

Performance Series Full PoE Network Video Recorder

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User Guide

User Guide

Revisions

| Issue | Date | Revisions |
|--------------|-------------|---|
| A | 09/2015 | New document based on 800-18160V2. |
| V1 Rev A | 10/2015 | Added two notes in the Camera Configuration chapter. |
| V2 Rev A | 03/2016 | Amended the part numbers. Amended the product description. Added the Smart Search section in the Playing Back Video section. Amended some Specifications. Added the appendix about MAXPRO Cloud. Added the list of symbols in the Cautions/Safety/Regulatory chapter. |
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| | | |

Cautions and Warnings

| | | | |
|--|---|---|--|
|  | <p style="text-align: center;">CAUTION</p> <p style="text-align: center;">RISK OF ELECTRIC SHOCK DO NOT OPEN</p> |  | <p>THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.</p> |
| <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p> | | |  <p>THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.</p> |

Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.

WARNING Use only with the supplied power converters. The Ethernet connection is not intended to be connected to an exposed (outside plant) network.

CAUTION There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries in accordance to local laws.

CAUTION Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.

Regulatory Statements

FCC Compliance Statement

Information to the User: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Note Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

Manufacturer's Declaration of Conformance

North America

The equipment supplied with this guide conforms to UL 60950-1 and CSA C22.2 No. 60950-1.

Europe

The manufacturer declares that the equipment supplied is compliant with the essential protection requirements of the EMC directive 2004/108/EC and the Low Voltage Directive (LVD) 2006/95/EC, conforming to the requirements of standards EN 55022 for emissions, EN 50130-4 for immunity, and EN 60950 for electrical equipment safety.

Waste Electrical and Electronic Equipment (WEEE)



Correct Disposal of this Product (applicable in the European Union and other European countries with separate collection systems).

This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

Safety Instructions

BEFORE OPERATING OR INSTALLING THE UNIT, READ AND FOLLOW ALL INSTRUCTIONS. AFTER INSTALLATION, retain the safety and operating instructions for future reference

1. **HEED WARNINGS** - Adhere to all warnings on the unit and in the operating instructions.
2. **INSTALLATION**
 - Install in accordance with the manufacturer's instructions.
 - Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.
 - Do not install the unit in an extremely hot or humid location, or in a place subject to dust or mechanical vibration. The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.
 - Any wall or ceiling mounting of the product should follow the manufacturer's instructions and use a mounting kit approved or recommended by the manufacturer.
3. **POWER SOURCES** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your facility, consult your product dealer or local power company.
4. **HEAT** - Situate away from items that produce heat or are heat sources such as radiators, heat registers, stoves, or other products (including amplifiers).
5. **WATER AND MOISTURE** - Do not use this unit near water or in an unprotected outdoor installation, or any area classified as a wet location.
6. **MOUNTING SYSTEM** - Use only with a mounting system recommended by the manufacturer, or sold with the product.
7. **ATTACHMENTS** - Do not use attachments not recommended by the product manufacturer as they may result in the risk of fire, electric shock, or injury to persons.
8. **ACCESSORIES** - Only use accessories specified by the manufacturer.
9. **CLEANING** - Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
10. **SERVICING** - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
11. **REPLACEMENT PARTS** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

Warranty and Service

Subject to the terms and conditions listed on the Product warranty, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective products returned prepaid.

In the event you have a problem with any Honeywell product, please call Customer Service at 1.800.323.4576 for assistance or to request a **Return Merchandise Authorization (RMA)** number.

Be sure to have the model number, serial number, and the nature of the problem available for the technical service representative.

Prior authorization must be obtained for all returns, exchanges, or credits. **Items shipped to Honeywell without a clearly identified Return Merchandise Authorization (RMA) number may be refused.**

List of Symbols

The following is a list of symbols that might appear on the NVR.

Table 1-1 List of Symbols







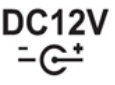



| Symbol | Explanation |
|---|--|
|  | <p>The WEEE symbol.</p> <p>This symbol indicates that when the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling. By separating this product from other household-type waste, the volume of waste sent to incinerators or landfills will be reduced, and thus natural resources will be conserved.</p> |
|  | <p>The UL compliance logo.</p> <p>This logo indicates that the product has been tested and is listed by the Underwriters Laboratories.</p> |
|  | <p>The FCC compliance logo.</p> <p>This logo indicates that the product conforms to Federal Communication's Commission compliance standards.</p> |
|  | <p>The direct current symbol.</p> <p>This symbol indicates that the power input/output for the product is direct current.</p> |
|  | <p>The alternating current symbol.</p> <p>This symbol indicates that the power input/output for the product is alternating current.</p> |
|  | <p>The LDPE symbol.</p> <p>This symbol indicates that this product is made of Low-Density Polyethylene (LDPE).</p> |
|  | <p>The Direct Current symbol.</p> <p>This symbol indicates that the product operates from a 12 V direct current.</p> |

Table 1-1 List of Symbols

| Symbol | Explanation |
|---|---|
|  | The Lead-free symbol. This symbol indicates that the product does not contain lead (Pb). |
|  | The CCC compliance logo. This logo indicates that the product conforms with the China Compulsory Certification guidelines. |
|  | The Environment Friendly Use-period symbol. This symbol indicates the length of time that this electronic product can be used without harming the environment. |
|  | The RCM Compliance symbol. This symbol indicates that the product conforms with the Australian RCM guidelines. |
|  | The TUV Lab symbol. This symbol indicates that the product has been safety tested by the TUV Lab. |
|  | The Direct Current symbol. This Direct Current symbol indicates that the product operates direct current. |
|  | This symbol indicates that the product is to be used indoors. |
|  | The CE Compliance logo. This logo indicates that the product conforms to the relevant guidelines/standards for the European Union harmonization legislation. |
|  | The Protective Earth symbol. This symbol indicates that the marked terminal is intended for connection to the protective earth/grounding conductor. |

Table 1-1 List of Symbols

| Symbol | Explanation |
|---|--|
|  | This symbol is used to direct attention to important information. |
|  | This symbol warns that the corresponding action could result in an electric shock. |
|  | This symbol indicates On/Standby functionality of the corresponding control/button/switch. |

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About This Document

This document introduces the Honeywell Performance Series Full PoE Network Video Recorder. It explains how to install and operate the Performance Series Full PoE Network Video Recorder.

This document is intended for installers and users.

Overview of Contents

This document contains the following chapters and appendixes:

- [Chapter 1, Introduction](#), describes the front and rear panel layout of the NVR, and mouse and remote control functions.
- [Chapter 2, Getting Started](#), describes how to connect the NVR and log on to its user interface.
- [Chapter 3, Viewing Live Video](#), describes the NVR's real-time monitoring mode and associated NVR operations, including controlling a PTZ camera (if connected).
- [Chapter 4, Recording Video](#), describes how to manually record a video clip and how to set up automatic recording.
- [Chapter 5, Playing Back Video](#), describes how to search for and play back recorded video and snapshots, and how to save recorded files to an external storage device.
- [Chapter 6, Configuring Camera Settings](#), describes how to configure camera image settings, encoder settings, snapshot settings, privacy mask settings, camera name settings, and channel type settings.
- [Chapter 7, Configuring Network Settings](#), describes how to configure the NVR's network settings, including connection settings, email settings, FTP settings, registration settings, and alarm center settings.
- [Chapter 8, Configuring Event Settings](#), describes how to configure the NVR's alarm settings, including settings for motion detection, video loss, camera tampering, and system events.
- [Chapter 9, Configuring Storage Settings](#), describes how to configure the NVR's storage settings, including recording settings and HDD management settings.

- [Chapter 10, Configuring System Settings](#), describes how to configure NVR system settings, display settings, and user accounts; export and import configuration settings to and from other NVRs; restore default settings; and upgrade the system firmware.
- [Chapter 11, Viewing Information](#), describes how to view system, event, network, and log information.
- [Chapter 12, Troubleshooting](#), lists troubleshooting steps for resolving errors that you may encounter when operating the NVR.
- [Appendix A, Connecting Alarm Input/Outputs](#), provides guidelines for connecting alarm inputs and outputs.
- [Appendix B, Installing Hard Drives](#), lists the manufacturers and models of compatible HDDs, including SATA HDDs and portable HDDs, and provides instructions for installing an additional HDD.
- [Appendix C, MAXPRO® Cloud](#), explains how to switch the NVR for MAXPRO Cloud mode.
- [Appendix D, Specifications](#), lists the NVRs' specifications.
- [Appendix E, Index](#), lists commonly searched-for terms.

Related Documents

This document is a necessary prerequisite for understanding the Performance Series Full PoE Network Video Recorder. For more information, please refer to the following documents:

| Document title | Part number | Description |
|--|-------------|---|
| Embedded NVR Quick Installation Guide | 800-21088 | Visually describes how to connect and start up an IP Cameras. |
| Embedded NVR Quick Networking Guide | 800-21089 | Visually describes how to configure network connections, including the mobile application. |
| H2D2PR1(X) 1080p True Day/Night IR Ball IP Camera Quick Installation Guide | 800-17073 | Describes the physical setup of a H2D2PR1(X) ball camera. |
| HBD2PR1(X) 1080p True Day/Night IR Bullet IP Camera Quick Installation Guide | 800-17077 | Describes the physical setup of a HBD2PR1(X) ball camera. |
| Performance Series IP Cameras User Guide | 800-18161 | Describes the Performance Series IP Cameras, how to install them, how to configure them, and how to operate them. |

Typographical Conventions

This document uses the following typographical conventions:

| Font | What it represents | Example |
|-------------------------|--|--|
| Helvetica | Keys on the keyboard | Press Ctrl+C |
| Lucida | Values of editable fields that are mentioned in the body text of the document for reference purposes, but do not need to be entered as part of a procedure | The Time from field can be set to Hours:Minute:Seconds. |
| | Text strings displayed on the screen Syntax | The message Unauthorized displays. (object) entered |
| Swiss721 BT Bold | Words or characters that you must type. The word “enter” is used if you must type text and then press the Enter or Return key. | Enter the password . |
| | Menu titles and other items you select | Double-click Open from the File menu. |
| | Buttons you click to perform actions | Click Exit to close the program. |
| <i>Italic</i> | Placeholders: words that vary depending on the situation | Enter your <i>user name</i> . |
| | Cross-reference to external source | Refer to the <i>Embedded NVR Quick Installation Guide</i> . |
| | Cross-reference within document | See <i>Chapter 7, Configuring Network Settings</i> . |

1

Introduction

This chapter covers:

- An overview of the IP Cameras on [page 25](#)
- The features of the IP Cameras on [page 26](#)
- The components of the NVR on [page 27](#)
- An overview of the USB mouse and its operation on [page 32](#).
- An overview of remote control operation [page 33](#).

Overview of the IP Cameras

The Performance Series Full PoE Network Video Recorder is a high-performance network video recorder. It supports:

- Local preview
- Multiple-window display
- Local recorded file storage
- Remote control and mouse shortcut menu operation
- Remote management
- Control

The Performance Series Full PoE Network Video Recorder also features multiple storage options:

- Central storage: 3rd party storage, such as network storage
- Front-end storage: The NVR's HDD storage
- Client-end storage: Storage on the client's computer

Because of the flexibility of its design, the Performance Series Full PoE Network Video Recorder can be used in a variety of applications, such as public security, water conservancy, transportation, and education.

Features of the IP Cameras

Table 1-1 IP Cameras Features

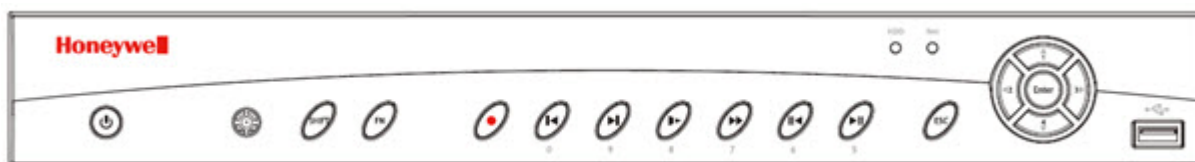
| Category | Features |
|-----------------|--|
| User Management | <ul style="list-style-type: none"> • Different user rights for each group; each user belongs to a specific group. • User rights cannot exceed Group rights. |
| Storage | <ul style="list-style-type: none"> • Supports central server backup that follows your configuration and setup in Alarm or Schedule settings. • Supports recording through the Internet. The recorded files are stored on the client's PC. • Supports network storage, such as FTP. |
| Alarm | <ul style="list-style-type: none"> • Responds to external alarms almost instantly (within 200 milliseconds), based on your pre-defined relay setup. You can also configure a visual and/or noise prompt (if supported by a pre-recorded noise) upon alarm detection. • Supports central alarm server setup, so that alarm information can automatically and remotely notify users. The alarm input can be derived from various connected peripheral devices. |
| Network Monitor | <ul style="list-style-type: none"> • The NVR supports the transmission of audio/video data that is compressed by an IP camera, which is then decoded for display. The delay time is less than 500 ms (sufficient network bandwidth support is required). • Supports a maximum of 10 connections. • Compatible to broadcast audio/video with the following transmission protocols: HTTP, TCP, UDP, MULTICAST, RTP/RTCP. • Transmits some alarm data or alarm information through SMTP. • Supports Internet access through the WAN. |
| Window Split | <ul style="list-style-type: none"> • Video compression plus a digital process allows the NVR to split the monitor screen to show four video channels at the same time. |
| Recording | <ul style="list-style-type: none"> • Supports a schedule for recording. The recorded files can be saved in the HDD, on the client's PC, or on a network storage server. You can search and view the recorded video that is stored locally or through the Internet connection. |
| Backup | <ul style="list-style-type: none"> • Supports backing up video, through the network, to a USB 2.0 device. The recorded files can be saved on the network storage server, on a peripheral USB 2.0 device, or to a burner, for example. |

Table 1-1 IP Cameras Features

| Category | Features |
|---------------------------------|---|
| Network Management | <ul style="list-style-type: none"> • Supports NVR configuration and management through the Ethernet. • Supports device management through the Internet. |
| Peripheral Equipment Management | <ul style="list-style-type: none"> • Supports peripheral equipment management such as protocol setup and port connection. • Supports transparent data transmission such as RS232 (RS-422) and RS485 (RS-485). |
| Auxiliary | <ul style="list-style-type: none"> • Supports switching between NTSC and PAL. • Supports viewing real-time system resources information and running statistics display. • Supports log file. • Supports local GUI output and shortcut menu operation with a computer mouse. • Supports IR control using shortcut menu operation with a computer mouse. • Supports IP camera remote video preview and control. |

Network Video Recorder Components

For NVR specifications, please see [Appendix D](#) on [page 173](#).

Figure 1-1 NVR Front Panel**Table 1-2 NVR Front Panel Components**

| Component Name | Icon | Function |
|----------------|--------------|---|
| Power Button | | Power button. Press this button for three seconds to boot up or shut down the NVR. |
| IR Receiver | | Receives the signal from the remote control. |
| Shift | SHIFT | <ul style="list-style-type: none"> • When the cursor is in a textbox, click this button to switch between numbers and letters (lower case/upper case). • Enable/disable a tour. |

Table 1-2 NVR Front Panel Components










| Component Name | Icon | Function |
|----------------------|---|--|
| Assistant | Fn | <ul style="list-style-type: none"> • Single window monitor mode: Click this button to display the Assistant function; to start PTZ control (not supported); and to configure the image color. • Backspace function: When entering letters or numbers, press and hold for 1.5 seconds to delete the last-entered character. • Motion detection: Use in conjunction with the direction keys. • Text mode: When entering characters, click to switch between numbers and letters (uppercase/lowercase). • HDD management: Click to switch the HDD recording information and other information. (Menu prompt.) • Other special functions. |
| Play Previous |  | In playback mode, play the previous video. |
| Play Next |  | In playback mode, play the next video. |
| Slow Play |  | Click to adjust the playback speed. Various slow playback speeds are available. |
| Fast Play |  | Click to adjust the playback speed. Various fast playback speeds are available. |
| Reverse/Pause |  | <ul style="list-style-type: none"> • Normal playback: Click to reverse playback. • Reverse playback: Click to pause playback. |
| Play/Pause |  | <ul style="list-style-type: none"> • Reverse playback or pause mode: Click to return to normal playback mode. • Normal playback: Click to pause playback. • Pause mode: Click to resume playback. • Real-time monitor mode: Click to enter the Search interface. |
| ESC | ESC | <ul style="list-style-type: none"> • Go to the previous menu or cancel the current operation. • Playback: Click to go back to the real-time monitor mode. |
| Up/Down |  | <ul style="list-style-type: none"> • Activate the current control, modify setup, and then move up and/or down. • Increase or decrease the current number. • Assistant function such as the PTZ menu (not supported). |
| Left/Right |  | <ul style="list-style-type: none"> • Shift the currently active control, then move left or right. • Playback mode: Click to control the playback bar. |

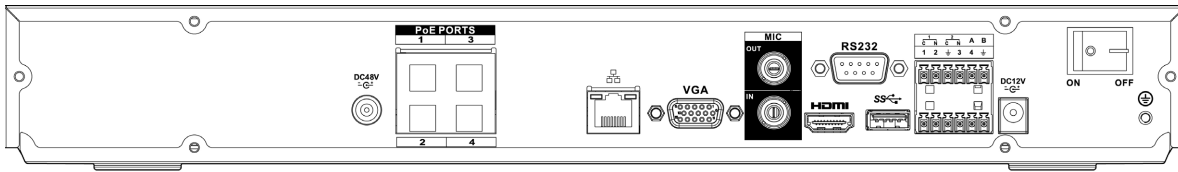
Table 1-2 NVR Front Panel Components

| Component Name | Icon | Function |
|--|---|--|
| Enter | ENTER | <ul style="list-style-type: none"> • Confirm the current operation. • Go to the Default button. • Go to the Menu. |
| USB 2.0 Port |  | Connect to a USB 2.0 storage device, USB 2.0 mouse or CD/DVD burner. |
| HDD Abnormal Indication Light | HDD | Lights BLUE to indicate an HDD error or when the HDD capacity is below the specified threshold. |
| Network Abnormal Indication Light | Net | Lights BLUE to indicate that a network error has occurred or that there is no network connection. |

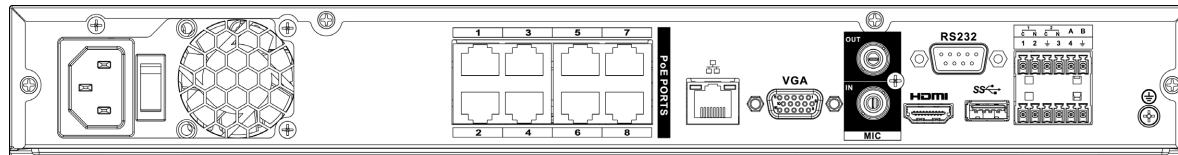
Note The 8-/16-channel NVR is shown in this User Guide.

Figure 1-2 NVR Back Panel

4-channel NVR



8-channel NVR



16-channel NVR

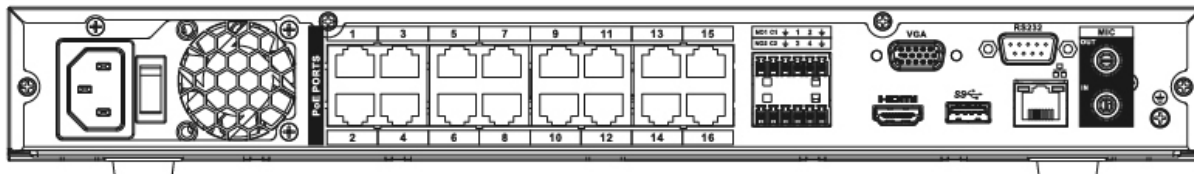





Table 1-3 NVR Back Panel Components

| Icon/Marker | Port/Component Name | Connection | Function |
|----------------|---------------------------------|------------|--|
| | USB 2.0 Port | | Connect a USB 2.0 mouse. |
| | Network Port | | 10 M / 100 M / 1000 Mbps self-adaptive Ethernet port. Connect to a network cable. |
| RS232 (RS-422) | 232 Debug COM | | For general COM debugging, to configure the IP address or to transfer transparent COM data. |
| HDMI | High Definition Media Interface | | High definition audio and video signal output port. It transmits uncompressed high-definition video and multiple-channel data to the display device's HDMI port. |
| VGA | VGA Video Output Port | VGA | VGA video output port. Outputs the analog video signal. It can connect to the monitor for viewing analog video. |

Table 1-3 NVR Back Panel Components

| Icon/Marker | Port/Component Name | Connection | Function |
|---|-----------------------------|------------|---|
| 1-4 | Alarm Input Port | I/O Port | <ul style="list-style-type: none"> Receives the signals from the external alarm sources. Two types: NO (normally open), NC (normally closed). When your alarm input device is using external power, please make sure the device and the NVR have the same ground. |
|  | Alarm Input Port Ground End | | Alarm input ground end. |
| NO1 to NO2 C1 to C2 | 2 channel Alarm Output Port | | <ul style="list-style-type: none"> Two groups of alarm output ports. (Group 1: port NO1 ~ C1; Group 2: port NO2 ~ C2). Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. NO: Normally open alarm output port. C: Alarm output public end. |
|  | Power Input Port | | Input 12 V DC. |
| Power Button | | | Power On/Off button. |
| PoE Ports | | | The built-in switch supports PoE function. It also supports up to 48 V / 50 W. |
|  | Power Input Port | | Switch power port. Input 48 V DC. |
| VIDEO OUT | Video Output Port | | CVBS output. |
| MIC IN | Audio Input Port | | Bi-directional communication input port. It receives the analog audio signal output from devices such as a microphone pickup. |
| MIC OUT | Audio Output Port | | <p>Audio output port. It outputs the analog audio signal to devices such as an alarm.</p> <ul style="list-style-type: none"> Bi-directional communication output. Audio output on a 1-window video monitor. Audio output on a 1-window video playback. |

Mouse Operation

Your IP Cameras is optimized for mouse navigation. Use the supplied mouse to set up the DVR.

Figure 1-3 Mouse



| Button | Action |
|---------|---|
| 1 Left | <ul style="list-style-type: none"> Click to select a menu option. Click in a text field to display the on-screen keyboard. Click on the on-screen keyboard to input letters/numbers. In multi-screen view, double-click to view the channel full screen. Double-click again to exit the full-screen mode. Double-click video filename to play video. |
| 2 Right | <ul style="list-style-type: none"> Click to close the menu window without saving the changes. Click to exit the main menu to return to the live view screen. Click to open the shortcut menu from the live view screen. |
| 3 Wheel | <ul style="list-style-type: none"> Scroll up/down. |

Using the On-screen Keyboard

- To display the on-screen keyboard, click in a text box. The keyboard appears directly below the text box.

Figure 1-4 On-screen Keyboard

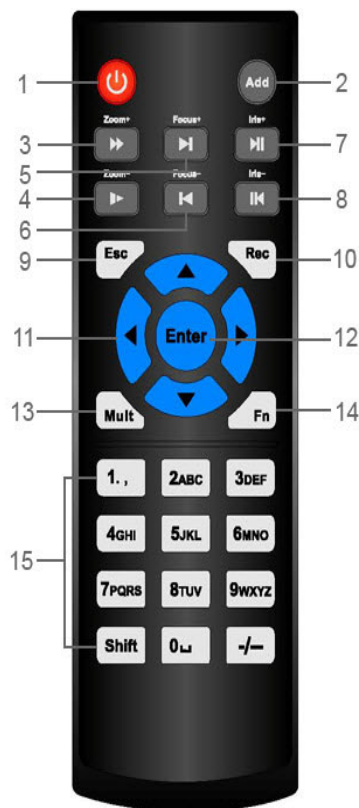


- Click the key corresponding to the letter/number/special character that you want to input in the text box.
 - To switch between lowercase and uppercase letters, click **Shift**.
 - To delete the previous character, click the ← key.
 - To insert a space, click the ␣ key.
- Click **Enter** to close the on-screen keyboard.

Remote Control Operation

It is strongly recommended to use a mouse to operate the NVR. However, you can also use the supplied IR remote control. The following table describes basic remote control operations.

Figure 1-5 Remote Control Functions:



| Button | Action |
|--------|--|
| 1 | Power Turn the NVR on/off. |
| 2 | Add (Address) Enter the number of the device that you want to control. |
| 3 | Forward Increase the forward playback speed. |
| 4 | Slow Play Decrease the forward playback speed. |
| 5 | Next Record Select the next video for playback. |
| 6 | Previous Record Select the previous video for playback. |
| 7 | Play/Pause Pause/resume forward playback. In the live view mode, enter the video search mode. |
| 8 | Reverse/Pause Pause/resume reverse playback. |
| 9 | Esc Return to the previous menu or cancel the current operation. |
| 10 | Rec Manually start/stop recording. While in the recording interface, use the direction buttons to select the recording channel. Press and hold the record button to enter the manual recording interface. |
| 11 | Direction Keys Use the left/right keys to switch the currently activated control. While in playback mode, use the up/down buttons to change the playback channel. |
| 12 | Enter Go to the default. Go to the menu. |
| 13 | Mult Switch between the multi-channel view and the single-channel view. |
| 14 | Fn In the single-monitor mode, use the popup assistant function, control PTZ cameras or adjust video color. In PTZ control mode, switch the PTZ control menu. In text mode, press and hold the button to delete the last character. |
| 15 | Alphanumeric Keys Enter passwords or switch channels. Press Shift to switch the input method. |

2

Getting Started

This chapter includes the following sections:

- *Unpacking the NVR, page 35*
- *Connecting External Devices, page 36*
- *Starting and Shutting Down the NVR, page 38*
- *Setting Up the NVR with the Startup Wizard, page 39*
- *Setting Up Bi-Directional Communication Connection on page 44*

Unpacking the NVR

Before you set up the NVR, make sure that you have received the following items:

- Quick Installation Guide (800-21088)
- Quick Networking Guide (800-21089)
- Software CD
- Power adapter and cable
- Mouse
- Remote control
- CAT5e network cable
- Terminal block connectors (×2)
- Screws (×10)
- Serial ATA (SATA) cable*

If any of the items listed above are missing or damaged, contact your Honeywell dealer immediately.

Connecting External Devices

Step 1: Connect the cameras

Connect the coaxial cables from the cameras to the VIDEO IN connectors (1 Vp-p, 75 ohm).

Step 2: Connect the monitor

Connect a VGA cable (not supplied) to the VGA interface and/or an HDMI cable (not supplied) to the HDMI interface. Connect the other end to a monitor (do not use a TV). Simultaneous VGA and HDMI output is supported.

Step 3: Connect the mouse

Connect the supplied USB mouse to the USB 2.0 interface.

Step 4: Connect the Ethernet cable

Connect the supplied CAT5e Ethernet cable to the network port. Connect the other end to a router on your network.

Step 5: Connect audio devices (if applicable)

To record audio, connect the audio sources to the AUDIO IN connectors. To play audio, connect an audio output device (low-impedance headphones, speaker, or amplifier) to the AUDIO OUT connector (200 mV / 1 kilohm).

Step 6: Connect alarm devices (if applicable)

Connect alarm devices to the alarm in/out interface. If the alarm inputs use external power, the device must have the same ground as the NVR. See [Appendix A, Connecting Alarm Input/Outputs](#) for additional information.

Step 7: Connect a PTZ camera (if applicable)

Your embedded NVR communicates with PTZ cameras through the Network. Ensure that you camera is correctly connected to the Network.

Step 8: Connect the power cable

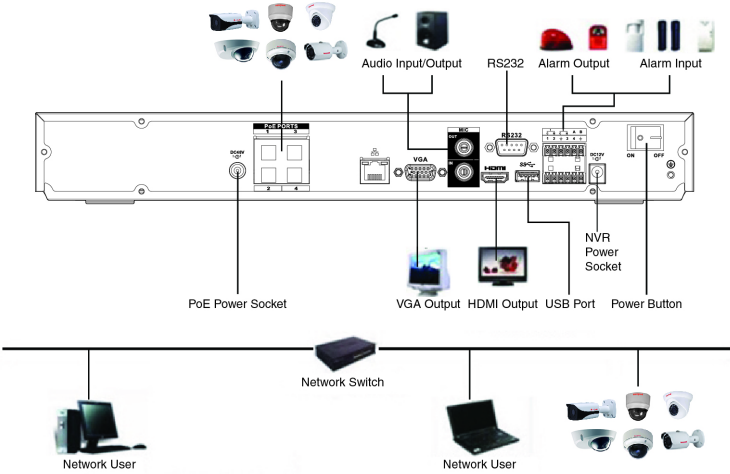
Connect the supplied 12 V DC power adapter to the power input. Use of an uninterruptible power supply (UPS) is strongly recommended.

Typical NVR Installation

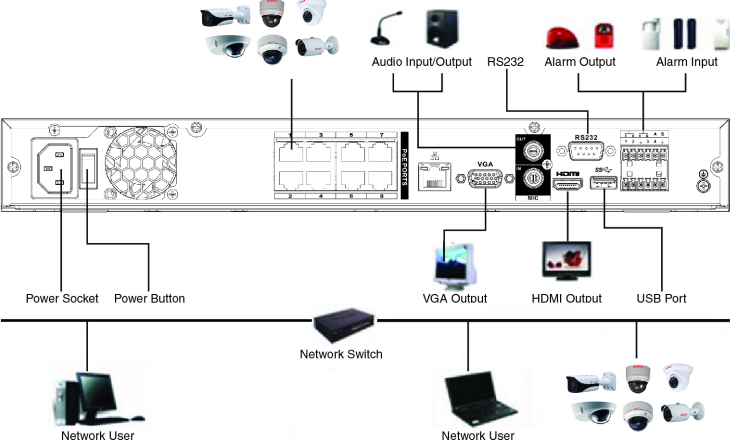
The following diagram shows a typical NVR installation:

Figure 2-1 Typical NVR Installation

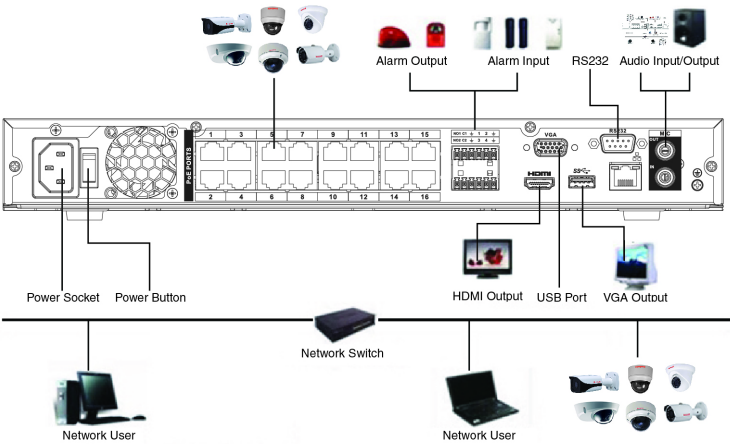
4-channel NVRs



8-channel NVRs



16-channel NVRs



Starting and Shutting Down the NVR

Starting the NVR

1. Verify that the NVR is connected to an appropriate power source.
2. Turn on the power switch on the rear panel to start the NVR.

Note The beep at startup is normal.

Shutting Down the NVR

Note To shut down the NVR, you must be logged in as the admin user or have shutdown privileges assigned to you. See [Configuring Account Settings on page 133](#).

To prevent damage to the hard drive, follow these steps to shut down the NVR:

1. In live view mode, click anywhere on the screen to display the shortcut menu, and then click **Main Menu**.
2. In the **Main Menu** window, click **Shutdown**.
3. In the **Shutdown** window, click **Shutdown** or **Reboot**.
4. Enter the admin password (the default password is **1234**), and then click **OK**.

Setting Up the NVR with the Startup Wizard

The Startup Wizard opens by default when you turn on the NVR.

Figure 2-2 Startup Wizard



Using the wizard, you can:

- Configure general settings (device name, number, language, video standard)
- Set the date and time
- Configure video encoding settings
- Set up a recording schedule
- Configure recording settings
- Configure network settings

Note If you want to bypass the wizard and go directly to live view, click **Cancel**. To prevent Startup Wizard from opening the next time you start the NVR, de-select the **Startup** check box.

Using the Startup Wizard

1. Click **Next Step** to go to the **SYSTEM LOGIN** window.

Figure 2-3 System Login

2. Click inside the **Password** box to display the on-screen keyboard, click the numbers **1**, **2**, **3**, and **4** on the on-screen keyboard (**1234** is the default admin password), and then click **Enter**.
3. Click **OK** to go to the **GENERAL** window.

Figure 2-4 Startup Wizard - GENERAL

For more information about configuring settings in the **GENERAL** window, see [Configuring General System Settings on page 125](#).

4. Click **Next Step** to go to the **NETWORK** window.

Figure 2-5 Startup Wizard - NETWORK Window

NETWORK Honeywell

MTU

LAN Download

IP Version

MAC Address

IP Address DHCP

Subnet Mask

Default Gateway

Preferred DNS

Alternate DNS

For more information about configuring settings in the **NETWORK** window, see [Configuring TCP/IP and Port Settings on page 85](#).

5. Click **Next Step** to go to the **REMOTE DEVICE** window.

Figure 2-6 Startup Wizard - REMOTE DEVICE Window

The screenshot displays the 'REMOTE DEVICE' configuration window. At the top, there are navigation tabs for 'SETTING', 'NETWORK', 'EVENT', 'STORAGE', and 'SYSTEM'. The 'REMOTE' tab is active, showing sub-tabs for 'REMOTE', 'Status', and 'Firmware'. On the left, a sidebar lists 'Camera', 'Video&Audio', and 'Channel Name'. The main area contains a table with the following data:

| Channel | Modify | IP Address | Port | Device Name | MAC Address |
|---------|--------|------------|------|-------------|-------------|
| 0 | | | | | |

Below the table, there are 'Device Search' and 'Add' buttons, and a 'Display Filter' dropdown set to 'None'. An 'Added Device' section shows a table with the following data:

| Channel | Modify | Delete | Status | IP Address | Port | Device Name |
|---------|--------|--------|--------|------------|--------|-------------|
| 1 | | | | 10.1.1.65 | Port 1 | YZC3KW |

At the bottom, there is a bandwidth indicator: 'Remaining/Total Bandwidth: 192.31Mbps/200Mbps'. Action buttons include 'Delete', 'Manual Add', 'Save', 'Cancel', and 'Apply'.

For more information about configuring settings in the **REMOTE DEVICE** window, see [Adding a Remote Device \(Camera\) on page 75](#).

6. Click **Next Step** to go to the **SCHEDULE** window.

Figure 2-7 Setup Wizard - SCHEDULE Window



For more information about configuring settings in the **SCHEDULE** window, see [Configuring the Video Recording Schedule on page 63](#) or [Configuring Storage Settings on page 117](#).

7. Click **Finished**. The message "**Startup Finished**" appears:

Figure 2-8 Startup Wizard - Startup Finished Message



8. Click **OK** to close the wizard.

Setting Up Bi-Directional Communication Connection

Audio Output Device to a PC

Connect:

1. Connect a microphone or pickup to the first audio input port on the NVR's rear panel.
2. Connect the earphone or the sound box to the audio output port on your PC.
3. Open the web client and log in.
4. Enable the desired channel in the web client's live view monitor.

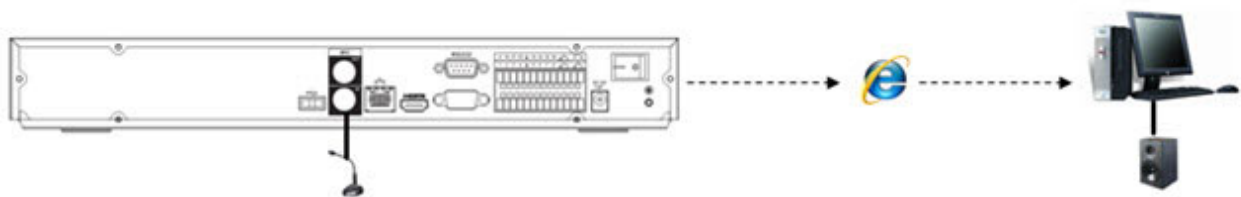
Figure 2-9 Enabling Bi-Directional Communication



Configuring to Hear Audio From the NVR

At the NVR end, speak through the microphone or the pickup. Then you can get the audio from the speaker or earphone from the PC end.

Figure 2-10 Configuring to Hear Audio from the NVR



PC to an Audio Input Device

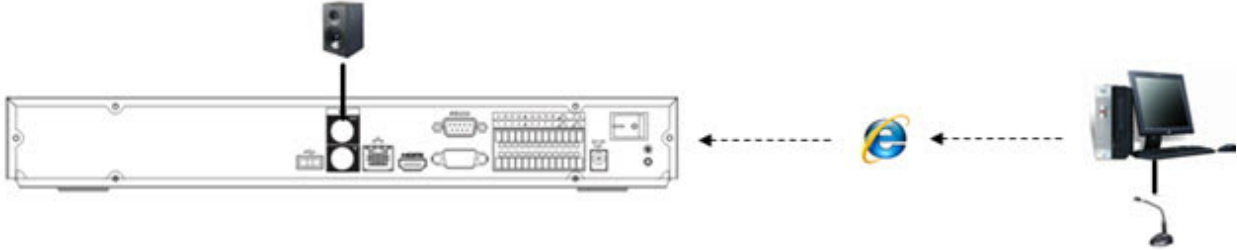
Connect:

1. Connect the microphone or the pickup to the audio input port in the PC.
2. Connect the earphone or the sound box to the audio output port on your PC.
3. Open web client and log in.
4. Enable the desired channel in the web client's live view monitor.
5. See [Figure 2-9](#) for enabling bi-directional communication.

Configuring to Hear Audio from the PC

At the PC end, speak through the microphone or the pickup. Then you can get the audio from the speaker or earphone from the NVR.

Figure 2-11 Configuring to Hear Audio from the PC



3

Viewing Live Video

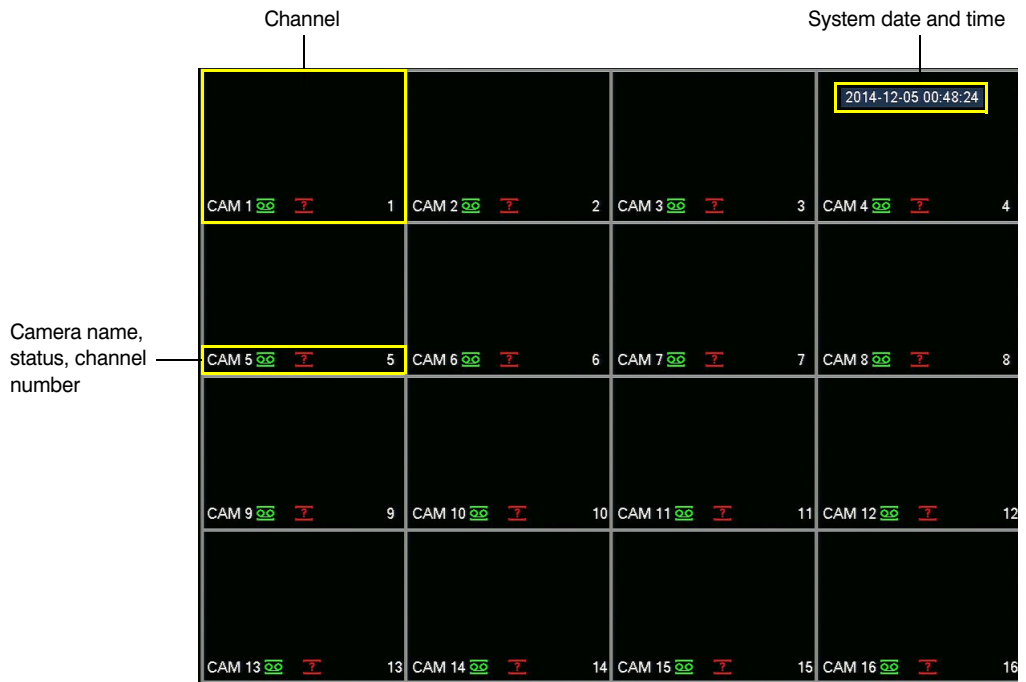
This chapter includes the following sections:

- [About Live View, page 47](#)
- [Configuring Live View, page 51](#)
- [Controlling PTZ Cameras, page 52](#)

About Live View





Live view is the NVR's default mode. When you start the NVR, live video from the connected cameras is displayed on the screen in a multi-channel layout (the number of channels displayed depends on whether you are using a 4-channel, 8-channel, or 16-channel NVR).

Figure 3-1 Live View



Camera Status

Camera status icons appear at the bottom of the channel window.

-  Video is being recorded
-  No video signal
-  Motion detected in scene
-  Camera locked


Camera Toolbar






A camera toolbar is located at the top of each channel window. To display the toolbar, move the mouse pointer to the top of the channel window.

Figure 3-2 Live View - Camera Toolbar



Table 3-1 Live View - Camera Toolbar

| | | |
|---|--------------------------|---|
|  | Realtime Playback | Play back the previous 5 to 60 minutes of recorded video. Note The playback time is set to 5 minutes by default. You can change this setting in Main Menu > SETTING > SYSTEM > GENERAL > General > Realtime Play. |
|---|--------------------------|---|

| | | |
|---|-----------------------------|--|
|  | Digital Zoom/Enlarge | Enlarge a specific area of the image. Click the button to enable digital zoom and then drag the mouse in the channel window to select the area that you want to enlarge. Right-click to undo digital zoom. |
|  | Realtime Backup | Save a clip to a USB storage device. Click the button to start recording. Click again to stop recording. The clip is automatically saved to the connected USB storage device. |
|  | Snapshot | Save a screen capture to the hard drive or to a connected USB storage device. To view the captured image, go to Main Menu > Operation > Search and click the File List button. |
|  | Talk | Click to enable or disable bi-directional communication with an IP camera that is equipped with both a microphone and speaker. Note The bi-directional communication button only works in single-channel view. |
|  | Remote Device | Add and configure a remote device (ie camera). |

Live View Toolbar













If enabled, the live view toolbar appears along the bottom of the live view screen.

Figure 3-3 Live View Toolbar



The toolbar is disabled by default. To enable it, right-click and go to **Main Menu > SETTING > SYSTEM > GENERAL > General** and select the **Navigation** check box. Right-click twice to return to the live view screen. Click anywhere on the screen to display the toolbar.

Table 3-2 Live View Toolbar

| | | |
|---|----------------------|---|
|  | Main Menu | Open Main Menu . |
|  | Screen Layout | Select screen layout format. |
|  | Tour Control | Enables a tour (automatically cycles through channel views). See Configuring Tour Settings on page 130. |
|  | Pan/Tilt/Zoom | Open the PTZ control panel. See Controlling PTZ Cameras on page 52. |
|  | Camera | Open the Camera setting window. See Adding a Remote Device (Camera) on page 75. |
|  | Search | Open the playback interface. See Playing Back Video on page 67. |
|  | Event | Open the Event information window. |
|  | Channel Info | Open the Channel Info window. |
|  | Remote Device | Add and configure a remote device (camera). See either Using the Startup Wizard on page 39 or Adding a Remote Device (Camera) on page 75. |
|  | Network | Open the Network window. See Configuring TCP/IP and Port Settings on page 85. |
|  | HDD Manage | Open the HDD Manage window. See Configuring HDD Management Settings on page 119. |
|  | USB Manage | Open the USB Manage window. |

Shortcut Menu

The shortcut menu is displayed by right-clicking anywhere on the screen in live view mode.

Figure 3-4 Shortcut Menu

Note Shortcut menu for a 16-channel NVR shown.

Configuring Live View

Setting the Screen Layout

The live view interface is configurable as a single-channel or multi-channel display.

To change the screen display format using the shortcut menu

1. Right-click anywhere on the screen to display the shortcut menu.
2. Point to the View you want (**View 1** is a single-channel layout, the others are multi-channel layouts), and then click the channel(s) that you want to display.

To change the screen display format using the live view toolbar

- Click a screen layout button on the live view toolbar.

To change the screen display format using the mouse

- Rotate the mouse wheel button.

To move a channel to a different location in the multi-channel grid

- Drag the channel to a new location in the multi-channel grid.

For example, to move channel 2 to the top left position occupied by channel 1, click channel 2, drag it to channel 1's position, then release the mouse button.

Controlling PTZ Cameras

This section describes how to do the following:

- Access the PTZ control panel
- Configure PTZ connection settings
- Configure and call PTZ presets, tours, and patterns

Working with the PTZ Control Panel

You can control a PTZ camera connected to the NVR through a network connection using the on-screen PTZ control panel.

Basic PTZ Control Panel

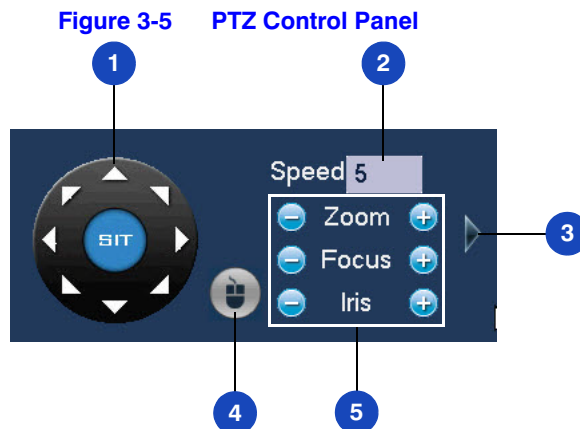


Table 3-3 PTZ Controls

| # | Name | Function |
|---|--------------------------|--|
| 1 | Direction keys | Direct camera movement. |
| 2 | Speed | Adjust the camera speed. Select a value between 1 and 8 . |
| 3 | Expand Arrow | Expand the control panel to display additional options. |
| 4 | PTZ Trace | Direct camera movement by dragging the mouse. Zoom in and out by rotating the wheel button. |
| 5 | Zoom, Focus, Iris | Adjust the camera's zoom, focus, and iris settings: <ul style="list-style-type: none"> • Decrease zoom (-), increase zoom (+) • Focus near (-), focus far (+) • Iris close (-), iris open (+) |

Expanded PTZ Control Panel

Figure 3-6 Expanded PTZ Control Panel

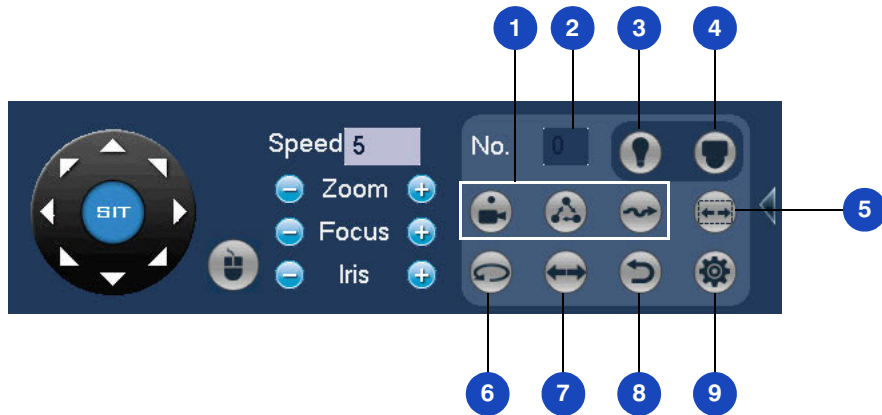
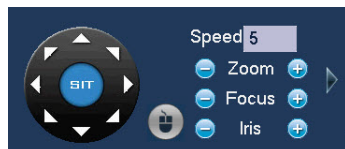


Table 3-4 Expanded PTZ Control Panel

| # | Name | Function |
|---|------------------------------|---|
| 1 | Preset, Tour, Pattern | Configure/call PTZ functions. |
| 2 | No. | Enter number of PTZ function to call. |
| 3 | Aux | Call auxiliary functions. |
| 4 | Enter Menu | Enable up-the-coax OSD menu configuration for non-PTZ camera. |
| 5 | AutoScan | Cause camera to continually pan between two points that you have defined. |
| 6 | AutoPan | Cause camera to continually rotate 360 degrees. |
| 7 | Flip | Cause camera to rotate 180 degrees. |
| 8 | Reset | Restore default settings. |
| 9 | Aux Config | Configure auxiliary functions. |

To display the PTZ control panel

1. Right-click anywhere on the screen to display the shortcut menu.
2. Click **Pan/Tilt/Zoom**. The PTZ control panel opens.



3. To expand the PTZ control panel, click the arrow at the right side of the panel.



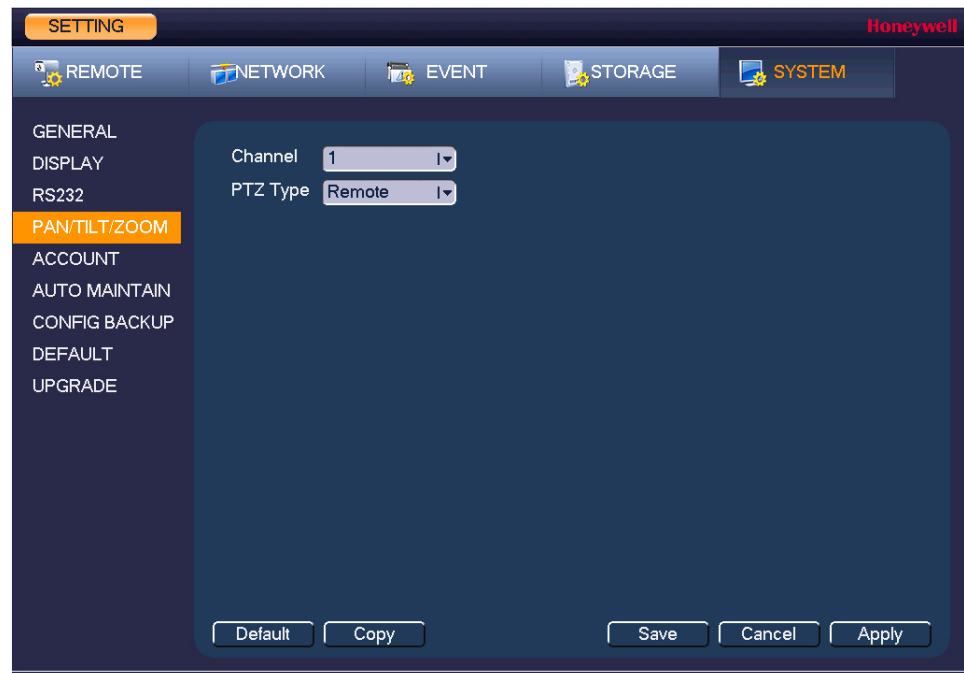
Configuring PTZ Connection Settings

Before you can control a PTZ camera with the NVR, you must configure the PTZ connection settings.

To configure the PTZ connection settings

1. Go to **Main Menu > SETTING > SYSTEM**.
2. In the left navigation pane, click **PAN/TILT/ZOOM**.

Figure 3-7 System Setting - PTZ



3. Configure the following settings:
 - **Channel** Select the channel (camera) for which you want to configure PTZ settings.
 - **PTZ Type** Select **Remote** for the PTZ type. A remotely connected IP camera is connected through the network.
4. Click **Apply**, and then click **Save** to save your settings and exit.

Configuring PTZ Functions

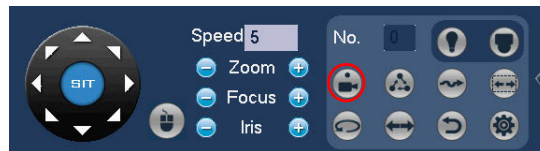
You can configure presets, tours, patterns, and borders using the PTZ control panel.

Configuring PTZ Presets

You can program preset positions for the PTZ camera. For example, you can point the camera at a specific location, such as a doorway, when an alarm event occurs.

To program a preset

1. On the expanded PTZ control panel, click the **Preset** button.



The Pan/Tilt/Zoom window opens.



2. Use the direction arrows to point the camera where you want to set as the preset, and then click **Set**.
3. In the **Preset** box, enter a number for the preset, and then click **Set** to save your settings.
 - To program additional presets, repeat steps 1 through 3.
 - To delete a preset, enter the number of the preset that you want to delete in the **Preset** box, and then click **Del Preset**.

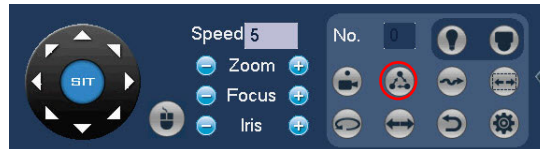
Note Some protocols do not support the **Del Preset** function.

Configuring PTZ Tours

You can set up the PTZ camera to go from preset to preset in a specific order, or tour.

To program a tour

1. On the expanded PTZ control panel, click the **Tour** button.



2. In the **Preset** box, enter the number of the first preset that you want to add to the tour.



3. In the **Patrol No.** box, enter a number for the tour.
4. Click **Add Preset** to add the preset to the tour.
5. Repeat steps 1 through 5 to add additional presets to the tour.
 - To delete a preset, enter the number of the preset that you want to delete in the **Preset** box, and then click **Del Preset**.
 - To delete a tour, enter the number of the tour that you want to delete in the **Patrol No.** box, and then click **Del Tour**.

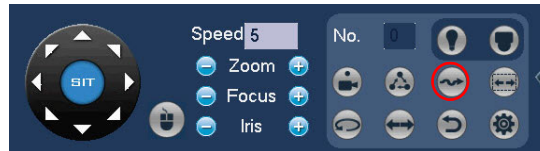
Note Some protocols do not support the **Del Preset** function.

Configuring PTZ Patterns

You can record a series of PTZ movements as a pattern. When you call the pattern in live view mode, the PTZ camera automatically moves along the path you have defined.

To program a pattern

1. On the expanded PTZ control panel, click the **Pattern** button.



2. In the **Pattern** box, enter a number for the pattern.



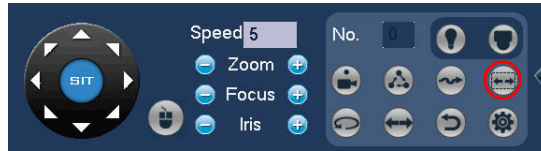
3. Click **Start**, and then use the direction arrows to direct the camera.
4. When you have finished directing the camera, click **End**.

Configuring PTZ Borders

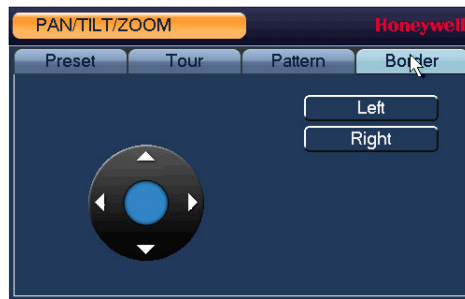
You can define the left and right borders of the PTZ camera's pan movement, or scan.

To program a scan

1. On the expanded PTZ control panel, click the **AutoScan** button.



2. Use the direction arrows to set the camera's leftmost limit, then click **Left**.

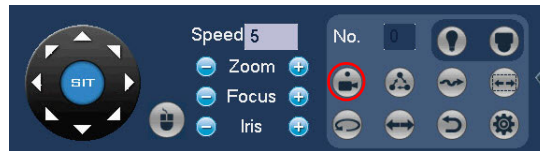


3. Use the direction arrows to set the camera's rightmost limit, then click **Right**.

Calling Presets, Tours, and Patterns

To call a preset

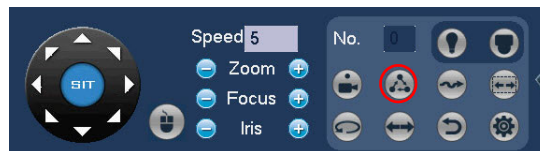
1. On the expanded PTZ control panel, in the **No.** box, enter the number of the preset that you want to call, and then click the **Preset** button.



2. Click the **Preset** button again to stop calling the preset.

To call a tour

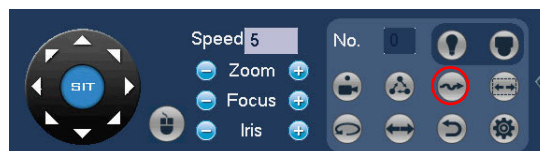
1. On the expanded PTZ control panel, in the **No.** box, enter the number of the tour that you want to call, and then click the **Tour** button.



2. Click the **Tour** button again to stop calling the tour.

To call a pattern

1. On the expanded PTZ control panel, in the **No.** box, enter the number of the pattern that you want to call, and then click the **Pattern** button.



2. Click the **Pattern** button again to stop calling the pattern.

Configuring Auxiliary Settings

Refer to the user guide of your PTZ camera for details on configuring auxiliary settings.

4

Recording Video

This chapter contains the following sections:


- [Manual Recording Settings, page 61](#)
- [Automatic Recording Settings, page 62](#)

Manual Recording Settings

In live view mode, you can manually record a clip directly to a connected USB storage device.

Note To back up recorded video to a connected USB storage device, please see [Backing Up Video and Snapshots](#) on page 70.

To record a video clip in live view mode

1. Connect a USB storage device (such as a USB flash drive) to one of the USB ports on the NVR.
The **Find USB device** dialog box opens automatically.
2. Right-click to close the window.
3. In live view mode, move the mouse pointer to the top of the channel window to display the camera toolbar (see [Camera Toolbar](#) on page 48).
4. On the camera toolbar, click the **Realtime Backup** button  to start recording. The button changes to green while the NVR is recording.
5. Click the **Realtime Backup** button again to stop recording.

The video clip is saved automatically to the connected USB storage device. The file name uses the following format: `[NVR name]_[channel]_[video stream]_[recording start time]_[recording end time].dav`.

Automatic Recording Settings

The NVR supports independent real-time recording of each channel, even while searching and playing recorded video.

To set the NVR to automatically record, you must do two things:

1. Configure the **General Recording Settings** to enable automatic or scheduled recording.
2. Configure the **Video Recording Schedule**.

Configuring the General Recording Settings

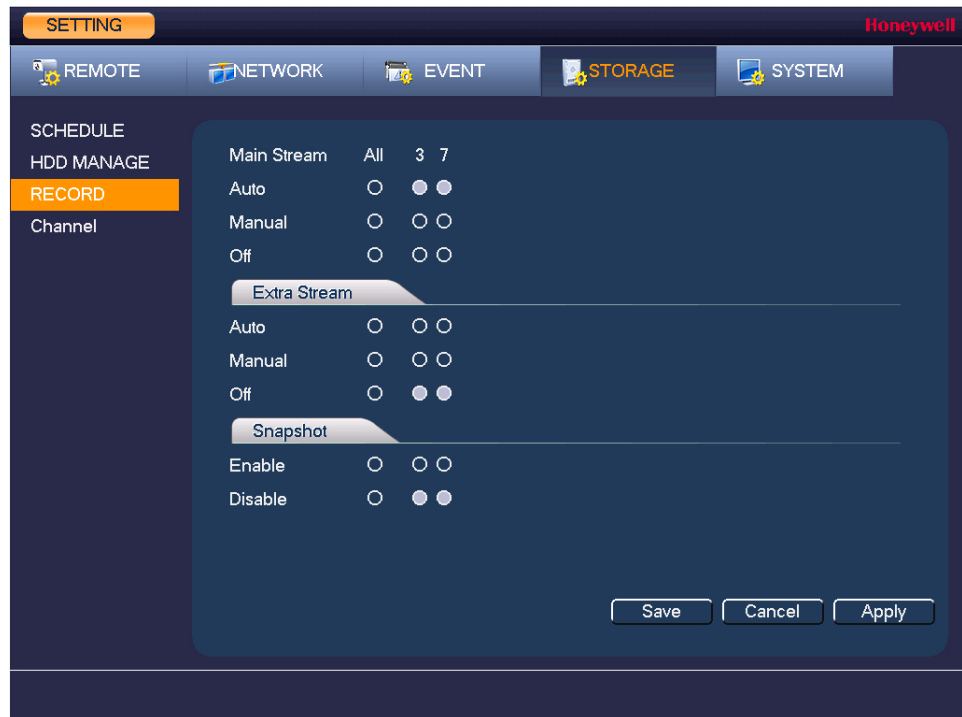
In the **RECORD** configuration interface, you can do the following:

- Select **Auto/Schedule** recording for the main and extra streams
- Select **Manual** recording for the main and extra streams
- Enable and disable the **Snapshot** function

To configure the general recording settings

1. In the **SETTING** field in the **Main Menu**, go to **STORAGE > RECORD**.

Figure 4-1 Storage Recording Settings



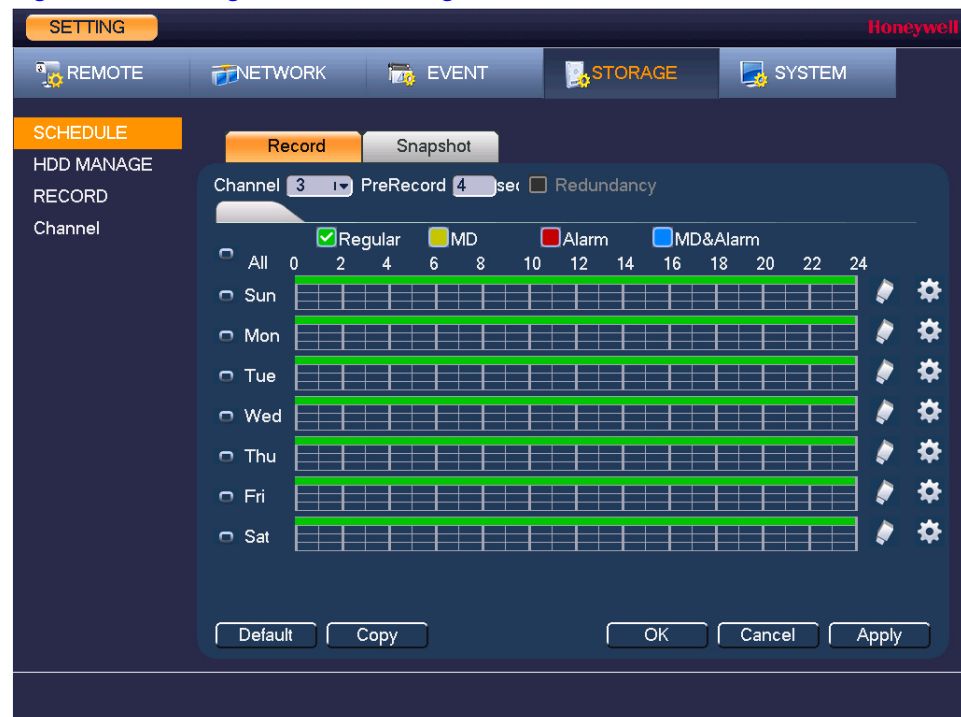
2. On the **Record** page, select the recording type (**Auto, Manual, Stop**) that you want to enable on each channel, for both the main stream and secondary stream.
3. Under **Snapshot**, enable snapshot recording on the desired channels.
4. Click **Apply**, and then click **Save**.

Configuring the Video Recording Schedule

To configure the video recording schedule

1. In the **SETTING** field in the **Main Menu**, go to **STORAGE > SCHEDULE**.

Figure 4-2 Storage Schedule Settings



2. On the **Record** tab, in the **Channel** box, select the channel (camera) for which you want to configure a recording schedule.
3. In the **PreRecord** box, enter a time between **0** and **30** seconds. The default setting is **4** seconds. The pre-record time sets how long the NVR records before the scheduled recording start time.
4. If the NVR has two HDDs, select the **Redundancy** check box to enable redundant recording on the second HDD. This HDD must first be configured on the **HDD Manage** page (see [Configuring HDD Management Settings](#) on page 119).
5. At the top of the scheduling table, select the check box(es) of the recording type(s) that you want to schedule:
 - **Regular** The regular recording schedule is indicated by a green bar.
 - **MD** The motion detection recording schedule is indicated by a yellow bar.
 - **Alarm** The alarm recording schedule is indicated by a red bar.
 - **MD&Alarm** The motion detection and alarm schedule is indicated by a blue bar.

6. At the left of the scheduling table, select the day(s) of the week for which you want to configure a recording schedule. To configure the same recording schedule for all of the days at the same time, select **All**.
7. Click or drag the mouse in the scheduling table to set the recording period. To erase a recording period, click the eraser icon at the right of the table. Alternatively, for the day of the week that you want to configure, click the gear icon at the right of the table. In the **Period** window, set up to six recording periods. To copy the settings to additional days, select the appropriate check box(es) under **Copy**, and then click **OK**.
8. Click **Apply** to save your settings.
9. To copy the recording schedule settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

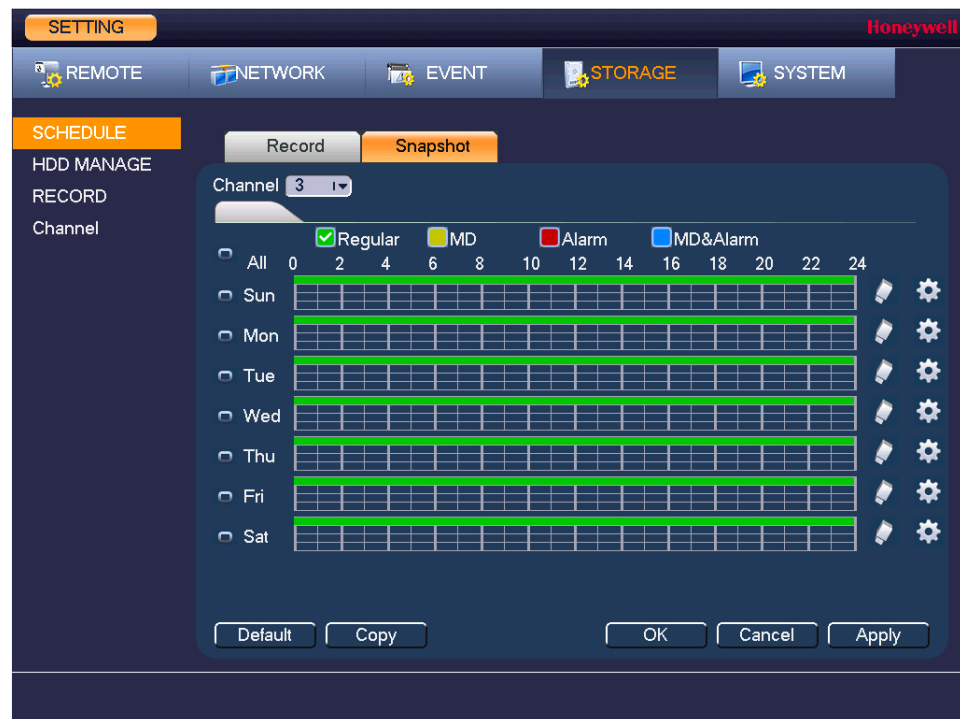
Configuring the Snapshot Recording Schedule

Follow these steps to configure the snapshot recording function. When enabled, the NVR can take snapshots when a motion detection, video loss, video tampering, or an alarm event occurs. See [Chapter 8, Configuring Event Settings](#) for detailed instructions.

To configure the snapshot recording schedule

1. In the **SETTING** field in the **Main Menu**, go to **STORAGE > SCHEDULE**.

Figure 4-3 Snapshot Schedule Settings



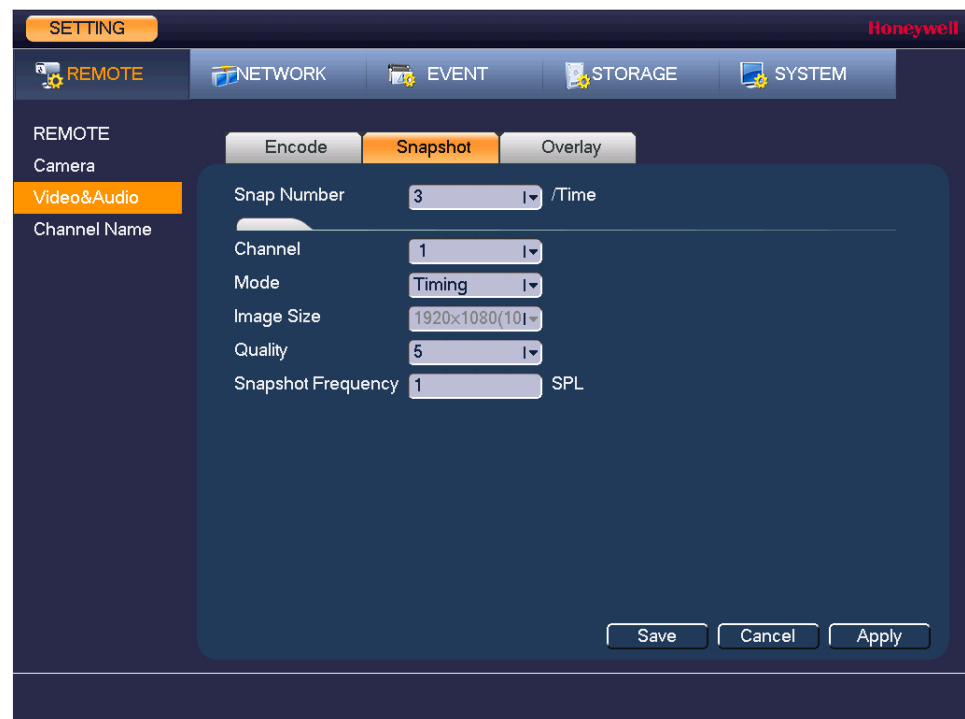
2. On the **Snapshot** tab, in the **Channel** box, select the channel (camera) for which you want to configure a snapshot schedule.
3. At the top of the scheduling table, select the check box(es) of the recording type(s) that you want to schedule:
 - **Regular** The regular recording schedule is indicated by a green bar.

- **MD** The motion detection recording schedule is indicated by a yellow bar.
 - **Alarm** The alarm recording schedule is indicated by a red bar.
 - **MD&Alarm** The motion detection and alarm schedule is indicated by a blue bar.
4. At the left of the scheduling table, select the day(s) of the week for which you want to configure a recording schedule. To configure the same recording schedule for all of the days at the same time, select **All**.
 5. Click or drag the mouse in the scheduling table to set the recording period. To erase a recording period, click the eraser icon at the right of the table. Alternatively, for the day of the week that you want to configure, click the gear icon at the right of the table. In the **Period** window, set up to six recording periods. To copy the settings to additional days, select the appropriate check box(es) under **Copy**, and then click **OK** to copy the settings and exit.
 6. Click **Apply** to save your settings.
 7. If you want to save your settings and exit the **SETTING** menu, click **OK**.
 8. To copy the record schedule settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

To configure snapshot recording settings

1. In the **SETTING** field in the **Main Menu**, go to **REMOTE > Video&Audio > Snapshot**.

Figure 4-4 Camera Snapshot Settings



2. On the **Snapshot** tab, configure the following settings:
 - **Snap Number** Select the number of snapshots to take at a time.
 - **Channel** Select the channel for which you want to configure the settings.

- **Mode** Select **Timing** to take snapshots according to a schedule. Select **Trigger** to take snapshots when a motion detection, video loss, video tampering, or alarm event occurs.
 - **Image Size** The size is automatically selected, based on the resolution of the camera.
 - **Image Quality** Select a value between **1** and **6**, with **6** being the highest quality.
 - **Snapshot Frequency** Select a value between **1 SPL** (second per picture) and **7 SPL** or click **Customized** to enter your own setting.
3. Click **Apply** to save your settings.
 4. To copy the settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **Save**.

Note The NVR assigns event-activated snapshots a higher priority than schedule-activated snapshots. If you have enabled both of these types of snapshots, then the system activates an activation snapshot when an alarm occurs. If there is no alarm, then the NVR takes snapshots according to the schedule setup.

5

Playing Back Video

This chapter includes the following sections:

- *Playing Back Video, page 67*
- *Playing Back Snapshots, page 70*
- *Backing Up Video and Snapshots, page 70*

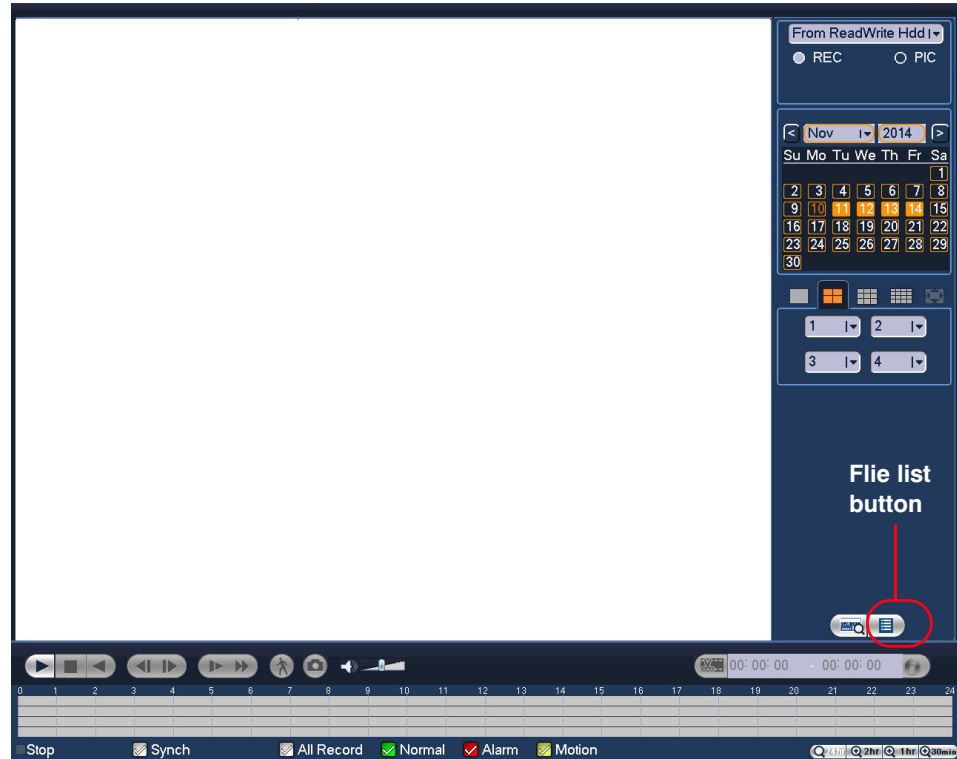
Playing Back Video

Searching For and Playing Back Video

To search for and play back recorded video by date

1. In the **Operation** field in the **Main Menu**, go to **Search**. The playback interface opens.

Figure 5-1 Search Playback Interface



2. On the right panel of the playback interface, in the calendar area, click the date(s) that you want to search. Dates with recorded video are solid orange.
3. Below the calendar, select the screen layout that you want to use, and then select the channel(s) that you want to search.
4. At the bottom of the screen, select the recording type(s) that you want to search (**Normal**, **Alarm**, **Motion**) or select **All Record** to search all recording types.
5. Click the **File List** button to display the list of search results.
6. From the list of search results, double-click the recorded video file that you want to play back. The video begins playing in the playback window.
7. Use the playback controls at the bottom of the screen to control playback. Playback modes include slow play, fast play, reverse play, and frame-by-frame playback.
8. To jump forward or backward in the video, click the time bar at the desired time. To zoom in or out on the time bar, click one of the options in the lower right corner of the screen: **24 h**, **12 h**, **1 h**, or **30 min**.

Smart Search

To quickly locate activity using Smart Search

1. During video playback, click the **Smart Search** button. A grid is superimposed over the playback window.



2. Drag the mouse over the area that you want to search for activity.



3. Click the **Smart Search** button again. Playback jumps to all the parts of the video where there is activity in that area.



4. To exit Smart Search, click the **Smart Search** button again. The message "Are you sure to exit smart search now?" appears. Click OK.

Playing Back Snapshots

To search for and play back snapshot images by date

1. In the **Operation** field in the **Main Menu**, go to **Search**. The playback interface opens.
2. On the right panel, below the search type box at the top of the panel, select **PIC**.
3. In the **Interval** box, enter the playback interval in seconds. Enter a time between **1** and **60** seconds. The default setting is **1** second.
4. In the calendar area, click the date(s) that you want to search. Dates with saved snapshots are solid orange.
5. Below the calendar, select the screen layout that you want to use, and then select the channel(s) that you want to search.
6. Click the **File List** button to display the list of search results.
7. In the list of search results, double-click the snapshot file that you want to play back. The snapshot appears in the playback window.
8. Playback cycles through all of the snapshot files in the file list at the interval you specified in the **Interval** box. To pause playback, click the **Pause** button in the control panel below the playback window. To go to the next snapshot, click the **Next Frame** button. To go to the previous snapshot, click the **Prev Frame** button.

Note The green time bar in the snapshot playback interface only shows approximately when snapshots were taken. Click **File List** to do an accurate search.

Backing Up Video and Snapshots

To back up from inside the playback interface

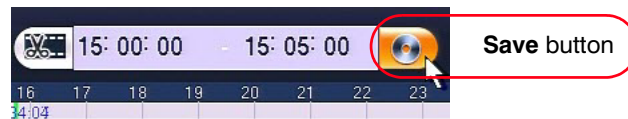
1. Insert a USB storage device (such as a USB flash drive) into one of the USB ports on the NVR.
2. Search for the recorded video or snapshot file(s) that you want to back up (see [Playing Back Video](#) on page 67 and [Playing Back Snapshots](#) on page 70).
3. Click the **File List** button to display the list of search results.
4. In the list of search results, select the check box(es) of the file(s) that you want to back up.

Figure 5-2 Search Results

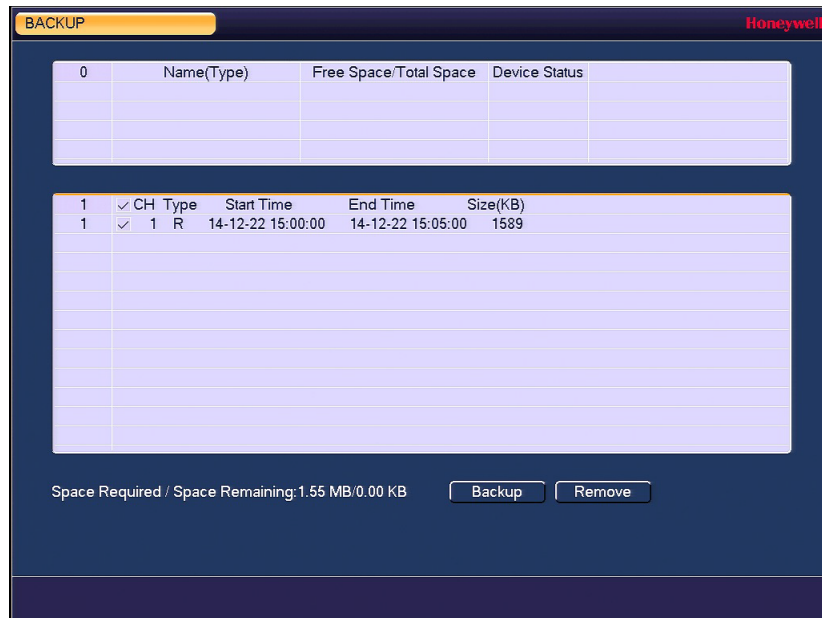


Alternatively, during video playback, in the video clip time field, enter the desired start time and end time, and then click the **Save** button.

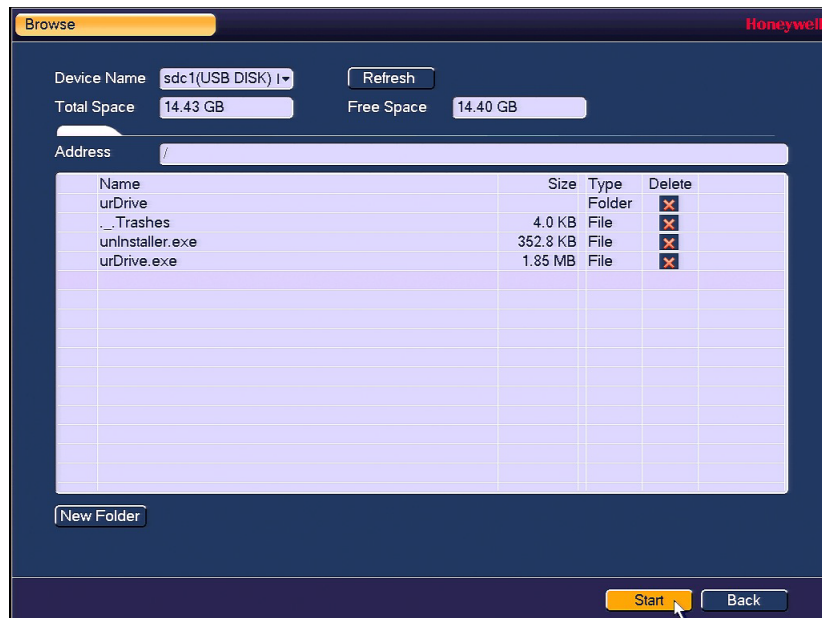
Figure 5-3 Playback Save/Backup Button



5. The **Backup** window opens, displaying the selected video file/clip.
6. In the **Backup** window, click **Backup**.

Figure 5-4 Backup Window

The **Browse** window of the USB storage device opens.

Figure 5-5 Backup - Browse USB Storage Window

7. Click **Start** to back up the file(s). If the backup is successful, the message "Backup finished" appears.

To back up from outside of the playback interface

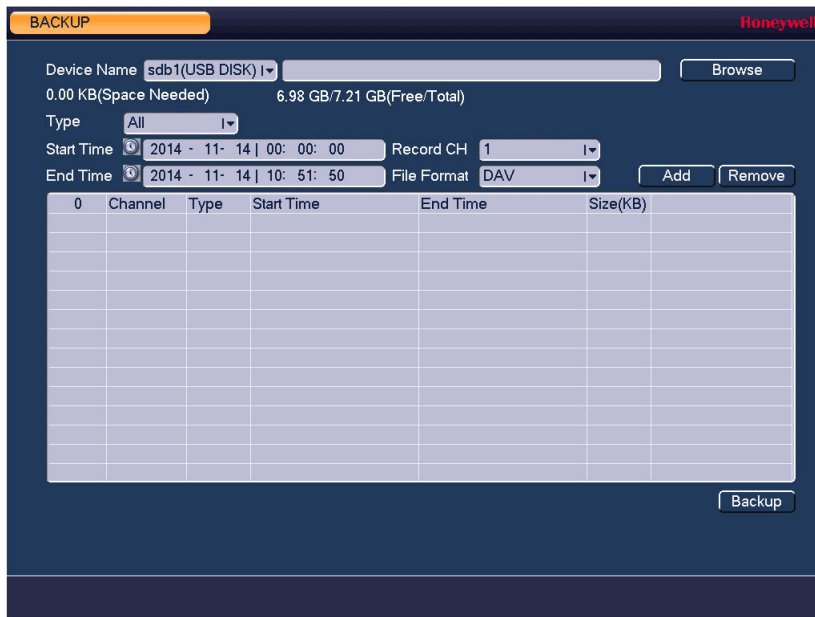
1. Insert a USB storage device (such as a USB flash drive) into one of the USB ports on the NVR. The **Find USB device** dialog box opens.

Figure 5-6 Find USB Storage Device Window



- In the **Find USB device** dialog box, click **File Backup**.

Figure 5-7 File Back to USB Device Window



- In the **Backup** window, configure the following settings:
 - **Type** Select the file type for which you want to search.
Note To search for snapshots, select **PIC**, as **All** means all video files (excluding snapshots).
 - **Start Time** Enter the start time of the search.
 - **End Time** Enter the end time of the search.
 - **Record CH** Select a specific channel to search or select **All** to search all channels.
 - **File Format** Select **DAV** or **ASF** as the video file format.
- Click **Add** to display the search results in the file list.

Note If there are too many files in the selected time, only the first 1024 files in the search period will be displayed. Refine the **Start Time** and **End Time** to find the desired files for backup.

5. Select the check box(es) of the file(s) that you want to back up, and then click **Backup**. The **Browse** window of the USB storage device opens.
6. Click **OK** to back up the file(s).

6

Configuring Camera Settings

This chapter contains the following sections:

- *Adding a Remote Device (Camera), page 75*
- *Configuring Camera Settings, page 77*
- *Configuring Encoding Settings, page 79*
- *Configuring Snapshot Settings, page 80*
- *Configuring the Text Overlay, page 82*
- *Changing a Camera Name, page 83*

Adding a Remote Device (Camera)

To add a camera

1. In the **SETTING** field in the **Main Menu**, go to **REMOTE > REMOTE**.

Figure 6-1 Adding a Remote Device



2. Either click **Device Search** to automatically find IP cameras.
 - a. Click to select the found camera.
 - b. Click **Add** to add the found device to the **Added Device** list.

Note If the NVR fails to display the model name of a found device, click **Device Search** to rediscover the online devices. The model name should appear in the **Found Devices** list.

OR

Click **Manual Add**.

- a. Manually configure the following settings:
 - **Channel** Select from the drop-down menu of options.
 - **Manufacturer** Select **Private**, **Panasonic**, **Sony**, **Dynacolor**, **Samsung**, **AXIS**, **Arecont**, **ONVIF**, **PSIA**, or **General**.
 - **IP Address** Enter the IP address for the camera.
 - **TCP Port** Enter the TCP port for the camera. (Optional)
 - **Username** Enter a username.
 - **Password** Enter a password.
 - **Decode Buffer** Select a decode buffer, from **Default**, **Real Time**, or **Fluent**.
 - **Remote Channel Number** Select a video stream, or multiple video streams, from a device.
- b. Click **Save**. The newly added camera appears in the **Added Device** list.

3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring Camera Settings

Note You can configure camera settings only if you have connected your IP cameras via a Private Protocol. If you have connected via a Private Protocol, then the Camera settings will be available. If you have connected your IP cameras via other protocols, then the Camera settings will not be available.

To configure a camera's settings

1. In the **SETTING** field in the **Main Menu**, go to **REMOTE > Video&Audio > Camera**.

Figure 6-2 Camera Settings Tab



2. Configure the following settings:
 - **Channel** Select a channel from the drop-down list.

- **Saturation** Adjusts monitor color saturation. Choosing a higher value increases the color saturation/strength. This value has no effect on the general brightness of the video. Select from **0** to **100**. The recommended range is between **40** and **60**. The default value is **50**.
- **Brightness** Adjusts monitor brightness. Choosing a higher value increases the video brightness. Adjustments to this value affects the brightness of the video. Select from **0** to **100**. The recommended range is between **40** and **60**. The default value is **50**.

Note If this value is too high, then the video can become hazy.
- **Contrast** Adjusts monitor contrast. Choosing a higher value increases the contrast. Select from **0** to **100**. The recommended range is between **40** and **60**. The default value is **50**.

Note If this value is too low, then the video can become hazy. If this value is too high, then the dark parts of the video could lose details, and the bright parts of the video could become overexposed.
- **Sharpness** Adjusts video sharpness. Choosing a higher value increases the sharpness of the video. Select from **0** to **100**. The recommended range is between **40** and **60**. The default value is **50**.

Note Choosing a higher value can introduce video noise to the image.
- **3D NR** Adjusts the monitor window contrast. Select from **0** to **100**. The default value is **50**.

3D NR automatically provides a more accurate noise reduction. This is based on twice the visual information than conventional field-based types.
- **Mirror** Reverses the video image, so that they left side becomes the right side, and the right side becomes the left. Disabled by default.
- **Flip** The default setting is **No Flip**. Choose from **Flip 180°**, which flips the video 180°; **Flip 90°**, which rotates the video by 90°; and **Flip 360°**, which rotates the video by 360°.
- **Day/Night** Sets the camera color and the B/W mode switch.

When the configuration file is set to **Normal**, then the default is **Auto**. When the configuration file is set to **Day**, then the default is **Color**. When the configuration file is **Night**, then the default is **Auto**.

B/W Modes:

Color: The camera outputs video in color.

Auto: The camera switches from Color to Black & White according to the conditions, such as if the scene is generally bright, or if IR illumination is required.

Black & White: The camera outputs black and white video.
- **Config File** Select from **Normal**, **Day**, and **Night**.

- **Scene Mode** This is the white balance. You can select different scene modes such as **Auto**, **Sunny**, **Night**, or **Customized**, to achieve the best quality video.

Scene Modes:

Auto: Auto white balance is on. The system automatically adjusts the color temperature to ensure that the video color is correct.

Sunny: The white balance threshold is set to sunny mode.

Night: The white balance threshold is set to night mode.

Customized: You can manually set the gain for the red/blue channel. The value ranges from **0** to **100**.

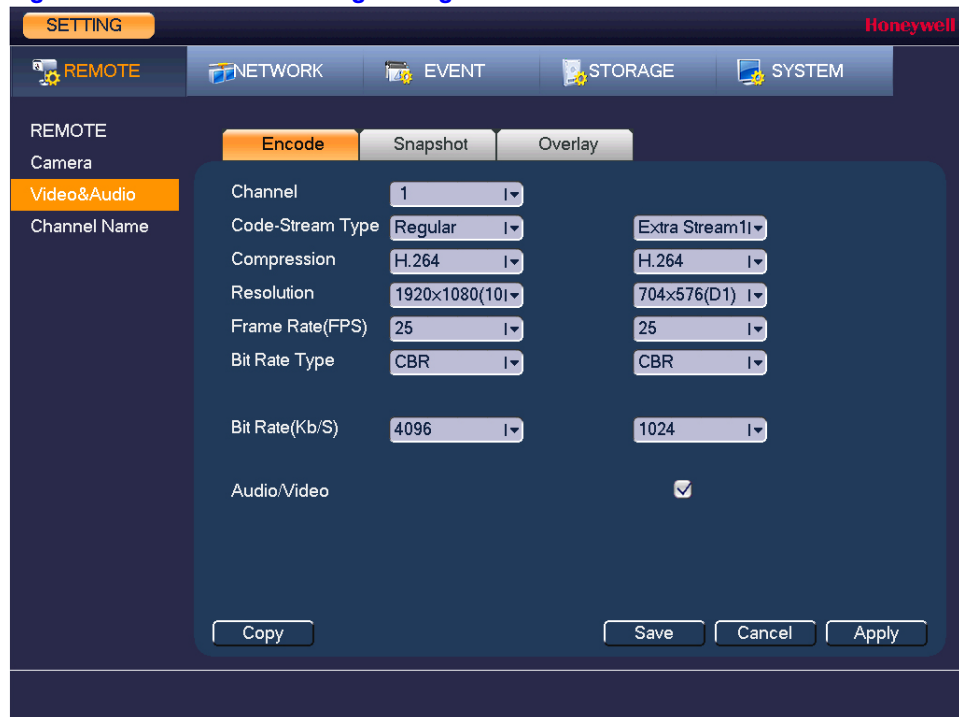
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring Encoding Settings

To configure a camera's video and audio encoding settings

1. In the **SETTING** field in the **Main Menu**, go to **REMOTE > Video&Audio > Encode**.

Figure 6-3 Camera Encoding Settings Tab



2. On the **Encode** tab, in the **Channel** box, select the camera that you want to configure.

Note If the NVR fails to retrieve the configuration information for your selected camera/channel, then you should navigate to a different window (such as **Snapshot** or **Overlay**), then navigate back to the **Encode** window.

3. Configure the following settings for the primary stream and secondary stream:
 - **Code Stream Type** Set the primary stream type as **Regular**, **MD** (Motion Detection), or **Alarm**. The secondary stream type is not configurable.
 - **Compression** *This setting is not configurable.*
 - **Resolution** Set the primary stream to one of the following resolutions: **1080P**, **720P**, **960H**, **D1**, **HD1**, **2CIF**, or **CIF**. Set the secondary stream to one of the following resolutions: **D1**, **CIF**, or **QCIF**.

Note NVRs can detect a connected 1080p or 720p IP camera's resolution as **1080P** or **720P** automatically. Manually set **960H** or lower resolution for analog cameras and for 1080p IP cameras switched to SD mode.
 - **Frame Rate** Select a value between **1** and **30** (NTSC) or **1** and **25** (PAL).
 - **Bit Rate Type** Set to **CBR** (constant bit rate) or **VBR** (variable bit rate).
 - **Quality** If the bit rate type is set to **VBR**, select a value between **1** and **6**.

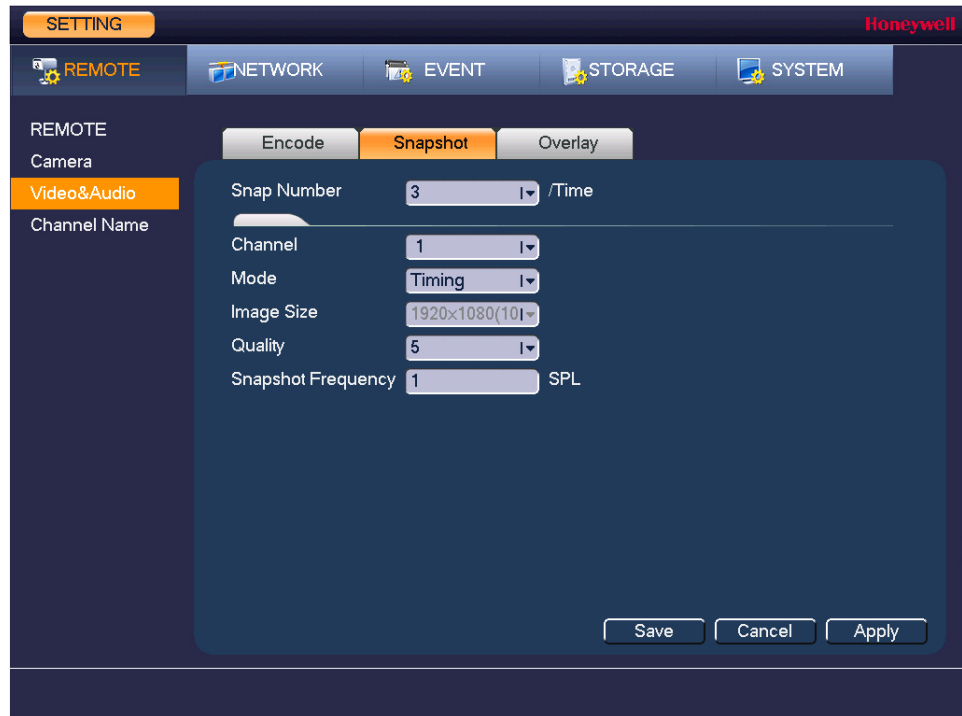
Note If your device is connected to the NVR through ONVIF, then you can not select **VBR**. If your device is connected to the NVR through a private protocol, then you can select either **CBR** or **VBR**.
 - **I Frame Interval** Set to **1 S** or **2 S**.
 - **Bit Rate** Set to a value within the **Reference Bit Rate** range. To enter a bit rate that does not appear on the list, click **Customized**.
 - **Audio/Video** Select or clear the check boxes to enable or disable audio and/or video.
4. Click **Apply** to save your settings.
5. To copy the settings to one or more additional cameras, follow these steps:
 - a. Click **Copy**.
 - b. Click the specific camera(s) to which you want to copy the settings, or click **All** to select all the cameras, and then click **OK**.
6. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring Snapshot Settings

To configure a camera's snapshot settings

1. In the **SETTING** field in the **Main Menu**, go to **REMOTE> Video&Audio > Snapshot**.

Figure 6-4 Camera Snapshot Settings Tab



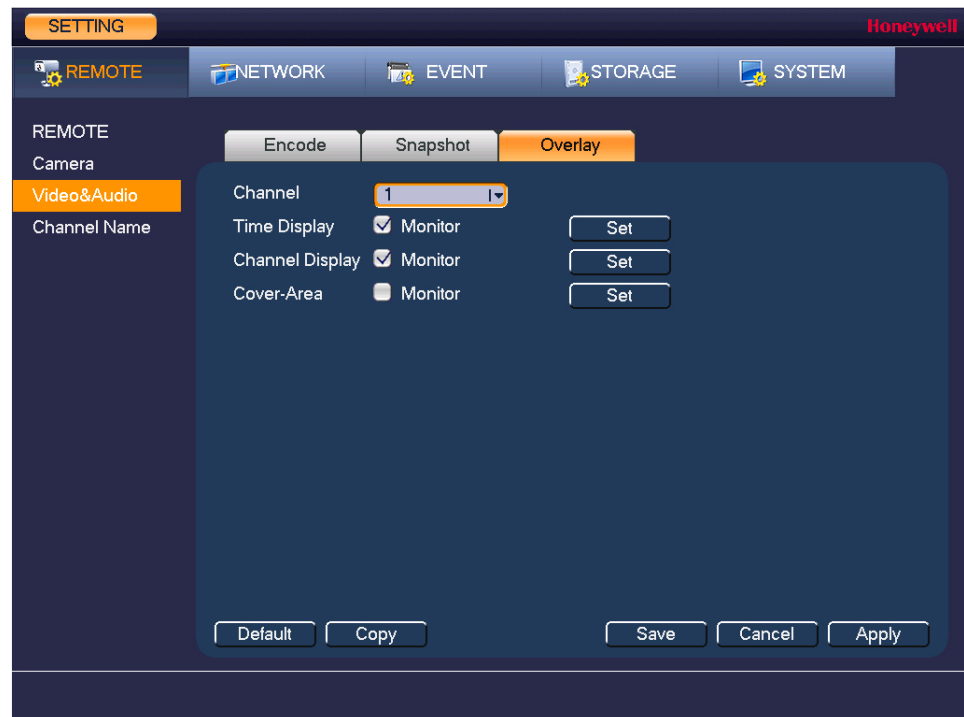
2. In the **Channel** box, select the camera that you want to configure.
 - **Snap Number** Select the maximum number of snapshots that can be taken at a time.
 - **Channel** Select a channel from the drop-down list.
 - **Mode** There are two modes: **Regular** and **Trigger**. If you set **Regular** mode, then you need to set the snapshot frequency. If you set **Trigger** mode, then you need to enable snapshots in Event Settings. Please see [To set up motion detection event actions](#) on page 104, for example.
 - **Image Size** Select a snapshot size.
 - **Quality** Select a snapshot quality. Select from 1 to 6, with 6 being the highest quality setting.
 - **Snapshot Frequency** Set how frequently the snapshot is taken.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring the Text Overlay

To configure a camera's text overlay settings

1. In the **SETTING** field in the **Main Menu**, go to **REMOTE > Video&Audio > Overlay**.

Figure 6-5 Camera Text Overlay Setting Tab



2. In the **Channel** box, select the camera that you want to configure.
3. To set the time display, next to **Time Display**, select the **Monitor** check box, and then click **Set**. Drag the time display to the desired position on the screen.
4. To set the channel display, next to **Channel Display**, select the **Monitor** check box, and then click **Set**. Drag the channel display to the desired position on the screen.
5. Click **Apply** to save your settings.
6. To copy the settings to one or more additional cameras, follow these steps:
 - a. Click **Copy**.
 - b. Click the specific camera(s) to which you want to copy the settings, or click **All** to select all the cameras, and then click **OK**.
7. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Changing a Camera Name

By default, the cameras are named "CAM 1", "CAM 2," "CAM 3," and so on. You can assign each camera a descriptive name specific to your application (for example, "Front Entrance").

To rename a camera

1. In the **SETTING** field in the **Main Menu**, go to **REMOTE > Channel Name**.

Figure 6-6 Camera Name Settings Window



2. Click the text box of the camera that you want to rename and enter the new camera name.
3. Click **Apply** to save your settings.

7

Configuring Network Settings

This chapter contains the following sections:

- [Configuring TCP/IP and Port Settings, page 85](#)
- [Configuring Wireless Connection Settings, page 88](#)
- [Configuring Advanced Network Settings, page 90](#), including
 - [Configuring PPPoE Settings](#) on page 90
 - [Configuring DDNS Settings](#) on page 91
 - [Configuring IP Filter Settings](#) on page 92
 - [Configuring UPnP Settings](#) on page 95
- [Configuring Alarm Center Settings, page 98](#)
- [Configuring Switch Settings](#) on page 99

Configuring TCP/IP and Port Settings

To configure TCP/IP settings

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > TCP/IP**.

Figure 7-1 Network TCP/IP Settings Window

2. On the **TCP/IP** page, use the default **MTU** (maximum transmission unit) value.
3. In the **IP Version** box, select **IPv4** or **IPv6**, depending on the Internet protocol that you want to use.
4. Click **DHCP** to assign the NVR with a dynamic IP address. Click to deselect **DHCP** to assign the NVR a static IP address.
5. If you selected **Static**, manually enter the **IP Address**, **Subnet Mask**, and **Gateway** information. (The IP address, subnet mask, and gateway are not configurable when **Mode** is set to **DHCP**).
6. If you want, enter **Preferred DNS** and **Alternate DNS** addresses.
7. To enable faster downloading over the local area network (LAN), select the **LAN Download** check box.
8. Click **Apply** to save your settings.
9. If you want to save your settings and exit the **SETTING** menu, click **Save**.

To configure port settings

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > Connection**.

Figure 7-2 Network Port Settings Window



2. On the **Connection** page, you can configure the following settings:
 - **Max Connection** Select a value between **0** and **20**. The default setting is **20**.
 - **TCP Port** Select a value between **1025** and **65535**. The default setting is **37777**.
 - **UDP Port** Select a value between **1025** and **65535**. The default setting is **37778**.
 - **HTTP Port** Select a value between **0** and **65535**. The default setting is **80**.
 - **HTTPS Port** Select a value between **0** and **65535**. The default setting is **443**.
 - **RTSP Port** Select a value between **0** and **65535**. The default setting is **554**.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Note You must restart the NVR to apply any changes to the NVR's port settings. Ensure that the port settings do not conflict with each other.

To configure 3G wireless connections

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > 3G Setting**.

Figure 7-4 Network 3G Settings Window

2. On the **3G Setting** page, you can configure the following settings:

| | |
|-----------------------|--|
| Enable | Select or clear the check box to enable or disable 3G wireless connection using the selected wireless network adapter. |
| 3G Network1 | Select the wireless network adapter name. |
| Network Type | Select the network type that meets your requirements. |
| APN | Select the wireless connection server that you want to use to access the wireless network. |
| AUTH | Select the authentication mode that you want to use to access the wireless network: PAP or CHAP . |
| Dial Number | Enter the 3G network dial-up number that you received from your Internet service provider. |
| User Name | Enter a user name for logging on to the 3G network. |
| User Password | Enter a password for logging on to the 3G network. |
| Pulse Interval | Enter the time, in seconds, of the 3G connection when the extra stream is disabled. For example, if you enter 5 seconds, the 3G connection lasts for 5 seconds and then the device automatically disconnects. If there is no extra stream, there is no restriction on the connection time. |
| Dial | Click Dial to manually enable or disable the 3G network connection. |
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring Advanced Network Settings

This section describes how to configure PPPoE, DDNS, SMTP, FTP, UPnP, SNMP, and multicast settings.

Configuring PPPoE Settings

To enable a Point-to-Point Protocol over Ethernet (PPPoE) network connection

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > PPPOE**.

Figure 7-5 Network PPPoE Settings Window

The screenshot shows the 'SETTING' menu with the following options: REMOTE, NETWORK, EVENT, STORAGE, and SYSTEM. The 'NETWORK' menu is expanded, showing: TCP/IP, Connection, WIFI, 3G Setting, PPPOE (highlighted), DDNS, UPnP, IP Filter, EMAIL, FTP Setting, SNMP, Multicast, P2P, Alarm Center, Auto Register, and SWITCH. The 'PPPOE' settings are displayed as follows:

- Enable:**
- Username:** [Text Box]
- Password:** [Text Box]
- IP Address:** 0 . 0 . 0 . 0

Buttons at the bottom: Default, OK, Cancel, Apply.

2. On the **PPPOE** page, select the **Enable** check box to enable a PPPoE network connection.
3. In the **Username** and **Password** boxes, enter the user name and password provided by your Internet service provider for PPPoE access.
4. Click **Apply** to save your settings.
5. If you want to save your settings and exit the **SETTING** menu, click **OK**.
6. Restart the NVR for the new network connection settings to take effect.

The NVR's new IP address appears on the **PPPOE** page. Use this address when accessing the NVR remotely.

Configuring DDNS Settings

To enable a Dynamic DNS (DDNS) network connection

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > DDNS**.

Figure 7-6 Network DDNS Settings Window

2. On the **DDNS** page, select the **Enable** check box to enable a DDNS network connection.
3. In the **DDNS Type** box, select the DDNS service that you want to use.
4. Depending on the DDNS Type you select, you may need to enter the following details:

| | |
|--------------------|---|
| Server IP | The address appears automatically unless DDNS Type is set to Private DDNS . In that case, enter the server IP address of your DDNS service provider. |
| Domain Mode | If DDNS Type is set to Honeywell DDNS , click Default Domain to use the default domain name or click Custom Domain Name to create your own domain name. |
| Domain Name | Enter a domain name (if you are not using a default domain name). You can obtain this from your DDNS service provider. |
| User Name | If applicable, enter a user name to access your DDNS service. |

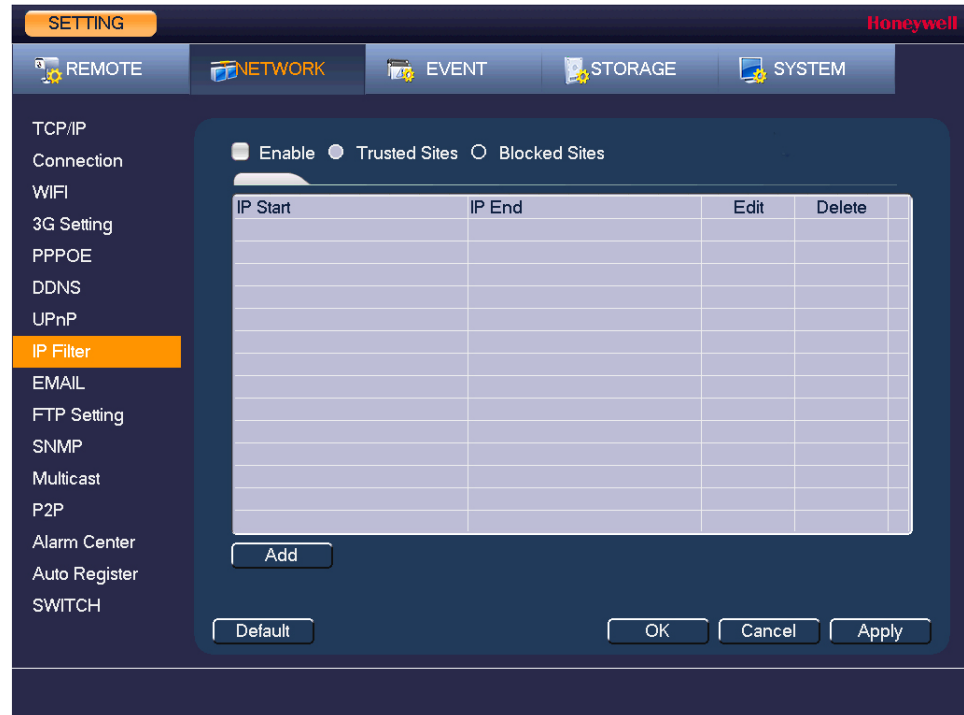
5. Click **Apply** to save your settings.
6. If you want to save your settings and exit the **SETTING** menu, click **OK**.
7. Restart the NVR for the new network connection settings to take effect.
8. To test the settings, on the **DDNS** page, click **Test**.

Configuring IP Filter Settings

To allow specific sites to access the NVR

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > IP Filter**.

Figure 7-7 Network IP Filter Settings Window



2. On the **IP Filter** page, select the **Enable** check box to enable IP filtering.
3. Next to the **Enable** check box, click **Trusted Sites**.
4. In the **Type** box, select **Trusted Sites**.
5. To add a single IP address, in the **IP Start** box, enter the IP address of the site that you want to allow, and then click **Add IP**. To add a range of IP addresses, enter the starting address in the **IP Start** box and the ending address in the **IP End** box, and then click **Add IP Section**. Both IPv4 and IPv6 address are supported.
6. Click **Apply** to save your settings.
7. If you want to save your settings and exit the **SETTING** menu, click **OK**.

To block specific sites from accessing the NVR

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > IP Filter**.
2. On the **IP Filter** page, select the **Enable** check box to enable IP filtering.
3. Next to the **Enable** check box, click **Blocked Sites**.
4. In the **Type** box, select **Blocked Sites**.
5. To add a single IP address, in the **IP Start** box, enter the IP address of the site that you want to block, and then click **Add IP**. To add a range of IP addresses, enter the starting address in the **IP Start** box and the ending address in the **IP End** box, and then click **Add IP Section**. Both IPv4 and IPv6 address are supported.

6. Click **Apply** to save your settings.
7. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring Email Settings

To configure email notifications

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > Email**.

Figure 7-8 Network Email Settings Window

2. On the **EMAIL** page, select the **Enable** check box to enable email notifications for alarm events.
3. Configure the following settings:
 - **SMTP Server** Enter the SMTP server address of the sender's email account.
 - **Port** The default TCP/IP port used for SMTP is **25**.
 - **Anonymous** Select the check box to hide the sender's address in sent email.
 - **Username** Enter the user name of the sender's email account.
 - **Password** Enter the password of the sender's email account.
 - **Receiver** Enter the email address where you want to send the notification. You can enter up to three email addresses.
 - **Sender** Enter the sender's email address.
 - **Title** Enter the email subject.
 - **Attachment** Select the check box to enable sending an attachment with the email.
 - **Encrypt Type** Select an encryption type: **None**, **SSL**, or **TLS**.
 - **Event Interval** This is the interval for sending emails. Enter a time between **0** and **3600** seconds. **0** means that there is no interval.

- **Health Enable** select the check box to enable a health check. The system sends a test email to check the connection.
 - **Interval** This is the interval the NVR waits before sending out email notifications after an event is detected. Enter a time between **0** and **1440** minutes. **0** means that there is no interval.
4. Click **Apply** to save your settings.
 5. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring FTP Settings

You can configure an FTP connection to upload image files at regular intervals to an FTP server.

To configure FTP settings

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > FTP Setting**.

Figure 7-9 Network FTP Settings Window

The screenshot shows the 'SETTING' menu with the 'NETWORK' tab selected. Under 'NETWORK', 'FTP Setting' is highlighted. The settings are as follows:

- Enable:**
- Server IP:** 0 . 0 . 0 . 0
- Port:** 21
- Username:** [text input]
- Password:** [text input]
- Anonymous:**
- Remote Directory:** [text input]
- File Length:** 0 M
- Image Upload Interval:** 2 Second
- Channel:** 1
- Weekday:** Thu
- Alarm, MD, Regular:** [checkbox] [checkbox] [checkbox]
- Time Period 1:** 00:00 - 24:00
- Time Period 2:** 00:00 - 24:00
- Buttons:** Default, OK, Cancel, Apply

2. On the **FTP Setting** page, click the **Enable** check box to enable uploading images to an FTP server.
3. Configure the following settings:
 - **Server IP** Enter the address of the FTP server.
 - **Port** Enter the port of the FTP server.
 - **Username** Enter the user name for logging on to the FTP server.
 - **Password** Enter the password for logging on to the FTP server.
 - **Anonymous** Select the check box to hide user name when logged on to the FTP server.

- **Remote Directory** Enter a name for the remote directory. If this is left blank, the NVR will automatically create folder names.
 - **File Length** This is the maximum size for image files being uploaded to the FTP server. Enter a value between **0** and **65535 MB**.
 - **Image Upload Interval** This is the interval for uploading images to the FTP server. Enter a time between **0** and **3600** seconds.
 - **Channel** Select a channel to upload images from, or select **All** to select all channels.
 - **Weekday** Select a day of the week to upload images on, or select **All** to upload images every day.
 - **Time Periods** You can configure up to two time periods for uploading images. For each period, select either **Alarm**, **Motion**, or **Regular** images.
4. Click **Apply** to save your settings. To test the FTP connection, click **Test**.
 5. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring UPnP Settings

The Universal Plug and Play (UPnP) protocol is used to map the relationship between the LAN and the WAN.

To configure UPnP settings

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > UPnP**.

Figure 7-10 Network UPnP Settings Window



2. On the **UPnP** page, configure the following settings:
 - **Enable** Click to enable or disable UPnP.
 - **LAN IP** Enter the NVR's IP address from the **TCP/IP** page.

- **WAN IP** Enter the router IP address.
3. If you want, you can add, edit, or delete a mapping relationship from the **Port Mapping List**:
 - To add a mapping relationship to the list, click **Add** and then, in the **Port Info** dialog box, select the **Protocol (TCP or UDP)**, enter the **Internal Port** and **External Port** details, and then click **OK**. To ensure data transmission, the internal and external ports should be the same. Avoid using ports 1 to 255 or 256 to 1023.
 - To edit a mapping relationship, click the mapping relationship that you want to edit, and then, in the **Port Info** dialog box, edit the **Service Name**, **Protocol**, **Internal Port**, and/or **External Port** details, and then click **OK**.
 - To delete a mapping relationship from the list, click the mapping relationship that you want to delete, and then click **Delete**.
 4. Click **Apply** to save your settings.
 5. If you want to save your settings and exit the **SETTING** menu, click **OK**.

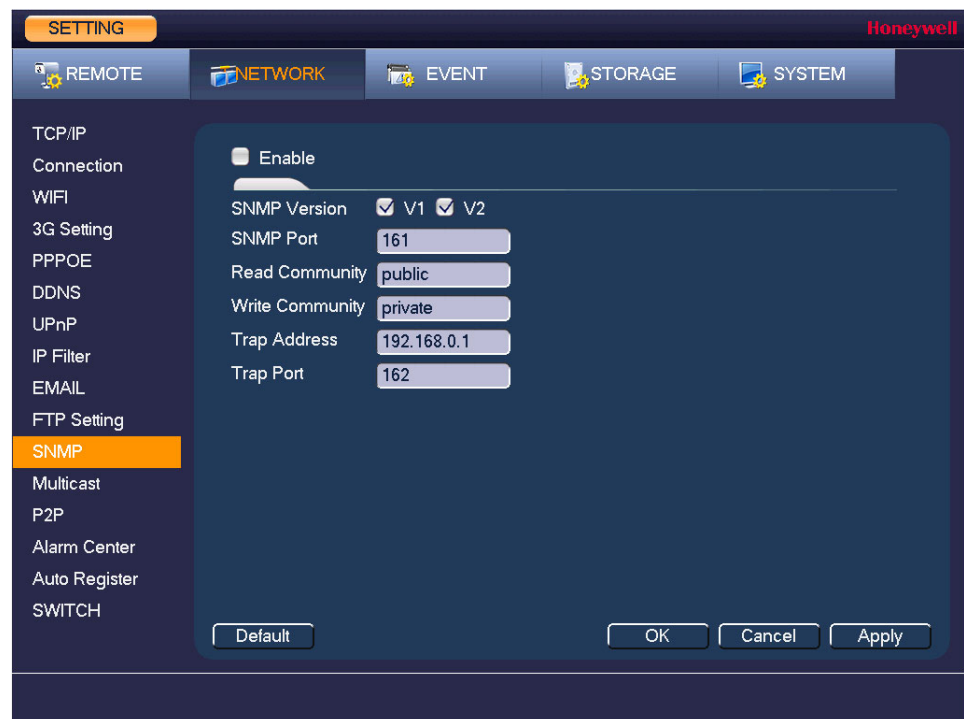
Configuring SNMP Settings

You can use Simple Network Management Protocol (SNMP) to receive information from the NVR remotely. You will need to install SNMP software on a PC to receive information from the NVR via SNMP.

To configure SNMP settings

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > SNMP**.

Figure 7-11 Network SNMP Settings Window



2. On the **SNMP** page, select the **Enable** check box to enable SNMP.

3. Configure the following settings:
 - **SNMP Version** Select the check boxes of the SNMP version(s) that you are using.
 - **SNMP Port** The default setting is **161**.
 - **Read Community** The default setting is **public**.
 - **Write Community** The default setting is **private**.
 - **Trap Access** Enter the IP address of the computer running SNMP software.
 - **Trap Port** The default setting is **162**.
4. Click **Apply** to save your settings.
5. If you want to save your settings and exit the **SETTING** menu, click **OK**.

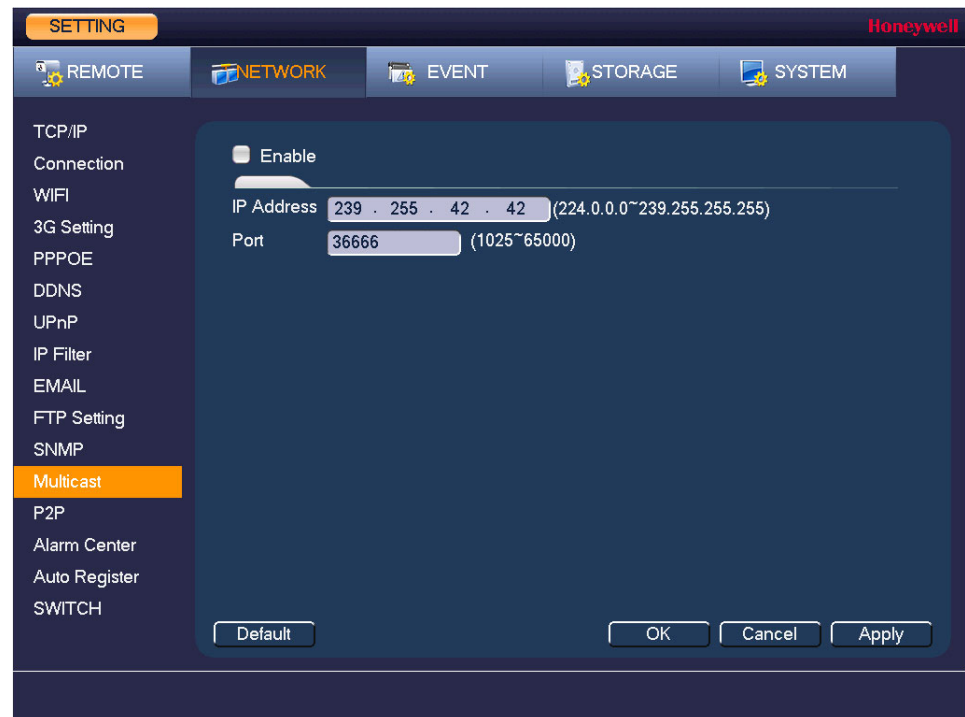
Configuring Multicast Settings

Multicast allows for simultaneous real-time monitoring of live video from the NVR at multiple remote locations over the network.

To configure multicast settings

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > Multicast**.

Figure 7-12 Network Multicast Settings Window



2. On the **Multicast** page, select the **Enable** check box to enable multicast.
3. In the **IP Address** box, enter a multicast IP address. The address must be valid for multicasting and should be in the range 224.0.0.0 to 239.255.255.255 for IPv4 or have the prefix ff00::/8. An address in the range 239.252.0.0 to 239.255.255.255 is recommended.
4. In the **Port** box, enter a multicast port number or use the default setting (**36666**).
5. Click **Apply** to save your settings.

6. If you want to save your settings and exit the **SETTING** menu, click **OK**..

Configuring Automatic Registration Settings

Automatic Registration allows the device to automatically register to the proxy you have specified. This allows you to use the client-end to access the NVR through the proxy, where the proxy has a switch function. In the network service, the device supports the server address of the IPv4.

To configure the automatic registration settings

1. Configure the proxy server address, port, and sub-device name at the device end.

Note The proxy server generates a serial number for the sub-device ID.

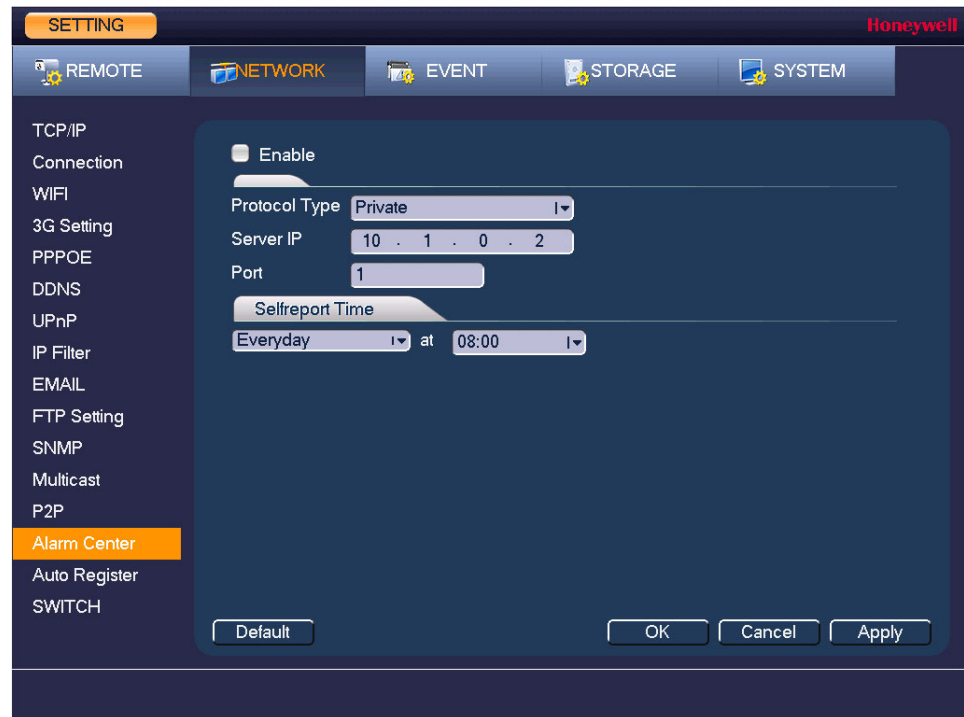
2. Enable the auto register function in the NVR.
The NVR should now be able to automatically register to the proxy server.

Configuring Alarm Center Settings

To configure the alarm center

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > Alarm Center**.

Figure 7-13 Network Alarm Center Settings Window



2. On the **Alarm Center** page, select the **Enable** check box to enable the alarm center function.
3. Configure the following settings:
 - **Protocol Type** Select **Private**.
 - **Server IP** Enter the server address of your alarm platform.
 - **Port** Enter the port of your alarm platform.
4. Set the **Selfreport Time** (daily or weekly at a particular time, or never).
5. Click **Apply** to save your settings.
6. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Configuring Switch Settings

You can change the IP Address, **Subnet Mask**, and **Default Gateway** for setting the PoE switch settings.

To configure Switch settings

1. In the **SETTING** field in the **Main Menu**, go to **NETWORK > SWITCH**.

Figure 7-14 Network Switch Settings Window

2. Configure the following settings:
 - **IP Address** Enter a new IP address.
 - **Subnet Mask** Enter a new subnet mask.
 - **Default Gateway** Enter a new default gateway.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

8

Configuring Event Settings

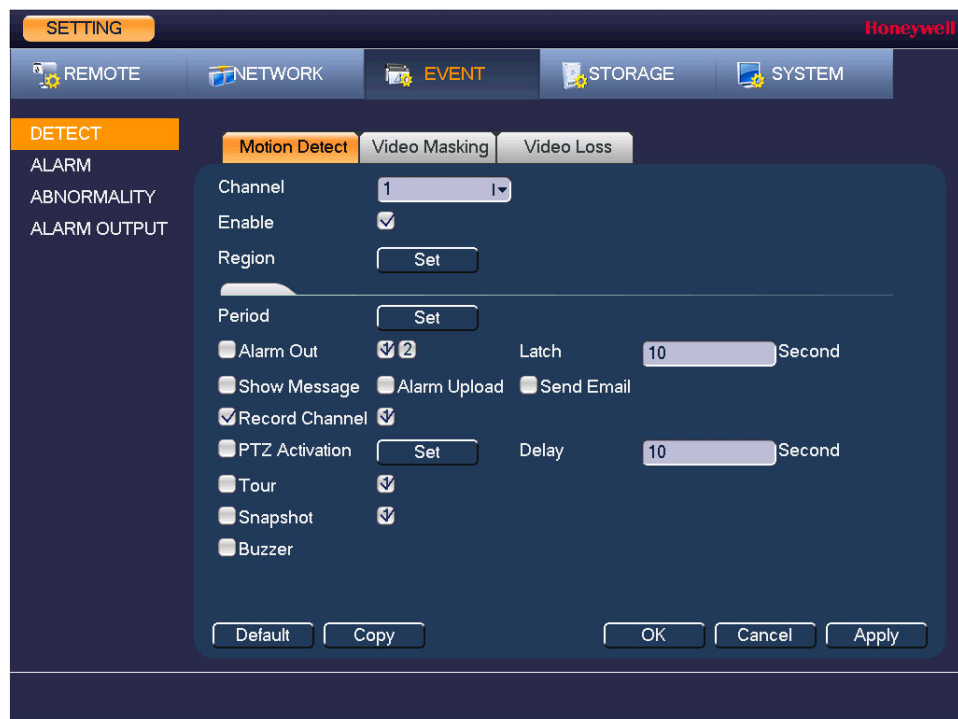
This chapter contains the following sections:

- *Configuring Motion Detection Settings, page 101*
- *Configuring Video Loss Settings, page 106*
- *Configuring Video Masking (Tampering) Settings, page 107*
- *Configuring System Event Settings, page 108*
- *Configuring Alarm Input Settings, page 110*
- *Configuring Alarm Outputs, page 116*

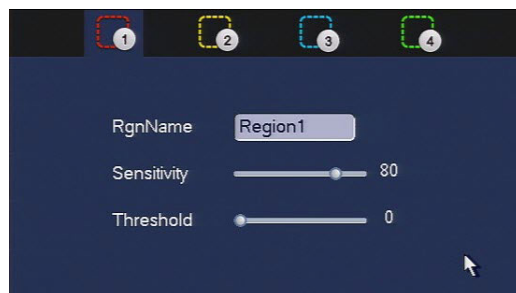
Configuring Motion Detection Settings

To set up motion detection regions

1. Go to **Main Menu > SETTING > EVENT > DETECT > Motion Detect.**

Figure 8-1 Motion Detection Settings Tab

2. On the **Motion Detect** tab, in the **Channel** box, select the channel (camera) for which you want to configure motion detection settings.
3. Select the **Enable** check box to enable motion detection for the selected channel.
4. Next to **Region**, click **Set** to define the motion detection region. A grid appears over the live view screen and the following dialog box appears:

Figure 8-2 Motion Detection - Region Configuration Window

5. Set the **Sensitivity** level (0–100) and **Threshold** level (0–100) for **Region1**.

Sensitivity refers to the amount of change (as a percentage) in the image pixels between frames. Moving the **Sensitivity** slider to the left decreases the sensitivity of the motion detection and therefore more movement is required to trigger an event notification.

Threshold is the amount of motion required to trigger an event notification.

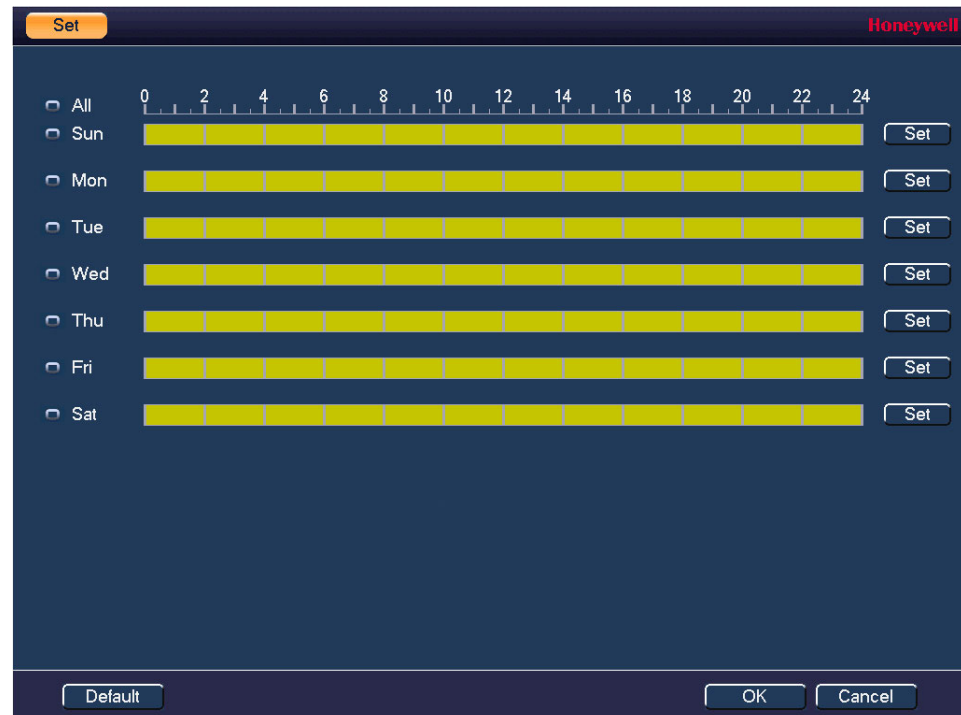
Note The best way to configure motion detection is to experiment with the sensitivity and threshold settings while someone is walking in front of the camera.

6. By default, motion detection **Region1** covers the whole screen.
 - To disable motion detection in part of the image, drag the mouse over the area of the image that you want to exclude. The areas *not* covered by red boxes are *not* sensitive to motion.
 - To change the threshold level in part of the image, select a different motion detection region (**Region2**, **Region3**, or **Region4**), set the **Threshold** level for that region, and then drag the mouse to define the region.
7. Right-click to return to the **SETTING** menu.
8. Click **Apply** to save your settings.
9. If you want to save your settings and exit the **SETTING** menu, click **OK**.

To set up motion detection periods

1. On the **Motion Detect** tab, next to **Period**, click **Set**. The **Set** window opens.

Figure 8-3 Motion Detection Schedule Configuration Window



2. By default, when motion detection is enabled, it is active all the time. To modify the periods when motion detection for the selected channel is active, on each day's timeline, click the half-hour blocks when you want motion detection to be *disabled*.
3. Alternatively, for the day of the week that you want to configure, click **Set**. The **Period** window opens.

Figure 8-4 Motion Detection Period Configuration Window

Period

Honeywell

Current Date: Sun

Period 1 00:00 - 24:00

Period 2 00:00 - 24:00

Period 3 00:00 - 24:00

Period 4 00:00 - 24:00

Period 5 00:00 - 24:00

Period 6 00:00 - 24:00

Copy

All Sun Mon Tue Wed Thu Fri Sat

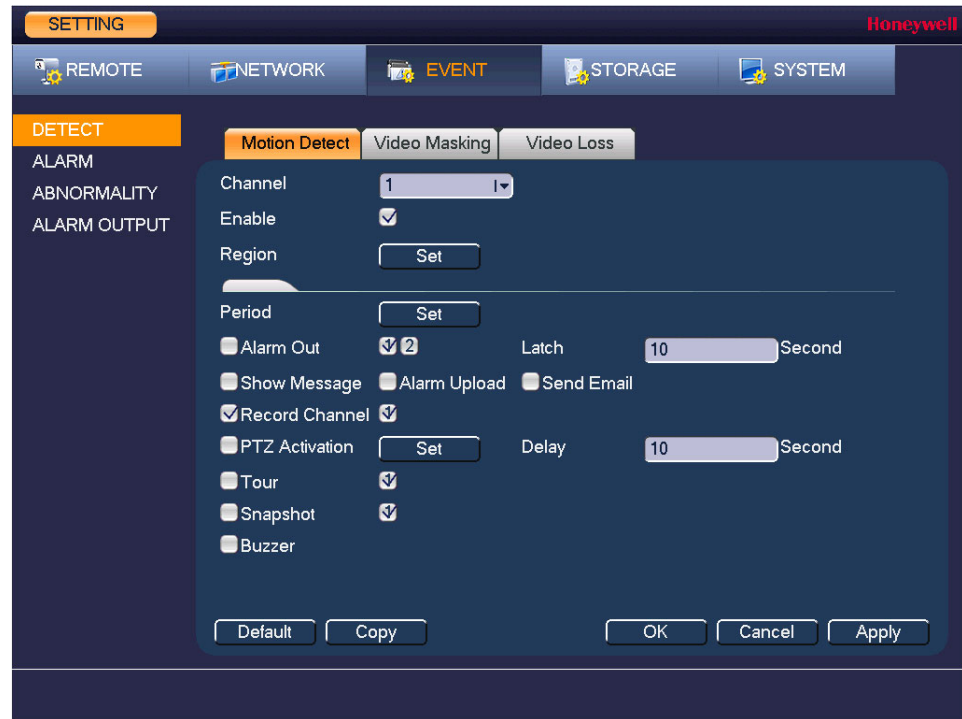
Save

- a. Set up to six periods in the day when you want the motion detection settings for the selected channel to be active.
 - b. Select the check box next to each configured period to enable it.
 - c. To copy the settings to additional days, select the appropriate check box(es) under **Copy**.
 - d. Click **Save** to return to the previous window.
4. After you have finished setting up the motion detection periods, click **OK**.

To set up motion detection event actions

1. Go to **Main Menu > SETTING > EVENT > DETECT > Motion Detect**.

Figure 8-5 Motion Detection Configuration Tab



2. On the **Motion Detect** tab, select the actions that you want the system to initiate when a motion detection event occurs:
 - **Alarm Out** Select the alarm output(s) (1 or 2) that you want to activate. In the **Latch** box, specify the amount of time (1–300 s) to delay the alarm output signal after a motion detection event is triggered.
 - **Show Message** Select the check box to enable a pop-up message on your local host PC.
 - **Alarm Upload** Select the check box to enable the system to upload an alarm signal to the network (including to an alarm center and/or web client).
 - **Send Email** Select the check box to enable the system to send an email notification. If the **Snapshot** function is enabled, an image can be attached to the email.
 - **Record Channel** Select the channel(s) that you want to record. In the **Delay** box, specify the amount of time (1–300 s) to delay recording after a motion detection event is triggered.

Note You also need to set the motion detection recording period. Go to **Storage > Schedule** to configure the current channel for scheduled recording. See [Configuring the Video Recording Schedule](#) on page 63.
 - **PTZ Activation** Select the check box to activate PTZ functions, and then click **Select**. In the **PTZ Activation** window, for each PTZ camera, select the preset, tour, or pattern that you want to be called when a motion detection event occurs, and then click **OK**.
 - **Tour** Select the check box to enable a tour of the selected channels.
 - **Snapshot** Select the check box to take a snapshot of selected channels.
 - **Buzzer** Select the check box to activate a buzzer noise at the NVR.
3. Click **Apply** to save your settings.

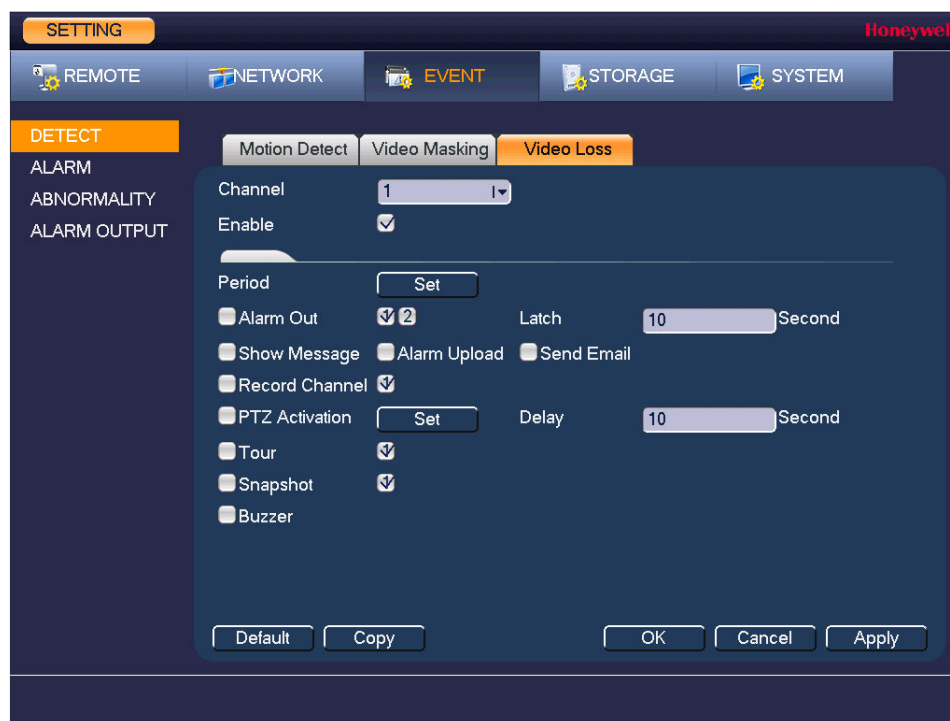
4. To test your settings, click **Test**.
5. To copy the motion detection settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

Configuring Video Loss Settings

To configure video loss settings

1. Go to **Main Menu > SETTING > EVENT > DETECT > Video Loss**.

Figure 8-6 Video Loss Configuration Tab



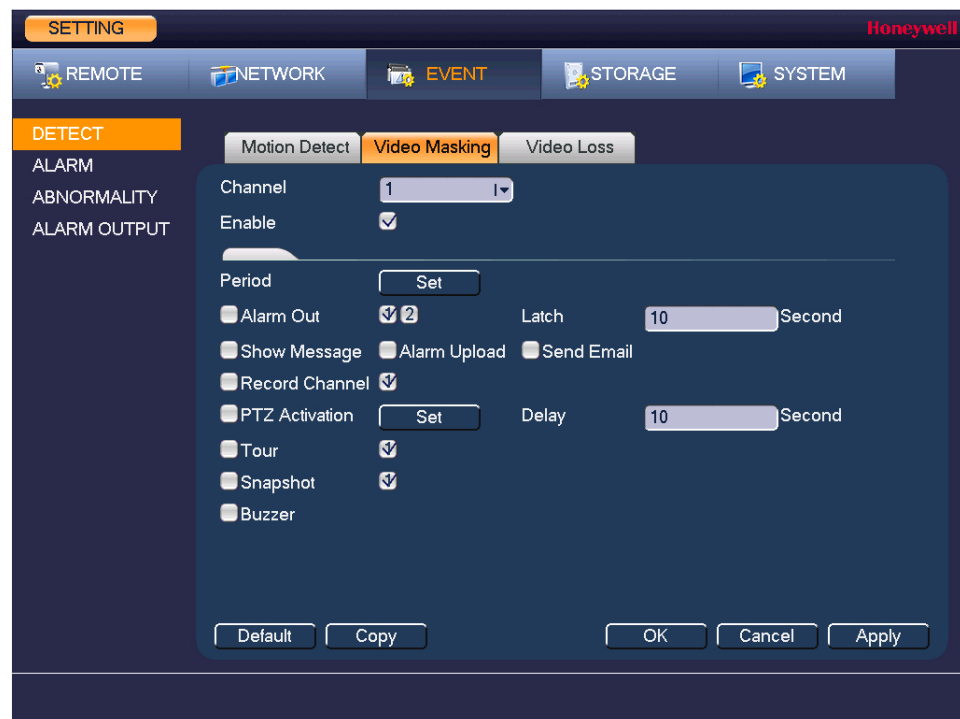
2. On the **Video Loss** tab, in the **Channel** box, select the channel (camera) for which you want to configure video loss detection settings.
3. Select the **Enable** check box to enable video loss detection for the selected channel.
4. To set the periods when video loss detection is active, next to **Period**, click **Set**, and then follow the steps listed in [To set up motion detection periods](#) on page 103.
5. To set the actions that you want the system to initiate when a video loss event occurs, follow the steps listed in [To set up motion detection event actions](#) on page 104.
6. Click **Apply** to save your settings.
7. To copy the settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

Configuring Video Masking (Tampering) Settings

To configure video tampering settings

1. Go to **Main Menu > SETTING > EVENT > DETECT > Video Masking**.

Figure 8-7 Video Masking Configuration Tab



2. On the **Video Masking** tab, in the **Channel** box, select the channel (camera) for which you want to configure video tampering detection settings.
3. Select the **Enable** check box to enable video tampering detection for the selected channel.
4. To set the periods when video tampering detection is active, next to **Period**, click **Set**, and then follow the steps listed in [To set up motion detection periods](#) on page 103.
5. To set the actions that you want the system to initiate when a video tampering event occurs, follow the steps listed in [To set up motion detection event actions](#) on page 104.
6. Click **Apply** to save your settings.
7. To copy the settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

Configuring System Event Settings

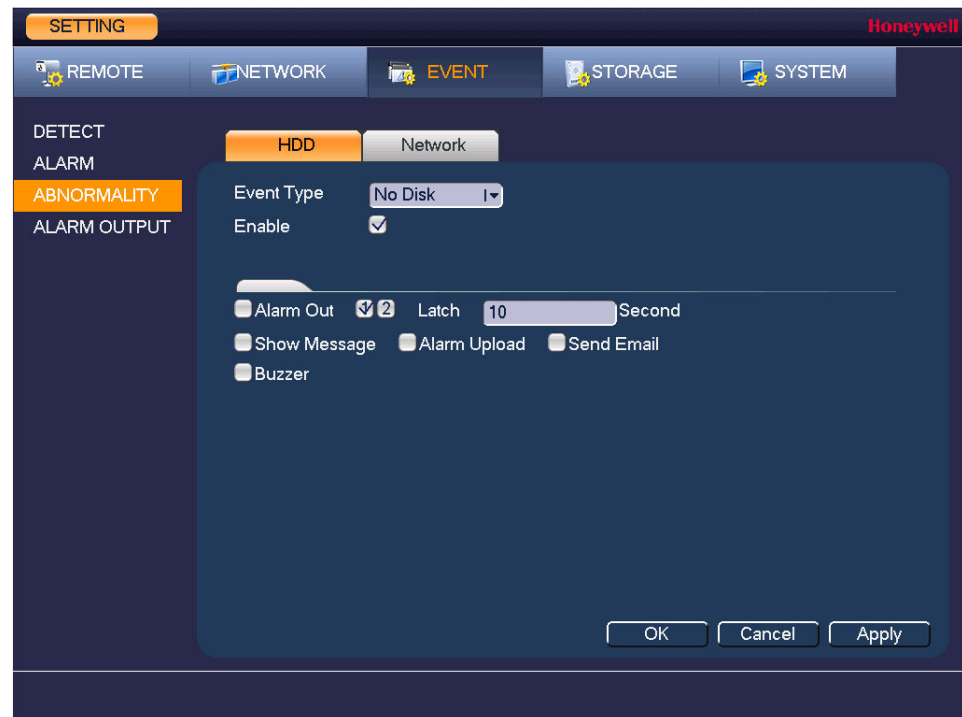
There are two types of system events: HDD errors (no disk, disk error, no space) and network errors (no connection, IP conflict, MAC conflict).

Configuring HDD Event Settings

To configure HDD event settings

1. Go to **Main Menu > SETTING > EVENT > ABNORMALITY > HDD**.

Figure 8-8 HDD Abnormality Configuration Tab



2. On the **HDD** tab, in the **Event Type** box, select the event type that you want to configure settings for: **No Disk, Disk Error, No Space**.
3. Select the **Enable** check box to enable HDD error detection.
4. Select the actions that you want the system to initiate when the selected event occurs:
 - **Alarm Out** Select the alarm output(s) (1 or 2) that you want to activate. In the **Latch** box, specify the amount of time (1–300 s) to delay the alarm output signal after the HDD event is triggered.
 - **Show Message** Select the check box to enable a pop-up message on your local host PC.
 - **Alarm Upload** Select the check box to enable the system to upload an alarm signal to the network (including to an alarm center and/or web client).

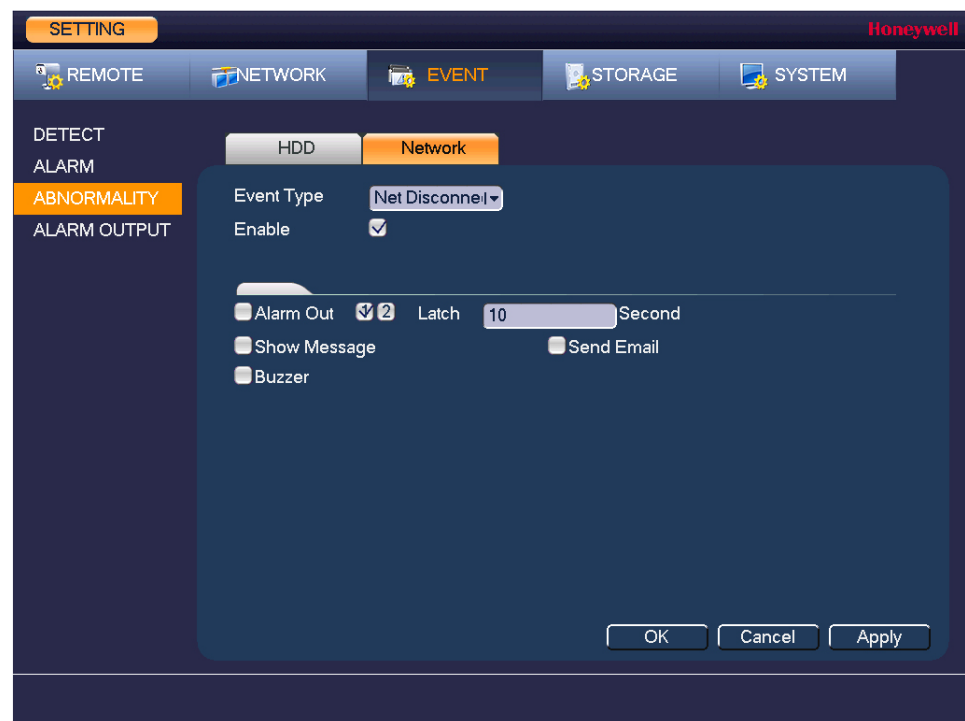
- **Send Email** Select the check box to enable the system to send an email notification. To set up Email settings, see [Configuring Email Settings](#) on page 93.
 - **Buzzer** Select the check box to activate a buzzer noise at the NVR.
5. Click **Apply** to save your settings.

Configuring Network Event Settings

To configure network event settings

1. Go to **Main Menu > SETTING > EVENT > ABNORMALITY > Network**.

Figure 8-9 Network Abnormality Configuration Tab



2. On the **Network** tab, in the **Event Type** box, select the event type for which you want to configure settings: **Net Disconnection, IP Conflict, MAC Conflict**.
3. Select the **Enable** check box to enable network error detection.
4. Select the actions that you want the system to initiate when the selected event occurs:
 - **Alarm Out** Select the check box to activate the selected alarm output(s) (1 or 2). In the **Latch** box, specify the amount of time (1–300 s) to delay the alarm output signal after the network event is triggered.
 - **Show Message** Select the check box to enable a pop-up message on your local host PC.
 - **Send Email** Select the check box to enable the system to send an email notification. To set up Email settings, see [Configuring Email Settings](#) on page 93.
 - **Buzzer** Select the check box to activate a buzzer noise at the NVR.
5. Click **Apply** to save your settings.

Configuring Alarm Input Settings

Configuring IPC External Alarms

To configure IPC external alarms

1. Go to **Main Menu > SETTING > EVENT > ALARM > IPC Ext Alarm**.

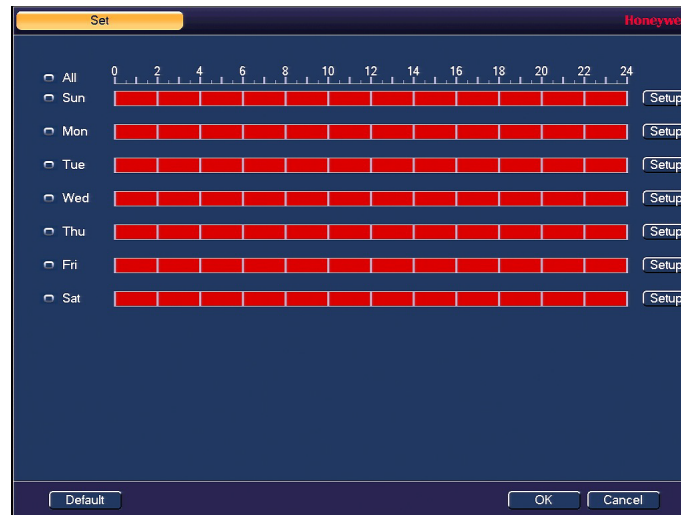
Figure 8-10 IPC External Alarm Configuration Tab

The screenshot displays the 'IPC Ext Alarm' configuration window. The 'Channel' is set to 1. The 'Enable' checkbox is unchecked. The 'Type' is set to 'Normal Close'. The 'Period' is set to 'Set'. The 'Alarm Out' checkbox is checked, and the 'Latch' is set to 10 seconds. The 'Show Message', 'Alarm Upload', and 'Send Email' checkboxes are unchecked. The 'Record Channel' checkbox is checked. The 'PTZ Activation' is set to 'Set', and the 'Delay' is set to 10 seconds. The 'Tour', 'Snapshot', and 'Buzzer' checkboxes are unchecked. Buttons for 'Default', 'Copy', 'OK', 'Cancel', and 'Apply' are visible at the bottom of the window.

2. On the **IPC Ext Alarm** tab, select channel from the drop-down menu.
3. Select the **Enable** check box to enable alarm detection of the selected alarm input.
4. In the **Device Type** box, select the alarm input type: **Normal Close** or **Normal Open**.

To set up alarm input detection periods

1. On the **Local Alarm** tab, next to **Period**, click **Set**. The **Set** window opens.



2. By default, when alarm detection is enabled, it is active all the time. To modify the periods when alarm detection is active, on each day's timeline, click the half-hour blocks when you want alarm detection for the selected alarm input to be *disabled*.
3. Alternatively, for the day of the week that you want to configure, click **Setup**. The **Period** window opens.



- a. Set up to six periods in the day when you want alarm detection for the selected alarm input to be active.
 - b. Select the check box next to each configured period to enable it.
 - c. To copy the settings to additional days, select the appropriate check box(es) under **Copy**.
 - d. Click **Save** to return to the previous window.
4. After you have finished setting up the alarm detection periods, click **OK**.

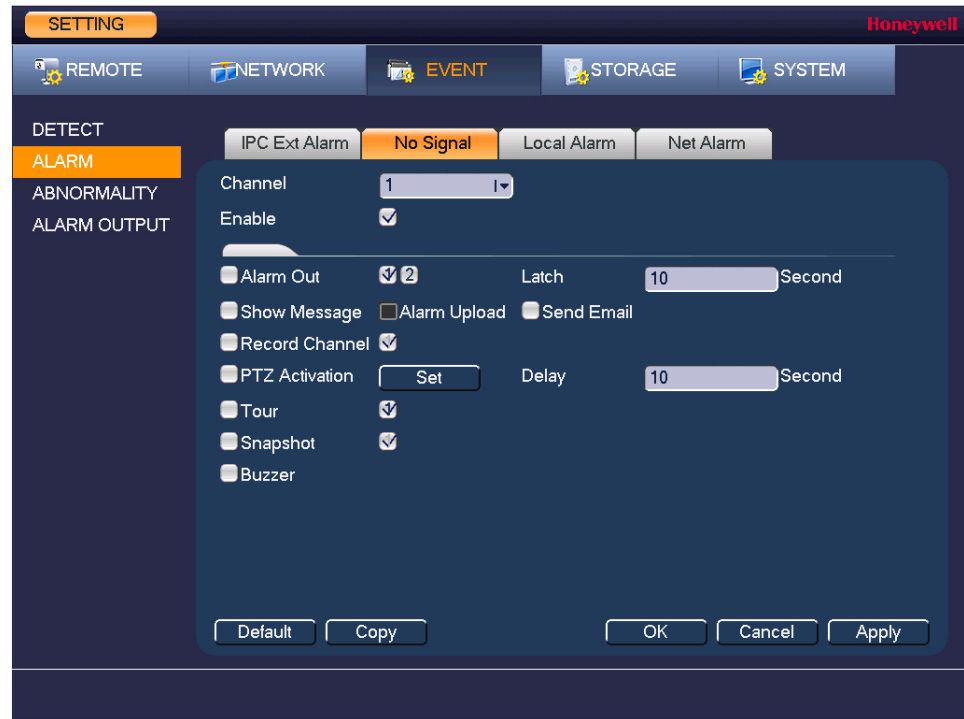
To set up alarm input event actions

1. On the **Local Alarm** tab, in the **Anti-Dither** box, specify the amount of time (5–600 s) to delay the system's reaction to subsequent triggered alarms after the first alarm is triggered. During the anti-dither time, if the system detects another alarm, the system will not be initiate actions for that alarm.
2. Select the actions that you want the system to initiate when an alarm input is triggered occurs:
 - **Alarm Out** Select the check box to activate the selected alarm output(s) (1, 2, or 3). In the **Latch** box, specify the amount of time (1–300 s) to delay the alarm output signal after an alarm event is triggered.
 - **Show Message** Select the check box to enable a pop-up message on your local host PC.
 - **Alarm Upload** Select the check box to enable the system to upload an alarm signal to the network (including to an alarm center and/or web client).
 - **Send Email** Select the check box to enable the system to send an email notification. If the **Snapshot** function is enabled, an image can be attached to the email. To set up Email settings, see [Configuring Email Settings](#) on page 93.
 - **Record Channel** Select the channel(s) that you want to record. In the **Delay** box, specify the amount of time (1–300 s) to delay recording after an alarm event is triggered.

Note You also need to set the alarm recording period. Go to **Storage > Schedule** to configure the current channel for scheduled recording. See [Configuring the Video Recording Schedule](#) on page 63.
 - **PTZ Activation** Select the check box to activate PTZ functions, and then click **Select**. In the **PTZ Activation** window, for each PTZ camera, select the preset, tour, or pattern that you want to be called when an alarm event occurs, and then click **OK**.
 - **Tour** Select the check box to enable a tour of the selected channels.
 - **Snapshot** Select the check box to take a snapshot of selected channels.
 - **Buzzer** Select the check box to activate a buzzer noise at the NVR.
3. Click **Apply** to save your settings.
4. To copy the alarm event settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

Configuring No Signal Alarm Events

Go to **Main Menu > SETTING > EVENT > ALARM > No Signal**.

Figure 8-11 Alarm No Signal Configuration Tab

To configure for no signal, follow the same steps as for configuring IPC External Alarm inputs, on [page 110](#).

Configuring Local Alarm Inputs

A local alarm is an alarm signal from a local device.

Go to **Main Menu > SETTING > EVENT > ALARM > Local Alarm**.

Figure 8-12 Event - Local Alarm Configuration Tab

To configure local alarm inputs, follow the same steps as for configuring IPC External Alarm inputs, on [page 110](#).

Configuring Network Alarm Inputs

Network alarms are alarm signals from the network.

Go to **Main Menu > SETTING > EVENT > ALARM > Net Alarm**.

Figure 8-13 Net Alarm Configuration Tab

The screenshot displays the Honeywell configuration interface for the 'Net Alarm' tab. The interface is organized into several sections:

- Navigation:** A top bar contains 'SETTING' and tabs for 'REMOTE', 'NETWORK', 'EVENT', 'STORAGE', and 'SYSTEM'. Below this, sub-tabs for 'IPC Ext Alarm', 'No Signal', 'Local Alarm', and 'Net Alarm' are visible, with 'Net Alarm' selected.
- Left Sidebar:** A vertical menu lists 'DETECT', 'ALARM', 'ABNORMALITY', and 'ALARM OUTPUT', with 'ALARM' highlighted.
- Main Configuration Area:**
 - Alarm In:** A dropdown menu set to '1'.
 - Enable:** A checked checkbox.
 - Period:** A 'Set' button.
 - Alarm Out:** A dropdown menu set to '2'.
 - Latch:** A text input field set to '10' followed by 'Second'.
 - Show Message:** An unchecked checkbox.
 - Alarm Upload:** An unchecked checkbox.
 - Send Email:** An unchecked checkbox.
 - Record Channel:** A checked checkbox.
 - PTZ Activation:** An unchecked checkbox with a 'Set' button.
 - Delay:** A text input field set to '10' followed by 'Second'.
 - Tour, Snapshot, Buzzer:** Unchecked checkboxes.
- Bottom Controls:** A row of buttons including 'Default', 'Copy', 'OK', 'Cancel', and 'Apply'.

A network alarm is an alarm signal originating from the TCP/IP network connection. You can use NET SDK protocol to activate the network alarm.

To configure network alarm inputs, follow the same steps as for configuring IPC External Alarm inputs, on [page 110](#).

Configuring Alarm Outputs

To configure alarm outputs

1. Go to **Main Menu > SETTING > EVENT > ALARM OUTPUT**.

Figure 8-14 Alarm Output Configuration Tab



2. On the **Alarm Output** page, set the alarm type for each alarm output:
 - **Schedule** Select the alarm output(s) that you want to apply the recording schedule settings to. For more details, see [Configuring the Video Recording Schedule](#) on page 63 and [Configuring the Snapshot Recording Schedule](#) on page 64.
 - **Manual** Select the alarm output(s) that you want to enable for all channels.
 - **Stop** Select the alarm output(s) that you want to disable for all channels.
3. To turn off triggered alarm outputs, next to **Alarm Release**, click **OK**.
4. Click **Apply** to save your changes, and then click **OK**.

9

Configuring Storage Settings

This chapter contains the following sections:

- *Configuring the Recording Schedule, page 117*
- *Configuring HDD Management Settings, page 119*
- *Configuring Record Settings, page 123*

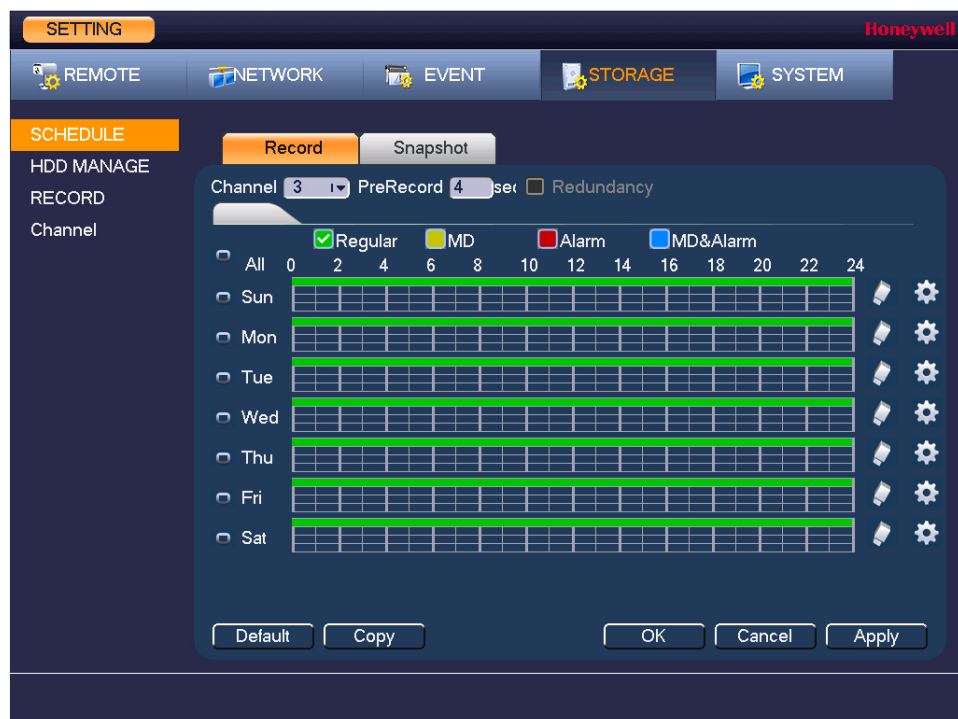
Configuring the Recording Schedule

Configuring the Video Recording Schedule

To configure the video recording schedule

1. Go to **Main Menu > SETTING > STORAGE > SCHEDULE > Record.**

Figure 9-1 Recording Schedule Configuration Tab



2. On the **Record** tab, in the **Channel** box, select the channel (camera) for which you want to configure a recording schedule.
3. In the **PreRecord** box, enter a time between **0** and **30** seconds. The default setting is **4** seconds. The pre-record time sets how long the NVR records before the scheduled recording start time. For example, if the NVR is scheduled to start recording at 12:00 and the pre-record time is set to 4 seconds, the NVR will start recording at 11:59:56.
4. If the NVR has two HDDs, select the **Redundancy** check box to enable redundant recording on the second HDD. This HDD must first be configured as redundant on the **HDD Manage** page (see [Configuring HDD Settings](#) on page 100).
5. At the top of the scheduling table, select the check box(es) of the recording type(s) that you want to schedule:
 - **Regular** The regular recording schedule is indicated by a green bar.
 - **MD** The motion detection recording schedule is indicated by a yellow bar.
 - **Alarm** The alarm recording schedule is indicated by a red bar.
 - **MD&Alarm** The motion detection and alarm schedule is indicated by a blue bar.
6. At the left of the scheduling table, select the day(s) of the week for which you want to configure a recording schedule. To configure the same recording schedule for all of the days at the same time, select **All**.
7. Click or drag the mouse in the scheduling table to set the recording period. To erase a recording period, click the eraser icon at the right of the table. Alternatively, for the day of the week that you want to configure, click the gear icon at the right of the table. In the **Period** window, set up to six recording periods. To copy the settings to additional days, select the appropriate check box(es) under **Copy**, and then click **Save**.
8. Click **Apply** to save your settings.
9. To copy the settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

Configuring the Snapshot Recording Schedule

Follow these steps to configure the snapshot recording function. When enabled, the NVR can take snapshots when a motion detection, video loss, video tampering, or alarm event occurs. See [Chapter 8, Configuring Event Settings](#) for detailed instructions.

To configure the snapshot recording schedule

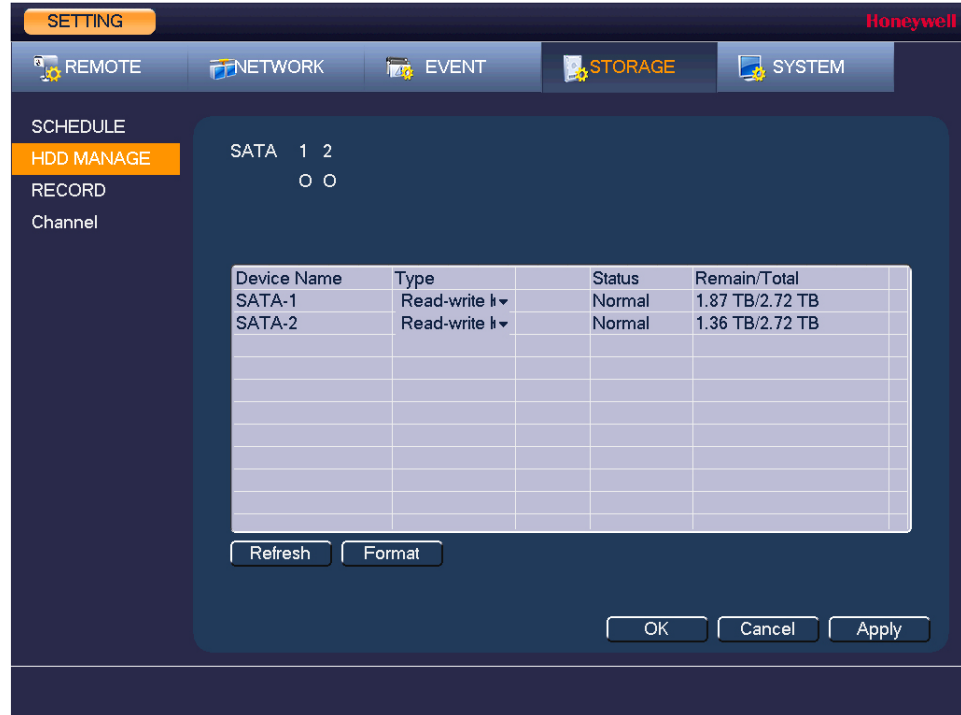
1. Go to **Main Menu > SETTING > STORAGE > SCHEDULE > Snapshot**.
2. On the **Snapshot** tab, in the **Channel** box, select the channel (camera) for which you want to configure a recording schedule.
3. At the top of the scheduling table, select the check box(es) of the recording type(s) that you want to schedule:
 - **Regular** The regular recording schedule is indicated by a green bar.
 - **MD** The motion detection recording schedule is indicated by a yellow bar.
 - **Alarm** The alarm recording schedule is indicated by a red bar.
 - **MD&Alarm** The motion detection and alarm schedule is indicated by a blue bar.
4. At the left of the scheduling table, select the day(s) of the week for which you want to configure a recording schedule. To configure the same recording schedule for all of the days at the same time, select **All**.
5. Click or drag the mouse in the scheduling table to set the recording period. To erase a recording period, click the eraser icon at the right of the table. Alternatively, for the day of the week that you want to configure, click the gear icon at the right of the table. In the **Period** window, set up to six recording periods. To copy the settings to additional days, select the appropriate check box(es) under **Copy**, and then click **Save**.
6. Click **Apply** to save your settings.
7. To copy the settings to additional channels, click **Copy**, select the channels to which you want to copy the settings, and then click **OK**.

Configuring HDD Management Settings

To configure HDD settings

1. Go to **Main Menu > SETTING > STORAGE > HDD MANAGE**.

Figure 9-2 HDD Management Window



SATA **o** indicates the current HDD is normal.
x indicates there is an error.
- indicates that there is no HDD.
? indicates that a HDD is damaged.

Device Name The HDD name.

Type The HDD type (read-write or read-only).

Status The current operating status of the HDD.

**Free Space/
Total Space** The amount of free space remaining on the HDD/
The total capacity of the HDD.

- The HDD is configured as read-write by default. To change the HDD type to read-only, in the **Type** column, select **Read-only HDD**.

Note The NVR restarts to apply the new setting.

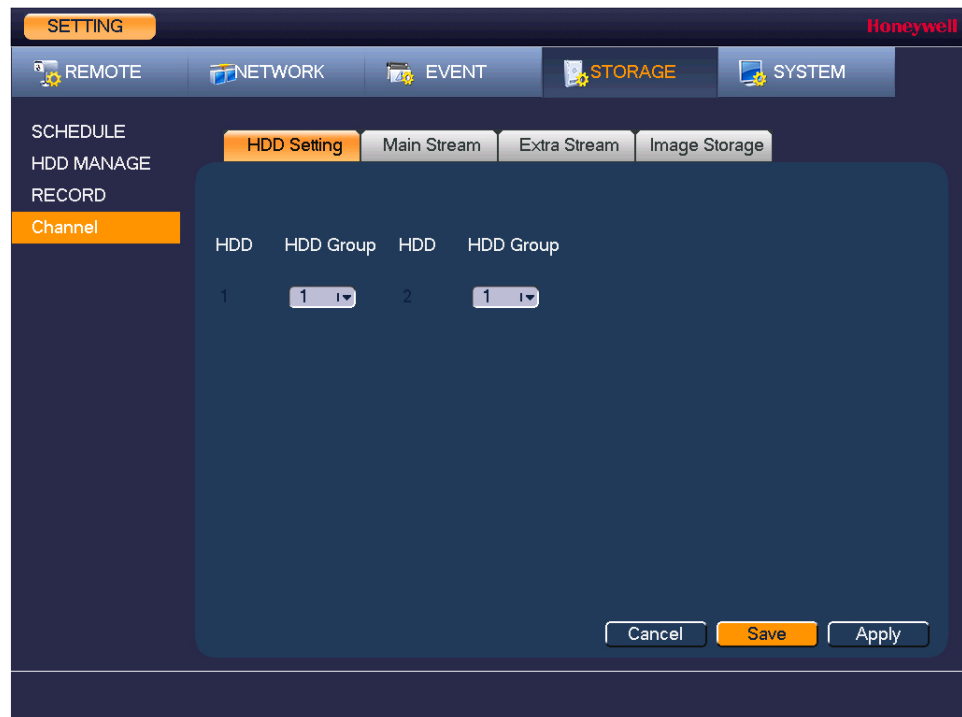
- To erase all the data from the HDD, click **Format**. A confirmation message appears: "Confirm format on the selected device?" Click **OK** to continue.

Configuring Channels

Configuring HDD Channel Settings

1. Go to **Main Menu > SETTING > STORAGE > SCHEDULE > Channel > HDD Setting**.

Figure 9-3 HDD Storage Configuration Tab



2. Select from the drop-down menu a HDD for each group.
3. Click **Apply** to save your settings.

Configuring Main Stream Channel Settings

Here, you can assign the main stream to a particular HDD group.

1. Go to **Main Menu > SETTING > STORAGE > SCHEDULE > Channel > Main Stream**.

Figure 9-4 Main Stream Channel Storage Configuration Tab

2. Select a HDD group from the drop-down **All to:** menu.
3. Click **Apply to all** to apply the parameter settings to all channels.
4. Select from the drop-down menu an HDD group for each channel.
5. Click **Apply** to save your settings.

Configuring Extra Stream Channel Settings

Configuring the extra stream channel settings is the same as for the main stream.

Configuring Image Storage Channel Settings

1. Go to **Main Menu > SETTING > STORAGE > SCHEDULE > Channel > Image Storage**.

Figure 9-5 Image Storage Configuration Tab

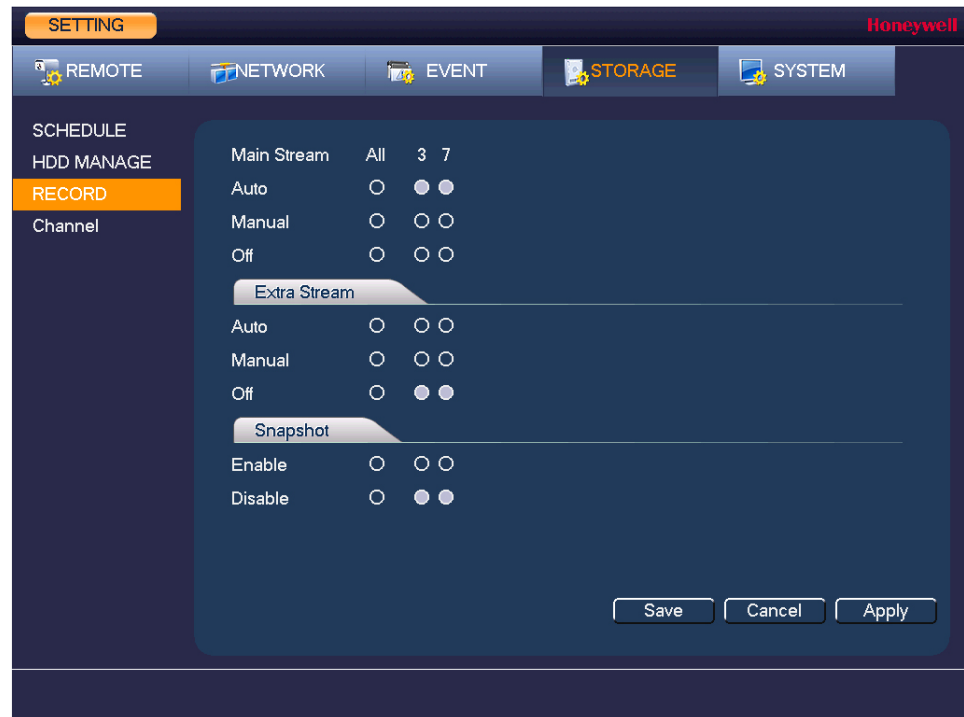


2. Select a HDD group from the drop-down **All to:** menu.
3. Click **Apply to all** to apply the parameter settings to all channels.
4. Select from the drop-down menu an HDD group for each channel.
5. Click **Apply** to save your settings.

Configuring Record Settings

To configure the recording settings

1. Go to **Main Menu > SETTING > STORAGE > RECORD.**

Figure 9-6 Recording Storage Configuration Window

2. On the **Record** window, select the record types (**Schedule**, **Manual**, **Off**) that you want to enable on each channel for both the main stream and secondary stream.
3. Under **Snapshot**, enable or disable snapshot recording on each channel.
4. Click **Apply** to save your settings.

10

Configuring System Settings

This chapter contains the following sections:

- *Configuring General System Settings, page 125*
- *Configuring Display Settings, page 129*
- *Configuring RS232 Settings, page 132*
- *Configuring Pan/Tilt/Zoom Settings, page 133*
- *Configuring Account Settings, page 133*
- *Configuring Automatic Maintenance Settings, page 137*
- *Exporting and Importing System Configurations, page 139*
- *Restoring Default Settings, page 141*
- *Upgrading the NVR, page 142*

Configuring General System Settings

Configuring Device Settings

To configure general settings

1. Go to **Main Menu > SETTING > SYSTEM > GENERAL > General.**

Figure 10-1 General Configuration Tab



2. On the **General** tab, configure the following settings:
 - **Device Name** Enter a device name for the NVR.
 - **Device No.** Enter a device number for the NVR.
 - **Language** Set the language of the user interface.
 - **Video Standard** Set the video standard to **NTSC** or **PAL**.
 - **HDD Full** Set to **Overwrite** to continue recording when the HDD is full. Set to **Stop Record** to stop recording when the HDD is full. The default setting is **Overwrite**.
 - **Pack Duration** Set the recording duration. Specify a time between **1** and **60** minutes. The default setting is **60 min**.
 - **Realtime Play** Set the length of time to play back video using the realtime playback function in live view mode. Specify a time between **5** and **60** minutes. The default setting is **5 min**.
 - **Auto Logout** Set the length of time the NVR waits before logging out an inactive user. Specify a time between **0** and **60** minutes. The default setting is **10 min**.
 - **Navigation Bar** Select the check box to display the live view toolbar on the live view screen. Clear the check box to hide the live view toolbar.
 - **Startup Wizard** Select the check box to display the **Startup Wizard** at startup. Clear the check box to bypass the Startup Wizard at startup.
 - **Mouse Sensitivity** Set the desired mouse speed using the slider.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **Save**.

Configuring Date and Time Settings

To configure the system time settings

1. Go to **Main Menu > SETTING > SYSTEM > GENERAL > Date&Time**.

Figure 10-2 Date and Time Configuration Tab



2. On the **Date&Time** tab, configure the following settings:
 - **Date Format** Select the date format that you want to use for the system time: **YYYY MM DD**, **MM DD YYYY**, or **DD MM YYYY**.
 - **Time Format** Select the time format that you want to use for the system time: **24-Hour** or **12-Hour**.
 - **Date Separator** Select the separator that you want to use for the system time: period (.), hyphen (-), or forward slash (/).
 - **System Time** Enter the system time and time zone, and then click **Save**.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **Save**.

To configure the Daylight Saving Time (DST) settings

1. Go to **Main Menu > SETTING > SYSTEM > GENERAL > Date&Time**.
2. On the **Date&Time** tab, click to select the **DST** check box.
3. Specify when Daylight Saving Time begins and ends.

For example:

- a. Since the specific dates change every year, select **Date** as the **DST Type**.
- b. Set the **Start Time** as **Mar 2nd Su 02:00** (the second Sunday in March at 2:00 a.m.).

2. On the **Holiday Setup** tab, click **Add New Holidays**. The **Add New Holiday** window appears.

Figure 10-4 Add New Holiday Window

3. In the **Holiday Name** box, enter the name of the holiday that you want to add.
4. Set **Repeat Mode** to **Once Only** or **All-Year**.

Note If you want the NVR to recognize a particular day of the week as a holiday year-round (for example, every Friday), set **Repeat Mode** to **All-Year**.

5. Set **Holiday Range** to **Date** or **Week** depending on whether you want to designate a single day or one or more weeks as a holiday.
 - If **Date** is selected, enter the year, month, and day in the **Start Time** and **End Time** boxes.
 - If **Week** is selected, enter the year, month, week of the month (1st, 2nd, 3rd, 4th, Last), and day.
6. If you want to add more holidays, select the **Add More** check box.
7. Click **Add** to add the holiday.
8. After you have added the new holidays, on the **Holiday Setup** tab, set the **Status** of each holiday. Select **Open** to enable the holiday or select **Stop** to disable it.

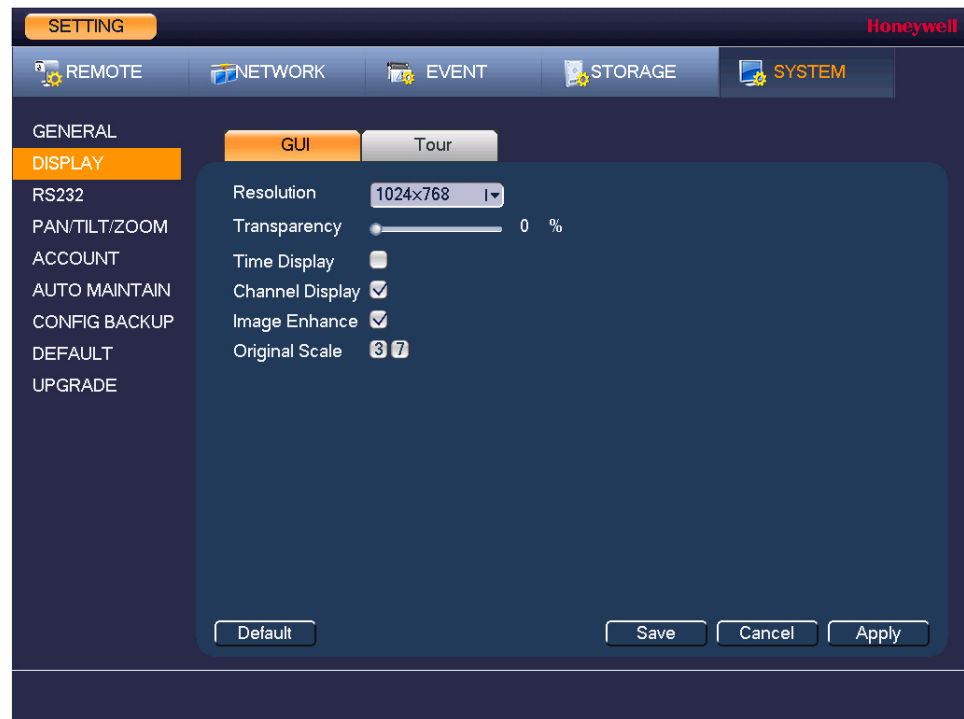
Configuring Display Settings

Configuring Display Settings

To configure the display settings

1. Go to **Main Menu > SETTING > SYSTEM > DISPLAY > GUI**.

Figure 10-5 GUI Configuration Tab



2. On the **Display** tab, configure the following settings:
 - **Resolution** Set the resolution of your display.

Note You must restart the NVR for new display resolution settings to take effect.
 - **Transparency** Set the transparency of the graphical user interface (GUI) to a value between **0** and **100**, with **0** being totally opaque and **100** being totally transparent.
 - **Time Display** To display the current time in each channel window in live view mode, select the check box. To hide the time, clear the check box.
 - **Channel Display** To display the camera name, status, and channel number in each channel window, select the check box. To hide the camera name, status, and channel number, clear the check box.
 - **Image Enhancement** To enhance the display image, select the check box. To keep the default settings, clear the check box.
 - **Original Scale** Click to select to show channel(s) in original aspect ratio. Unselected channels display in full screen.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **Save**.

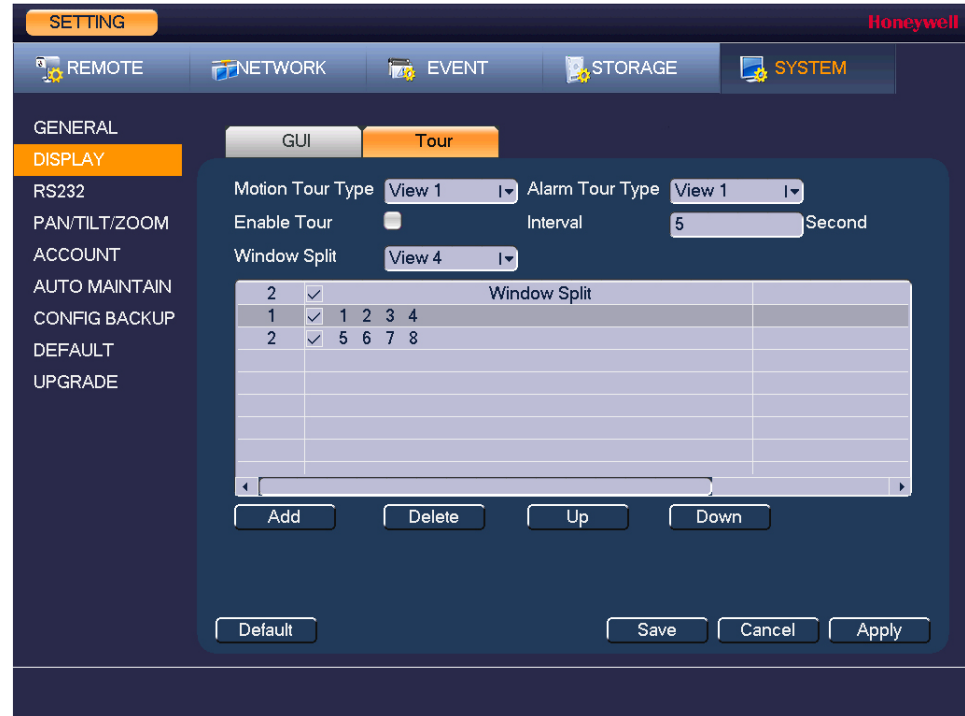
Configuring Tour Settings

In a tour, the NVR cycles through different channel views. You can specify which views and cameras you want to appear in the tour.

To configure a tour

1. Go to **Main Menu > SETTING > SYSTEM > DISPLAY > Tour**.

Figure 10-6 Tour Configuration Tab



2. If you want, you can add or delete cameras from the **Channel Group** list. You can only add cameras that do not already appear in the list.

Note On some NVR models you can change the **Motion Tour Type** and **Alarm Tour Type** from **View 1** (single-channel view) to **View 4** (four-channel view).

3. Select the **Enable Tour** check box to enable the tour function or clear the check box to disable the tour function.
4. In the **Interval** box, enter the amount of time in seconds that you want each view to appear on the screen. The default setting is **5** seconds.
5. Do one of the following:
 - To cycle through all of the cameras in all of the available views, keep the default settings.
 - To create a custom tour, for each view in the **Window Split** list (**View 1**, **View 4**, ...), clear the check box on the top row of the **Channel Group** list to deselect all of the cameras for that view, then select the cameras for each view that you want to appear in the tour.
 For example, to create a tour showing only cameras 2, 3, and 5 in single-channel view, set **Window Split** to **View 1** and then select cameras **2**, **3**, and **5**. There should be no other cameras selected in View 1 or in any of the other views.
6. Click **Apply** to save your settings.
7. If you want to save your settings and exit the **SETTING** menu, click **Save**.

Configuring RS232 Settings

To configure RS232 settings

1. Go to **Main Menu > SETTING > SYSTEM > RS232**.

Figure 10-7 RS232 Configuration Window



2. Configure the following settings:
 - **Function** Select **Console**, **Adapter**, or **NetKeyboard**, depending on the type of RS232 device that you have connected to the NVR.
 - **Baud Rate** Select a value between **1200** and **115200**. The default setting is **115200**.
 - **Data Bit** Select a value between **5** and **8**. The default setting is **8**.
 - **Stop Bit** Select **1**, **1.5**, or **2**. The default setting is **1**.
 - **Parity** Select **None**, **Odd**, **Even**, **Mark**, or **Space**. The default setting is **None**.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **Save**.

Configuring Pan/Tilt/Zoom Settings

See *Configuring PTZ Connection Settings* on page 54.

Configuring Account Settings

You can add, edit, or delete user accounts. By default, the NVR has an admin user account and a default user account. The admin user account has permission to perform all the operation and configuration functions of the NVR. The default user account only has permission to monitor live video.

To add a user account

1. Go to **Main Menu > SETTING > SYSTEM > ACCOUNT > Modify User**.

Figure 10-8 Modify User Account Configuration Tab

| ID | Username | Group Name | Modify | Delete | Memo |
|----|-------------|------------|--------|--------|-------------|
| 1 | admin | admin | | | admin 's a |
| 2 | default acc | user | | | default acc |


2. On the **Modify User** tab, click **Add User**. The **Add User** page opens.

Figure 10-9 Add User Window


3. On the **Add User** page, configure the following settings:
 - **Username** Enter a user name for the account.
 - **Reusable** Select the check box to allow multiple clients to use the same user name to access the NVR.
 - **Password** Enter a password for the account.
 - **Confirm Password** Re-enter the password.
 - **Memo** Optionally, enter a brief description of the account.
 - **Group** Assign the user to a group (**admin**, **user**, or another group that you have defined).
 - **Authority** Assign privileges by selecting or clearing check boxes on the **System**, **Playback**, and **Monitor** tabs.

Note By default, the **user** group is set up to allow a new user to monitor live video from all cameras, play back recorded video from all cameras, control PTZ cameras, view information, manually control the NVR, back up files, and adjust color settings. To assign additional privileges, change the **user** settings on the **Group** tab.
4. Click **Save** to save your settings.

To edit a user account

1. Go to **Main Menu > SETTING > SYSTEM > ACCOUNT > Modify User**.
2. On the **User** tab, click the **Modify** icon  for the user account that you want to edit. The **Modify User** page opens.
3. On the **Modify User** page, you can change any of the following settings:
 - **Username**
 - **Password**
 - **User Group**
 - **Memo**
 - **Authority (System, Playback, Monitor)**
4. When you have finished making changes, click **Save** to save your settings.

To delete a user account

1. Go to **Main Menu > SETTING > SYSTEM > ACCOUNT > Modify User**.
2. On the **User** tab, click the **Delete** icon  for the user account that you want to delete.
3. The message "**Are you sure that you want to remove this?**" appears. Click **OK** to delete the account.

Note You can only delete an account that you have created. You cannot delete the admin and default user accounts.

To add a user group

1. Go to **Main Menu > SETTING > SYSTEM > ACCOUNT > Modify Group**.

Figure 10-10 Modify Group Configuration Tab



2. On the **Modify Group** tab, click **Add Group**.
3. On the **Add Group** page, enter a name for the group in the **Group Name** box, enter a description of the group in the **Memo** box, and then assign user permissions on the **System**, **Playback**, and **Monitor** tabs.
4. Click **Save** to save your settings.

To edit a user group

1. Go to **Main Menu > SETTING > SYSTEM > ACCOUNT > Modify Group**.
2. On the **Group** tab, click the **Modify** icon of the user group that you want to edit. The **Modify Group** page opens.
3. On the **Modify Group** page, you can change any of the following settings:
 - **Group**
 - **Group Name**
 - **Memo**
 - **Authority (System, Playback, Monitor)**
4. When you have finished making changes, click **Save** to save your settings.

To delete a user group

1. Go to **Main Menu > SETTING > SYSTEM > ACCOUNT > Modify Group**.
2. On the **Group** tab, click the **Delete** icon of the user group that you want to delete.
3. The message "**Are you sure that you want to remove this?**" appears. Click **OK** to delete the group.

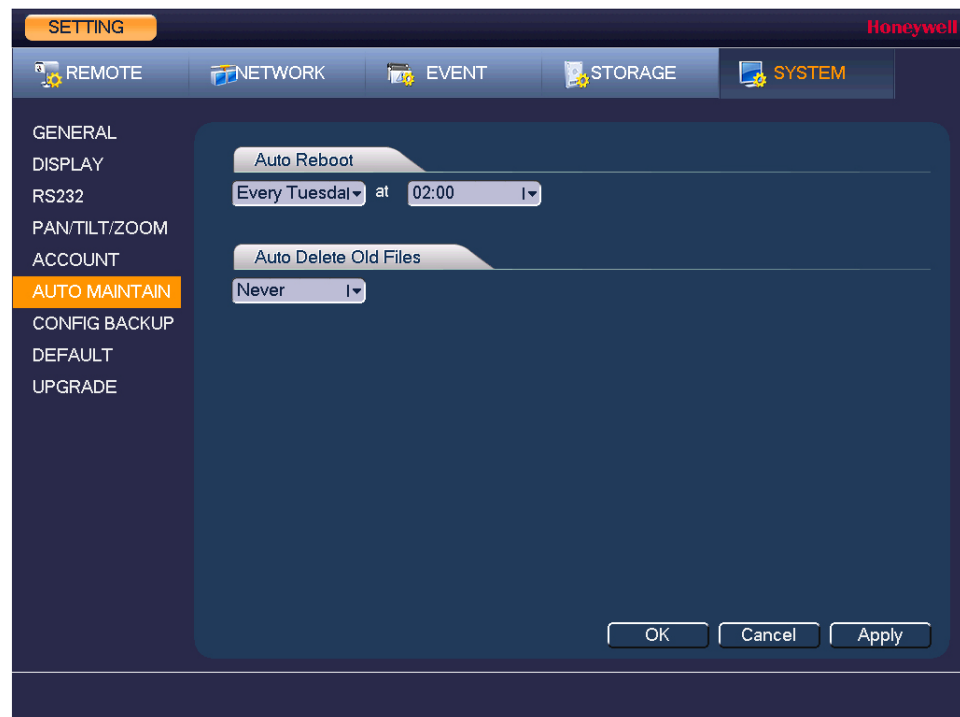
Configuring Automatic Maintenance Settings

You can set up the NVR to automatically restart and/or to automatically delete old files.

To configure the auto-reboot function

1. Go to **Main Menu > SETTING > SYSTEM > AUTO MAINTAIN.**

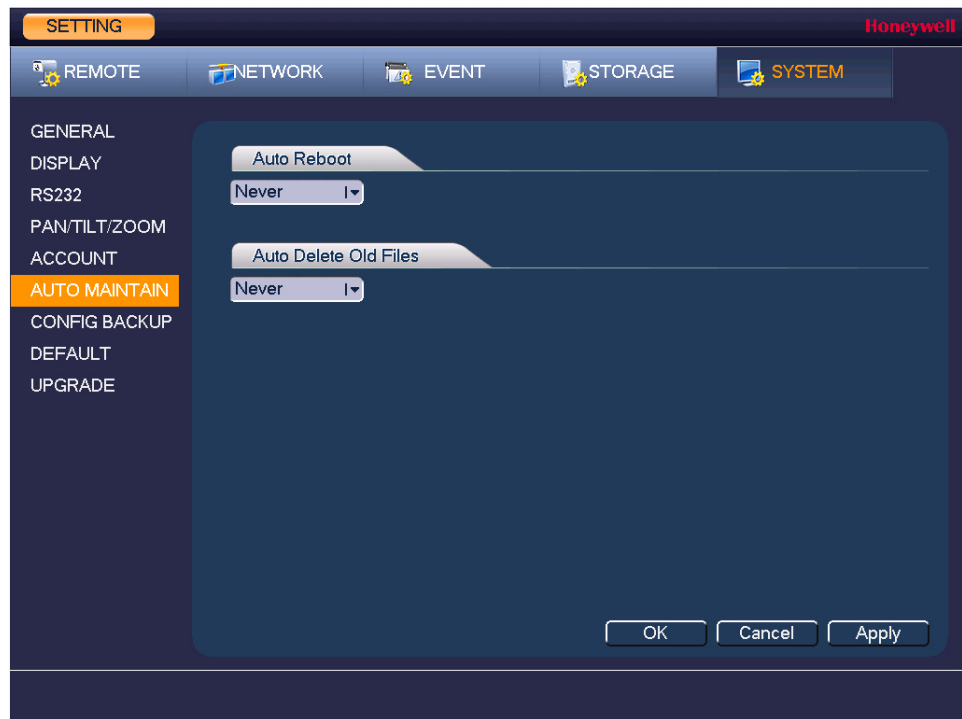
Figure 10-11 Auto Maintenance Configuration Window



2. Under **Auto-Reboot**, select one of the following options: **Never, Everyday, Every Sunday, Every Monday, Every Tuesday, Every Wednesday, Every Thursday, Every Friday, or Every Saturday**, and select a time from the drop-down menu.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

To configure to automatically delete old files

1. Go to **Main Menu > SETTING > SYSTEM > AUTO MAINTAIN.**

Figure 10-12 Auto Delete Configuration Window

2. Under **Auto-Delete Old Files**, select **Never** or **Customized**.
3. If **Customized** is selected, in the **Day(s) Ago** box, enter the amount of time to elapse before the files are automatically deleted.
4. Click **Apply** to save your settings.
5. If you want to save your settings and exit the **SETTING** menu, click **OK**.

Exporting and Importing System Configurations

You can export and/or import NVR system configurations if you are installing several NVRs requiring the same setup.

To export a system configuration

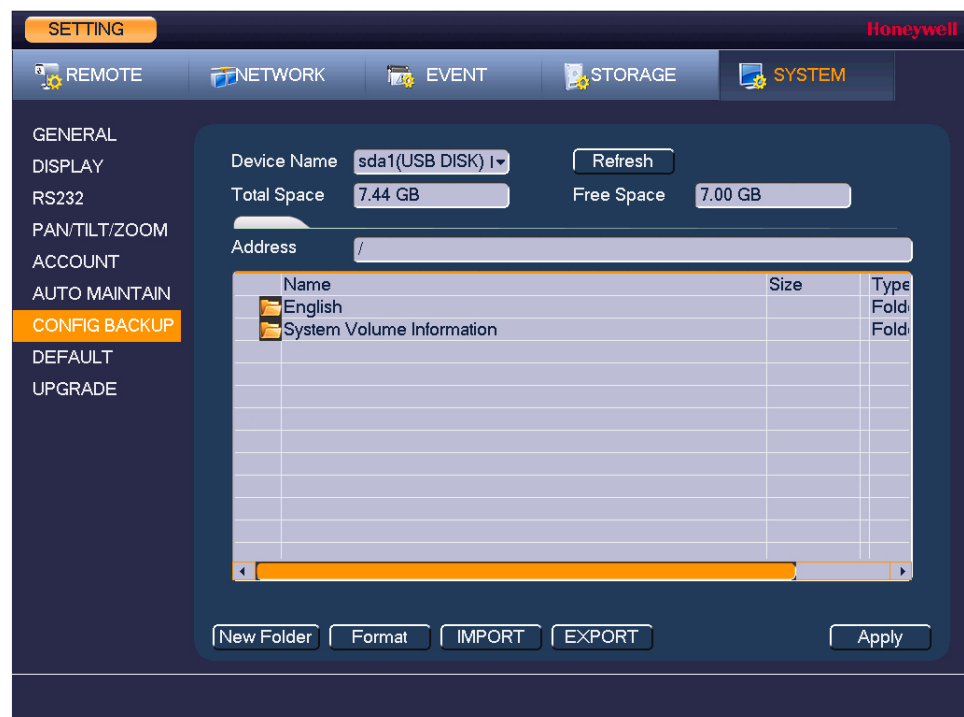
1. Go to **Main Menu > SETTING > SYSTEM > CONFIG BACKUP**.
2. Insert a USB storage device (such as a USB flash drive) into one of the USB ports on the NVR. The **Find USB device** dialog box opens.

Figure 10-13 Find USB Device Window



3. In the **Find USB device** dialog box, click **Config Backup**.
4. On the **CONFIG BACKUP** page, click **Refresh**. The page populates with the details of the storage device.

Figure 10-14 Configuration Backup Window



5. Click **EXPORT**. A message appears confirming that the export was successful and the system configuration file (named Config_[YYYYMMDDhhmmss]) is added to the file list.

To import a system configuration

1. Insert a USB storage device containing a system configuration file (exported from another NVR) into one of the USB ports on the NVR. The **Find USB device** dialog box opens.
2. In the **Find USB device** dialog box, click **CONFIG BACKUP**.
3. On the **CONFIG BACKUP** page, click the configuration file that you want to import (named Config_[YYYYMMDDhhmmss]), and then click **Import**.
4. Restart the NVR to apply the new settings.

To format an external USB storage device

1. Go to **Main Menu > SETTING > SYSTEM > CONFIG BACKUP**.
2. Insert a USB storage device (such as a USB flash drive) into one of the USB ports on the NVR. The **Find USB device** dialog box opens.
3. In the **Find USB device** dialog box, click **CONFIG BACKUP**.
4. On the **CONFIG BACKUP** page, click **Refresh**. The page populates with the details of the storage device.
5. Click **Format**.
6. The message "**Confirm format on the selected device?**" appears. Click **OK** to format the storage device.

Restoring Default Settings

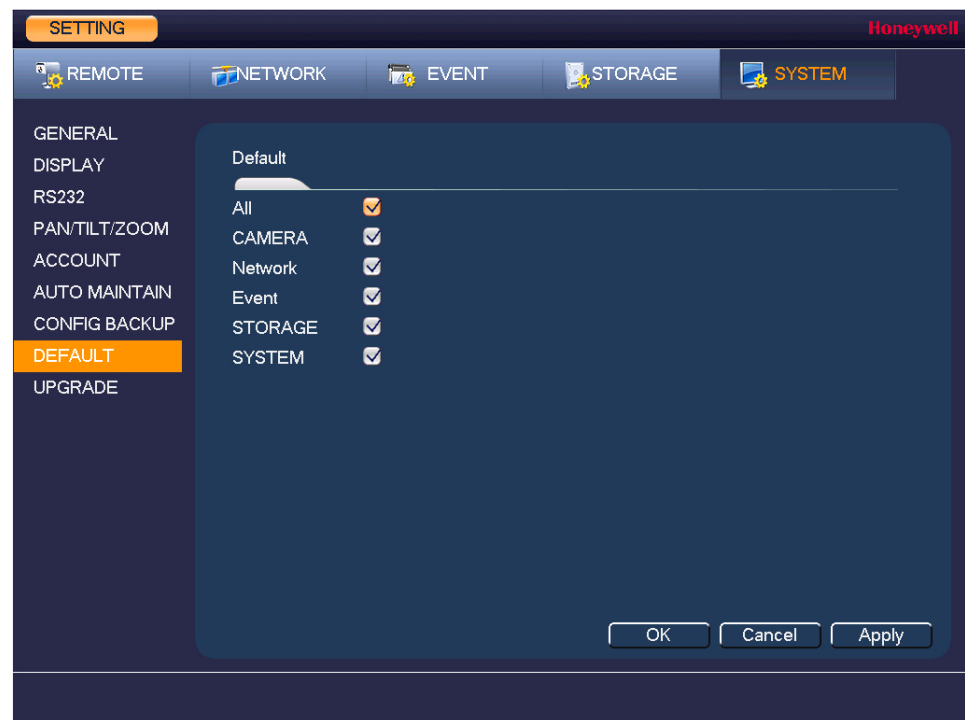
You can restore camera, network, event, storage, and system default settings.

Note Restoring the default settings will cause all changes to the system menu color, language, time display mode, video format, IP address, and user accounts to be lost.

To restore default settings

1. Go to **Main Menu > SETTING > SYSTEM > DEFAULT**.

Figure 10-15 Default Configuration Window



2. Select the check boxes of the items that you want to restore to their default settings, or select **All** to restore all of them to their default settings.
3. Click **Apply** to save your settings.
4. If you want to save your settings and exit the **SETTING** menu, click **OK**.

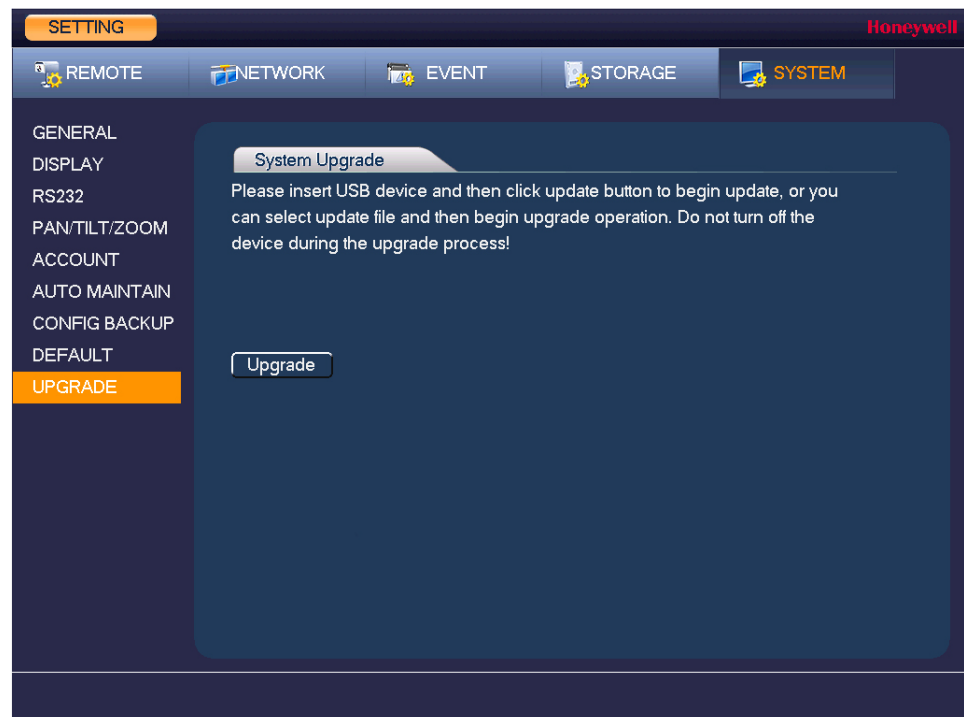
Upgrading the NVR

You can upgrade the system firmware locally at the NVR.

To upgrade the firmware

1. Go to **Main Menu > SETTING > SYSTEM > UPGRADE.**

Figure 10-16 Upgrade Window

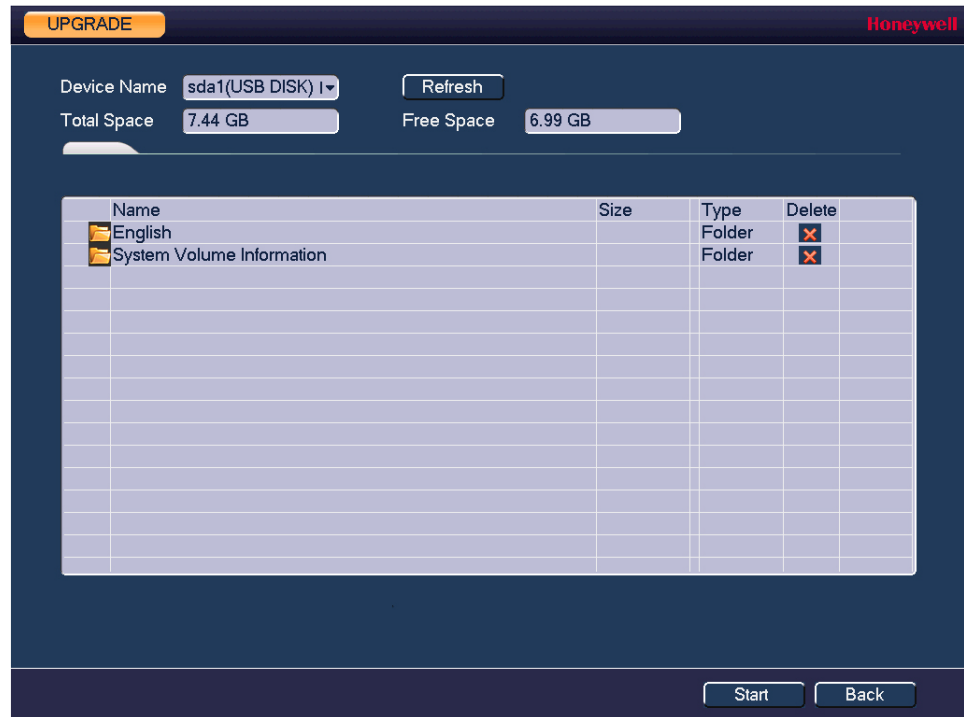


2. Insert a USB storage device (such as a USB flash drive) containing the new firmware into one of the USB ports on the NVR. The **Find USB device** dialog box opens.



3. In the **Find USB device** dialog box, click **System Upgrade.**

4. On the **Upgrade** page, click **Start**. The **Upgrade** window opens.



5. Select the firmware file from the file list, and then click **Start**.

11

Viewing Information

This chapter contains the following sections:

- [Viewing System Information, page 145](#)
- [Viewing Event Information, page 149](#)
- [Viewing Network Information, page 150](#)
- [Viewing Log Information, page 154](#)

Viewing System Information

In the system information interface you can view the following:

- HDD information
- Recording information
- Bit stream statistics
- Version details

Viewing HDD Information

To view HDD information

1. Go to **Main Menu > INFO > SYSTEM > HDD Info.**

Figure 11-1 View HDD Information Window

2. Refer to the following table to interpret the HDD information:

| | |
|--------------------|---|
| SATA | <ul style="list-style-type: none"> o indicates the current HDD is normal. x indicates there is an error. - indicates that there is no HDD. ? indicates that a HDD is damaged. |
| Device Name | Shows the name you have given the device. |
| Type | Indicates the HDD type (for example, Read/Write). |
| Free Space | Indicates the amount of free space remaining on the HDD. |
| Total Space | Indicates the total capacity of the HDD. |
| Status | Indicates the operating status of the HDD. |
| S.M.A.R.T. | Indicates S.M.A.R.T (Self-Monitoring, Analysis, and Reporting Technology) status. |

3. In the list of HDDs, double-click a HDD to view more details.


On the **Record Info** page, you can view the device name as well as the start and end times for recorded video.

Viewing Data Stream Information

To view data stream information

- Go to **Main Menu > INFO > SYSTEM > BPS**.

Figure 11-4 BPS Information Window



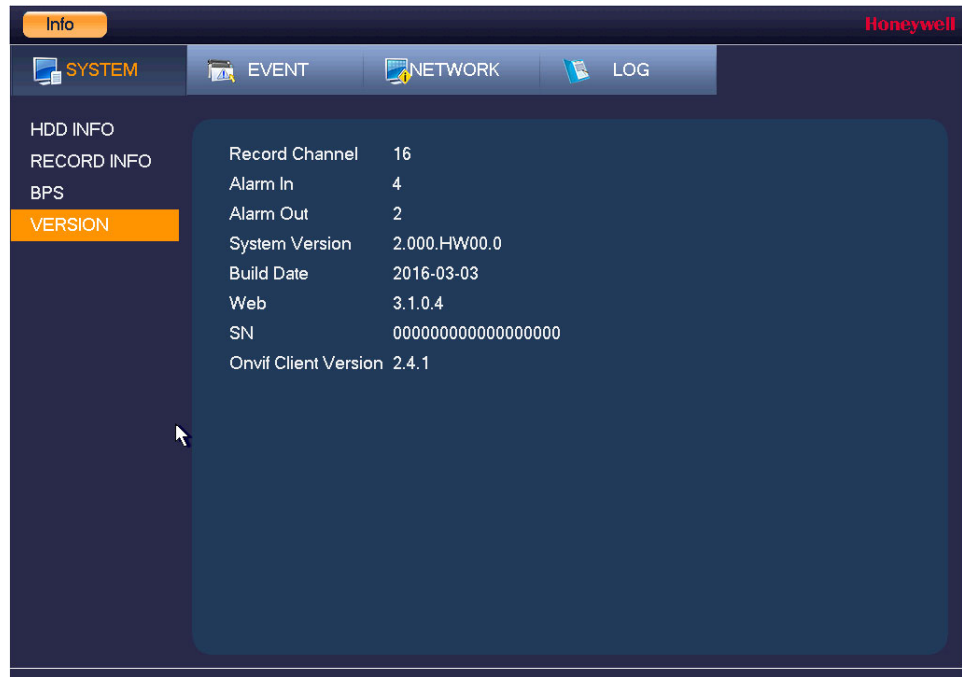
| Channel | Resolution | Kb/S | Wave |
|---------|------------|------|------|
| 1 | 1920*1080 | 4104 | [] |

On the **BPS** page, you can view the current video data stream rates and resolutions for each channel.

Viewing Version Information

To view version information

- Go to **Main Menu > INFO > SYSTEM > VERSION**.

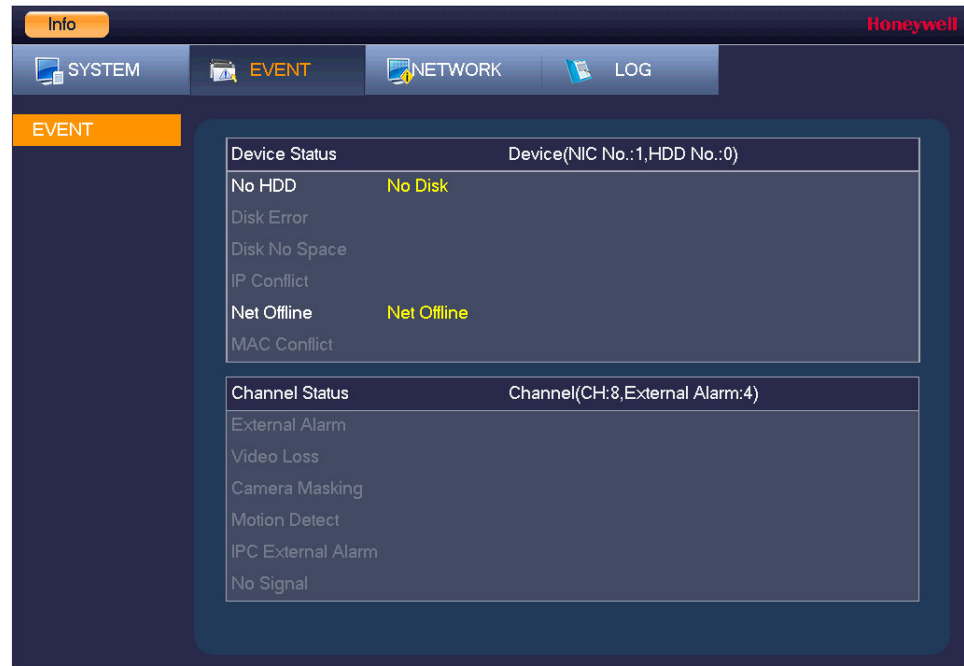
Figure 11-5 Version Information Window

On the **VERSION** page, you can view the number of channels, number of alarm inputs and outputs, system version number, build date, web, and serial number.

Viewing Event Information

To view event information

Navigate to the **EVENT** field in the **Main Menu**,

Figure 11-6 Event Information Window

On the **EVENT** page, you can view event information at the device level and at the channel level. The NVR automatically refreshes this information.

Viewing Network Information

In the network information interface you can view and/or block online users, view network data transmission details, and perform network tests.

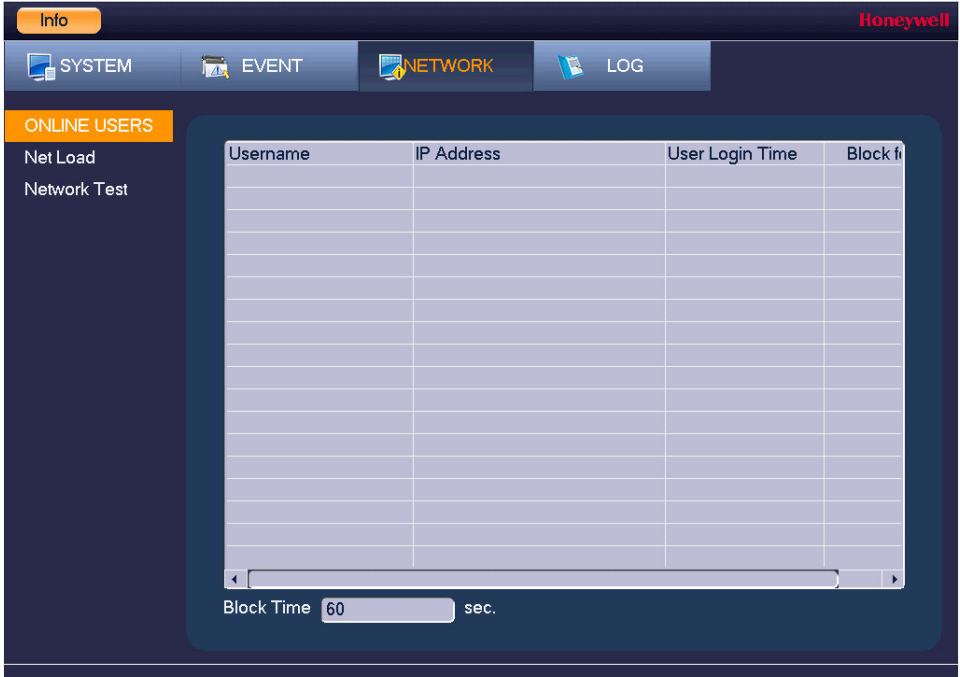
Viewing Online Users

You can view the user name, IP address, and login time of all online users. You can also block an online user for a specified period of time.

To view online users

Go to **Main Menu > INFO > NETWORK > ONLINE USERS**.

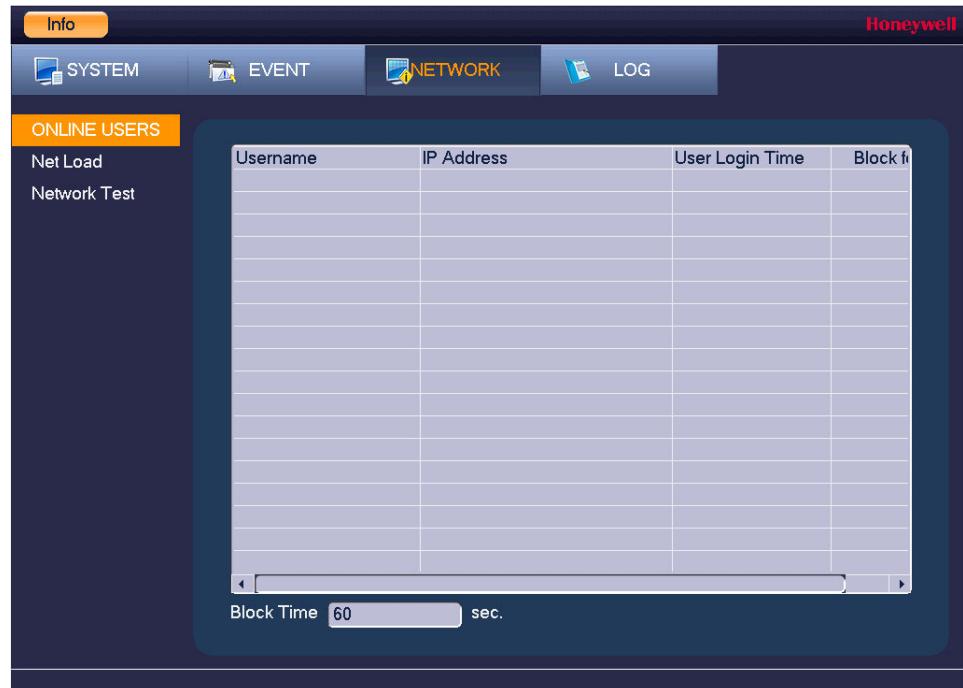
Figure 11-7 Viewing Online Users



Note Every five seconds, the NVR system detects newly added or dropped users, and updates the list of online users.

To block an online user

1. In the **NETWORK** field in the **Main Menu**, go to **ONLINE USERS**.

Figure 11-8 Blocking Online Users

2. Click the **Block for** icon in the user list, and then, in the **Block for** box at the bottom of the screen, enter the time in seconds that you want to block the user for. You can enter up to **65535** seconds (18.2 hours).

Viewing Network Load Information

To view network load information

- Go to **Main Menu > INFO > NETWORK > Net Load**.

Figure 11-9 Viewing Network Load



On the **Net Load** page, you can view the network device name, MAC address, status (**Succeed** or **Failed**), device IP address, network type, the maximum transmission unit (MTU), send speed, and receive speed.

Viewing Network Test Information

To test the network

1. Go to **Main Menu > INFO > NETWORK > Network Test**.

Figure 11-10 Testing the Network



2. On the **Network Test** page, under **Network Test**, enter a valid IPv4 address or domain name in the **Destination Ad(dress)** box, and then click **Test**.

The test result displays the average delay and packet loss rate. It also indicates if the network status is **OK**, **Bad**, or **No Connection**.

To back up network packet data to an external USB storage device

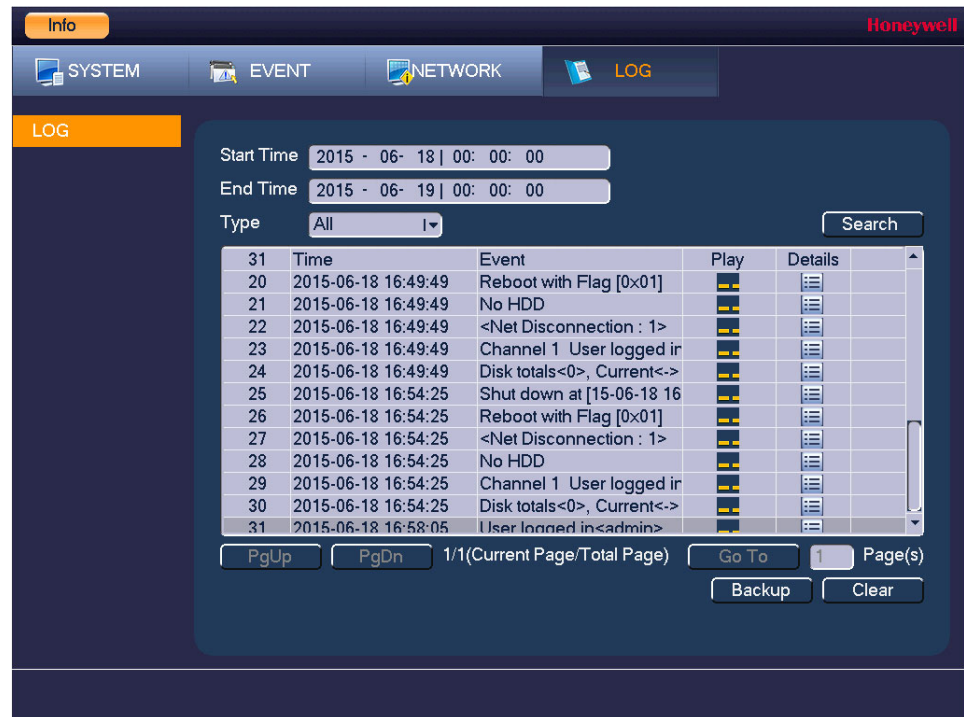
1. Insert a USB storage device (such as a USB flash drive) into one of the USB ports on the NVR.
2. On the **Test** page, under **Network Sniffer Packet Backup**, click **Refresh**. The connected USB storage device should appear in the **Device Name** box.
3. If you want, click **Browse** to set the saving path.
4. In the network devices list, in the **Sniffer Packet Backup** column, click the green arrow button to start capturing the data. Click the button again to stop capturing the data.

Viewing Log Information

To view log information

1. Go to **Main Menu > INFO > LOG > LOG**.

Figure 11-11 Viewing Log Information



2. In the **Start Time** and **End Time** boxes, enter the time period to search.
3. In the **Type** box, select a specific log type to view (**System, Config, Storage, Alarm, Record, Account, Clear, Playback**) or select **All** to view all logs, and then click **Search**.
The search results are displayed in an ordered list. The NVR can save up to **1024** log files.
4. To view more details about a log entry, click **Details**.

To back up log information to an external USB storage device

1. Insert a USB storage device (such as a USB flash drive) into one of the USB ports on the NVR. The **Find USB device** dialog box opens.

Figure 11-12 Find USB Device Window



2. In the **Find USB device** dialog box, click **Log Backup**.
3. On the **Log** page, click **Backup**. The log file (**FileLog.txt**) is located in a folder named **Log_[YYYYMMDDhhmmss]** on your storage device.

12

Troubleshooting

The following section describes possible problems and solutions. Refer to these troubleshooting steps before calling Technical Support. If you still require assistance, call Honeywell Technical Support at 1-800-323-4576 (North America only) or send an e-mail to <https://www.honeywellsystems.com/ss/techsupp/index.html>. International contact information is listed on the back cover.

Problem: The NVR does not turn on.

- Check that the input voltage is correct.
- Check that the power cable is connected correctly to the NVR.
- Check that the power switch is in the ON position.
- Check that there is power at the outlet. Try connecting the NVR to another outlet or test the outlet with another device.
- Remove the housing and check that the hard drive cables are firmly connected.

Problem: The NVR automatically shuts down or stops running.

- Check that the NVR is receiving power and that the input voltage is correct and stable.
- Make sure that the working environment is within the specified temperature range and is free of dust. See [Appendix D, Specifications](#).
- Remove the housing and check that the hard drive cables are firmly connected.

Problem: The NVR cannot detect the hard drive.

- Remove the housing and check that the hard drive cables are firmly connected.
- Inspect the hard drive and ribbon for damage. Replace if damaged.
- Inspect the main board SATA port for damage. Replace if damaged.

Problem: There is no picture on the monitor.

- Check that the correct input (VGA) is selected on the monitor.
- Turn off the monitor and NVR. Turn on the monitor, and then turn on the NVR.
- Check that the video cable is connected correctly to the NVR.
- Make sure that the camera's brightness setting is configured correctly. See [Configuring Camera Settings](#) on page 77.
- Make sure that a privacy mask is not blocking the video. See [Configuring the Text Overlay](#) on page 82.

Problem: Color of live video is distorted.

- Make sure that the camera image settings are configured correctly. See [Configuring Camera Settings](#) on page 77.
- Make sure that the NVR is configured to use the correct video standard (NTSC or PAL). See [Configuring General System Settings](#) on page 125.

Problem: Cannot search local records.

- Check that recording is enabled. See [Configuring the General Recording Settings](#) on page 62.

Problem: There is no audio when viewing live video.

- Check the audio input and output connections on the NVR.
- Increase the volume on the headphones/speakers.

Problem: There is no audio when playing back video.

- Make sure that the audio is enabled in the playback interface and the volume is turned up.

Problem: The time display is incorrect.

- Make sure that the date and time settings are configured correctly. See [Configuring Date and Time Settings](#) on page 127.
- Replace the battery on the main board.

Problem: The NVR cannot control PTZ functions.

- Check that the PTZ camera is connected correctly to the network.
- Make sure that the NVR is configured correctly for PTZ operation. The protocol and address settings of the NVR must match the protocol and address settings of the PTZ camera. See [Adding a Remote Device \(Camera\)](#) on page 75 for the camera settings. See [Configuring TCP/IP and Port Settings](#) on page 85 for NVR settings.

Problem: Motion detection does not work.

- Increase the motion detection sensitivity. It may be set too low.
To set the motion detection sensitivity, see [Configuring Motion Detection Settings](#) on page 101.
- Make sure that the motion detection schedule is configured correctly.
To setup up the Motion detection schedule, see [To set up motion detection periods](#) on page 103.
- Make sure that the motion detection zone setup is configured correctly.
To set up motion detection zone, see [Configuring Motion Detection Settings](#) on page 101.

Problem: The network connection is unstable.

- Check that there is no IP address or MAC address conflict.

Problem: There is a USB backup error.

- Check that the USB storage device has sufficient space available.

Problem: Alarm signal cannot be disarmed.

- Make sure that the alarm settings are correctly configured.
- Check the alarm cable connections.
- Make sure that the NVR is running the latest firmware.

Problem: Alarm function is null.

- Make sure that the alarm settings are correctly configured.
- Check the alarm cable connections.
- Check that you have not connected two loops to one alarm device.

Problem: Cannot play a downloaded file.

- Use the player included on the software CD.
- Make sure that you have DirectX8.1 or greater installed on your computer.
- If you are using Windows XP, download the plug-ins **DivX503Bundle.exe** and **ffdshow-20041012.exe**.

A

Connecting Alarm Input/Outputs

This appendix contains the following sections:


- [Before Connecting Alarm Inputs and Outputs, page 161](#)
- [Alarm Input and Output Rear Panel Connections, page 161](#)
- [Guidelines for Connecting Local Alarm Input Ports, page 162](#)
- [Guidelines for Connecting Alarm Output Ports, page 162](#)

Before Connecting Alarm Inputs and Outputs

- Ensure that the alarm input mode is set to ground.
- Ensure that the signal is grounded.
- Know that the alarm inputs require low-level voltage signals.
- Ensure that the alarm input mode is set to either NC (normally closed) or NO (normally open).
- Use a relay if you are connecting two NVRs, or a NVR plus another device, to separate them.
- Do NOT directly connect the alarm output port to a high-power load. The load should be less than 1 A to avoid damage.
- Use the contactor to make the connection between the alarm output port and the load.

Alarm Input and Output Rear Panel Connections

The connections for the alarm input and output channels are described below:

| Input/Output | Description |
|---|---|
| 1 to 4 | Alarms inputs 1 to 4. The inputs becomes active with low voltage. |
| NO1 C1, NO2 C2 | Normally open activation outputs (on/off) |
|  | Ground |

Guidelines for Connecting Local Alarm Input Ports

- Ground alarm inputs. Choose from normally open (NO) or normally closed (NC).
- Connect the COM end and GND end of the alarm detector in parallel. Supply external power to the alarm detector.
- Connect the ground of the NVR and the ground of the alarm detector in parallel.
- Connect the NO/NC port of the alarm sensor to the NVR alarm input.
- Use the same ground as the NVR if you are supplying external power to the alarm device.

Guidelines for Connecting Alarm Output Ports

- Provide external power to external alarm device.
- To prevent overloading, carefully review the following relay specifications:

| | | |
|---------------------------------|--|---------------------------|
| Material | Nickel/silver contacts with gold plating | |
| Rating (Resistance Load) | Rated switch capacity | 30 V DC 1A; 125 V AC 0.5A |
| | Maximum switch power | 62.5 V AC, 30 W |
| | Maximum switch voltage | 125 V AC; 60 V DC |

B

Installing Hard Drives

The appendix contains the following sections:

- [Installing Hard Drives, page 164](#)
- [List of Compatible SATA HDDs, page 167](#)
- [List of Compatible Portable HDDs, page 170](#)

Note Field retrofitting of the HDD storage with an incompatible HDD could invalidate the NVR warranty.

Hard Disk Drive Recommendations

- See [List of Compatible SATA HDDs](#) on page 167 for a list of recommended Hard Disk Drive (HDD) brands and models.
- Please use a HDD of 7200 rpm or higher.
- Do not use a PC HDD.

Installing Hard Drives

Note Field retrofitting of the HDD storage with an incompatible HDD could invalidate the NVR warranty.

On some recorder models, you can install an additional hard disk drive (HDD). For a list of compatible HDDs, see the [List of Compatible SATA HDDs](#) on page 167. A 7200 rpm or higher HDD is recommended.

CAUTION Risk of electric shock. Disconnect the power before removing the cover.

Installing a HDD

1. Loosen the screws on the upper cover and side panel of the NVR, remove the cover, and set it aside.

Figure B-1 Removing the NVR Cover



2. Loosen four screws on the HDD.

Figure B-2 Loosening the Four Screws in the HDD Housing



3. Align the HDD with the four holes in the bottom of the NVR housing.

Figure B-3 Placing the HDD



4. Turn the NVR upside down, and then turn the screws to firmly attach the HDD to the NVR housing.

Figure B-4 Securing the HDD to the NVR Housing



5. Connect the HDD cable and power cable.

Figure B-5 Connecting the HDD and the Power Cable



6. Replace the NVR cover.

Figure B-6 Replacing the NVR Cover



7. Secure the NVR cover in place by turning the screws in the rear and side panels.

Figure B-7 Securing the NVR Cover



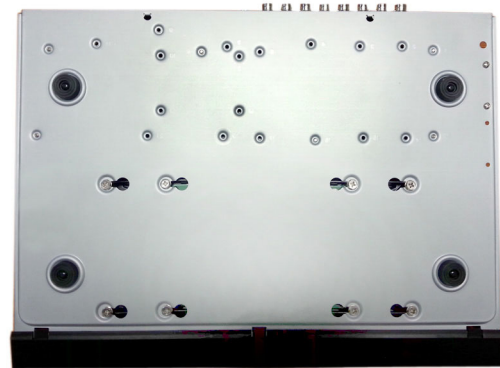
Installing an additional HDD

1. If the NVR is connected to a power source, disconnect it before continuing.
2. Remove the top cover from the NVR housing by removing the four screws securing it to the housing and then sliding the cover backwards.
3. Connect the SATA and power cables to the new HDD.
4. Position the new HDD over the four open screw holes in the base of the housing, adjacent to the existing HDD.

Figure B-8 Installing a Second HDD



5. Turn over the NVR housing and secure the new HDD to the housing using the four supplied HDD mounting screws.
6. Use the four screws removed in step 4 to attach the HDD to the housing.
7. Replace the NVR top cover on the NVR housing and secure it with the four screws removed in step 2.



List of Compatible SATA HDDs

Note Upgrade the NVR firmware to the latest version to ensure the accuracy of the table below.

| Manufacturer | Series | Model | Capacity |
|--------------|--------------------------|--------------|----------|
| Seagate | Seagate SV35.3 | ST31000340SV | 1 TB |
| Seagate | Seagate SV35.5 | ST31000525SV | 1 TB |
| Seagate | Seagate SV35.5 | ST31000526SV | 1 TB |
| Seagate | Seagate SV35.5 | ST1000VX003 | 1 TB |
| Seagate | Seagate SV35.5 | ST2000VX003 | 2 TB |
| Seagate | Seagate SV35.5 | ST2000VX002 | 2 TB |
| Seagate | Seagate SV35.5 | ST2000VX000 | 2 TB |
| Seagate | Seagate SV35.5 | ST3000VX000 | 3 TB |
| Seagate | Seagate Pipeline HD2 | ST31000424CS | 1 TB |
| Seagate | Seagate Pipeline HD2 | ST31000322CS | 1 TB |
| Seagate | Seagate Pipeline HD2 | ST1000VM002 | 1 TB |
| Seagate | Seagate Pipeline HD2 | ST1500VM002 | 1 TB |
| Seagate | Seagate Pipeline HD2 | ST2000VM002 | 2 TB |
| Seagate | Seagate Pipeline HD2 | ST2000VM003 | 2 TB |
| Seagate | Seagate Constellation ES | ST31000524NS | 1 TB |

| Manufacturer | Series | Model | Capacity |
|---------------------|---------------------------|--------------|-----------------|
| Seagate | Seagate Constellation ES | ST32000644NS | 2 TB |
| Seagate | Seagate Constellation ES | ST2000NM0011 | 2 TB |
| Seagate | Seagate Constellation ES | ST1000MN0011 | 1 TB |
| Seagate | Seagate Constellation ES | ST2000NM0031 | 2 TB |
| Seagate | Seagate Constellation ES | ST1000NM0031 | 1 TB |
| Seagate | Seagate Constellation ES | ST2000NM0051 | 2 TB |
| Seagate | Seagate Constellation ES | ST1000NM0051 | 1 TB |
| Seagate | Seagate Constellation ES2 | ST33000650NS | 3 TB |
| Seagate | Seagate Constellation ES2 | ST32000645NS | 2 TB |
| Seagate | Seagate Constellation ES2 | ST33000651NS | 3 TB |
| Seagate | Seagate Constellation ES2 | ST32000646NS | 2 TB |
| Seagate | Seagate Constellation ES2 | ST33000652NS | 3 TB |
| Seagate | Seagate Constellation ES2 | ST32000647NS | 2 TB |
| Seagate | Surveillance HDD | ST1000VX001 | 1 TB |
| Seagate | Surveillance HDD | ST2000VX003 | 2 TB |
| Seagate | Surveillance HDD | ST3000VX006 | 3 TB |
| Seagate | Surveillance HDD | ST4000VX000 | 4 TB |
| Seagate | Surveillance HDD | ST5000VX001 | 5 TB |
| Seagate | Surveillance HDD | ST6000VX0001 | 6 TB |
| Seagate | Surveillance HDD | ST8000VX0002 | 4 TB |
| Seagate | Surveillance HDD | ST1000VX003 | 1 TB |
| Seagate | Surveillance HDD | ST2000VX005 | 2 TB |
| Seagate | Surveillance HDD | ST3000VX005 | 3 TB |
| Seagate | Surveillance HDD | ST4000VX002 | 4 TB |
| Seagate | Surveillance HDD | ST5000VX0011 | 5 TB |
| Seagate | Surveillance HDD | ST6000VX0011 | 6 TB |
| Seagate | SV35 | ST1000VX000 | 1 TB |
| Seagate | SV35 | ST2000VX000 | 2 TB |
| Seagate | SV35 | ST3000VX000 | 3 TB |
| Seagate | SV35 | ST1000VX002 | 1 TB |
| Seagate | SV35 | ST2000VX004 | 2 TB |
| Seagate | SV35 | ST3000VX004 | 3 TB |
| Seagate | video 3.5 | ST1000VM002 | 1 TB |
| Seagate | video 3.5 | ST2000VM003 | 2 TB |
| Seagate | video 3.5 | ST3000VM002 | 3 TB |
| Seagate | video 3.5 | ST4000VM000 | 4 TB |

| Manufacturer | Series | Model | Capacity |
|---------------------|------------------|-----------------|-----------------|
| Toshiba | Mars | DT01ABA100V | 1 TB |
| Toshiba | Mars | DT01ABA200V | 2 TB |
| Toshiba | Mars | DT01ABA300V | 3 TB |
| Toshiba | Sonance | MD03ACA200V | 2 TB |
| Toshiba | Sonance | MD03ACA300V | 3 TB |
| Toshiba | Sonance | MD03ACA400V | 4 TB |
| Toshiba | Sonance | MD04ABA400V | 4 TB |
| Toshiba | Sonance | MD04ABA500V | 5 TB |
| Western Digital | WDAV-GP-EVCS | WD10EVCS-63ZLB0 | 1 TB |
| Western Digital | WDAV-GP-EVCS | WD20EVCS-63ZLB0 | 2 TB |
| Western Digital | WDAV-GP-EVVS | WD10EVVS-63E1B1 | 1 TB |
| Western Digital | WDAV-GP-EVDS | WD10EVDS-63N5B1 | 1 TB |
| Western Digital | WDAV-GP-EVDS | WD15EVDS-63V9B0 | 1.5 TB |
| Western Digital | WDAV-GP-EVDS | WD20EVDS-63T3B0 | 2 TB |
| Western Digital | WD AV-GP | WD30EURS | 3 TB |
| Western Digital | WD AV-GP | WD25EURS | 2.5 TB |
| Western Digital | WD AV-GP | WD20EURS | 2 TB |
| Western Digital | WD AV-GP | WD15EURS | 1.5 TB |
| Western Digital | WD AV-GP | WD10EURS | 1 TB |
| Western Digital | WD AV-GP | WD10EURX | 1 TB |
| Western Digital | WD AV-GP | WD10EUCX | 1 TB |
| Western Digital | WC Caviar Green | WD10EURX (EOL) | 1 TB |
| Western Digital | WC Caviar Green | WD20EURX (EOL) | 2 TB |
| Western Digital | WC Caviar Green | WD30EURX (EOL) | 3 TB |
| Western Digital | WC Caviar Green | WD40EURX (EOL) | 4 TB |
| Western Digital | WC Caviar Purple | WD10PURX | 1 TB |
| Western Digital | WC Caviar Purple | WD20PURX | 2 TB |
| Western Digital | WC Caviar Purple | WD30PURX | 3 TB |
| Western Digital | WC Caviar Purple | WD40PURX | 4 TB |
| Western Digital | WC Caviar Purple | WD50PURX | 5 TB |
| Western Digital | WC Caviar Purple | WD4NPURX | 6 TB |
| Western Digital | WC Caviar Purple | WD6nPURX | 4 TB |
| Western Digital | WC Caviar Purple | WD60OURX | 6 TB |
| Samsung | Samsung-HA | HA101UJ/CE | 1 TB |

| Manufacturer | Series | Model | Capacity |
|---------------------|--------------------------------|-----------------|-----------------|
| Samsung | Samsung-HD | HD103SI/CEC | 1 TB |
| Samsung | Samsung-HD | HD154UI/CE | 1.5 TB |
| Hitachi | HitachiCinemaStar™ 7K1000.B | HCT721010SLA360 | 1 TB |

List of Compatible Portable HDDs

| Manufacturer | Model | Capacity |
|---------------------|----------------------------|-----------------|
| YDStar | YDStar HDD box | 40 GB |
| Netac | Netac | 80 GB |
| lomega | lomega RPHD-CG" RNAJ50U287 | 250 GB |
| WD Elements | WCAVY1205901 | 1.5 TB |
| Newsmy | Liangjian | 320 GB |
| WD Elements | WDBAAR5000ABK-00 | 500 GB |
| WD Elements | WDBAAU0015HBK-00 | 1.5 TB |
| Seagate | FreeAgent Go (ST905003F) | 500 GB |
| Aigo | H8169 | 500 GB |



MAXPRO[®] Cloud

This appendix contains the following section:

- [Configuring for MAXPRO Cloud Mode](#) on page 171

Configuring for MAXPRO Cloud Mode

These cloud-ready devices can be standalone devices or can easily be connected to Honeywell's MAXPRO Cloud platform to create a fully integrated managed cloud solution. When used in MAXPRO Cloud mode, this device becomes a MAXPRO Cloud appliance that creates a secure connection to the cloud, and has the ability to stream high quality video while managing bandwidth. Critical events can be captured locally at higher resolution and frame rates, and then also stored in the cloud for safe and secure backup.

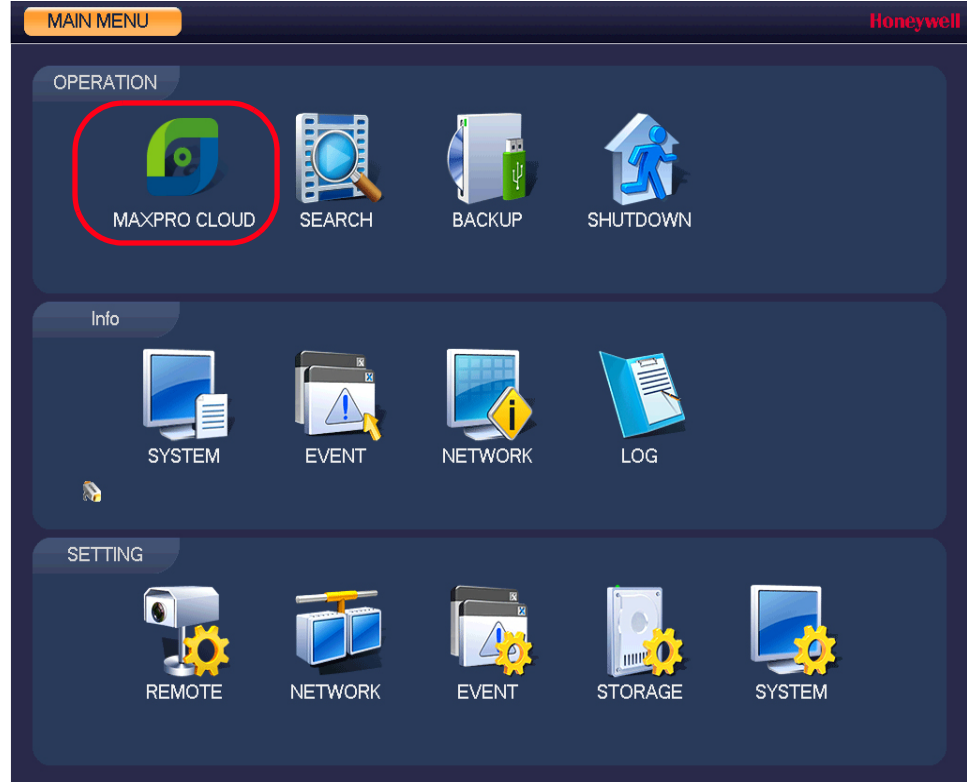
The MAXPRO Cloud solution provides the following additional added value for customers and dealers:

- Access on the go. View live or recorded video anytime anywhere on your PC, MAC, laptop, or mobile device.
- Ease of remote management, configuration and changes, f/w updates, and increase managed services from a single login.
- Real-time informative notifications with clip links and alerts for health, status, and critical events.
- Verification of site alarms, and reduction of false alarm costs and call outs.
- Adding cloud storage on the go.

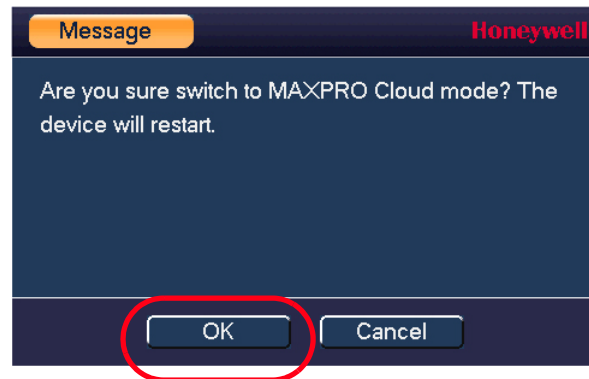
Note A MAXPRO Cloud service subscription is required. Please contact Honeywell Customer Service for details. See the back cover for contact information.

To switch to MAXPRO Cloud mode:

1. Go to **Main Menu** > **OPERATION**, then click **MAXPRO CLOUD**.

Figure C-1 Selecting MAXPRO CLOUD

A confirmation message appears.

Figure C-2 MAXPRO Cloud Configuration Confirmation Message

2. Click **OK** to confirm that you want to switch to MAXPRO Cloud mode.
The NVR restarts and opens in MAXPRO Cloud mode.

Note For information about operating in MAXPRO Cloud mode, please Contact Honeywell Customer Service.



Specifications

Table D-1 Specifications

| System | |
|------------------|---|
| Main Processor | Dual-core embedded processor |
| Operating System | Embedded LINUX |
| Video | |
| IP Camera Inputs | 4-channel NVRs: 4 8-channel NVRs: 8 16-channel NVRs: 16 |
| Two-way Talking | 1 channel input; 1 channel output; RCA |
| Display | |
| Interface | 1 HDMI, 1 VGA |
| Resolution | 1920 x 1080; 1280 x 1024; 1280 x 720; 1024 x 768 |
| Display Split | 4-channel NVRs: 1/4 8-channel NVRs: 1/4/8/9 16-channel NVRs: 1/4/8/9/16 |
| OSD | Camera title; Time; Video loss; Camera lock; Motion detection; Recording |
| Recording | |
| Compression | H.264 / MJPEG |
| Resolution | 5MP (2560 x 1920); 3MP (2048 x 1536); 1080p (1920 x 1080); 720p (1280 x 720); D1 (704 x 576 / 704 x 480); SXGA (800 x 600); 1.3 MP (1280 x 1024) |
| Recording Rate | 4-channel NVRs: 100/120 fps @ 1080p 8-channel NVRs: 200/240 fps @ 1080p 16-channel NVRs: 400/480 fps @ 1080p |
| Bit Rate | 48 to 8192 kbps |
| Recording Mode | Manual; Schedule (Regular[Continuous]; Motion Detection; Alarm; Motion Detection+Alarm); Stop |

Table D-1 Specifications

| | |
|-----------------------------------|--|
| Recording Interval | 1 to 120 minutes (default: 60 minutes); Pre-recording: 1 to 30 seconds |
| Video Detection and Alarms | |
| Trigger Events | Recording; Tour; Alarm; Email; FTP; Buzzer; Screen Tips |
| Video Detection | Motion Detection; Motion Detection Zones (396: 22 x 18); Video Loss and Camera Blank |
| Alarm Input | 4 channels |
| Relay Output | 2 channels |
| Playback and Backup | |
| Sync Playback | 4-channel NVRs: 1/4 8-channel NVRs: 1/4/9 16-channel NVRs: 1/4/9/16 |
| Search Mode | Time/Date; Alarm; Motion Detection; Exact Search (accurate to a second) |
| Playback Function | Play; Pause; Stop; Rewind; Fast play; Slow Play; Full Screen; Backup Selection |
| Backup Mode Compatibility | USB Device; Network |
| Network | |
| Ethernet | 1 RJ-45 port (10/100/1000Mbps) |
| PoE | 4-channel NVRs: 4 ports (IEEE802.3af) 8-channel NVRs: 8 ports (IEEE802.3at/af) 16-channel NVRs: 16 ports (IEEE802.3at/af) |
| Network Function | HTTP, TCP/IP, IPv4/IPv6, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, IP Search |
| Maximum number of users | 20 users |
| Smart Phone compatibility | iOS; Android |
| Storage | |
| Internal Storage | 2 SATA ports: up to 12 TB; RAID (redundancy) |
| Auxiliary Interface | |
| USB | 2 ports: USB 3.0 on rear panel; USB 2.0 on front panel |
| RS232 | 1 port, for PC communication and keyboard |
| RS485 | 1 port, not supported |
| Electrical | |
| 4-channel NVRs Power Supply | NVR: 12 V DC; 4 A external adaptor PoE: 48 V DC; 1.04 A external adaptor |

Table D-1 Specifications

| | |
|--------------------------------------|---|
| 8-/16-channel NVRs Power Supply | 100~240 V AC; 50/60 Hz internal PSU |
| 4-channel NVRs Power Consumption | 35~115 W depending on the number of HDD installed and PoE loading (maximum 393 Btu/hr) |
| 8-/16-channel NVRs Power Consumption | 30~225 W depending PoE load (maximum 768 Btu/hr) |
| PoE | <p>4-channel NVRs: 4 ports (IEEE802.3af) total load not to exceed 50 W, maximum load on any single port 15.4 W</p> <p>8-channel NVRs: 8 ports (IEEE802.3at/af) total load not to exceed 130 W, maximum load on any single port 25.5 W</p> <p>16-channel NVRs: 16 ports (IEEE802.3at/af) total load not to exceed 130 W, maximum load on any single port 25.5 W</p> |
| Environmental | |
| Operating Temperature | 14° F to 131°F (-10°C to 55°C) |
| Storage Temperature | -4° F to 158°F (-20°C to 70°C) |
| Humidity | 10% to 90% |
| Physical | |
| Dimensions | <p>4-channel NVRs: 14.8 x 11.2 x 2.1 inches (375 x 285 x 53 mm)</p> <p>8-channel and 16-channel NVRs: 14.8 x 12.6 x 2.1 inches (375 x 320 x 53 mm)</p> |
| Weight (without HDD) | <p>4-channel NVRs: 4.41 pounds (2.0 kg)</p> <p>8-channel and 16-channel NVRs: 5.51 pounds (2.5 kg)</p> |

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