Group Settings menu.
4. Set the **HDD Group Number**, as shown in Figure 5.
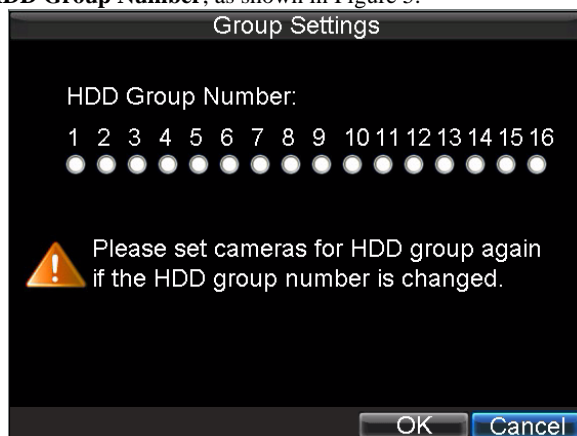
Figure5. HDD Group Settings Menu

5. Select *OK* to save settings and exit the Group Settings menu.

Note: By default settings, all HDDs belong to group 1.

Set HDD Status

You may change the behavior of your HDD by changing its status. The status of a HDD can be set to redundancy, read-only or read/write (R/W).

Setting HDD to Read-Only

A HDD can be set to read-only to avoid important recorded files from being overwritten when the HDD becomes full.

To set a HDD to read-only:

1. Click Menu > HDD to enter the HDD Management menu.
2. Select HDD to be protected.
3. Select the *Set* button to enter the HDD Settings menu, as shown in Figure 6.
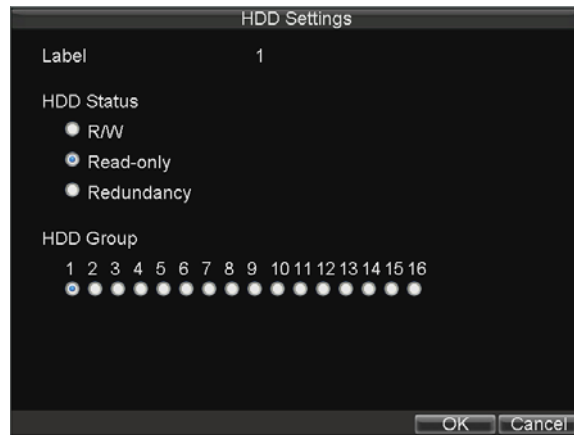
Figure6. HDD Settings Menu

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4. Set HDD Status to Read-Only.
5. Select *OK* to save settings and exit the current menu.

Note: Once set to read-only, the HDD cannot be written to until it is set back to read/write (R/W). If the HDD that is currently being written to is set to read-only, the data will be recorded to the next HDD. If there is only one HDD present, setting it to read-only will cause the DVR unable to record.

Setting HDD to Redundancy

In order to use HDD redundancy on your DVR, you will need to have at least two disk installed. Setting up HDD redundancy will allow your DVR to redundantly record a copy of the videos onto multiple drives as a safeguard against losing all your files in case of disk failures.

To set HDD redundancy:

1. Click Menu > HDD to enter the HDD Management menu.
2. Select HDD to set redundancy.
3. Select the Set button to enter the HDD Settings menu, as shown in Figure 6.
4. Set **HDD Status** to **Redundancy**.
5. Select *OK* to save settings and exit the current menu.

Note: The HDD that is set to redundancy is used to store an extra copy of the recording. If a HDD is set to redundancy, at least one HDD should be set to the R/W status.

Checking HDD Status

You may check the status of any of the installed HDDs on your DVR at anytime.

To check the status of a HDD:

1. Click Menu > HDD to enter the HDD Management menu.
2. The status of your HDD is listed under the **Status** column. If the status is listed as *Normal* or *Sleeping*, the HDD is in working order. If it is listed as *Abnormal* and has already been initialized, the HDD needs to be replaced. If the HDD is *Uninitialized*, you will need to initialize it before it can be use in your DVR. Please refer to ***Initializing HDDs*** for further instructions.

You may also view the SMART information of installed HDDs. SMART, abbreviation for Self-Monitoring, Analysis and Reporting Technology, is a monitoring system for hard disk drives to detect and report on various indicators of reliability in the hopes of anticipating failures.

To view SMART information of a HDD:

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1. Enter the HDD Management menu by clicking Menu >HDD, select Advance tab, shown in Figure 7.
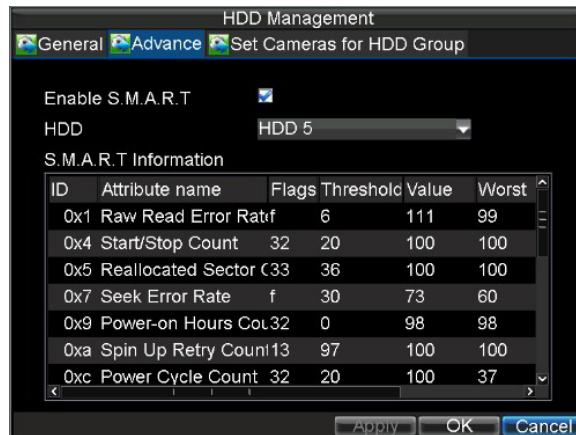
Figure7. S.M.A.R.T Function

2. The checkbox of Enable S.M.A.R.T is already checked in default.
3. Select a HDD you want to view S.M.A.R.T information, the corresponding information will be displayed below, shown in above figure.
4. If click to disable S.M.A.R.T function, the warning information appears, shown in Figure 9
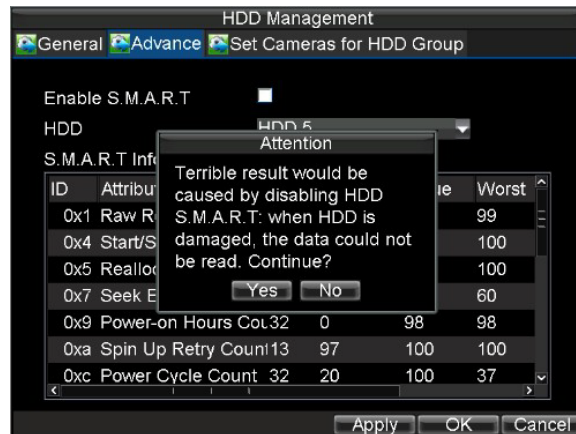
Figure8. Warning Information Pop up

Configure HDD Alarms

HDD alarms can be set to trigger when an HDD is uninitialized or in an abnormal state.

To set HDD alarms:

1. Click Menu > Settings > Exception to enter Exception menu, shown in Figure9.

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Figure9. Exception Menu

2. Select HDD Error under **Exception Type**.
3. Select trigger action. Trigger actions are further explained in *Understanding Exception Trigger Options*.

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C H A P T E R 1 2

DVR Management

Configure System Settings

Configuring General Settings

General settings such as the system language can be configured in the General Settings menu of your DVR.

To configure general settings:

    1.   Click Menu > Settings > General to enter the General Settings menu, shown in Figure 1.
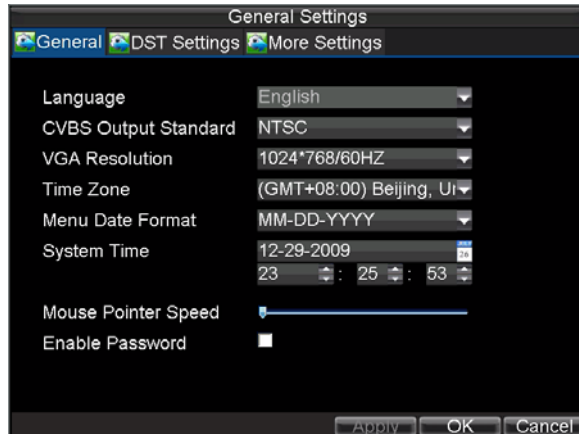
Figure1. General Settings Menu

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    2.   Select the **General** tab.
    3.   Configure general settings, including:
        • **Language:** Default language used in DVR menus.
        • **CVBS Output Standard:** Video output standard: NTSC and PAL.
        • **VGA Resolution:** VGA output resolution.
        • **Time Zone:** Time zone to use for DVR.
        • **Menu Date Format:** Format for date.
        • **System Time:** System time and date.
        • **Mouse Pointer Speed:** Speed of mouse pointer.
        • **Enable Password:** Enable/disable system password.

Note: If the video standard is different between the input and the output, you may notice flickering in Live View mode.

Configuring Advanced Settings

To configure more advanced settings:

   **1.**   Click Menu > Settings > General to enter the General Settings menu, shown in Figure 1.
    2.   Click the **More Settings** tab to enter the More Settings menu, shown in Figure 2.
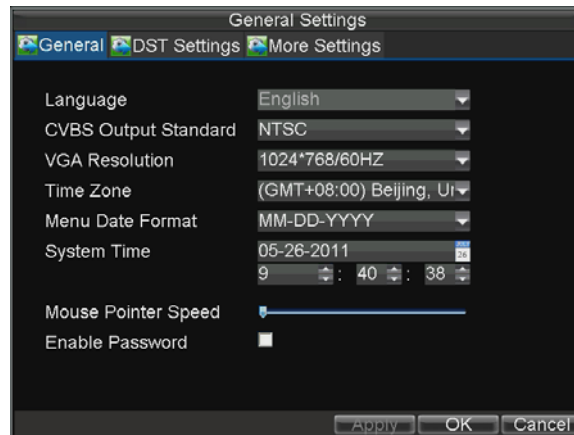
Figure2. More Settings Menu

3.   Configure the following settings:
- **Device Name:** Name of the DVR used**.**
- **Device No.:** Device number of DVR.
- **CVBS Output Brightness:** Video output brightness.
- **Transparency:** Menu transparency.
- **Operation Timeout:** Set timeout time for menu inactivity. For example, if timeout time was set to 5 minutes, after 5 minutes of inactivity in the General Settings menu, you'll be returned to the Live View.
- **Enable Output Hint:** To display output status in live view.
- **Event Hint:** To display hint during live view, if exception happens.
- **CVBS Scaling:** Enable/disable video output scaling for main/aux video output.

RS-232 Port Settings

To configure RS-232 devices to be used with the DVR:

1. Click Menu > Setting > RS232 to enter the RS-232 Settings menu, shown in Figure3.
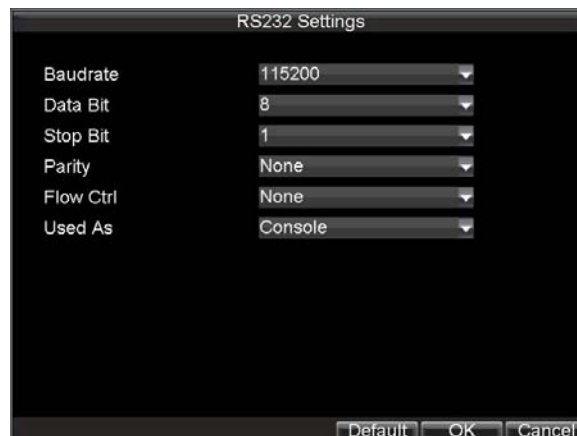
Figure3. RS-232 Settings Menu

2. Configure RS-232 Settings.
3. The RS-232 port can be used in two ways:
- **Parameter Control:** Connect from PC to the DVR using the PC serial port. Device parameters can then be set using software such as HyperTerminal. The serial port parameters must be the same as the DVR's when connecting with the PC serial port.

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• **Transparent Channel:** Connect a serial device directly to the DVR. The serial device will be controlled remotely by the PC through the network and the protocol of the serial device.

Note: DS-7604 Series DVR provides no RS-232 port, thus it is unallowable to set parameters control or create transparent channel.

Managing User Accounts

By default settings, your DVR is configured with the user name of *admin* and the password of *12345*. The *Administrator* has the authority to add, delete or configure the user parameters.

Add a New User

To add a new user:
Click Menu > Setting > User to enter the User Settings menu, shown in Figure 4.

Figure4. User Settings Menu

1. Select the Add button to enter the Add User menu, shown in Figure 5.
   Note: Up to 31 users can be added.

Figure5. Add User Menu

2. Enter information for new user, including **User Name**, **Password**, **Level** and **User's MAC**.
3. The **Level** is the user level and is separated into two ways.

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- **Operator:** The Operator user level has the authority to configure two-way audio in network settings and all parameters in channel settings.
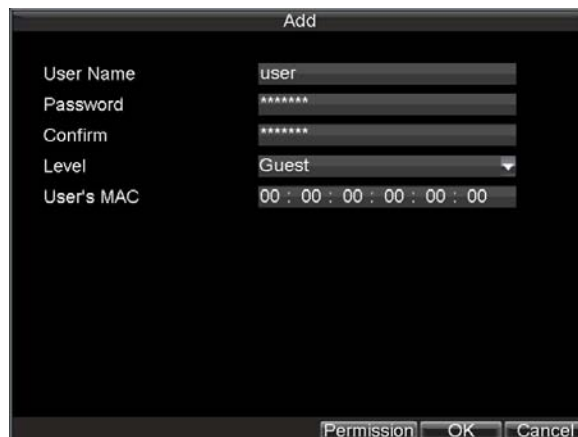- **Guest:** The Guest user can not configure network settings, but can configure the local playback as well as the remote playing in channel settings.

4. If **User's MAC** is configured and enabled, the user may only access the DVR from that particular MAC address.
5. Select the *Permission* button to enter the Permission Settings menu, shown in Figure 6.
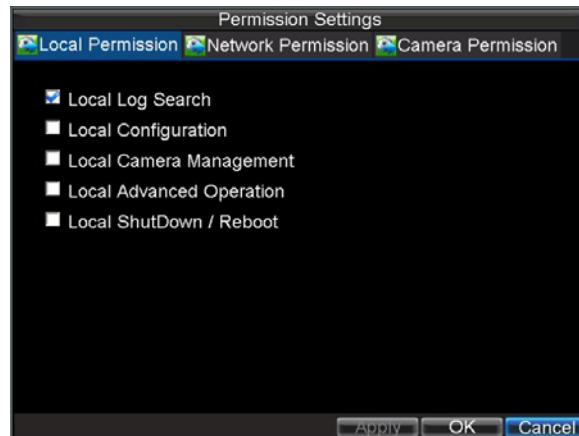
Figure6. Permission Settings Menu

6. Configure permission for local settings under **Local Permission** tab. The local settings include:
   - **Local Log Search:** Search and view logs of DVR.
   - **Local Configuration:** Configure and restore parameters to factory defaults. Introduce settings or export settings from DVR.
   - **Local Camera Management:** Enable and disable analog channels. Ability to add and delete IP cameras
   - **Local Advanced Management:** HDD management (including the initialization and changing the properties of a disk). Ability to update system firmware as well as to stop the relay output
   - **Local Shutdown/Reboot:** Shutdown or reboot the DVR.

7. Click on **Network Permission** tab to configure network permission settings, as shown in Figure 7. The network settings include:
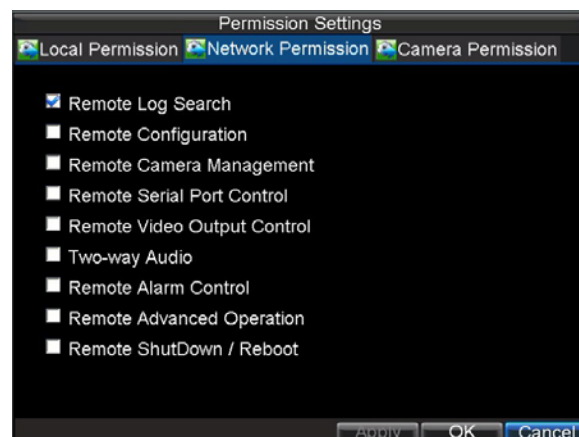
Figure7. Network Permission Settings Menu

- **Remote Log Search:** Remotely view logs that are saved on the DVR.
- **Remote Configuration:** Remotely configure parameters, restore parameters to factory defaults and import settings to as well as export settings from DVR.
- **Remote Channel Management:** Remotely enable and disable analog channels. Add and delete IP cameras.
- **Remote Serial Port Control:** Configure settings for RS232 and RS485 ports.
- **Remote Video Output Control:** Configure settings for video output.

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• **Two-way Audio:** Ability to use two-way radio between the remote client and the DVR.
• **Remote Alarm Control:** Remote alert or control the relay output of the DVR. Alarm and exception settings must be configured properly to upload to host.
• **Remote Advanced Management:** Remotely manage hard disk drives (initializing and setting properties for HDDs). Ability to remote update system firmware and stop of the relay output
• **Remote Shutdown/Reboot:** Remotely shutdown or reboot the DVR.
8. Click on the **Camera Permission** tab to configure camera permission, as shown in Figure 8. The channel settings include:

Figure8. Camera Permission Settings Menu

• **Remote Live View:** Select and view live video over the network.
• **Local Manual Record:** Local start and stop manual recording on any of the channels.
• **Remote Record Starting:** Remote start and stop manual recording on any of the channels.
• **Local Playback:** Local play recorded files that are on the DVR.
• **Remote Playback:** Remote play and download recorded files that are on the DVR.
• **Local PTZ Control:** Local control PTZ cameras.
• **Remote PTZ Control:** Remote control PTZ cameras.
• **Local Video Export:** Locally backup recorded files from any of the channels.
9. Click the OK button to save and exit menu.

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

Deleting a User

To delete a user from the DVR:

1. Click Menu > Settings > User to enter the User Settings menu.
2. Select user to delete.
3. Click the *Delete* button to delete user.
4. Click the *OK* button to exit menu.

Modifying a User

To modify a user:

1. Click Menu > Settings > User to enter the User Settings menu.
2. Select user to modify.
3. Click the *Modify* button to enter the Modify menu, shown in Figure 9.

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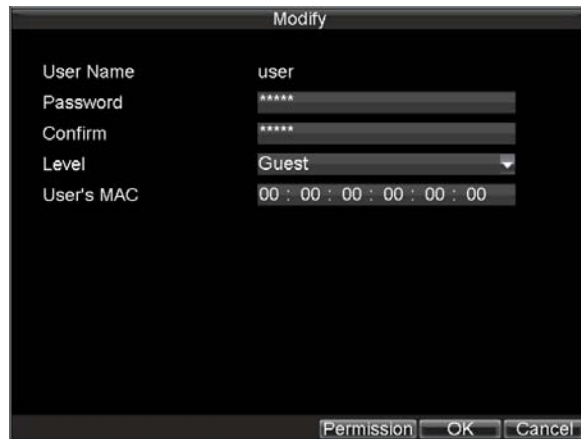
Figure9. Modify User Menu

4. Edit user information.
5. To modify user permissions, click on the privileges button. Permissions settings are defined in the *Adding a New User* section described above.
6. Click the *OK* button to exit menu.

Manage System

Importing & Exporting Configuration

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

To import or export DVR configuration:

1. Click Menu > Maintenance > Configuration to enter the Import/Export Configuration menu, shown in Figure 10.
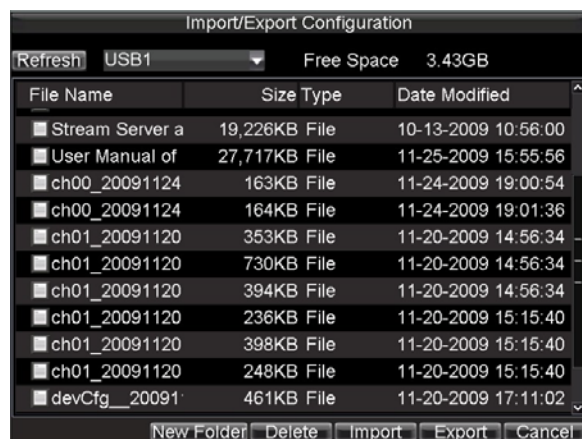
Figure10. Import/Export Configuration Menu

2. Click *Export* to export a configuration file to USB device. USB device must be connected at this point to the DVR.
3. To import a configuration file, select the file from the USB device and click the Import button. After the import process is completed, you must reboot the DVR.
4. Click *Cancel* to exit the current menu.

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Updating System Firmware

The firmware on your DVR can be updated by using two methods. These methods include updating via an USB device or over the network via a FTP server.

To update via an USB device:

1. Connect USB device to DVR. The firmware file must be located in the root directory of your USB device.
2. Click Menu > Maintenance > Upgrade to enter the Firmware Update menu, shown in Figure 11.
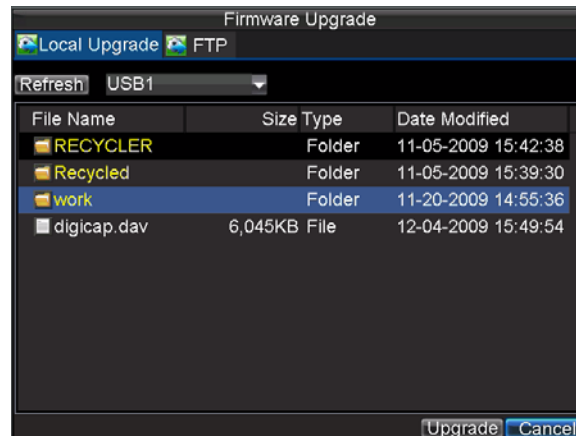
Figure11. Firmware Update Menu

3. Select the **Local Upgrade** tab.
4. Select the firmware on the USB device.
5. Select Upgrade to begin the update process.
6. After the system firmware has been updated, reboot the DVR.

To update via a FTP server:

1. Configure PC (running FTP server) and DVR to be in the same Local Area Network. Run the third-party TFTP software on the PC and copy the firmware into the root directory of TFTP.
2. Enter the Firmware Update menu by clicking Menu > Maintenance > Upgrade.
3. Select the **FTP** tab, shown in Figure 12.
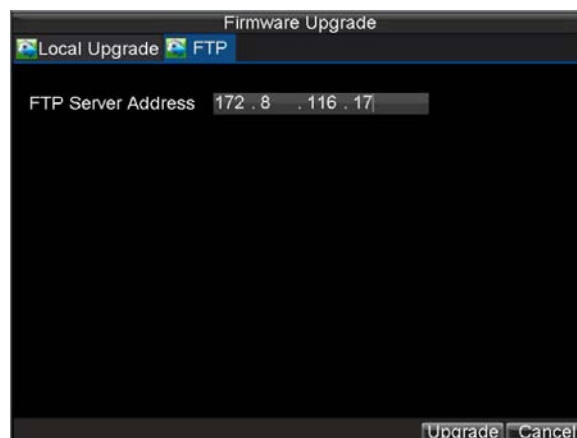
Figure12. FTP Firmware Update

4. Input the FTP server address.

5. Select Upgrade to begin update process.
6. After the system firmware has been update, reboot the DVR.

Note: If the DVR fails to update, please contact your system supplier for further assistance.

Restore Default Settings

To restore default factory settings to your DVR:

1. Click Menu > Maintenance > Default to enter the Default Settings menu, shown in Figure 13.
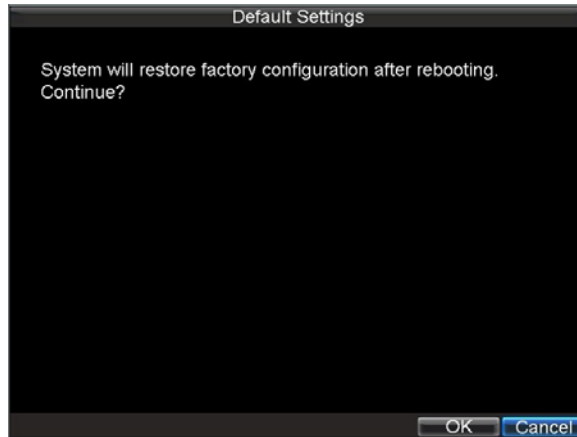
Figure13. Default Settings Menu

2. Select OK to restore factory defaults.

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

View System Information

To view system information:

1. Click Menu > Maintenance > Information to enter the Information menu, shown in Figure 14.

Figure14. System Information

2. Select OK to exit to the previous screen.

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View System Log

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

    1.   Click Menu > Maintenance > Log Search to enter the Log Search menu, shown in Figure 15.
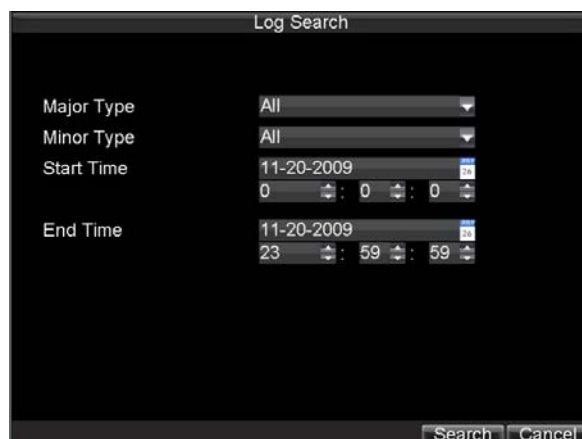
Figure15. Log Search Menu

    2.   Set search parameters.
    3.   Click the *Search* button to start search. If logs matching the search conditions are found, it will be displayed in a list of search results as shown in Figure 16.
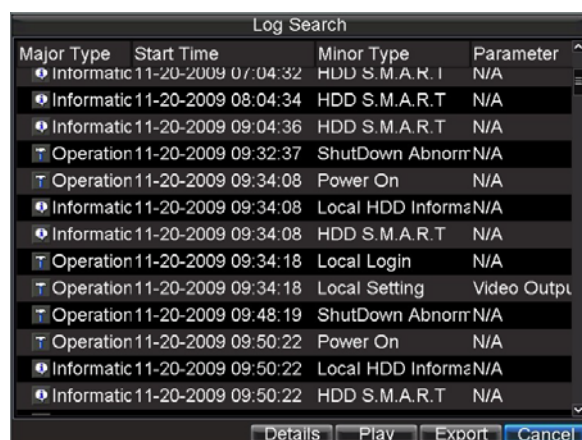
Figure16. Log Search Results

    4.   To view more detailed information about a particular log entry, select the log and click the *Details* button.
    5.   If applicable, you may also view the associated video to the selected log entry by clicking the *Play* button.
    6.   Log files can also be exported onto a USB device. To export a log file, connect a USB device to the DVR, select the log file to export and click the *Export* button to enter the Log Search Export menu, shown below in Figure 17. Click the *Export* button to export log onto USB device. The exported file will be named according to the time it was exported (i.e. 2000062991627.txt).

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Figure17. Log Search Export Menu

7. Click *Cancel* to exit the current menu.

C H A P T E R 1 3

Appendix

Glossary

- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF.
- **DVR:** Acronym for Digital Video Recorder. A DVR is device that is able to accept video signals from analog cameras, compress the signal and store it on its hard drives.
- **HDD:** Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.
- **DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
- **HTTP:** Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network
- **DDNS:** Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.
- **Hybrid DVR:** A hybrid DVR is a combination of a DVR and NVR.
- **NTP:** Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.
- **NTSC:** Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60Hz.
- **NVR:** Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.
- **PAL:** Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.
- **PTZ:** Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.
- **USB:** Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

FAQ

• **Why does my DVR make a beeping sound after booting?**
   There are a few reasons for the warning beep your DVR makes after booting.
   1. There is no HDD present in the DVR.
   2. The HDD has not been initialized.
   3. The HDD is defective.
   If you wish to use your DVR without any HDDs, you may disable this warning beep in the Exception Settings menu (See ***Setting Exception***).

• **Why does the DVR seem unresponsive when operating with the IR remote control?**
   If your DVR seem unresponsive when using the IR remote and you have read through the section ***Using the IR Remote Control***, please check:
   1. Check that the batteries are installed correctly in the remote, making sure that the polarities of the batteries are not reversed.
   2. Make sure the batteries are fresh and are not out of power.
   3. Make sure the remote has not been tampered with.
   4. Check around and make sure there are no fluorescent lamps in use.

• **Why does the PTZ seem unresponsive?**
   If the PTZ seem unresponsive, please check:
   1. Check that the RS-485 cable is properly connected.
   2. Check that the dome decoder type is correct.
   3. Check that the dome decoder speed configuration is correct.
   4. Check that the dome decoder address bit configuration is correct.
   5. Check to make sure that the main board RS-485 interface is not broken.

• **Why is there no video recorded after setting the motion detection?**
   If there are no recorded video after setting the motion detection, please check:
   1. Check that the recording schedule is setup correctly by following the steps listed in ***Scheduling a Recording***.
   2. Check that the motion detection area is configured correctly (See ***Setting Up Motion Detection***).
   3. Make sure that channels are being triggered for motion detection (See ***Setting Up Motion Detection***).

• **Why doesn't the DVR detect my USB export device for exporting recorded files?**
   There's a chance that the DVR and your USB device is not compatible. Please refer to our company's website to view a list of compatible devices.

List of Hikvision IP Cameras Supported by DS-7600 NVR

PC Platform	IPC Type	Model	Sub Stream	IPC Resolution	Main Stream Resolution Supported by DS-7601NVR	IPC Sub Stream Resolution	Sub Stream Resolution Supported by DS-7601NVR	Audio Compression	Encoding Format/Transmission/Packaging Format	Latest Version	Supported by DS-7600NVR V1.1.0	Supported by DS-7600NVR V1.2.0	Supported by DS-7600NVR V1.0.0
6446 Platform	SD IP Camera	DS-2CD802PF/NF(-E)(-D)(-IR1)(-IR3)(-IR5) DS-2CD812PF/NF(-E)(-D)(-IR1)(-IR3)(-IR5) DS-2CD892PF/NF(-E)(-D)(-IR1)(-IR3)(-IR5) DS-2CD832F(-E) DS-2CD702PF/NF(-E) DS-2CD712PF/NF(-E) DS-2CD792PF/NF(-E) DS-2CD732F(-E)	Support	4CIF/DCIF/2CIF/CIF/QCIF	4CIF/DCIF/2CIF/CIF/QCIF	CIF/QCIF	CIF/QCIF	G.722	HIK H.264+ HIK RTSP+PS	V2.0 build 090811	Yes	Yes	Yes
								G.711	Standard H.264+ Standard RTSP+RTP	V2.0 build 090522	Yes	Yes	Yes
									Standard MPEG4+ Standard RTSP+RTP	V2.0 build 090715	Yes	Yes	Yes
		DS-2CD802PF/NF-W DS-2CD812PF/NF-W DS-2CD892PF/NF-W DS-2CD832F-W	Support	4CIF/DCIF/2CIF/CIF/QCIF	4CIF/DCIF/2CIF/CIF/QCIF	CIF/QCIF	CIF/QCIF	G.722	HIK H.264+HIK RTSP+PS	V2.0 build 090629	Yes	Yes	Yes
	HD IP Camera	DS-2CD852MF-E DS-2CD752MF(-E) DS-2CD752MF-(I)FB(H)	Support	UXGA/HD900P/HD720P/SVGA/VGA/4CIF/DCIF/2CIF/CIF/QCIF	UXGA (1600*1200)	CIF/QCIF	CIF/QCIF	G.722	HIK H.264+HIK RTSP+PS	V2.0 build 100521	Yes	Yes	Yes
					720P/VGA			G.711	Standard H.264+ Standard RTSP+RTP	V2.0 build 100329	Yes	Yes	Yes
					4CIF/DCIF/2CIF/CIF/QCIF				Standard MPEG4+ Standard RTSP+RTP	V2.0 build 090629	Yes	Yes	Yes
		DS-2CD862MF-E DS-2CD762MF-(I)FB(H)	Support	XVGA/720P/VGA	720P/VGA	CIF	CIF	G722	HIK H.264+HIK RTSP+PS	V2.0 build 100521	Yes	Yes	Yes
								G.711	Standard H.264+ Standard RTSP+RTP	V2.0 build 100329	Yes	Yes	Yes
									Standard MPEG4+ Standard RTSP+RTP	V2.0 build 090629	Yes	Yes	Yes
365 Platform	SD IP Camera	DS-2CD7133F-E	Support	VGA	640*480	QVGA/CIF	CIF/320*240	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	Yes	Yes	Yes
		DS-2CD733F-E DS-2CD833F-E DS-2CD8133F-E	Support	VGA	640*480	QVGA/CIF	CIF/320*240	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	No	Yes	Yes
		DS-2CD893PF/NF-E DS-2CD893PFWD-E DS-2CD893NFWD-E DS-2CD793PF/NF-E DS-2CD793PFWD-E DS-2CD793NFWD-E	Support	704*576	4CIF	CIF	CIF	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	No	Yes	Yes
	HD IP Camera	DS-2CD7153-E	Support	1600*1200/1600*912/1280*960/1280*720/800*600/4CIF/VGA/CIF	CIF/4CIF/640*480/1600*1200/1280*720	QVGA/CIF	CIF/320*240	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	Yes	Yes	Yes
		DS-2CD8153F-E DS-2CD853F-E DS-2CD753F-E DS_2CD8253F_EI	Support	1600*1200/1600*912/1280*960/1280*720/800*600/4CIF/VGA/CIF	CIF/4CIF/640*480/1600*1200/1280*720	QVGA/CIF	CIF/320*240	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	No	Yes	Yes
		DS_2CD854F_E DS_2CD754F_E DS_2CD8254F_EI	Support	1920*1080/1600*1200/2048*1536/1280*720	1280*720/1600*1200/1920*1080	320*240	320*240	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	No	Yes	Yes
		DS_2CD883F_E DS_2CD783F_E	Support	1920*1080/2560*1920/2048*1536/1280*720/1600*1200	1280*720/1600*1200/1920*1080/2560*1920	320*240	320*240	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	No	Yes	Yes
		DS-2CD863PF/NF-E DS-2CD763PF/NF-E	Support	1280*960/1280*720/640*480	1280*720/640*480	352*288/320*240	CIF/320*240	G.711	Standard H.264+ Standard RTSP+RTP	V3.0 build 110117	No	Yes	Yes
6467 Platform	HD IP Camera	DS-2CD876MF/BF	Support	1600*1200	UXGA	640*480	VGA	G.711	Standard H.264+ Standard RTSP+RTP	V2.0 build 101102	Yes	Yes	Yes

		DS-2CD886MF/BF-E	Support	1920*1080/2560*1920/2048*1536/1280*720	1080P/720P/2560*1920	640*480	VGA	G.711	Standard H.264+ Standard RTSP+RTP	V2.0 build 101102	Yes	Yes	Yes
6446 Platform	SD IP Dome	DS-2DF1-601/2/3/4/5/6/7/8H(F) DS-2DF1-611/2/3/4/5/6/7/8H(F) DS-2DF1-631/2/3/4/5/6/7/8H(F)	Support	4CIF/DCIF/2CIF/CIF/QCIF	4CIF/DCIF/2CIF/CIF/QCIF	CIF/QCIF	CIF/QCIF	G.722	HIK H.264+HIK RTSP+PS	V2.0.1 build 100513	Yes	Yes	Yes
	HD IP Dome	DS-2DF1-671	Support	VGA/720P/XVGA	720P/VGA	CIF/QCIF	CIF	G.722	HIK H.264+HIK RTSP+PS	V2.0.1 build 100617	Yes	Yes	Yes
		DS-2DF1-672	Support					G.722	HIK H.264+HIK RTSP+PS	V2.0.2 build 101225	Yes	Yes	Yes
		DS-2DF1-6732	Support	VGA/720P/XVGA	720P/VGA	CIF/QCIF	CIF	G.722	HIK H.264+HIK RTSP+PS	V2.0.2 build 101225	No	Yes	Yes
	SD DVS	DS-6101HFI DS-6102HFI	Support	4CIF/DCIF/2CIF/CIF/QCIF	4CIF/DCIF/2CIF/CIF/QCIF	CIF/QCIF	CIF/QCIF	G.722	HIK H.264+HIK RTSP+PS	V2.0 build 091027	No	Yes	Yes