

Performance Series HQA Digital Video Recorder




DVR Models


HRHM1041(X)	HRHH1161(X)	HRHH2042(X)
HRHH1081(X)	HRHH1163(X)	HRHH2082(X)
HRHH1083(X)	HRHH1166(X)	HRHH2086(X)

User Guide


Issue	Date	Revisions
A	12/2014	New document.

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>

 **WARNING** Use only with the supplied power adapter. 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 with 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.**

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About This Document

This document introduces the Honeywell Performance Series HQA Digital Video Recorder (DVR) and provides instructions for installing and operating the DVR.

These instructions apply to the following Performance Series HQA models:

4-channel DVRs	
HRHM1041	720p, 4-ch, 1 TB, HQA Pure DVR, NTSC
HRHM1041X	720p, 4-ch, 1 TB, HQA Pure DVR, PAL
HRHH2042	1080p, 4-ch, 2 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH2042X	1080p, 4-ch, 2 TB, HQA/CVBS Hybrid DVR, PAL

8-channel DVRs	
HRHH1081	720p, 8-ch, 1 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH1081X	720p, 8-ch, 1 TB, HQA/CVBS Hybrid DVR, PAL
HRHH1083	720p, 8-ch, 3 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH1083X	720p, 8-ch, 3 TB, HQA/CVBS Hybrid DVR, PAL
HRHH2082	1080p, 8-ch, 2 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH2082X	1080p, 8-ch, 2 TB, HQA/CVBS Hybrid DVR, PAL
HRHH2086	1080p, 8-ch, 6 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH2086X	1080p, 8-ch, 6 TB, HQA/CVBS Hybrid DVR, PAL

16-channel DVRs	
HRHH1161	720p, 16-ch, 1 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH1161X	720p, 16-ch, 1 TB, HQA/CVBS Hybrid DVR, PAL
HRHH1163	720p, 16-ch, 3 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH1163X	720p, 16-ch, 3 TB, HQA/CVBS Hybrid DVR, PAL
HRHH1166	720p, 16-ch, 6 TB, HQA/CVBS Hybrid DVR, NTSC
HRHH1166X	720p, 16-ch, 6 TB, HQA/CVBS Hybrid DVR, PAL

Overview of Contents

This document contains the following chapters and appendixes:

- [Chapter 1, Introduction](#), describes the front and rear panel layout of the DVR, and mouse and remote control functions.
- [Chapter 2, Getting Started](#), describes how to connect the DVR and log on to its user interface.
- [Chapter 3, Viewing Live Video](#), describes the DVR's real-time monitoring mode and associated DVR operations, including controlling a PTZ camera (if connected).
- [Chapter 4, Recording Video](#), describes how to record a video clip manually 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 DVR'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 DVR'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 DVR's storage settings, including recording settings and HDD management settings.
- [Chapter 10, Configuring System Settings](#), describes how to configure DVR system settings, display settings, and user accounts; export and import configuration settings to and from other DVRs; 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 DVR.
- [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.

Related Documents

The following related documents are supplied with the DVR:

- *Performance Series HQA DVRs Remote User Guide* (800-20017)
- *Performance Series HQA DVRs Quick Installation Guide* (800-19404)
- *Performance Series HQA DVRs Quick Networking Guide* (800-19406)

To access a PDF version of these documents, visit the Performance Series HQA DVR product page at www.honeywellvideo.com/products/video-systems/recording-devices/index.html.

1

Introduction

This chapter includes the following sections:

- *Front and Rear Panel Layouts, page 14*
- *Mouse Operation, page 18*
- *Remote Control Operation, page 19*

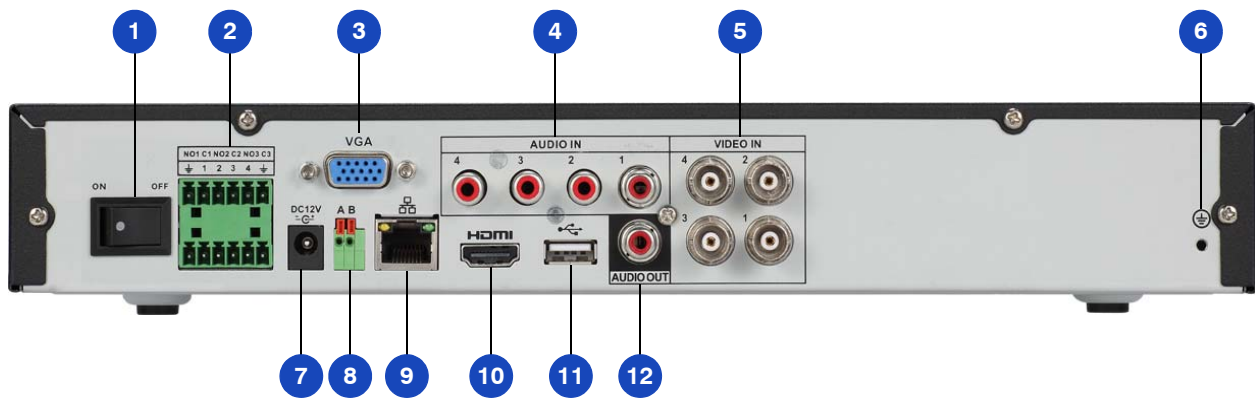
Front and Rear Panel Layouts

4-channel DVR Front Panel



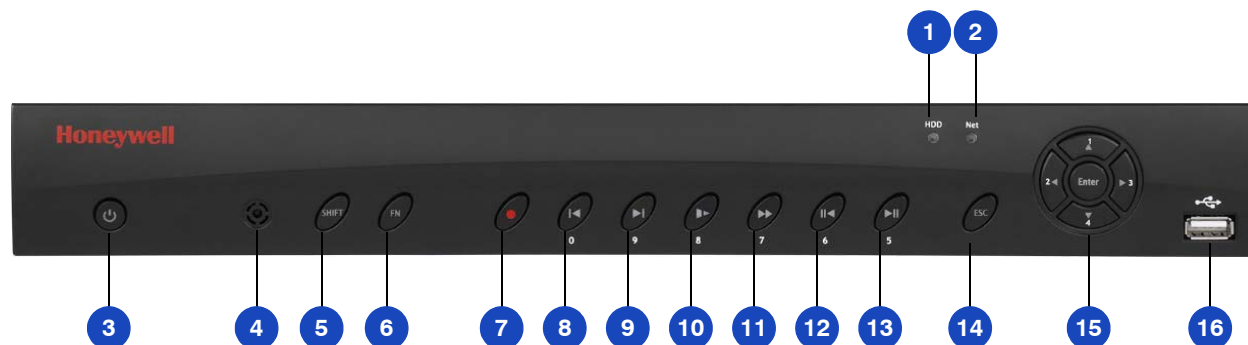
	Name	Function
1	HDD indicator	Lights red when HDD error has occurred or when HDD capacity below specified threshold.
2	NET indicator	Lights red when a network error has occurred or when there is no network connection.
3	POWER indicator	Lights blue when the DVR is receiving power.
4	USB 2.0 port	Connects USB devices (USB flash drive, mouse).

4-channel DVR Rear Panel



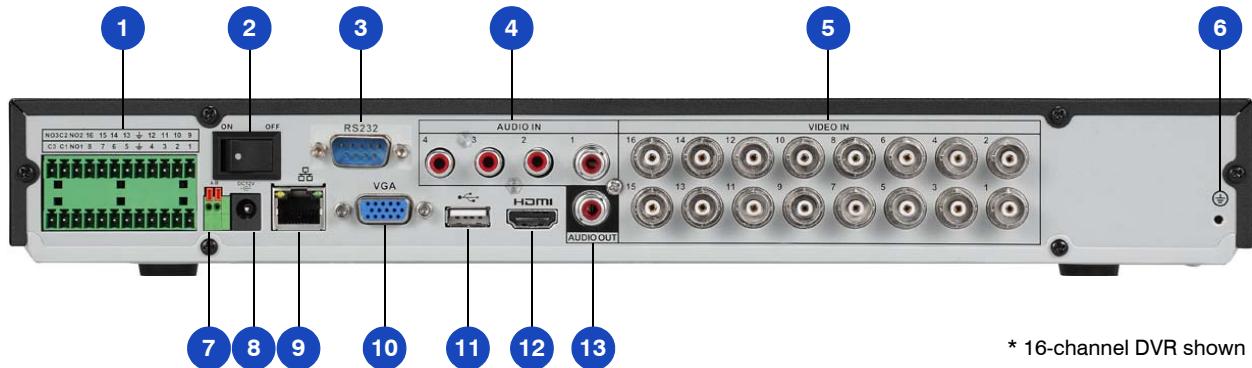
Name	Function
1 Power switch	Switch for turning DVR on/off
2 Alarm in/out	Terminal block interface for alarm input/output
3 VGA port	VGA connector for analog video output
4 Audio in	RCA connectors for audio input (microphone)
5 Video in	BNC connectors for HD-over-coax/CVBS video input
6 Ground	Ground terminal
7 Power input	12 V DC power input
8 RS485 port	RS485 interface for connecting to RS485 devices (PTZ cameras)
9 Network port	RJ45 100M Ethernet interface for connecting to local area network (LAN)
10 HDMI port	HDMI interface for transmitting high definition audio and video output
11 USB 2.0 port	USB 2.0 interface for connecting to USB device (mouse, USB flash drive, portable HDD)
12 Audio out	RCA connector for audio output (speaker, headphones).

8/16-channel DVR Front Panel



Name	Function
1 HDD indicator	Lights red when HDD error has occurred or when HDD capacity below specified threshold.
2 NET indicator	Lights red when a network error has occurred or when there is no network connection.
3 Power button	Turns DVR on/off.
4 IR receiver	Receives IR signal from remote control.
5 SHIFFT	Text mode: Switches to uppercase letters.
6 FN	Switches between function input and number/letter input. Single-window live view mode: Displays Assistant function or configures image color. Text mode: Deletes last entered character when pressed and held for 1.5 seconds. HDD management: Switches HDD recording information.
7 Record button	Live view mode: Starts/stops recording.
8 Play Previous button / 0	Playback mode: Plays the previous video. Text mode: Enters the number 0.
9 Play Next button / 9	Playback mode: Plays the next video. Text mode: Enters the number 9.
10 Slow Play button / 8	Playback mode: Plays back video at various speeds. Text mode: Enters the number 8 or the letters T, U, or V.
11 Fast Forward button / 7	Playback mode: Plays back video at various speeds. Text mode: Enters the number 7 or the letters P, Q, R, or S.
12 Reverse/Pause button / 6	Playback mode: Plays back video in reverse, pauses playback. Text mode: Enters the number 6.
13 Play/Pause button / 5	Playback mode: Plays back video, pauses playback. Text mode: Enter the number 5 or letter J, K, or L.
14 ESC	Live view mode: Returns to previous menu or cancels current operation. Playback: Returns to live view mode.
15 Direction keys (▲◀▶▼) / 1, 2, 3, 4	Menu setup: Navigate up and down, increase or decrease numbers. PTZ mode: Call up the assistant function for the PTZ menu. Text mode: Enter the numbers 1, 2, 3, or 4 or the letters A, B, C, D, E, F, G, H, or I.
Enter	Menu setup: Confirms selection. Go to Default. Go to Menu.

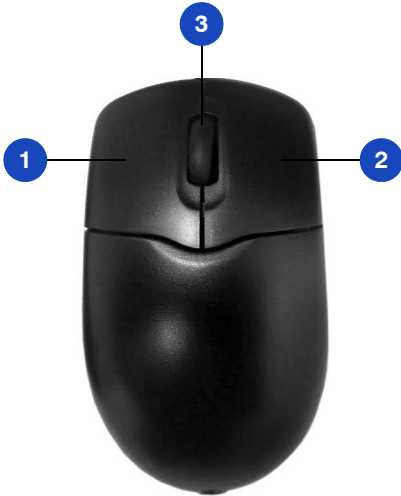
8/16-channel DVR Rear Panel



Name	Function
1 Alarm in/out	Terminal block interface for alarm input/output
2 Power switch	Switch for turning DVR on/off
3 RS232	RS232 interface for configuring IP address or transferring transparent COM data
4 Audio in	RCA connectors for audio input (microphone)
5 Video in	BNC connectors for HD-over-coax/CVBS video input
6 Ground	Ground terminal
7 RS485 port	RS485 interface for connecting to RS485 devices (PTZ cameras)
8 Power input	12 V DC power input
9 Network port	RJ45 100M Ethernet interface for connecting to local area network (LAN)
10 VGA port	VGA connector for analog video output
11 USB 2.0 port	USB 2.0 interface for connecting to USB device (mouse, USB flash drive, portable HDD)
12 HDMI port	HDMI interface for transmitting high definition audio and video output
13 Audio out	RCA connector for audio output (speaker, headphones).

Mouse Operation

Your Performance Series HQA DVR is optimized for mouse navigation. Use the supplied mouse to set up the DVR.



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

Using the On-screen Keyboard

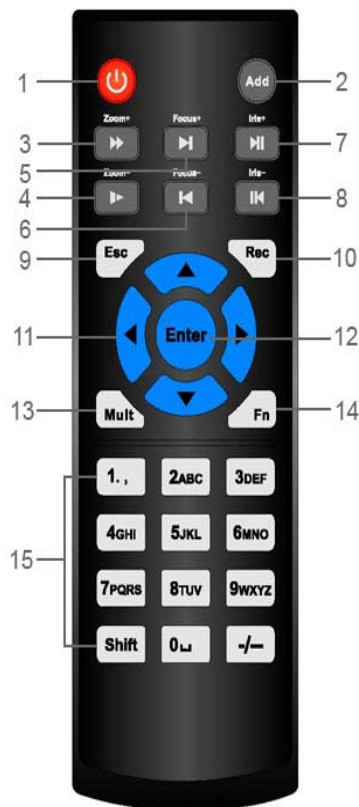
- To display the on-screen keyboard, click in a text box. The keyboard appears directly below the text box.



- 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 DVR. However, you can also use the supplied IR remote control. The following table describes basic remote control operations:



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

2

Getting Started

This chapter includes the following sections:

- [Unpacking the DVR, page 21](#)
- [Connecting External Devices, page 22](#)
- [Starting and Shutting Down the DVR, page 24](#)
- [Setting Up the DVR with the Startup Wizard, page 25](#)

Unpacking the DVR

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

- Quick Installation Guide (800-19404)
- Quick Networking Guide (800-19406)
- Software CD
- Power adapter and cable
- Mouse
- Remote control
- CAT5e network cable
- Terminal block connectors (×2)
- Screws (×10)
- Serial ATA (SATA) cable*

* Not included with HRHM1041(X)

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 DVR. See [Appendix A, Connecting Alarm Input/Outputs](#) for additional information.

Step 7: Connect a PTZ camera (if applicable)

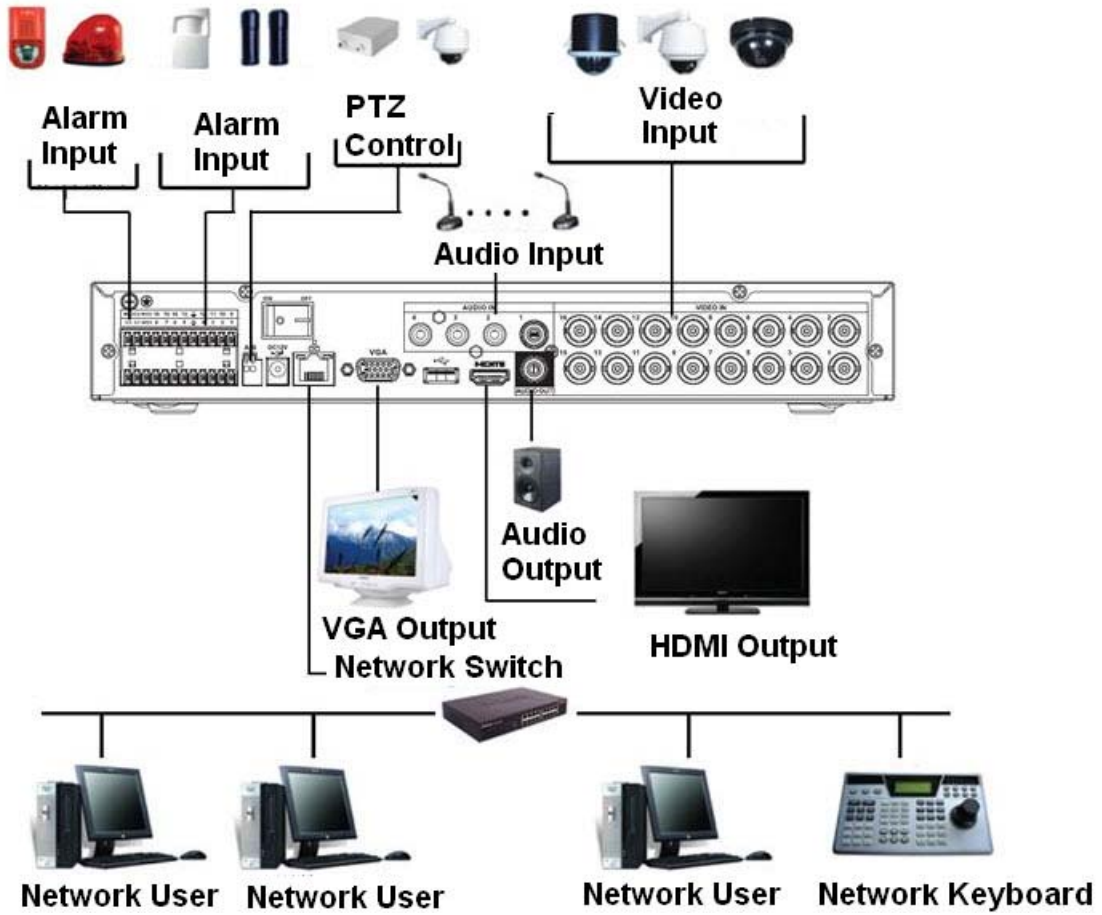
To communicate with a PTZ camera, connect it to the RS485 A and B input. It is recommended to use shielded twisted pair cable with the shielded layer used to connect to the ground. The ground should be the same as for the DVR and the voltage between the A and B lines should be less than 5 V.

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 DVR Installation

The following diagram shows a typical DVR installation:



Starting and Shutting Down the DVR

Starting the DVR

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

Note The beep at startup is normal.

Shutting Down the DVR

Note To shut down the DVR, you must be logged in as the admin user or have shutdown privileges assigned to you. See [Configuring Account Settings](#) on page 118.

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

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 DVR with the Startup Wizard

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



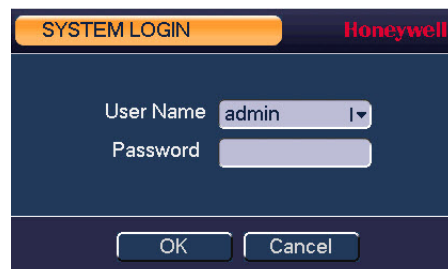
Using the wizard, you can:

- 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

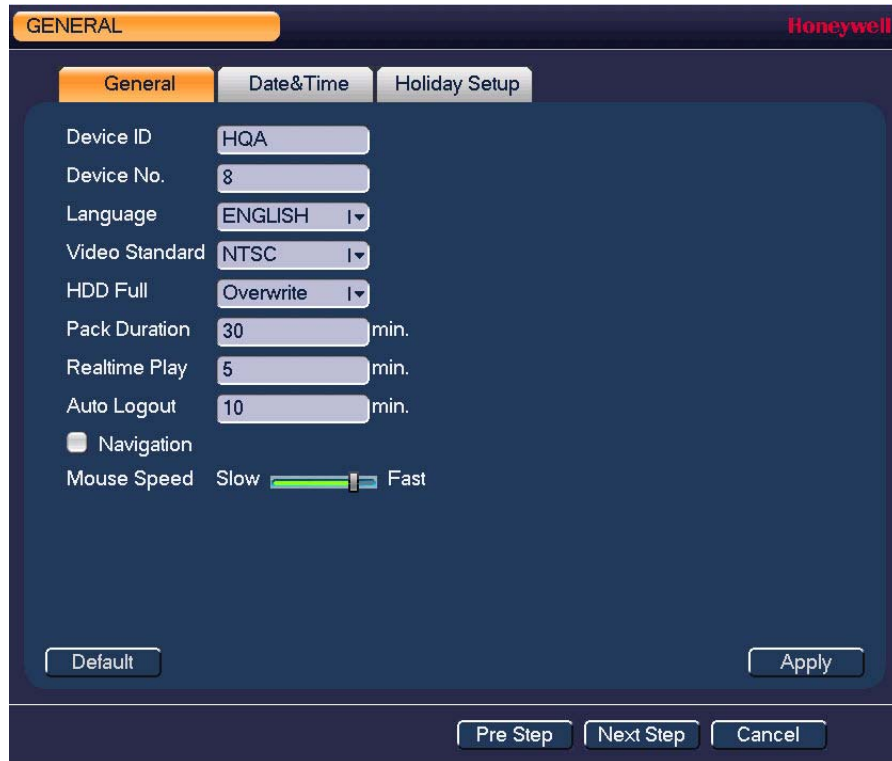
Note If you want to bypass the wizard and go directly to live view, click **Cancel**. To prevent Startup Wizard from opening the next time you start the DVR, de-select the **Startup** check box.

Using the Startup Wizard

1. Click **Next Step** to go to the **System Login** window.



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.



For more information about configuring settings in the **General** window, see [Configuring General System Settings](#) on page 106.

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

ENCODE Honeywell

Encode | Snapshot | Overlay

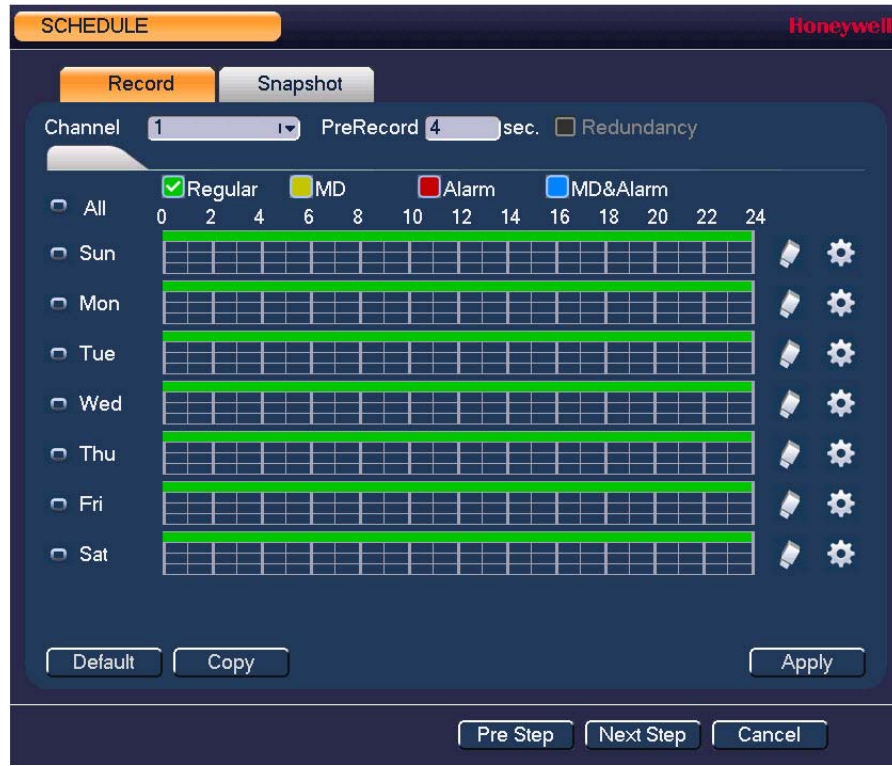
Channel	1	
Type	Regular	Extra Stream1
Compression	H.264	H.264
Resolution	720P	CIF
Frame Rate(FPS)	30	30
Bit Rate Type	CBR	CBR
I Frame Interval	1 S	1 S
Bit Rate(Kb/S)	2048	640
Reference Bit Rate	2048-4096Kb/S	192-1024Kb/S
Audio/Video	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Audio Format	G711a	Audio Source NORMAL

Default Copy Apply

Pre Step Next Step Cancel

For more information about configuring settings in the **Encode** window, see [Configuring Encoding Settings](#) on page 61.

5. Click **Next Step** to go to the **Schedule** window.



For more information about configuring settings in the **Schedule** window, see [Configuring the Video Recording Schedule](#) on page 48.

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

Section	Option	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Main Stream	Schedule	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Manual	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Stop	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Extra Stream	Schedule	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Manual	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Stop	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Snapshot	Enable	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Disable	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

For more information about configuring settings in the **Record** window, see [Configuring General Record Settings](#) on page 47.

7. Click **Next Step** to go to the **Network** window.



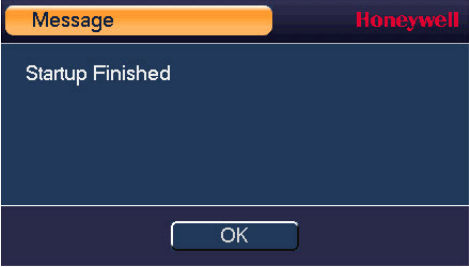
The screenshot shows the 'NETWORK' configuration window. The title bar includes 'NETWORK' and the Honeywell logo. The settings are as follows:

IP Version	IPv4
MAC Address	90:02:A9:DA:39:90
Mode	<input checked="" type="radio"/> Static <input type="radio"/> DHCP
IP Address	192 . 168 . 1 . 108
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1
Preferred DNS	8 . 8 . 8 . 8
Alternate DNS	8 . 8 . 4 . 4
MTU	1500
<input type="checkbox"/> LAN Download	

At the bottom of the window, there are four buttons: 'Default', 'Pre Step', 'Finished', and 'Cancel'.

For more information about configuring settings in the **Network** window, see [Configuring TCP/IP and Port Settings](#) on page 68.

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



The screenshot shows a 'Message' dialog box with the Honeywell logo. The message text reads 'Startup Finished'. At the bottom of the dialog, there is an 'OK' button.

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

3

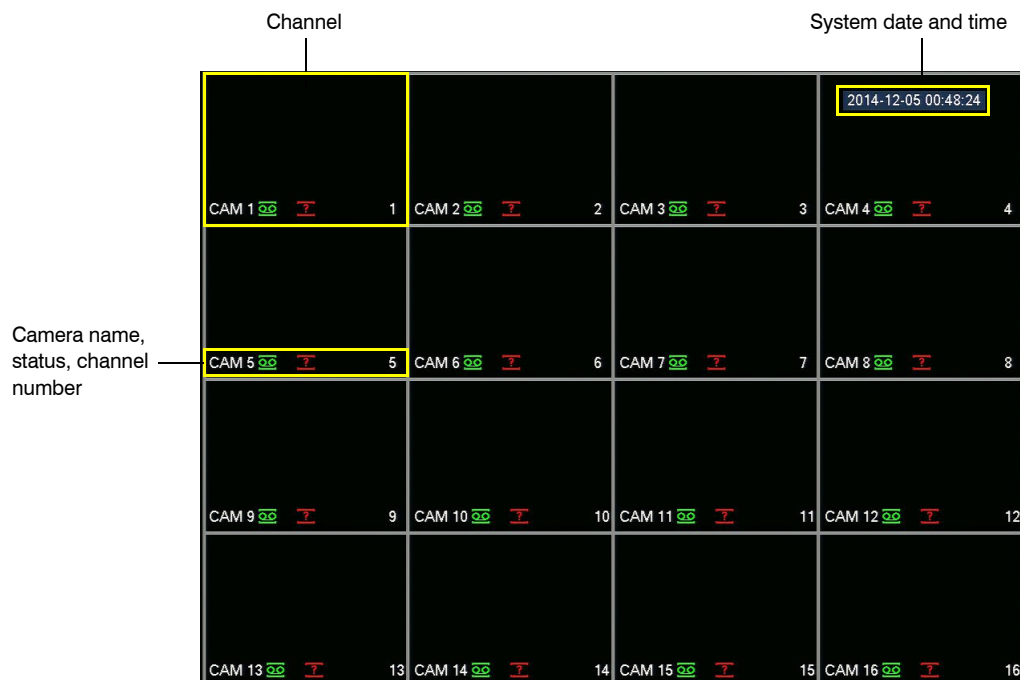
Viewing Live Video

This chapter includes the following sections:

- [About Live View, page 31](#)
- [Configuring Live View, page 34](#)
- [Controlling PTZ Cameras, page 36](#)

About Live View

Live view is the DVR's default mode. When you start the DVR, 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 DVR).



Camera Status

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



Video is being recorded



Motion detected in scene



No video signal



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.














	Realtime Playback	<p>Play back the previous 5 to 60 minutes of recorded video.</p> <p>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.</p>
	Digital Zoom	<p>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.</p>
	Realtime Backup	<p>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.</p>
	Snapshot	<p>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.</p>
	Mute	<p>Mute the video sound (if applicable). Click the button to mute sound. Click again to enable sound.</p> <p>Note Mute only works in single-channel view.</p>

Live View Toolbar

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



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.

	Main Menu	Open Main Menu .
	Screen Layout	Select screen layout format.
	Tour Switch	Enables tour (automatically cycles through channel views). See Configuring Tour Settings on page 112.
	Pan/Tilt/Zoom	Open the PTZ control panel. See Controlling PTZ Cameras on page 36.
	Color Setting	Open the Color Setting window. See Setting the Monitor Picture on page 35.
	Search	Open the playback interface. See Playing Back Video on page 52.
	Event	Open the Event information window.
	Channel Info	Open the Channel Info window.
	Network	Open the Network window. See Configuring TCP/IP and Port Settings on page 68.
	HDD Manage	Open the HDD Manage window. See Configuring HDD Settings on page 100.
	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.



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

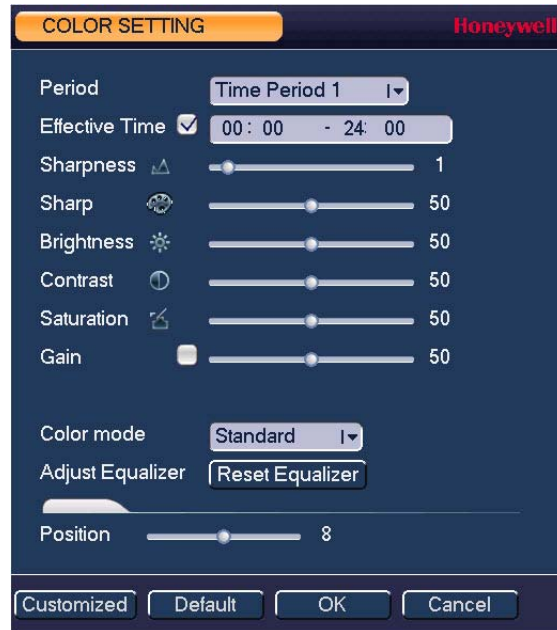
- Drag the channel to a new location in the multi-channel grid.
For example, to move channel 2 to the top left position occupied by channel 1, click channel 2, drag it to channel 1's position, then release the mouse button.

Setting the Monitor Picture

You can configure different monitor picture settings for up to two time periods per day to accommodate changing lighting conditions.

To configure monitor picture settings

1. Right-click anywhere on the screen to display the shortcut menu.
2. Click **Color Setting**. The **Color Setting** window opens.



3. In the **Effective Time** box, input the time range during which the settings will apply (for example, during daylight conditions from 07:00 - 19:00).
4. In the **Color Mode** box, select one of the preconfigured modes (**Standard**, **Soft**, **Bright**, **Colorful**, or **Bank**) or customize your own settings.

To customize your own settings, click **Customized** and define the following settings:

- **Sharpness** (0–15)
 - **Hue** (0–100)
 - **Brightness** (0–100)
 - **Contrast** (0–100)
 - **Saturation** (0–100)
 - **Gain** (0–100)
 - **White Level** (Low, Medium, High)
5. To configure settings for the remaining time, in the **Period** box, select **Time Period 2**, input the **Effective Time**, and select a **Color Mode** or adjust the settings manually.
 6. Click **OK** to save your settings.

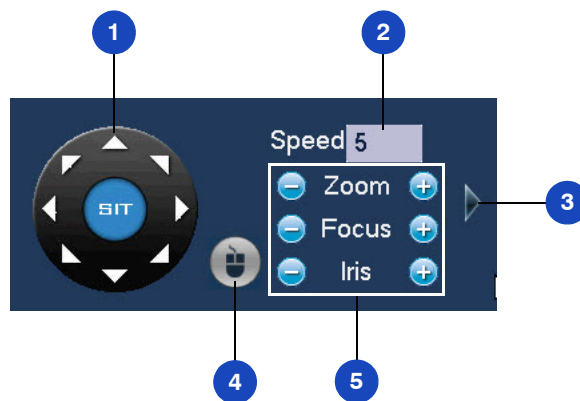
Controlling PTZ Cameras

This section describes how to access the PTZ control panel, how to configure PTZ connection settings, and how to configure and call PTZ presets, tours, and patterns.

Working with the PTZ Control Panel

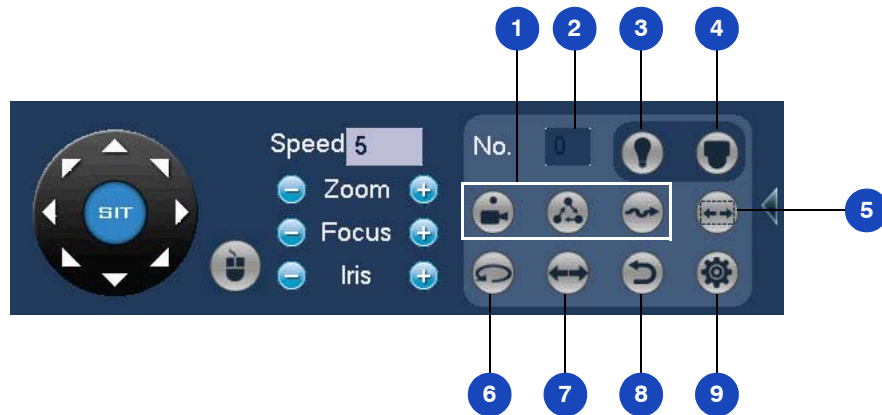
You can control a PTZ camera connected to the DVR's RS485 serial port using the on-screen PTZ control panel.

Basic PTZ Control Panel



#	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 (+)

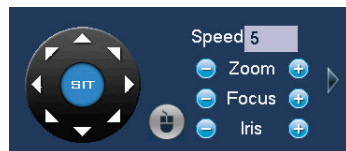
Expanded PTZ Control Panel



#	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.

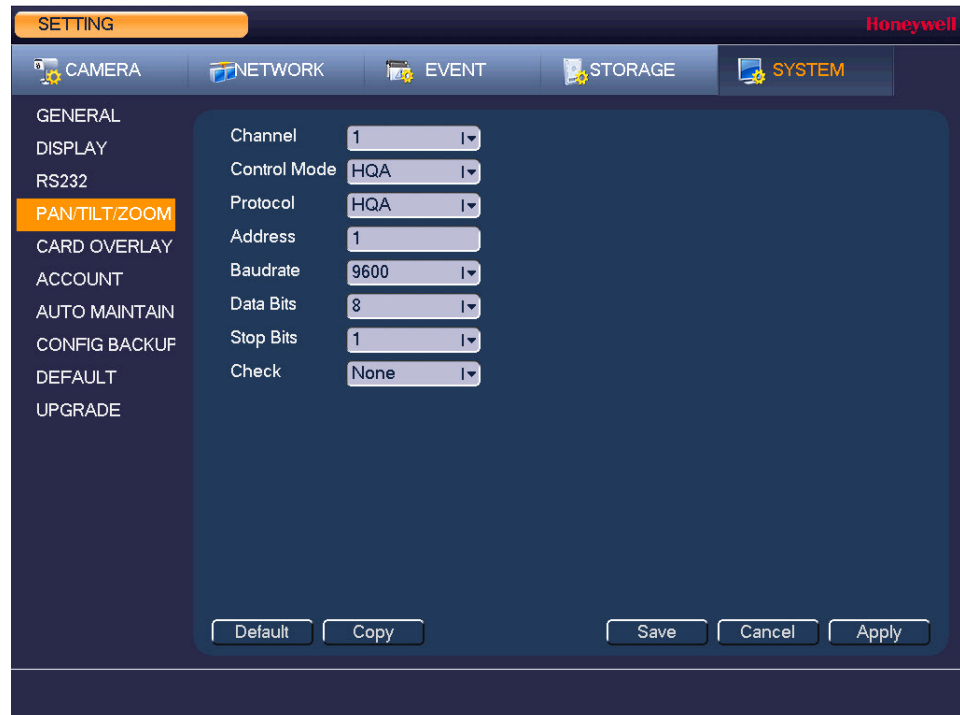


Configuring PTZ Connection Settings

Before you can control a PTZ camera with the DVR, 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**.



3. Configure the following settings:
 - **Channel** Select the channel (camera) that you want to configure PTZ settings for.
 - **Control Mode** Select **Serial**.
 - **Protocol** Select the camera's PTZ control protocol from the list.
 - **Address** Enter the camera's address (ID).
 - **Baudrate** Select a value between **1200** and **115200**. The default setting is **9600**.
 - **Data Bits** Select a value between **5** and **8**. The default setting is **8**.
 - **Stop Bits** Select **1**, **1.5**, or **2**. The default setting is **1**.
 - **Check** Select **None**, **Odd**, **Even**, **Mark**, or **Space**.
4. Click **Apply**, and then click **Save** to save your settings and exit.

Configuring PTZ Functions

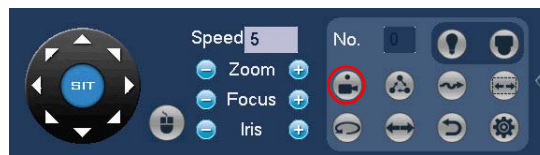
You can configure presets, tours, patterns, and borders using the PTZ control panel.

Configuring PTZ Presets

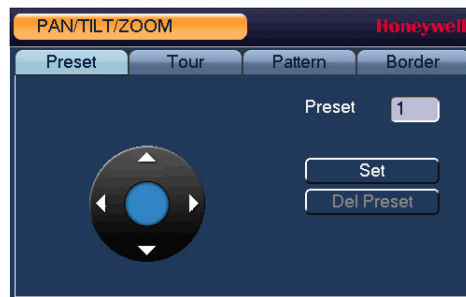
You can program preset positions for the PTZ camera. For example, you can point the camera at a specific location, such as a doorway, when an alarm event occurs.

To program a preset

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



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.

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

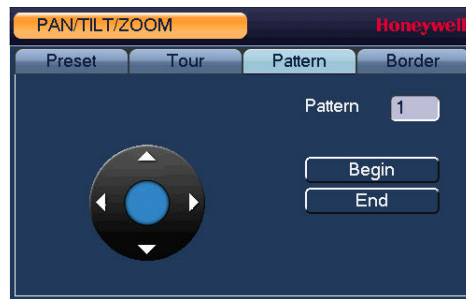
You can record a series of PTZ movements as a pattern. When you call the pattern in live view mode, the PTZ camera automatically moves along the path you have defined.

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 **Begin**, 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.

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**.

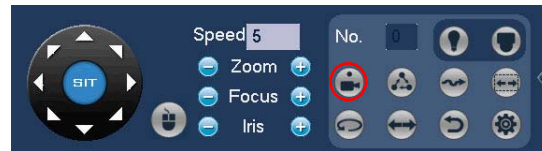


3. Use the direction arrows to set the camera rightmost limit, then click **Right**.

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 Record Settings, page 46*
- *Automatic Record Settings, page 47*

Manual Record Settings

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

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 DVR.
2. The **Find USB device** dialog box opens automatically. 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 32).
4. On the camera toolbar, click the **Realtime Backup** button  to start recording. The button changes to green while the DVR 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: *[DVR name]_[channel]_[video stream]_[recording start time]_[recording end time].dav*.

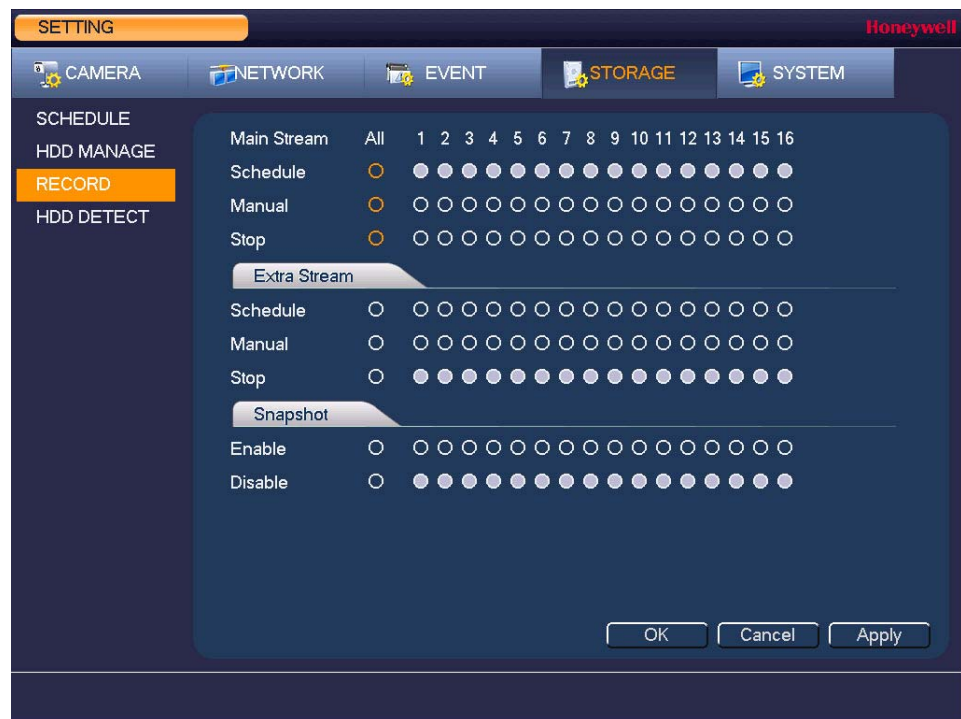
Automatic Record Settings

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

Configuring General Record Settings

To configure general record settings

1. Go to **Main Menu > Setting > Storage > Record**.



2. On the **Record** page, select the record types (**Schedule, 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 **OK**.

Configuring the Video Recording Schedule

To configure the video recording schedule

1. Go to **Main Menu > Setting > Storage > Schedule > Record**.



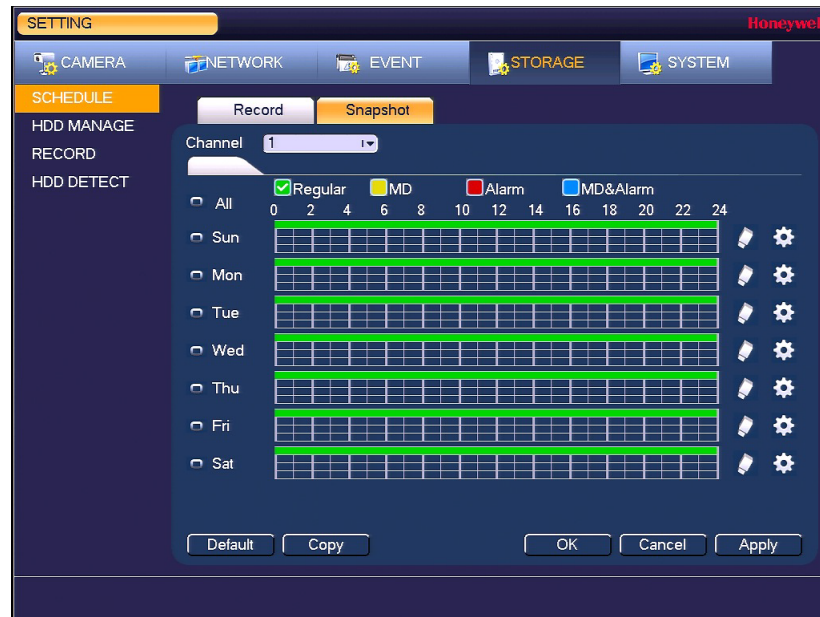
2. On the **Record** tab, in the **Channel** box, select the channel (camera) that you want to configure a recording schedule for.
3. In the **PreRecord** box, enter a time between **0** and **30** seconds. The default setting is **4** seconds. The pre-record time sets how long the DVR records before the scheduled recording start time.
4. If the DVR 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 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 that you want to configure a recording schedule for. 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 record schedule settings to additional channels, click **Copy**, select the channels that you want to copy the settings to, and then click **OK**.

Configuring the Snapshot Recording Schedule

Follow these steps to configure the snapshot recording function. When enabled, the DVR 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

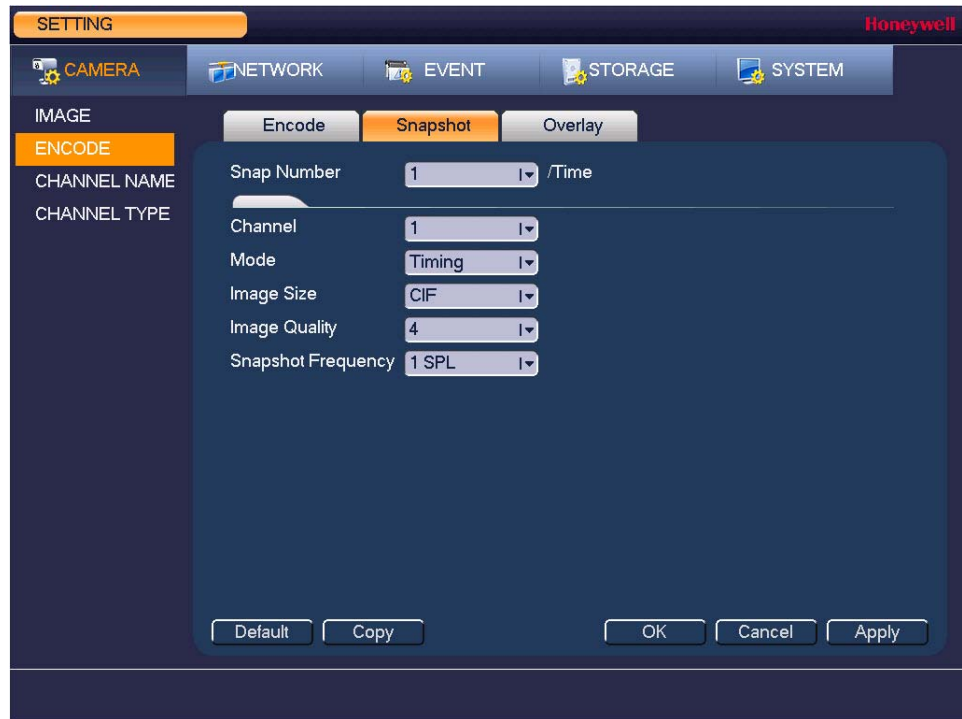
1. Go to **Main Menu > Setting > Storage > Schedule > Snapshot**.



2. On the **Snapshot** tab, in the **Channel** box, select the channel (camera) that you want to configure a snapshot schedule for.
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 that you want to configure a recording schedule for. 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 record schedule settings to additional channels, click **Copy**, select the channels that you want to copy the settings to, and then click **OK**.

To configure snapshot recording settings

1. Go to **Main Menu > Setting > Camera > Encode > Snapshot**.



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 that you want to configure the settings for.
 - **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** Select a file size (**D1**, **HD1**, **2CIF**, **CIF**).
 - **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 that you want to copy the settings to, and then click **OK**.

Note The DVR 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 DVR takes snapshots according to the schedule setup.

5

Playing Back Video

This chapter includes the following sections:

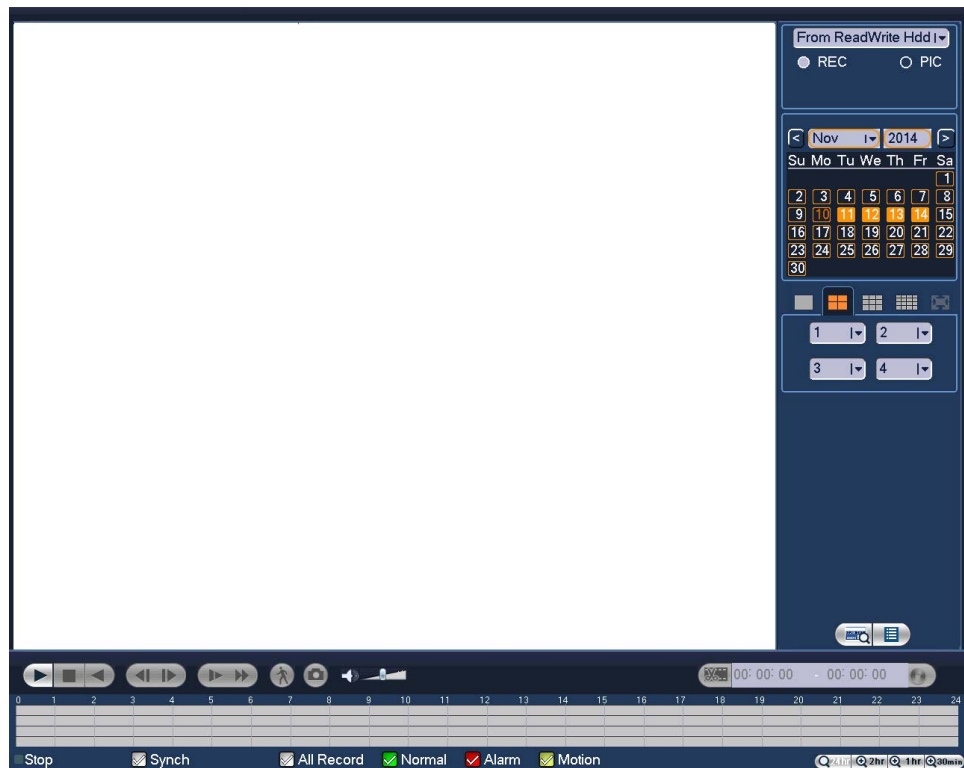
- *Playing Back Video, page 52*
- *Playing Back Snapshots, page 54*
- *Backing Up Video and Snapshots, page 55*

Playing Back Video

Searching For and Playing Back Video

To search for and play back recorded video by date

1. Go to **Main Menu > Operation > Search**. The playback interface opens.



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**.

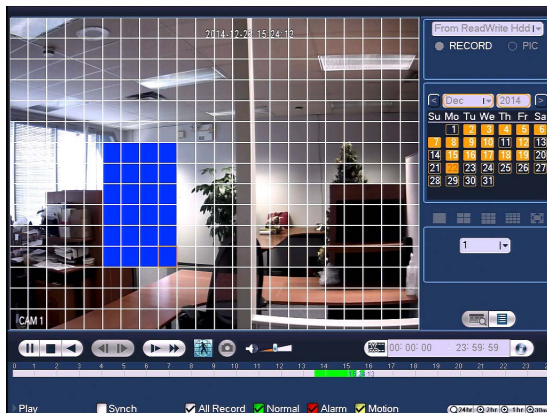
Smart Search

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. Go to **Main Menu > Operation > 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.

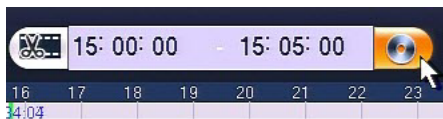
Backing Up Video and Snapshots

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 DVR.
2. Search for the recorded video or snapshot file(s) that you want to back up (see [Playing Back Video](#) on page 52 and [Playing Back Snapshots](#) on page 54).
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.

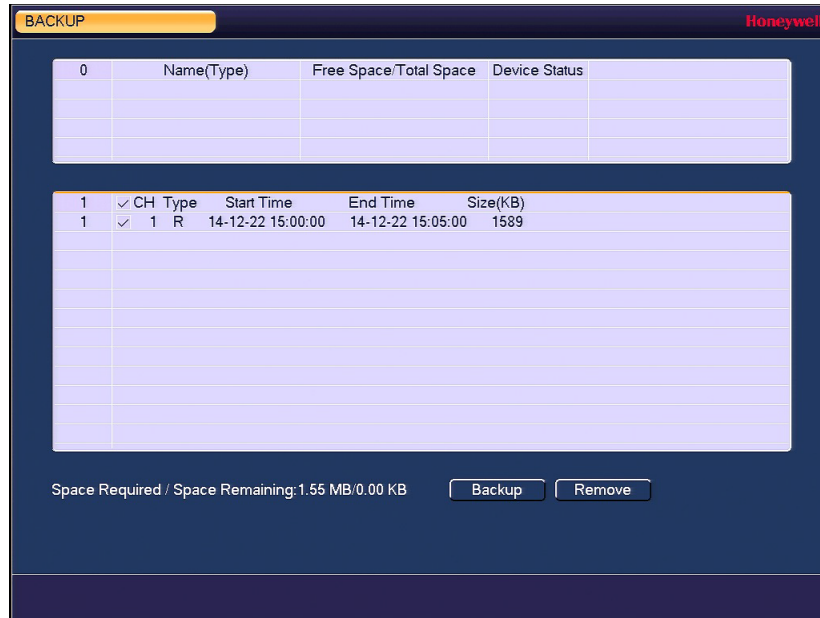


Alternatively, during video playback, in the video clip time field, enter the desired start time and end time, and then click the **Backup** button.

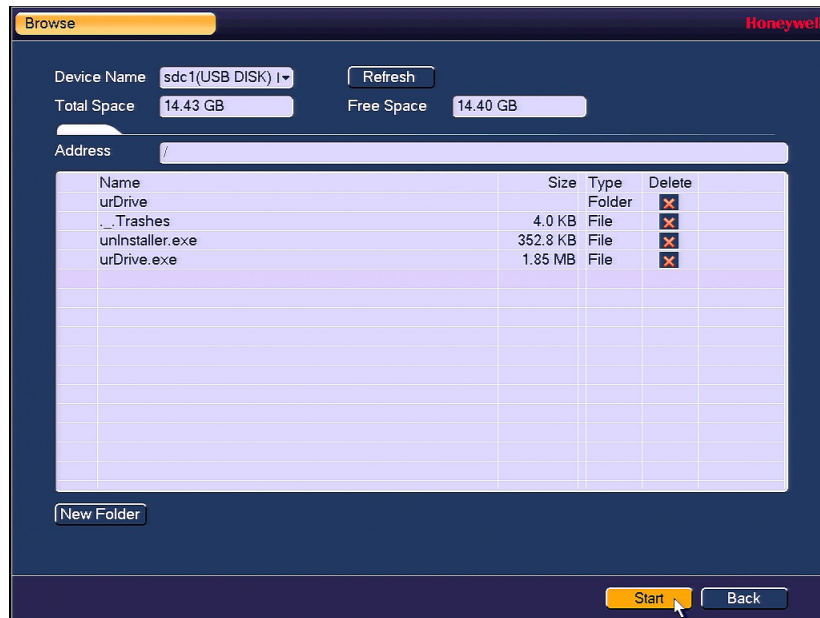


5. The **Backup** window opens, displaying the selected video file/clip.

- In the **Backup** window, click **Backup**.



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



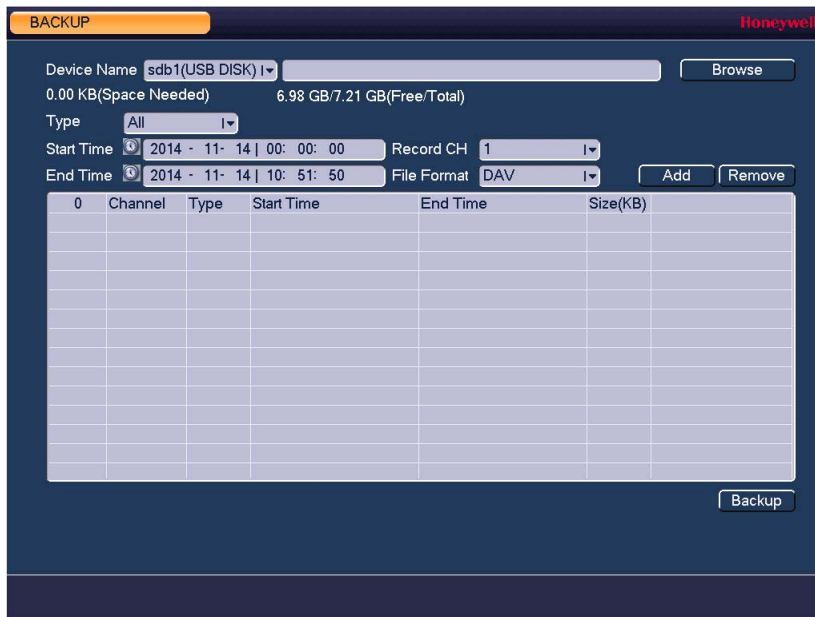
- Click **Start** to back up the file(s). If the backup is successful, the message "Backup finished" appears.

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 DVR. The **Find USB device** dialog box opens.



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



3. In the **Backup** window, configure the following settings:
 - **Type** Select the file type that you want to search for.
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.
4. 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:

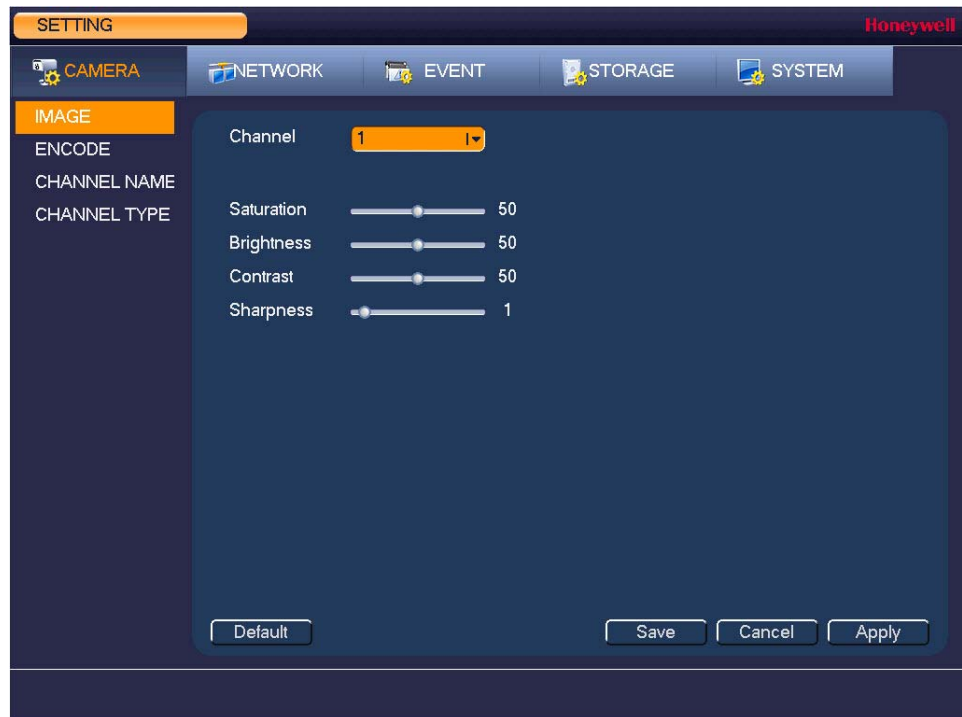
- [Configuring Image Settings, page 60](#)
- [Configuring Encoding Settings, page 61](#)
- [Configuring Snapshot Settings, page 62](#)
- [Configuring Privacy Mask Settings, page 63](#)
- [Configuring the Text Overlay, page 64](#)
- [Changing a Camera Name, page 65](#)
- [Changing a Channel Type, page 66](#)

Configuring Image Settings

You can configure the image settings (saturation, brightness, contrast, sharpness) for each connected camera.

To configure a camera's image settings

1. Go to **Main Menu > Setting > Camera > Image**.

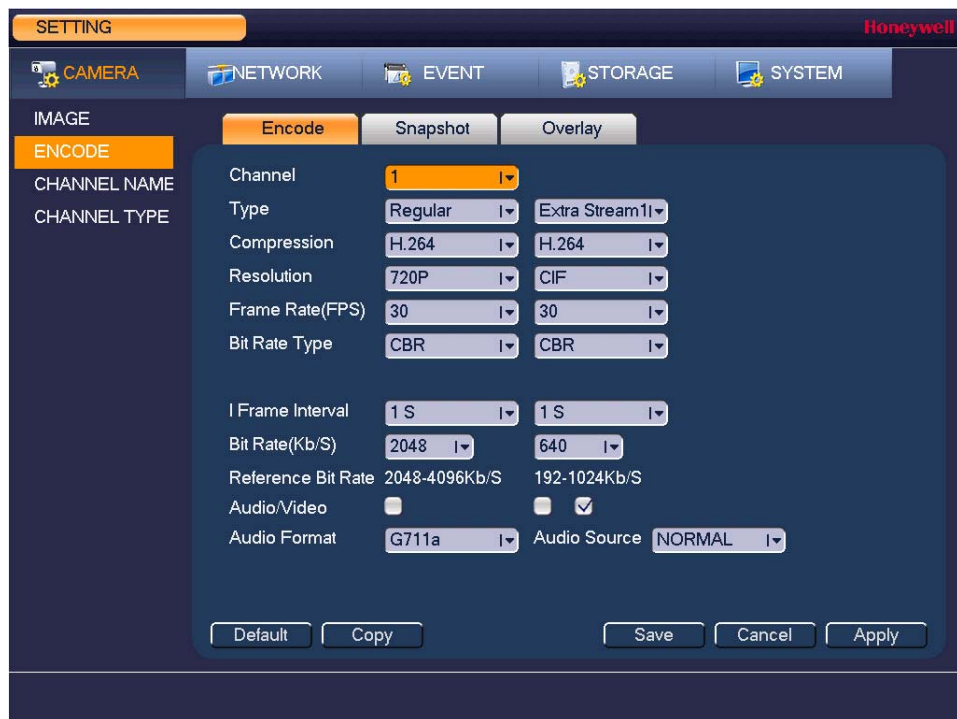


2. In the **Channel** box, select the camera that you want to configure.
3. Configure the image saturation, brightness, contrast, and sharpness by moving the slider to the desired value.
 - **Saturation** Select a value between **0** and **100**. The default setting is **50**.
 - **Brightness** Select a value between **0** and **100**. The default setting is **50**.
 - **Contrast** Select a value between **0** and **100**. The default setting is **50**.
 - **Sharpness** Select a value between **0** and **15**. The default setting is **1**.
4. Click **Apply** to save your settings.

Configuring Encoding Settings

To configure a camera's video and audio encoding settings

1. Go to **Main Menu > Setting > Camera > Encode**.



2. On the **Encode** tab, in the **Channel** box, select the camera that you want to configure.
3. Configure the following settings for the primary stream and secondary 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 HQA DVRs can detect a connected 1080p or 720p HQA camera's resolution as **1080P** or **720P** automatically. Manually set **960H** or lower resolution for analog cameras and for 1080p HQA 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**.
 - **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.
 - **Audio Format** Set to **G711a**, **PCM**, or **G711u** (=G711μ)
 - **Audio Source** Set to **Normal** or **HQA**.
4. Click **Apply**.
 5. To copy the settings to one or more additional cameras, follow these steps:
 - a. Click **Copy**.
 - b. Click the specific camera(s) that you want to copy the settings to, or click **All** to select all the cameras, and then click **OK**.
 6. Click **Save** to save your settings.

Configuring Snapshot Settings

To configure a camera's snapshot settings

1. Go to **Main Menu > Setting > Camera > Encode > Snapshot**.

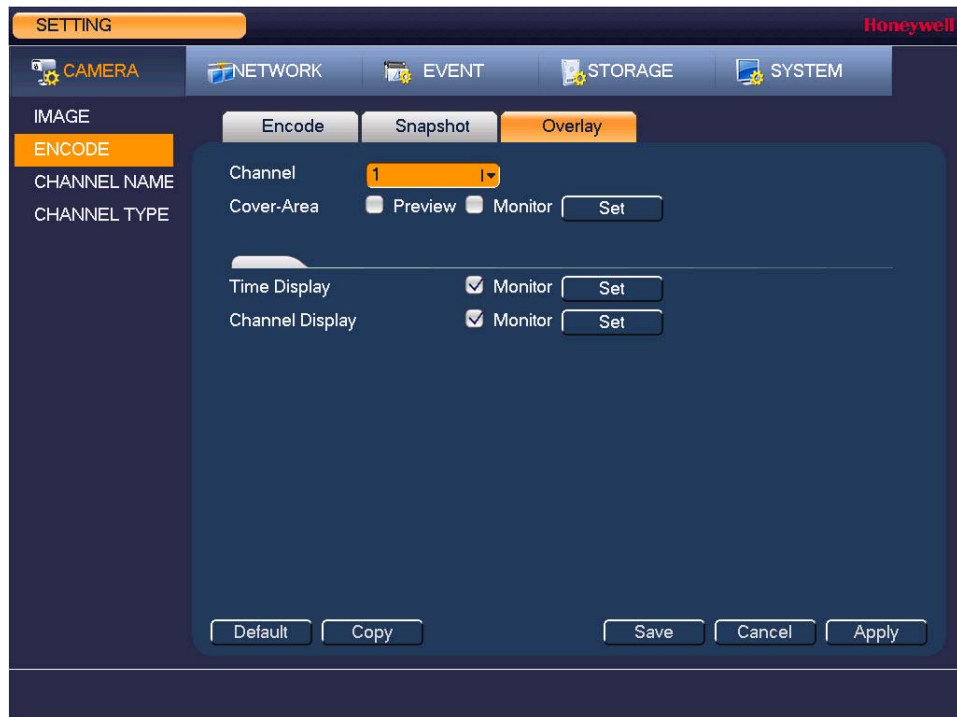


2. In the **Channel** box, select the camera that you want to configure.

Configuring Privacy Mask Settings

To configure a privacy mask

1. Go to **Main Menu > Setting > Camera > Encode > Overlay**.

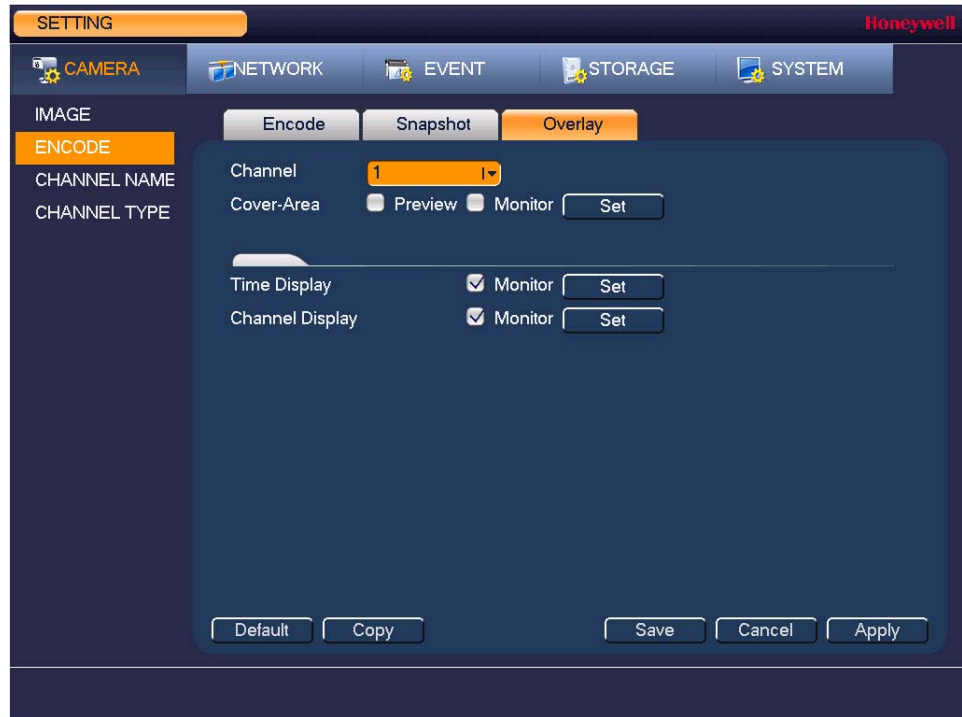


2. In the **Channel** box, select the camera that you want to configure.
3. Next to **Cover-Area**, select one of the following options:
 - **Preview** Blocks an area when the DVR is in live view mode.
 - **Monitor** Blocks an area when the DVR is in monitor mode.
4. Click **Set**.

Configuring the Text Overlay

To configure a camera's text overlay settings

1. Go to **Main Menu > Setting > Camera > Encode > Overlay**.



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. To copy the settings to one or more additional cameras, follow these steps:
 - a. Click **Copy**.
 - b. Click the specific camera(s) that you want to copy the settings to, or click **All** to select all the cameras, and then 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. Go to **Main Menu > Setting > Camera > Channel Name**.



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.

Changing a Channel Type

By default, the channel type is set to **Coax**. You can change the channel type to **UTP** if unshielded twisted pair (UTP) cabling is used.

To change a channel type to UTP

1. Go to **Main Menu > Setting > Camera > Channel Type**.



2. Select the **UTP** check box of the channel(s) that you want to change to UTP.
3. Click **Apply**, and then click **Save** to save your settings.

7

Configuring Network Settings

This chapter contains the following sections:

- *Configuring TCP/IP and Port Settings, page 68*
- *Configuring Wireless Connection Settings, page 70*
- *Configuring Advanced Network Settings, page 72*
- *Configuring Alarm Center Settings, page 81*

Configuring TCP/IP and Port Settings

To configure TCP/IP settings

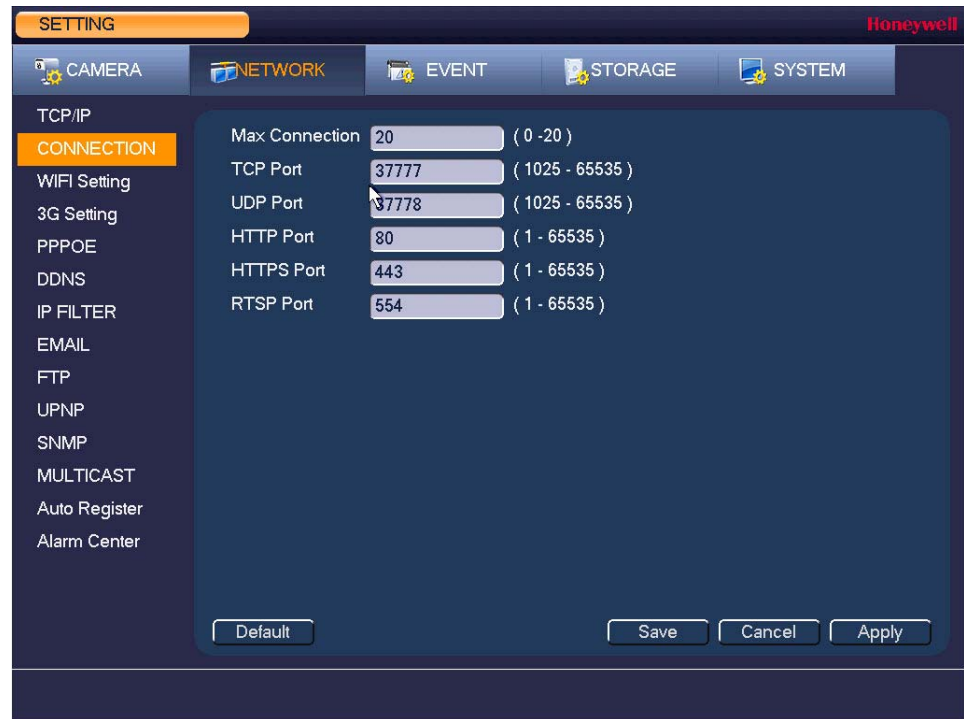
1. Go to **Main Menu > Setting > Network > TCP/IP**.



2. On the **TCP/IP** page, in the **IP Version** box, select **IPv4** or **IPv6**, depending on the Internet protocol that you want to use.
3. Set the **Mode** to **Static** or **DHCP**. Click **Static** to assign the DVR a static IP address or click **DHCP** to assign it a dynamic IP address.
4. If **Mode** is set to **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**).
5. If you want, enter **Preferred DNS** and **Alternate DNS** addresses.
6. To enable faster downloading over the local area network (LAN), select the **LAN Download** check box.
7. Click **Apply** to save your settings.
8. If you want to exit the **Setting** menu, click **Save**.

To configure port settings

1. Go to **Main Menu > Setting > Network > Connection**.



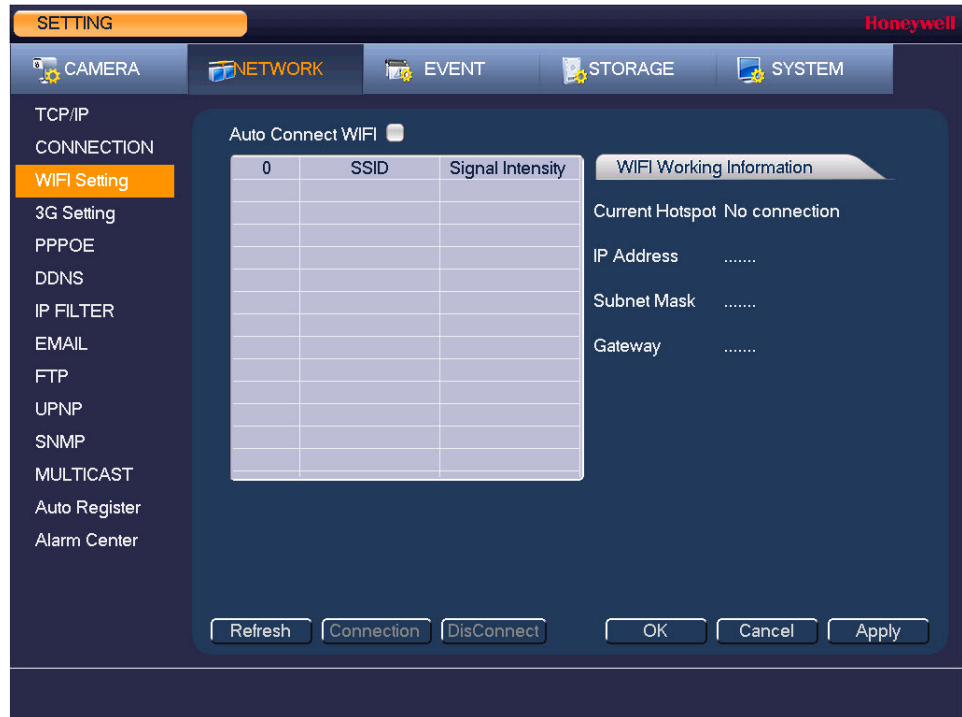
2. On the **Connection** page, you can configure the following settings:
 - **Max Connection** Select a value between **0** and **20**. The default setting is **20**.
 - **TCP Port** Select a value between **1025** and **65535**. The default setting is **37777**.
 - **UDP Port** Select a value between **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 exit the **Setting** menu, click **Save**.

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

Configuring Wireless Connection Settings

To manage Wi-Fi connections

1. Go to **Main Menu > Setting > Network > WIFI Setting**.



2. On the **WIFI Setting** page, you can do one or more of the following:
 - To enable automatic connections to Wi-Fi hotspots, select the **Auto Connect WIFI** check box.
 - To disable automatic connections to Wi-Fi hotspots, clear the **Auto Connect WIFI** check box.
 - To search for Wi-Fi hotspots, click **Refresh**.
 - To manually connect to a Wi-Fi hotspot, click **Connection**.
 - To disconnect from a Wi-Fi hotspot, click **Disconnect**.

If a Wi-Fi connection is successfully established, the Wi-Fi hotspot name and connection details are displayed in the **WIFI Working Information** area.

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

Note The system does not support WPA and WPA 2 verification types.

To configure 3G wireless connections

1. Go to **Main Menu > Setting > Network > 3G Setting**.

The screenshot shows the '3G Setting' configuration page in the Honeywell interface. The page is titled 'SETTING' and has a 'Honeywell' logo in the top right corner. The main menu includes CAMERA, NETWORK, EVENT, STORAGE, and SYSTEM. The left sidebar lists various settings: TCP/IP, CONNECTION, WIFI Setting, 3G Setting (highlighted), PPPOE, DDNS, IP FILTER, EMAIL, FTP, UPNP, SNMP, MULTICAST, Auto Register, and Alarm Center. The main content area shows the 3G settings:

- Network Device Name: [Dropdown menu]
- Enable:
- Network Type: [Dropdown menu, value: NOSERVICE]
- APN: [Text input field]
- AUTH: [Dropdown menu, value: NO_AUTH]
- Dial Number: [Text input field]
- User Name: [Text input field]
- User Password: [Text input field]
- Pulse Interval: [Text input field, value: 0] sec.
- Dial: [Button]

Below these settings is a section for '3G Wireless Network' status:

- Module State : [Status]
- SIM State : [Status]
- PPP State : [Status]
- IP Address : [Status]
- Subnet Mask : [Status]
- Gateway : [Status]

At the bottom of the page are buttons for Default, OK, Cancel, and Apply.

2. On the **3G Setting** page, you can configure the following settings:
 - **Network Device Name** Select the wireless network adapter name.
 - **Enable** Select or clear the check box to enable or disable 3G wireless connection using the selected wireless network adapter.
 - **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 exit the **Setting** menu, click **OK**.

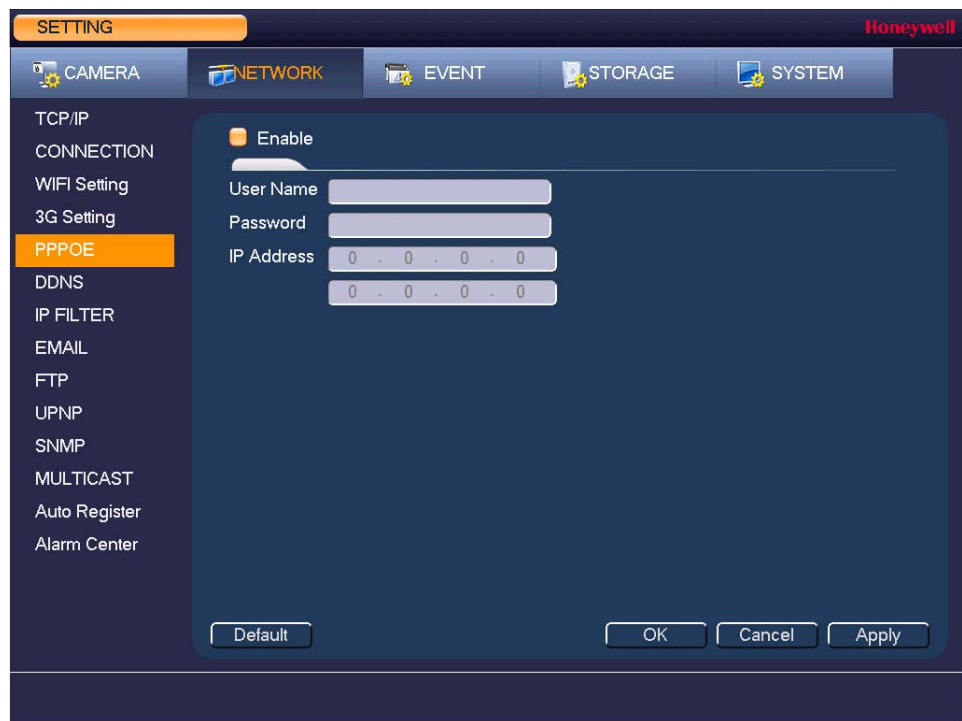
Configuring Advanced Network Settings

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. Go to **Main Menu > Setting > Network > PPPOE**.



2. On the **PPPOE** page, select the **Enable** check box to enable a PPPoE network connection.
3. In the **User Name** and **Password** boxes, enter the user name and password provided by your Internet service provider for PPPoE access.
4. Click **Apply**, and then click **OK**.
5. Restart the DVR for the new network connection settings to take effect.

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

Configuring DDNS Settings

To enable a Dynamic DNS (DDNS) network connection

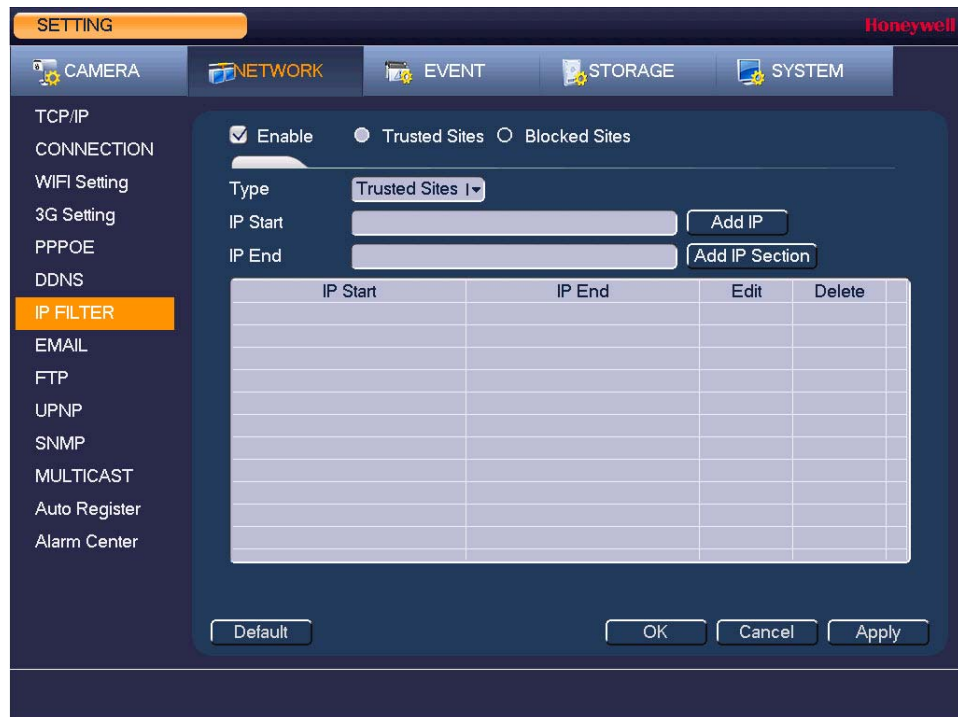
1. Go to **Main Menu > Setting > Network > DDNS**.

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.
 - **Password** If applicable, enter a password to access your DDNS service.
 - **Email Address** Unused Honeywell DDNS domain names will expire after a year. Enter your email address if you want to receive a notification before an unused domain name is reclaimed.
 - **Update Period** *This function is not supported at this time.*
5. Click **Apply**, and then click **OK**.
6. Restart the DVR for the new network connection settings to take effect.
7. To test the settings, on the **DDNS** page, click **Test**.

Configuring IP Filter Settings

To allow specific sites to access the DVR

1. Go to **Main Menu > Setting > 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 **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. After you have finished adding IP addresses to the list, click **Apply** to save your settings.

To block specific sites from accessing the DVR

1. Go to **Main Menu > Setting > 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. After you have finished adding IP addresses to the list, click **Apply** to save your settings.

Configuring Email Settings

To configure email notifications

1. Go to **Main Menu > Setting > Network > Email**.

The screenshot shows the 'EMAIL' configuration page in the Honeywell interface. The 'Enable' checkbox is checked. The SMTP Server is set to 'MailServer' and the Port is '25'. The 'Anonymous' checkbox is unchecked. The 'User Name' and 'Password' fields are empty. The 'Receiver' field is empty. The 'Sender' field is empty. The 'Title' is 'HCVR ALERT'. The 'Attachment' checkbox is checked. The 'Encrypt Type' is 'NONE'. The 'Event Interval' is '120' seconds. The 'Health Enable' checkbox is unchecked. The 'Interval' is '60' minutes. Buttons for 'Default', 'Test', 'OK', 'Cancel', and 'Apply' are visible at the bottom.

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 check box to hide the sender's address in sent email.
 - **User Name** 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 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 check box to enable a health check. The system sends a test email to check the connection.
 - **Interval** This is the interval the DVR 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.

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. Go to **Main Menu > Setting > Network > FTP**.

2. On the **FTP** 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.
 - **User Name** Enter the user name for logging on to the FTP server.
 - **Password** Enter the password for logging on to the FTP server.
 - **Anonymous** Select 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 DVR will create folder names automatically.
 - **File Length** This is the maximum size for image files being uploaded to the FTP server. Enter a value between **0** and **65535** MB.
 - **Snapshot** 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**.

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. Go to **Main Menu > Setting > Network > UPNP**.



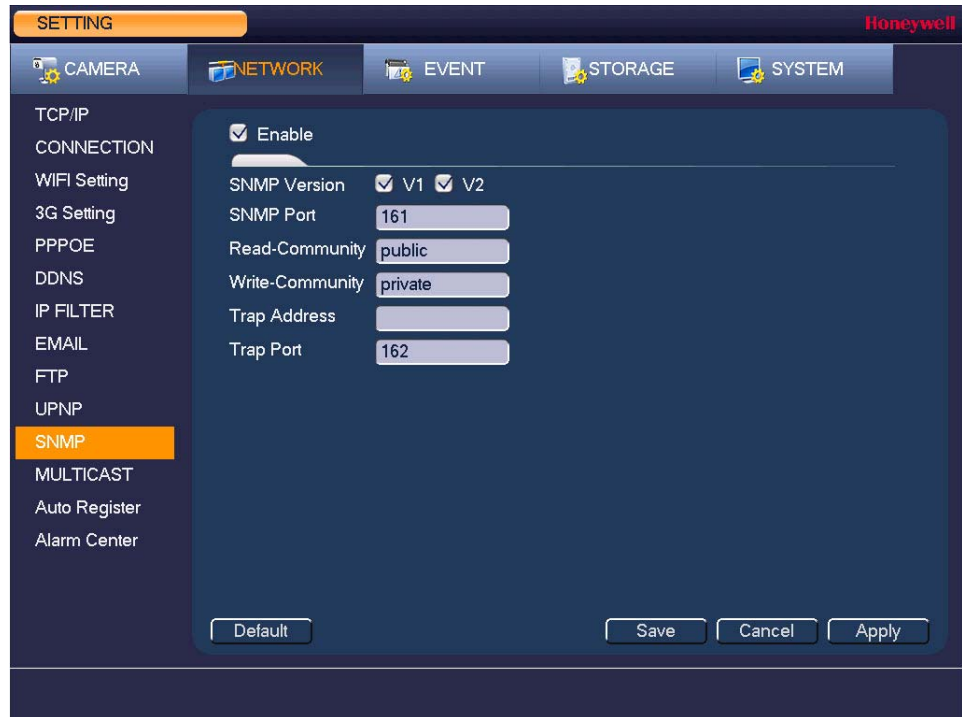
2. On the **UPNP** page, configure the following settings:
 - **PAT** To enable UPnP, click **ON**. To disable UPnP, click **OFF**.
 - **Router LAN IP** Enter the DVR's IP address from the **TCP/IP** page.
 - **WAN IP** Enter the router IP address.
3. If you want, you can add, edit, or delete a mapping relationship from the **PAT Table** list:
 - To add a mapping relationship to the list, click **Add to the List**, and then, in the **Port Info** dialog box, select the **Protocol (TCP or UDP)**, enter the **Int.Port** and **Ext.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**, **Int.Port**, and/or **Ext.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 exit the **Setting** menu, click **OK**.

Configuring SNMP Settings

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

To configure SNMP settings

1. Go to **Main Menu > Setting > Network > SNMP**.



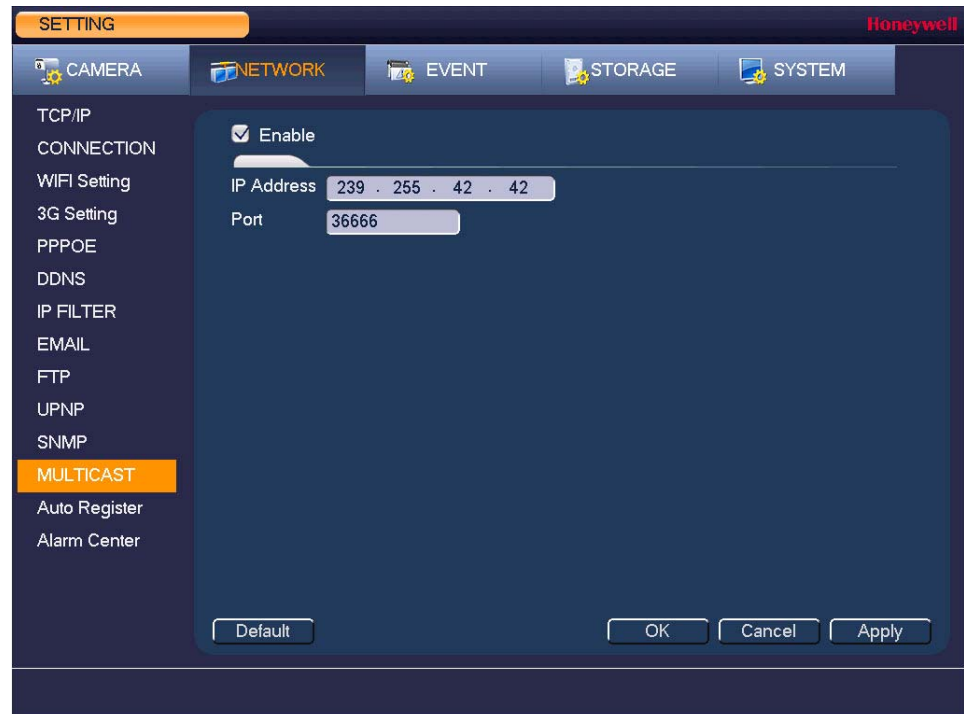
2. On the **SNMP** page, select the **Enable** check box to enable SNMP.
3. Configure the following settings:
 - **SNMP Version** Select the check boxes of the SNMP version(s) that you are using.
 - **SNMP Port** The default setting is **161**.
 - **Read-Community** The default setting is **public**.
 - **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 exit the **Setting** menu, click **Save**.

Configuring Multicast Settings

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

To configure multicast settings

1. Go to **Main Menu > Setting > Network > Multicast**.



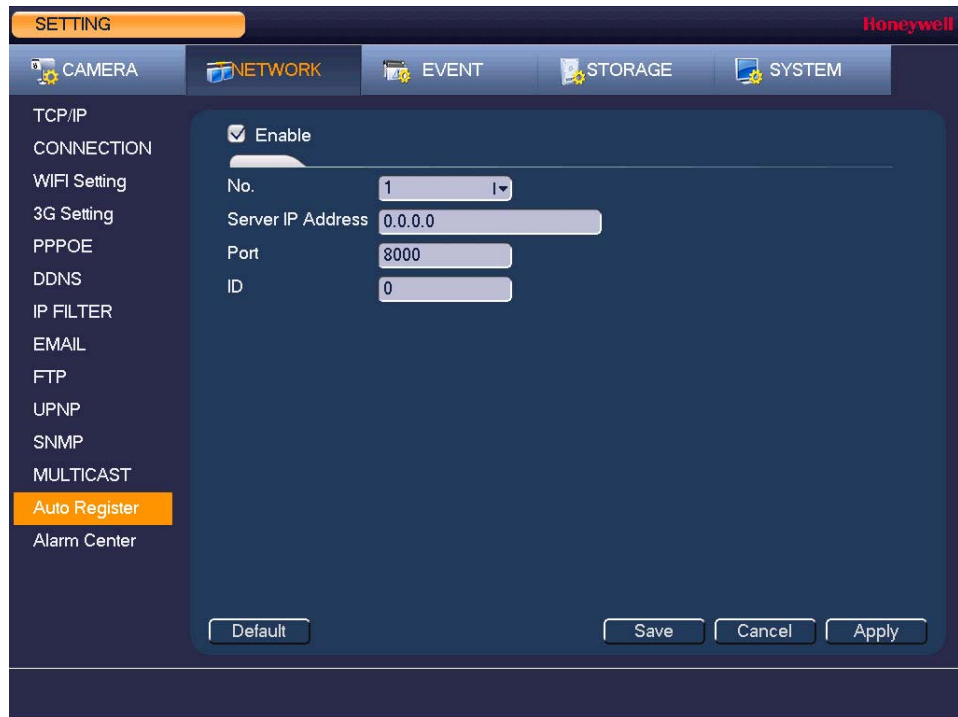
2. On the **Multicast** page, select the **Enable** check box to enable multicast.
3. In the **IP Address** box, enter a multicast IP address. The address must be valid for multicasting and should be in the range 224.0.0.0 to 239.255.255.255 for IPv4 or have the prefix ff00::/8. An address in the range 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 exit the **Setting** menu, click **OK**.

Configuring Automatic Registration Settings

You can set up the DVR to automatically register to a proxy server. You can then access the DVR from a remote client via the proxy server.

To enable automatic registration to a proxy server

1. Go to **Main Menu > Setting > Network > Auto Register**.

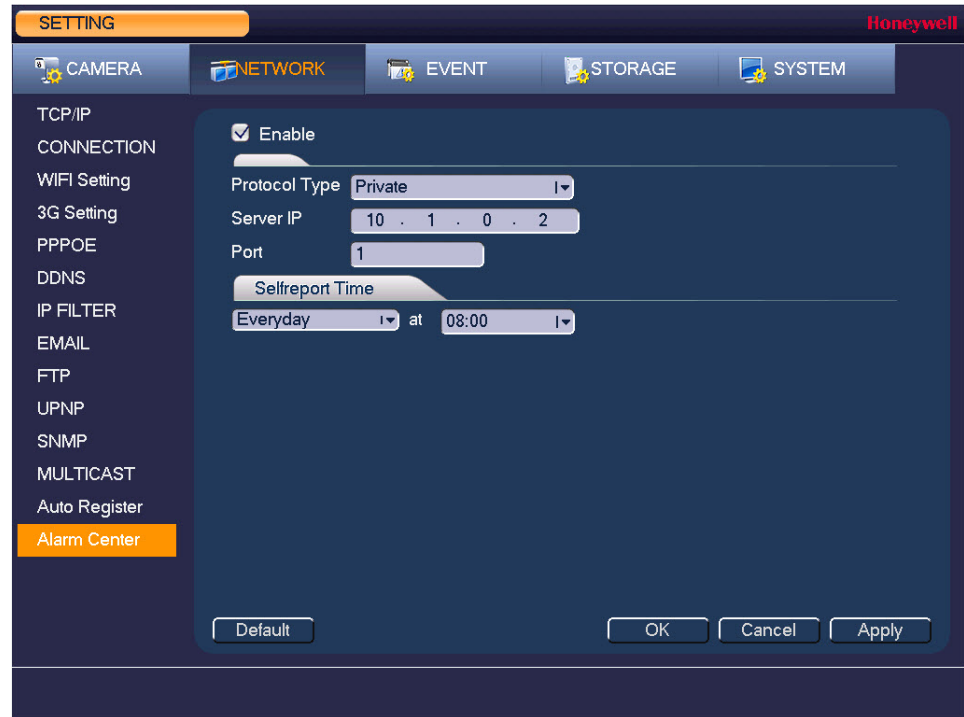


2. On the **Auto Register** page, select the **Enable** check box to enable automatic registration to a proxy server.
3. Configure the following settings:
 - **Server IP Address** Enter the proxy server address.
 - **Port** Enter the proxy server port.
 - **ID** Enter the device ID of the DVR.
4. Click **Apply** to save your settings.
5. If you want to exit the **Setting** menu, click **Save**.
6. Open the proxy server software, enter the global setup, and add the device. The device ID should be the same as the ID shown on the **Auto Register** page. Restart the proxy server. If the proxy server displays **Y**, then the registration was successful.

Configuring Alarm Center Settings

To configure the alarm center

1. Go to **Main Menu > Setting > Network > Alarm Center**.



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 exit the **Setting** menu, click **Save**.

8

Configuring Event Settings

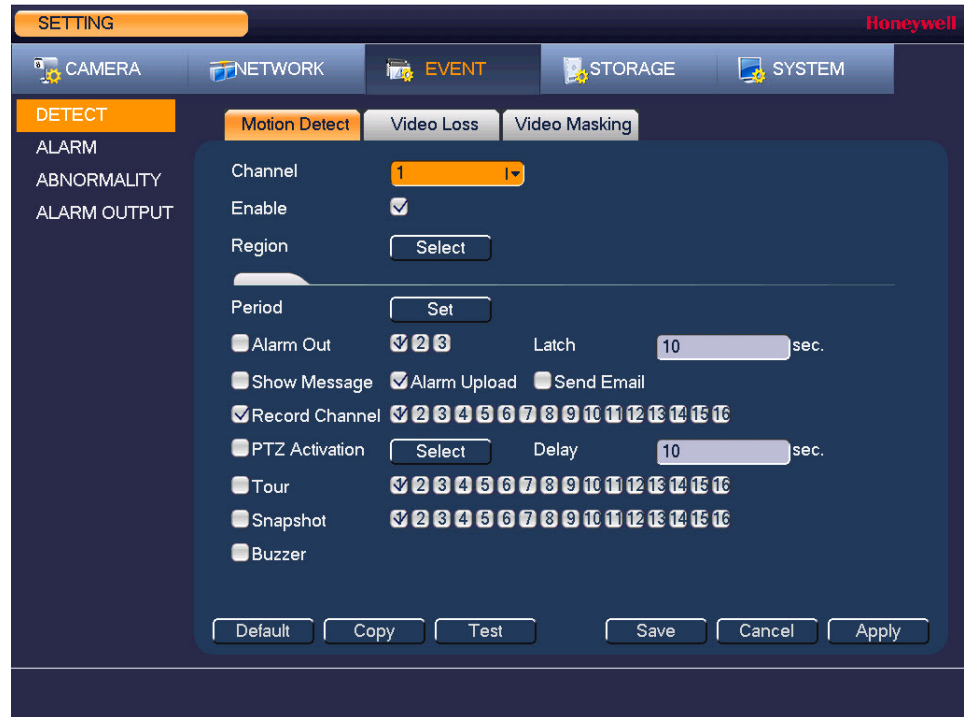
This chapter contains the following sections:

- [Configuring Motion Detection Settings, page 84](#)
- [Configuring Video Loss Settings, page 88](#)
- [Configuring Video Masking \(Tampering\) Settings, page 89](#)
- [Configuring System Event Settings, page 90](#)
- [Configuring Alarm Input Settings, page 92](#)
- [Configuring Alarm Outputs, page 95](#)

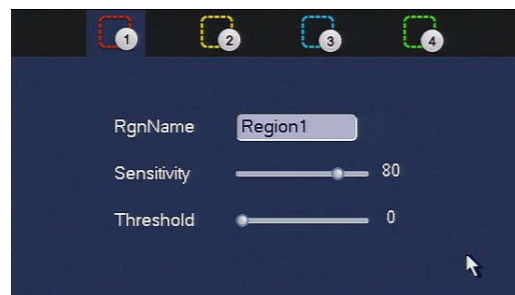
Configuring Motion Detection Settings

To set up motion detection regions

1. Go to **Main Menu > Setting > Event > Detect > Motion Detect**.



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



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.

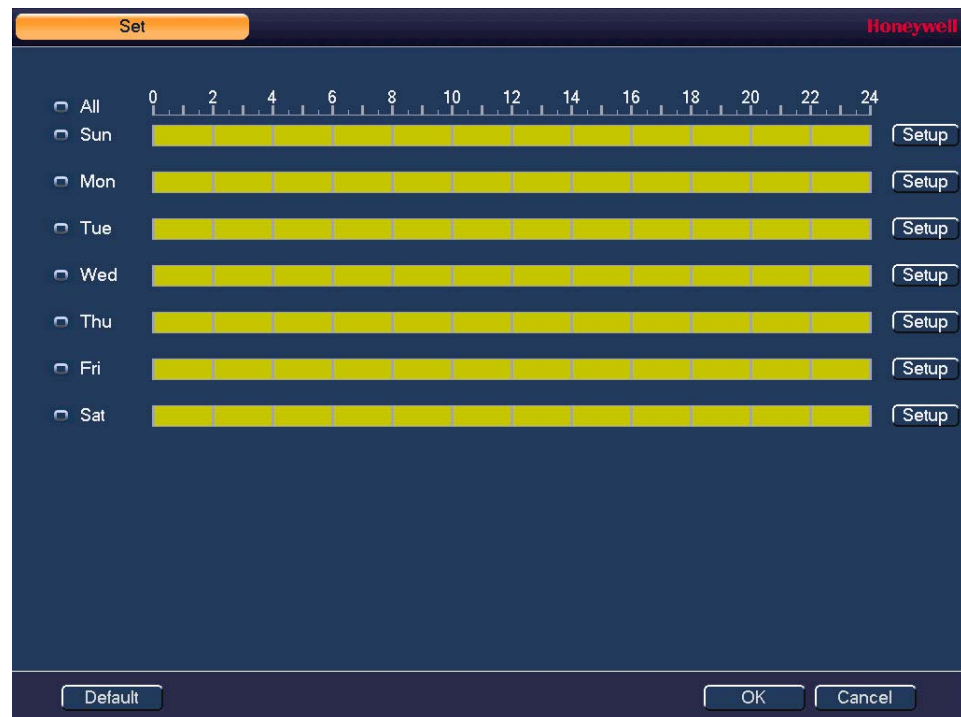
Threshold is the amount of motion required to trigger an event notification.

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.

To set up motion detection periods

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



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*.

- Alternatively, for the day of the week that you want to configure, click **Setup**. The **Period** window opens.

Period

Honeywell

Current Date: Sun

Period 1	00:00 - 24:00	<input checked="" type="checkbox"/>
Period 2	00:00 - 24:00	<input type="checkbox"/>
Period 3	00:00 - 24:00	<input type="checkbox"/>
Period 4	00:00 - 24:00	<input type="checkbox"/>
Period 5	00:00 - 24:00	<input type="checkbox"/>
Period 6	00:00 - 24:00	<input type="checkbox"/>

Copy

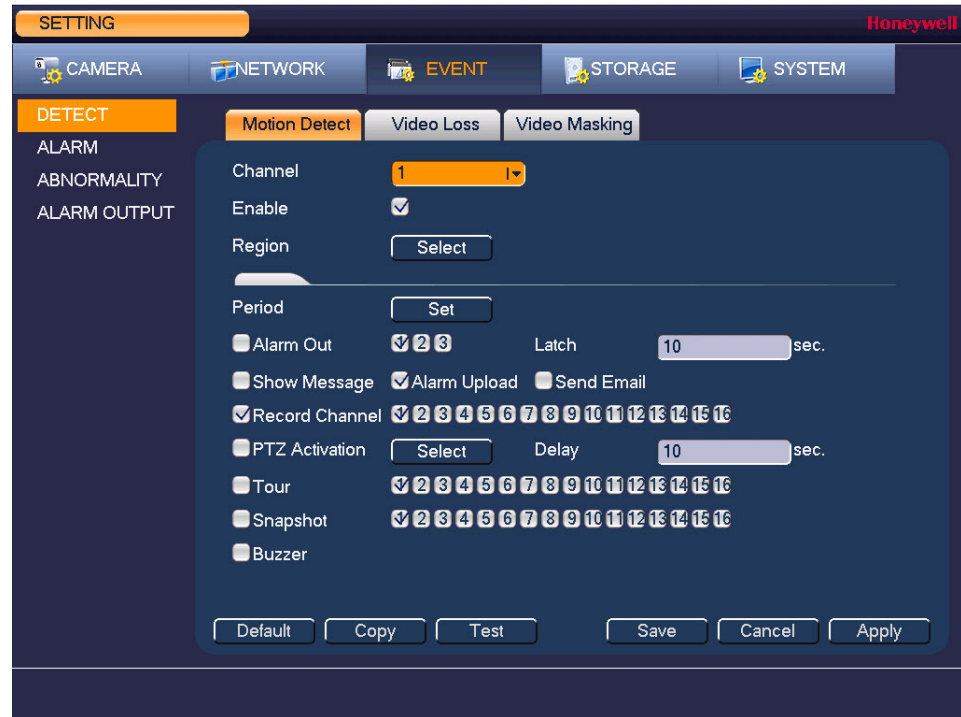
All Sun Mon Tue Wed Thu Fri Sat

Save

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

To set up motion detection event actions

- Go to **Main Menu > Setting > Event > Detect > Motion Detect**.



- 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, 2, or 3) 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.

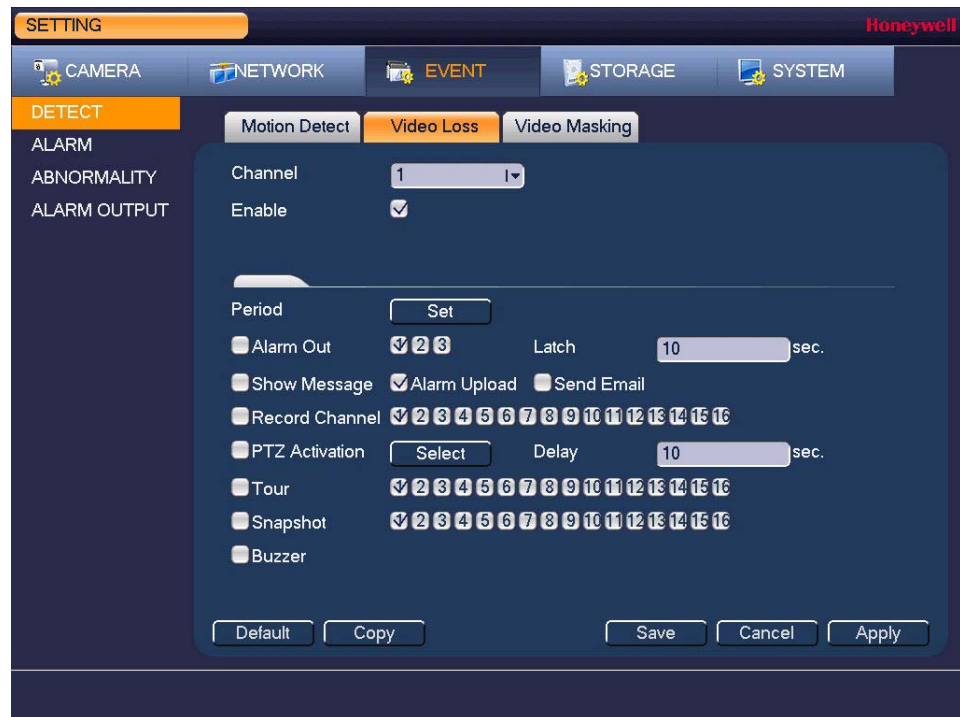
Note You also need to set the motion detection recording period. Go to **Storage > Schedule** to configure the current channel for scheduled recording. See [Configuring the Video Recording Schedule](#) on page 48.
- PTZ Activation** Select the check box to activate PTZ functions, and then click **Select**. 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 DVR.

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 that you want to copy the settings to, and then click **OK**.

Configuring Video Loss Settings

To configure video loss settings

1. Go to **Main Menu > Setting > Event > Detect > Video Loss**.

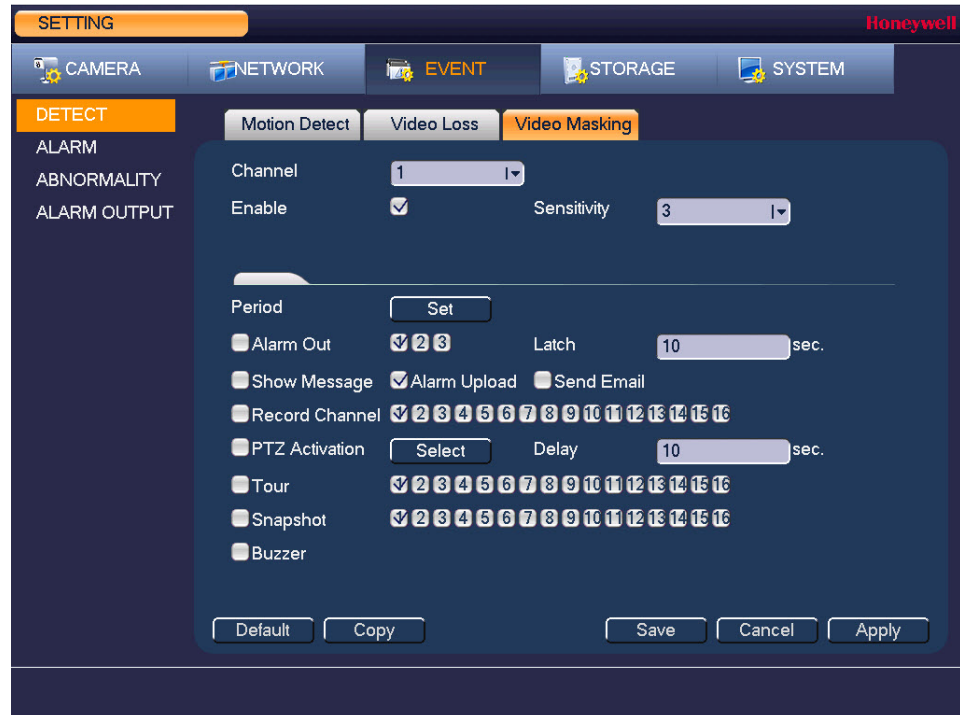


2. On the **Video Loss** tab, in the **Channel** box, select the channel (camera) that you want to configure video loss detection settings for.
3. Select the **Enable** check box to enable video loss detection for the selected channel.
4. To set the periods when video loss detection is active, next to **Period**, click **Set**, and then follow the steps listed in [To set up motion detection periods](#) on page 85.
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 87.
6. Click **Apply** to save your settings.
7. To copy the settings to additional channels, click **Copy**, select the channels that you want to copy the settings to, and then click **OK**.

Configuring Video Masking (Tampering) Settings

To configure video tampering settings

1. Go to **Main Menu > Setting > Event > Detect > Video Masking**.



2. On the **Video Masking** tab, in the **Channel** box, select the channel (camera) that you want to configure video tampering detection settings for.
3. Select the **Enable** check box to enable video tampering detection for the selected channel.
4. In the **Sensitivity** box, set the sensitivity level. Select a value between **1** and **6**, with **6** being the highest sensitivity. The default setting is **3**.
5. 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 85.
6. 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 87.
7. Click **Apply** to save your settings.
8. To copy the settings to additional channels, click **Copy**, select the channels that you want to copy the settings to, and then click **OK**.

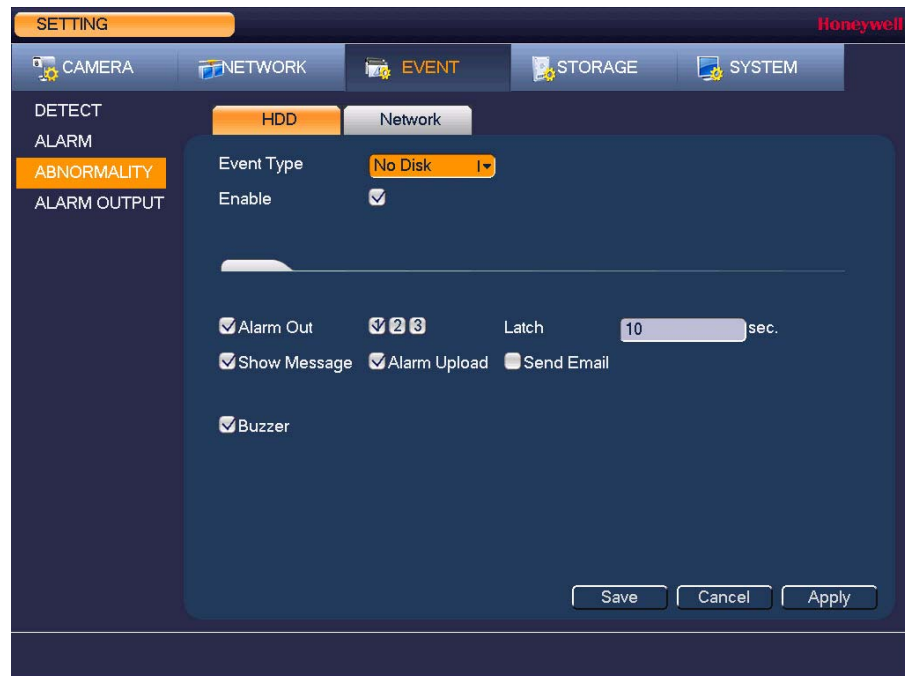
Configuring System Event Settings

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**.

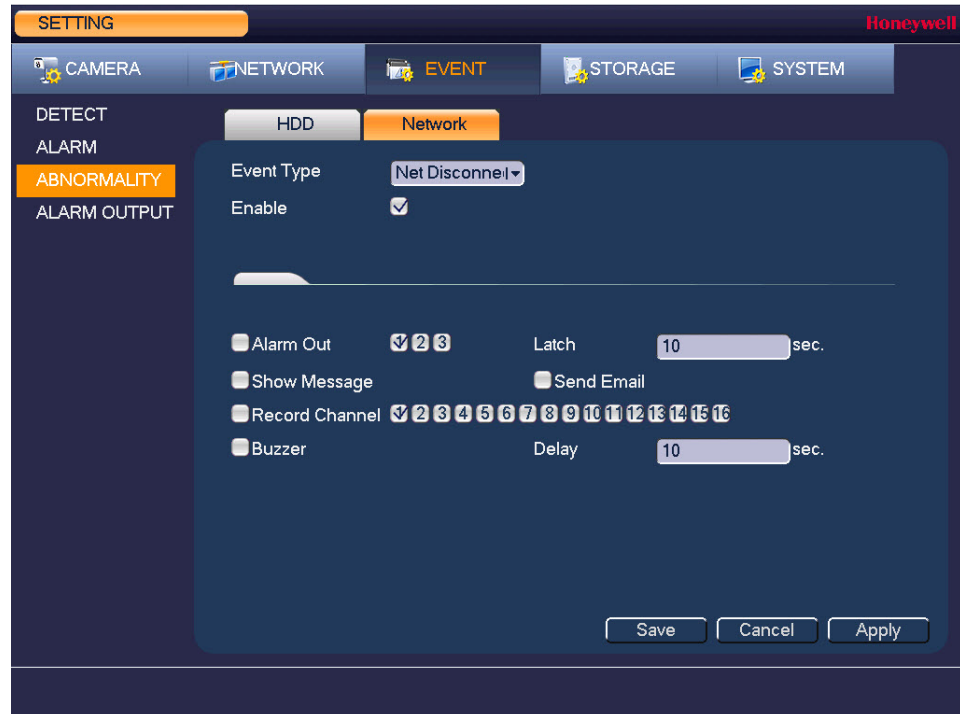


2. On the **HDD** tab, in the **Event Type** box, select the event type that you want to configure settings for: **No Disk**, **Disk Error**, **Disk No Space**.
3. Select the **Enable** check box to enable HDD error detection.
4. Select the actions that you want the system to initiate when the selected event occurs:
 - **Alarm Out** Select the alarm output(s) (1, 2, or 3) 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.
 - **Buzzer** Select the check box to activate a buzzer noise at the DVR.
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**.



2. On the **Network** tab, in the **Event Type** box, select the event type that you want to configure settings for: **Net Disconnection, IP Conflicted, MAC Conflicted**.
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, 2, or 3). 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.
 - **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 the network event is triggered.
 - **Buzzer** Select the check box to activate a buzzer noise at the DVR.
5. Click **Apply** to save your settings.

Configuring Alarm Input Settings

Configuring Local Alarm Inputs

To configure alarm inputs

1. Go to **Main Menu > Setting > Event > Alarm > Local Alarm**.

The screenshot displays the Honeywell alarm configuration interface. The top navigation bar includes 'CAMERA', 'NETWORK', 'EVENT', 'STORAGE', and 'SYSTEM'. The 'EVENT' menu is expanded to show 'DETECT', 'ALARM', 'ABNORMALITY', and 'ALARM OUTPUT'. The 'ALARM' menu is further expanded to show 'Local Alarm' and 'Net Alarm'. The 'Local Alarm' tab is active, showing the following settings:

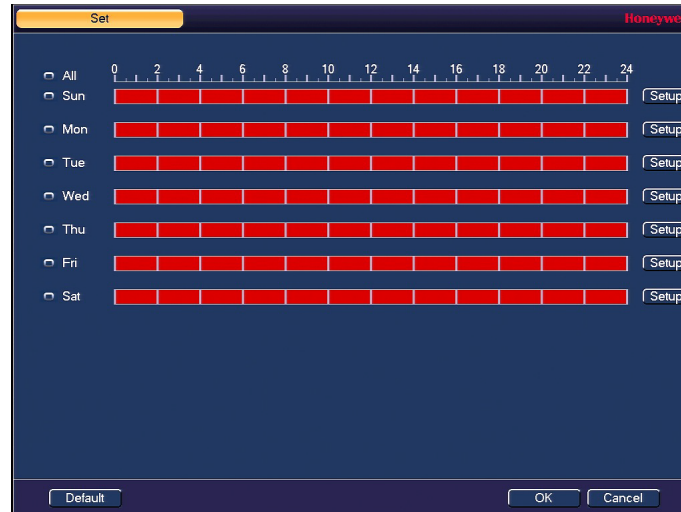
- Alarm In:** 1 (dropdown menu)
- Enable:**
- Device Type:** Normal Open (dropdown menu)
- Alarm Name:** Alarm In1 (text input)
- Period:** Set (button)
- Anti-dither:** 5 sec. (text input)
- Alarm Out:** 2 3 (dropdown menu)
- Latch:** 10 sec. (text input)
- Show Message:**
- Alarm Upload:**
- Send Email:**
- Record Channel:** 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 (dropdown menu)
- PTZ Activation:** Select (button)
- Delay:** 10 sec. (text input)
- Tour:** 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 (dropdown menu)
- Snapshot:** 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 (dropdown menu)
- Buzzer:**

At the bottom of the configuration panel, there are buttons for 'Default', 'Copy', 'Save', 'Cancel', and 'Apply'.

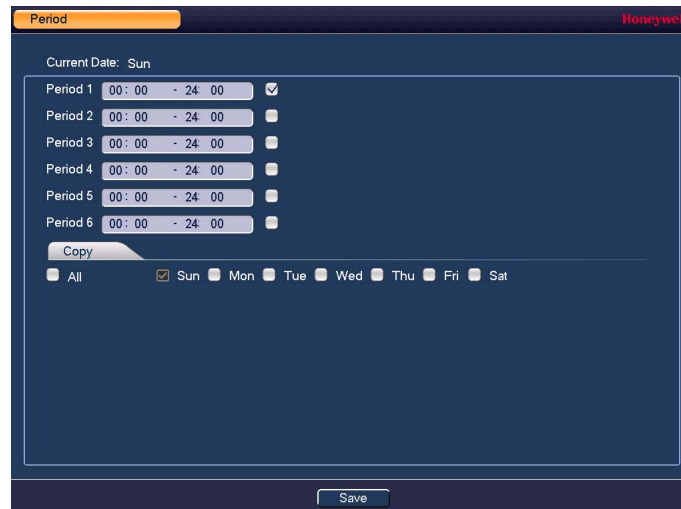
2. On the **Local Alarm** tab, in the **Alarm In** box, select the alarm input that you want to configure settings for.
3. Select the **Enable** check box to enable alarm detection of the selected alarm input.
4. In the **Device Type** box, select the alarm input type: **Normal Close** or **Normal Open**.
5. If you want, in the **Alarm Name** box, rename the alarm input.

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.
 - **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 48.
 - **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 DVR.
3. Click **Apply** to save your settings.
4. To copy the alarm event settings to additional channels, click **Copy**, select the channels that you want to copy the settings to, and then click **OK**.

Configuring Network Alarm Inputs

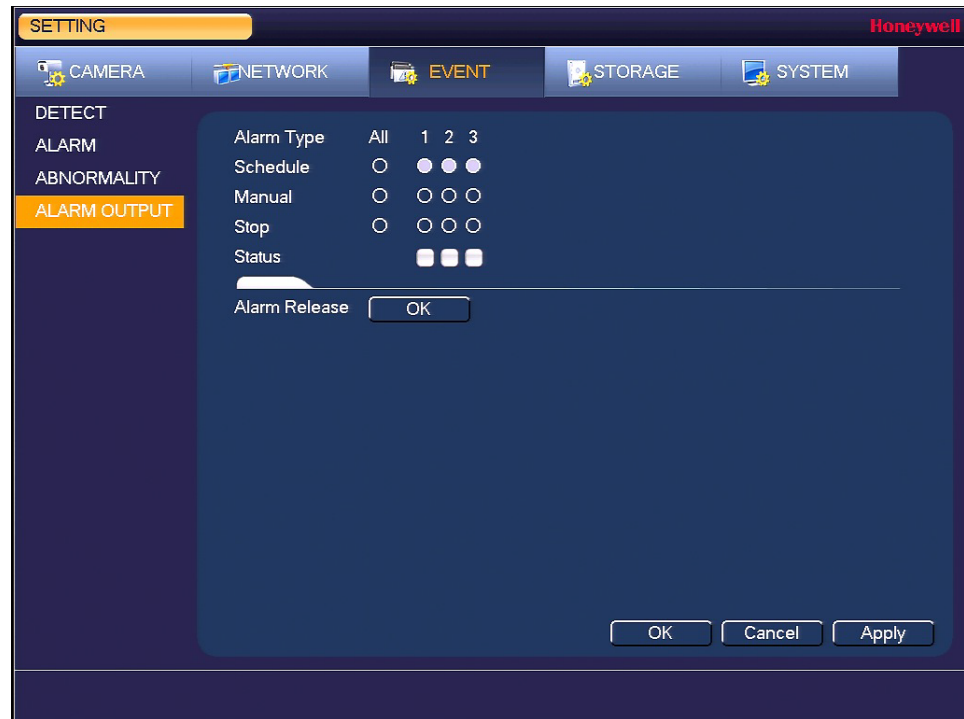
A network alarm is an alarm signal originating from the TCP/IP network connection. You can use NET SDK protocol to activate the network alarm.

To configure network alarm inputs, follow the same steps as for configuring local alarm inputs.

Configuring Alarm Outputs

To configure alarm outputs

1. Go to **Main Menu > Setting > Event > Alarm Output**.



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 48 and [Configuring the Snapshot Recording Schedule](#) on page 49.
 - **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:

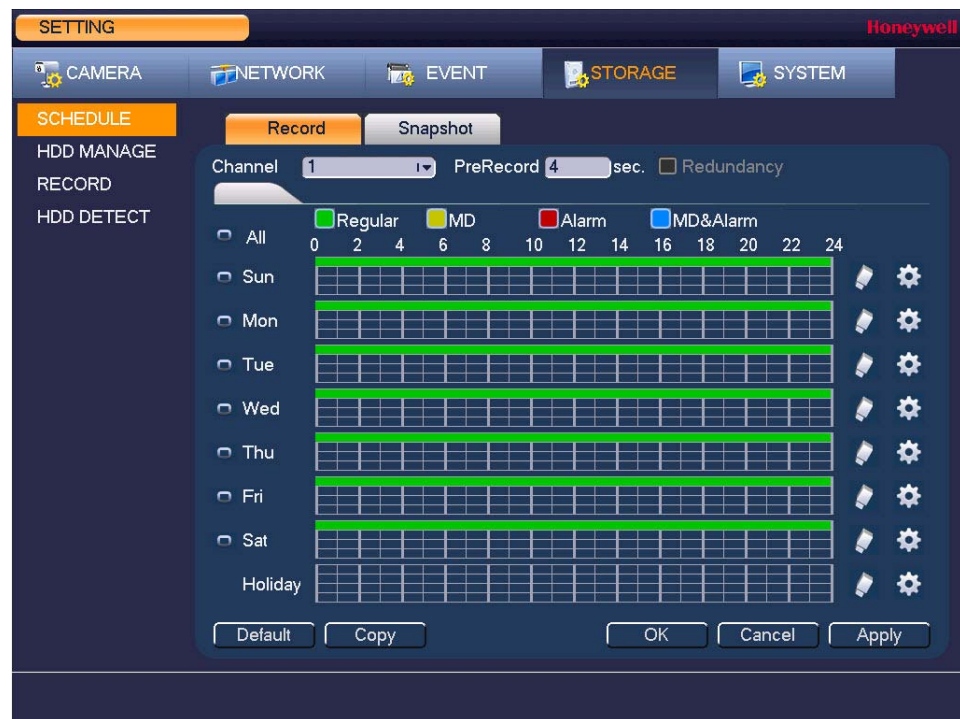
- [Configuring the Recording Schedule, page 98](#)
- [Configuring HDD Settings, page 100](#)
- [Configuring Record Settings, page 101](#)
- [Configuring HDD Diagnostic Settings, page 102](#)

Configuring the Recording Schedule

Configuring the Video Recording Schedule

To configure the video recording schedule

1. Go to **Main Menu > Setting > Storage > Schedule > Record**.



2. On the **Record** tab, in the **Channel** box, select the channel (camera) that you want to configure a recording schedule for.
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 DVR records before the scheduled recording start time. For example, if the DVR is scheduled to start recording at 12:00 and the pre-record time is set to 4 seconds, the DVR will start recording at 11:59:56.
4. If the DVR 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 that you want to configure a recording schedule for. 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 that you want to copy the settings to, and then click **OK**.

Configuring the Snapshot Recording Schedule

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

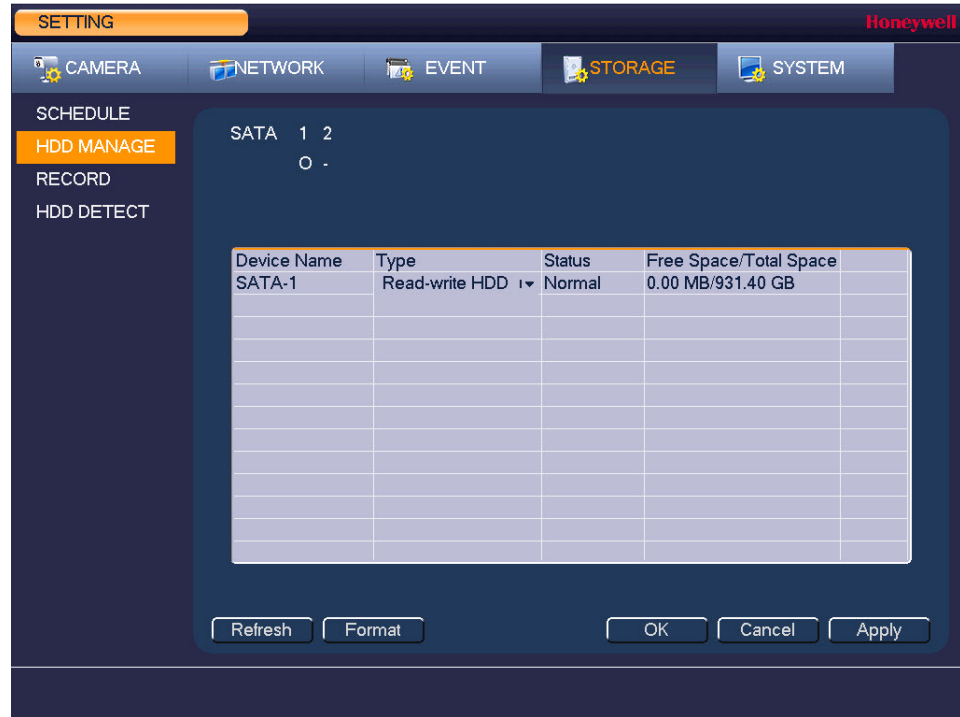
To configure the snapshot recording schedule

1. Go to **Main Menu > Setting > Storage > Schedule > Snapshot**.
2. On the **Snapshot** tab, in the **Channel** box, select the channel (camera) that you want to configure a recording schedule for.
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 that you want to configure a recording schedule for. 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 that you want to copy the settings to, and then click **OK**.

Configuring HDD Settings

To configure HDD settings

1. Go to **Main Menu > Setting > Storage > HDD Manage.**



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.

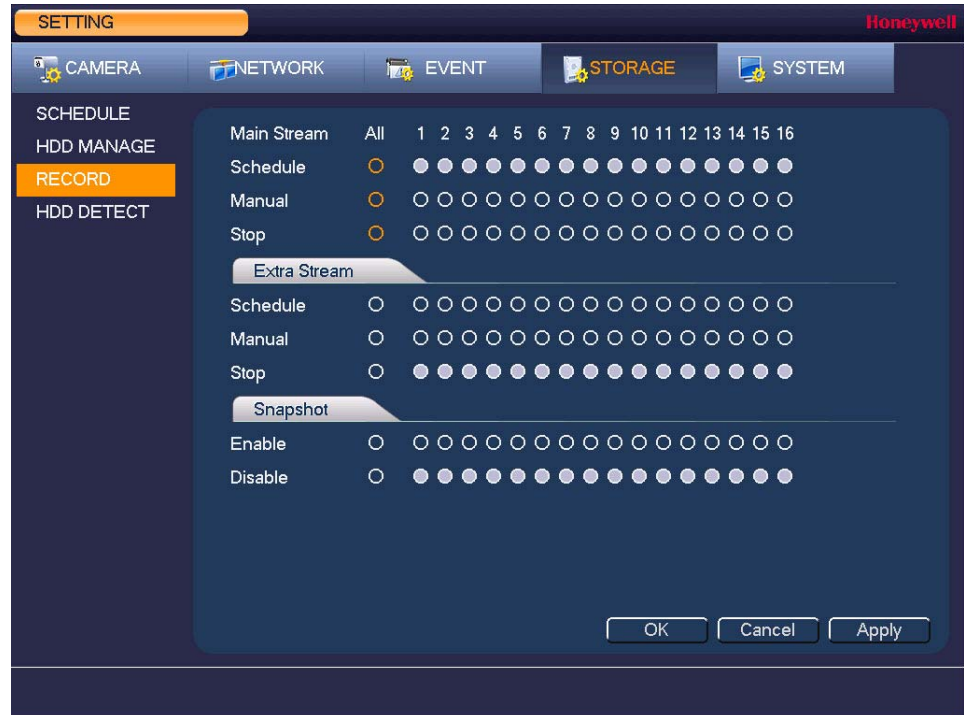
**Free Space/
Total Space** The amount of free space remaining on the HDD/
The total capacity of the HDD.

2. 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**. The DVR restarts to apply the new setting.
3. To erase all the data from the HDD, click **Format**. The message "Confirm format on the selected device?" Click **OK** to continue.

Configuring Record Settings

To configure record settings

1. Go to **Main Menu > Setting > Storage > Record.**

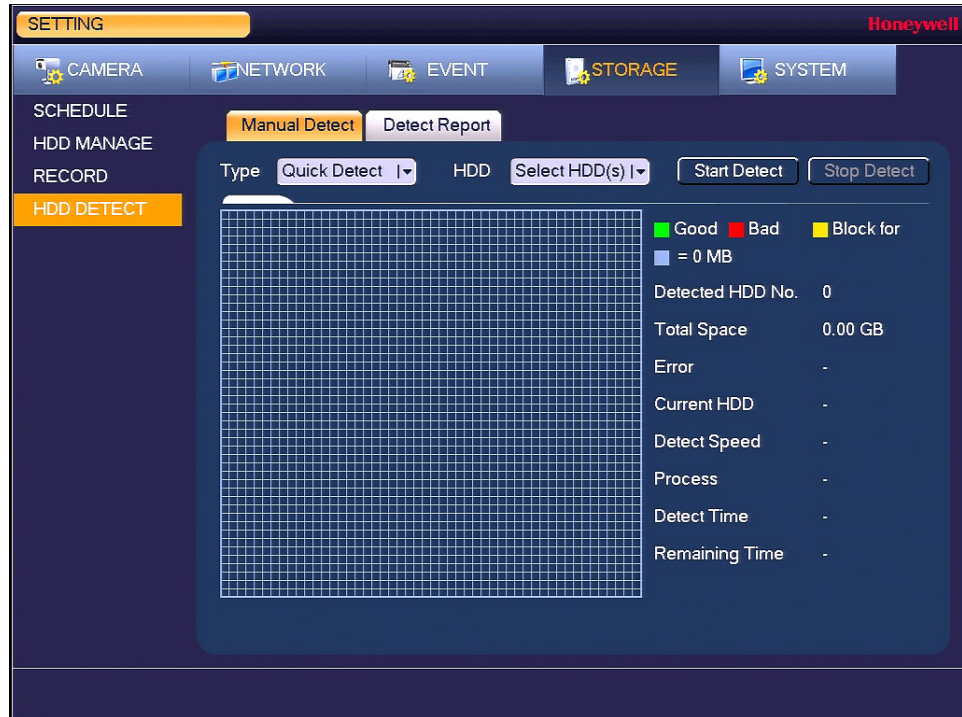


2. On the **Record** page, select the record types (**Schedule, Manual, Stop**) that you want to enable on each channel for both the main stream and secondary stream.
3. Under **Snapshot**, enable or disable snapshot recording on each channel.
4. Click **Apply** to save your settings.

Configuring HDD Diagnostic Settings

To run a diagnostic test on the HDD

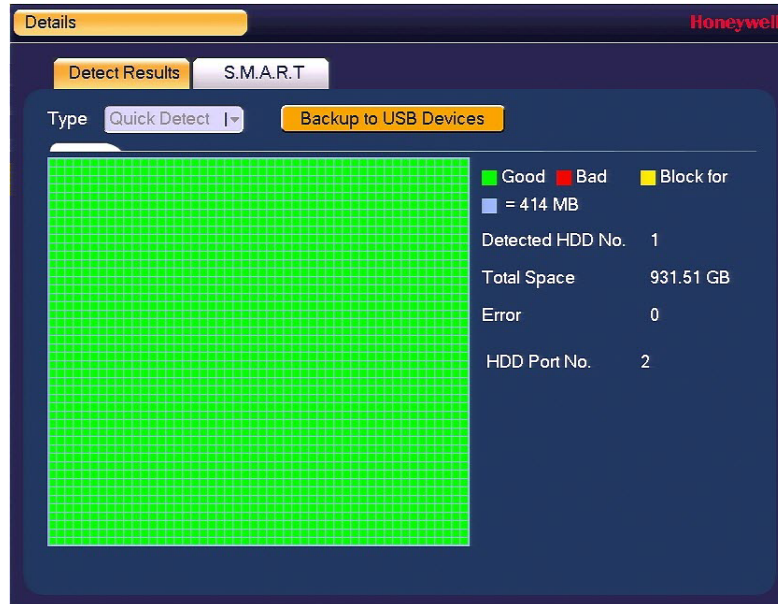
1. Go to **Main Menu > Setting > Storage > HDD Detect > Manual Detect**.



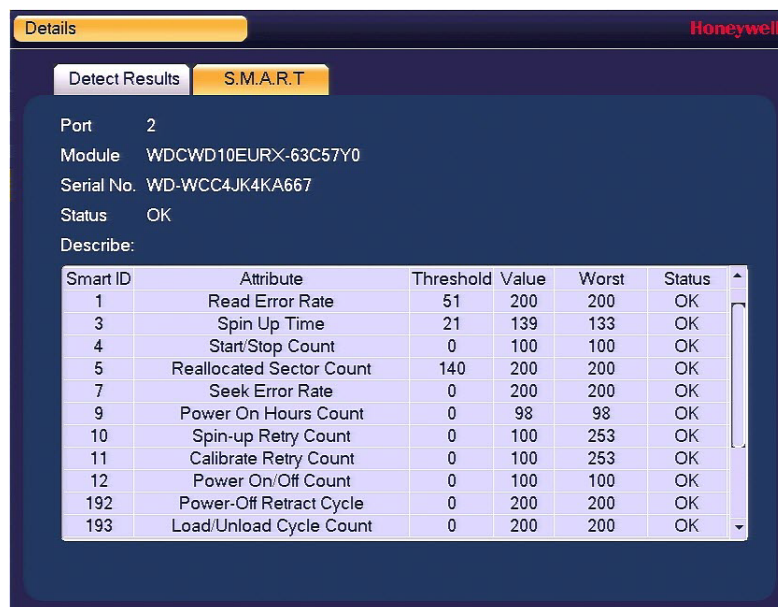
2. On the **Manual Detect** tab, in the **Type** box, select the diagnostic test that you want to run: **Quick Detect** or **Full Detect**.
3. In the **HDD** box, select the check box of the HDD that you want to test.
4. Click **Start Detect** to start the diagnostic test.

To view and/or back up the diagnostic test results

1. Click the **Detect Report** tab, select the report that you want to view, and then click the **View** button. The **Details** window opens.



2. In the **Details** window, on the **Detect Results** tab, you can view a graphical depiction of the HDD's overall health. Any bad sectors are marked red.
3. To back up the test results to an external USB storage device, ensure that a USB storage device (such as a USB flash drive) is connected to one of the USB ports on the DVR, and then click **Backup to USB Devices**. If the backup is successful, the message "BackupSucceed" appears.
4. To view S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) details, click the **S.M.A.R.T** tab.



10

Configuring System Settings

This chapter contains the following sections:

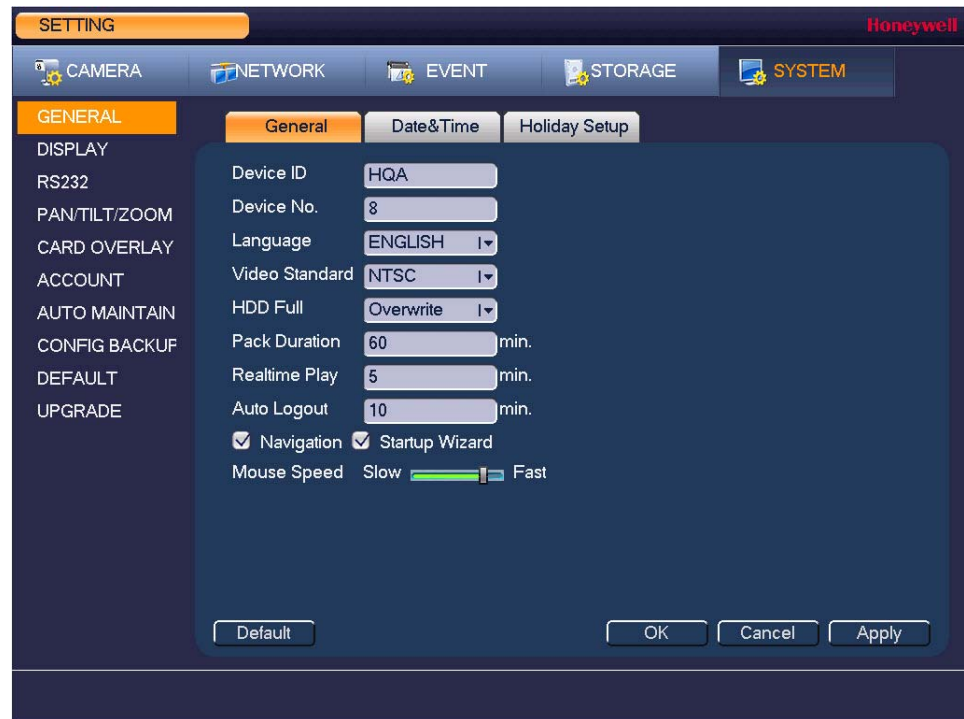
- *Configuring General System Settings, page 106*
- *Configuring Display Settings, page 111*
- *Configuring RS232 Settings, page 114*
- *Configuring Pan/Tilt/Zoom Settings, page 115*
- *Configuring Card Overlay Settings, page 115*
- *Configuring Account Settings, page 118*
- *Configuring Automatic Maintenance Settings, page 121*
- *Exporting and Importing System Configurations, page 123*
- *Restoring Default Settings, page 125*
- *Upgrading the DVR, page 126*

Configuring General System Settings

Configuring Device Settings

To configure general settings

1. Go to **Main Menu > Setting > System > General > General.**



2. On the **General** tab, configure the following settings:
 - **Device ID** Enter a device name for the DVR.
 - **Device No.** Enter a device number for the DVR.
 - **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 DVR waits before logging out an inactive user. Specify a time between **0** and **60** minutes. The default setting is **10 min**.
 - **Navigation** 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 Speed** Set the desired mouse speed using the slider.
3. Click **Apply** to save your settings.

Configuring Date and Time Settings

To configure the system time setting

1. Go to **Main Menu > Setting > System > General > Date&Time**.

The screenshot shows the Honeywell system settings interface. The top navigation bar includes 'SETTING' and 'Honeywell'. Below it are tabs for 'CAMERA', 'NETWORK', 'EVENT', 'STORAGE', and 'SYSTEM'. The 'SYSTEM' tab is active, and the 'Date&Time' sub-tab is selected. The left sidebar lists various settings categories like 'GENERAL', 'DISPLAY', 'RS232', etc. The main content area shows the following configuration options:

- Date Format:** YYYY MM DD
- Time Format:** 24-HOUR
- Date Separator:** -
- System Time:** 2014 - 11- 18 | 15: 58: 43
- Time Zone:** GMT+00:00
- DST:** Unchecked
- DST Type:** Day of Week (selected), Date
- Start Time:** 2000 - 01- 01 | 00: 00
- End Time:** 2000 - 01- 01 | 00: 00
- NTP:** Unchecked
- Server IP:** time.windows.com
- Port:** 123
- Update Period:** 60 min.

Buttons at the bottom include 'Default', 'Save', 'Cancel', and 'Apply'.

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.

To configure the Daylight Saving Time (DST) setting

1. Go to **Main Menu > Setting > System > General > Date&Time**.
2. On the **Date&Time** tab, select the **DST** check box.
3. Specify when Daylight Saving Time begins and ends.
 - a. Since the specific dates change every year, select **Day of Week** 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.).
 - c. Set the **End Time** as **Nov 1st Su 02:00** (the first Sunday in November at 2:00 a.m.).
4. Click **Apply** to save your settings.

To synchronize the system time with the Network Time Protocol (NTP)

1. Ensure that the DVR is connected to the Internet.
2. Go to **Main Menu > Setting > System > General > Date&Time**.
3. On the **Date&Time** tab, select the **NTP** check box.
4. In the **Server IP** box, enter the IP address of the NTP server that you want to use (for example, time.nist.gov).
5. Ensure that **Port** is set to **123**.
6. To change the frequency with which the system time synchronizes with the NTP server, enter a new time in the **Update Period** box. The default setting is **60 min**.
7. Click **Manual Update** to manually synchronize your system time with the NTP server.
8. Click **Apply** to save your settings.

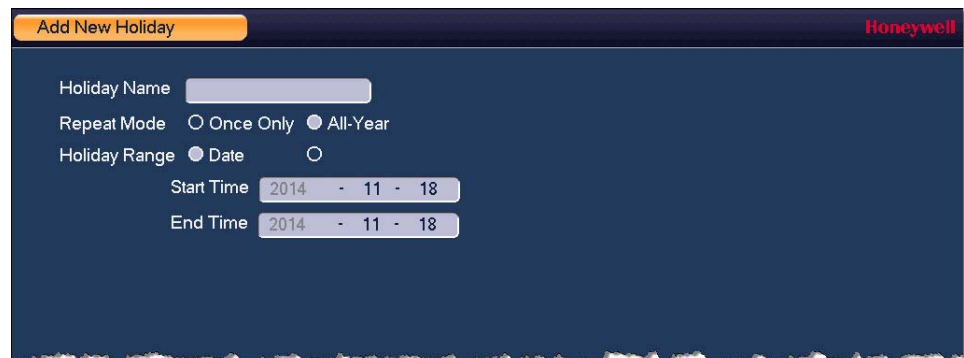
Configuring Holiday Settings

To configure holiday settings

1. Go to **Main Menu > Setting > System > General > Holiday Setup**.



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



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

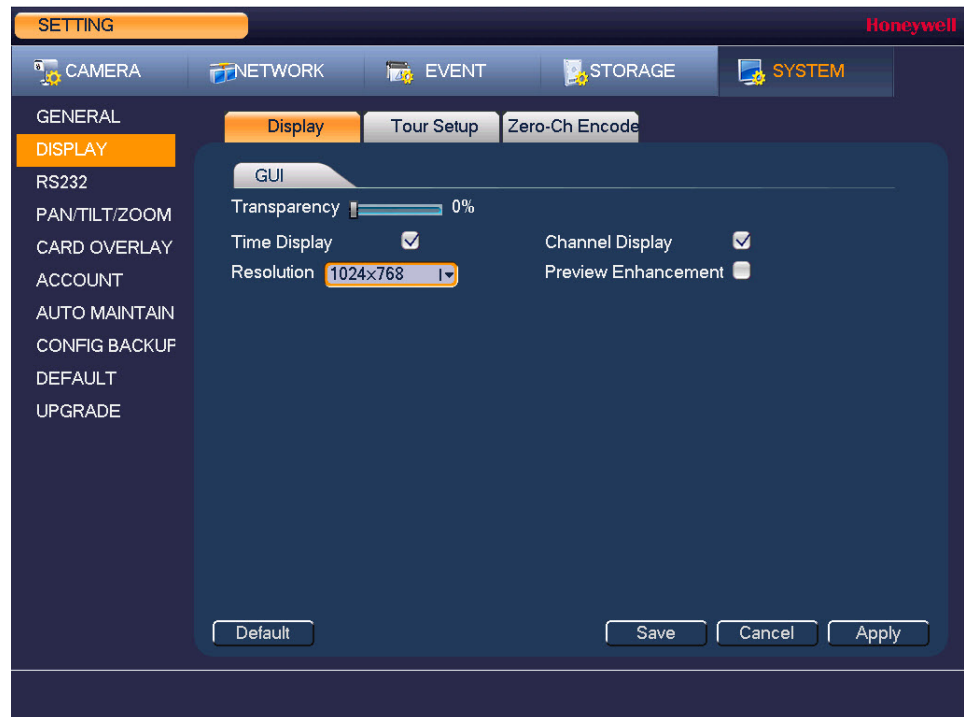
5. Set **Holiday Range** to **Date** or **Week** depending on whether you want to designate a single day or one or more weeks as a holiday.
 - If **Date** is selected, enter the year, month, and day in the **Start Time** and **End Time** boxes.
 - If **Week** is selected, enter the year, month, week 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 > Display**.



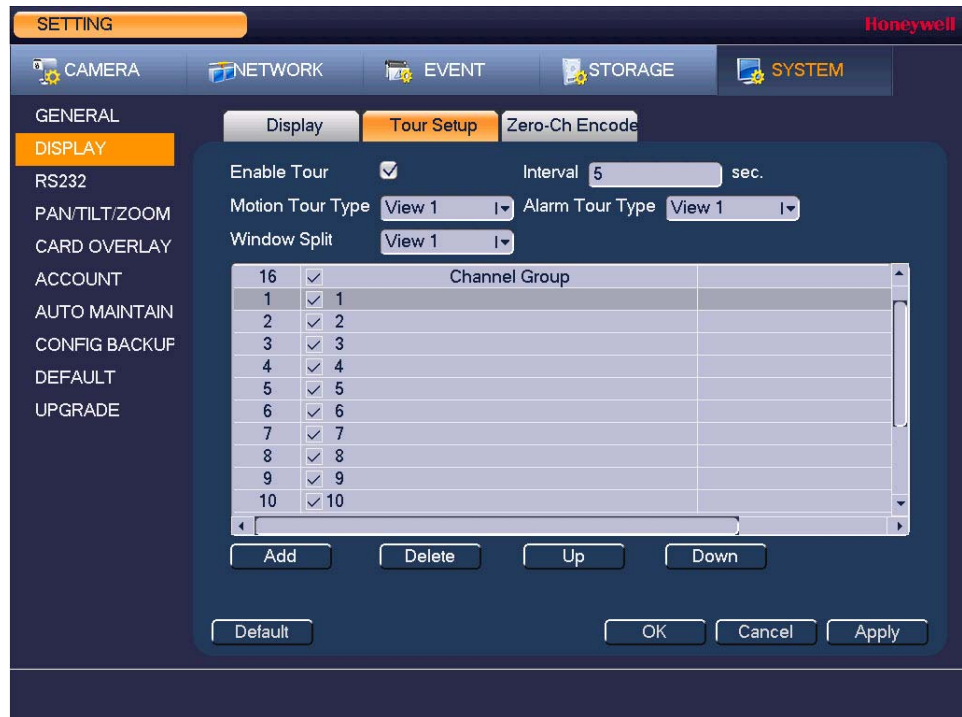
2. On the **Display** tab, configure the following settings:
 - **Transparency** Set the transparency of the graphical user interface (GUI) to a value between **0** and **100**, with **0** being totally opaque and **100** being totally transparent.
 - **Time Display** To display the current time in each 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.
 - **Resolution** Set the resolution of your display.
Note You must restart the DVR for new display resolution settings to take effect.
 - **Preview Enhancement** To enhance the display image, select the check box. To keep the default settings, clear the check box.
3. Click **Apply** to save your settings.

Configuring Tour Settings

In a tour, the DVR 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 Setup**.



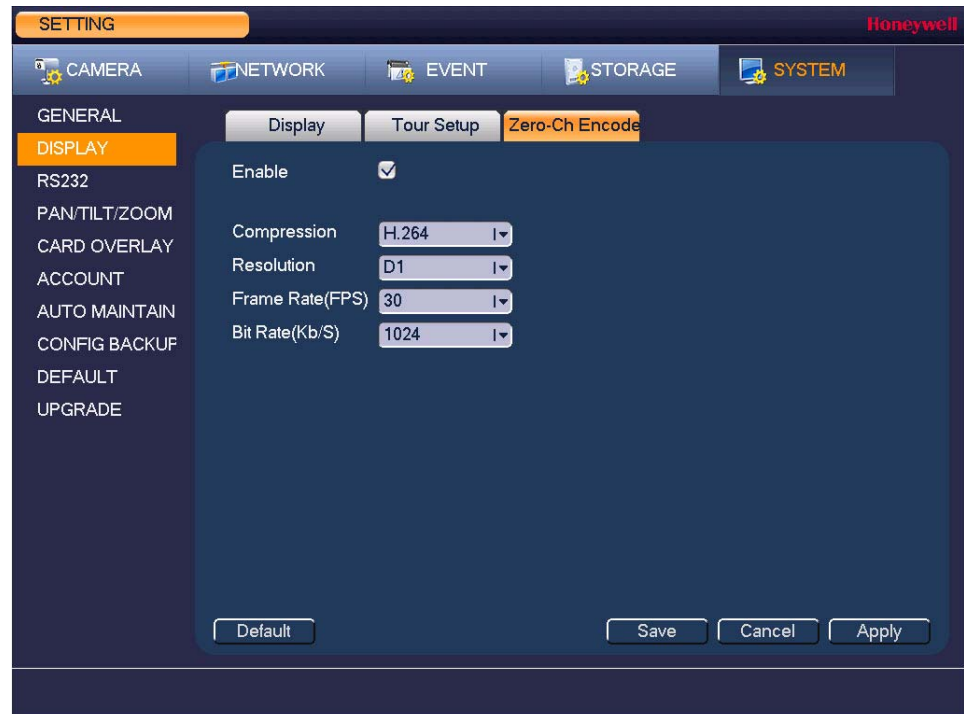
2. On the **Tour Setup** tab, select the **Enable Tour** check box to enable the tour function or clear the check box to disable the tour function.
3. In the **Interval** box, enter the amount of time in seconds that you want each view to appear on the screen. The default setting is **5** seconds.
4. 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.
5. 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. On some DVR models you can change the **Motion Tour Type** and **Alarm Tour Type** from **View 1** (single-channel view) to **View 4** (four-channel view).
6. Click **Apply** to save your settings.

Configuring Zero-Channel Settings

The zero channel function lets you view several video sources on one channel in a web browser, saving bandwidth and improving upload speeds.

To configure zero channel encoding

1. Go to **Main Menu > Setting > System > Display > Zero-Ch Encode**.

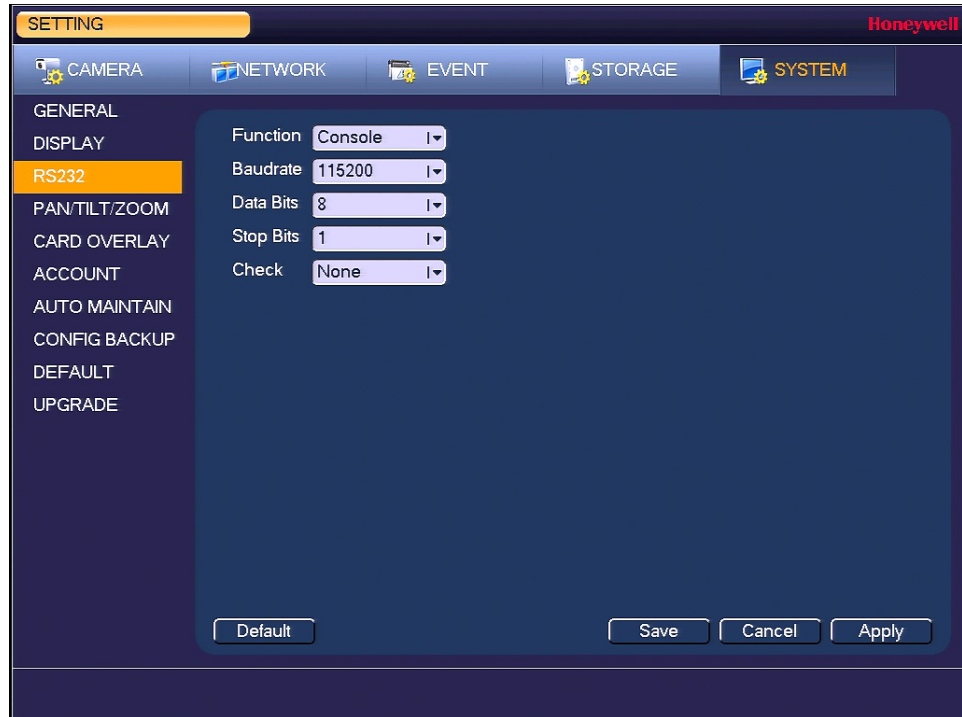


2. On the **Zero-Ch Encode** tab, configure the following settings:
 - **Enable** Select the check box to enable the zero-channel function or clear the check box to disable it.
 - **Compression** Select the desired video compression standard from the list. The default setting is H.264.
 - **Resolution** Select the desired video resolution from the list. The default setting is **D1**.
 - **Frame Rate (FPS)** Select a value between **1** and **30** (NTSC) or between **1** and **25** (PAL).
 - **Bit Rate (Kb/S)** Select a value between **896** and **4096**. The default setting is **1024**.
3. Click **Apply** to save your settings.
4. Open a web browser, enter the DVR's remote access IP address in the browser's address field, and then log in.
5. Select **Multi-Preview** in the remote web client interface to display all of the DVR's video sources in one channel.

Configuring RS232 Settings

To configure RS232 settings

1. Go to **Main Menu > Setting > System > RS232**.



2. Configure the following settings:
 - **Function** Select **Console**, **Adapter**, or **NetKeyboard**, depending on the type of RS232 device that you have connected to the DVR.
 - **Baudrate** Select a value between **1200** and **115200**. The default setting is **115200**.
 - **Data Bits** Select a value between **5** and **8**. The default setting is **8**.
 - **Stop Bits** Select **1**, **1.5**, or **2**. The default setting is **1**.
 - **Check** Select **None**, **Odd**, **Even**, **Mark**, or **Space**. The default setting is **None**.
3. Click **Apply** to save your settings.

Configuring Pan/Tilt/Zoom Settings

See *Configuring PTZ Connection Settings* on page 38.

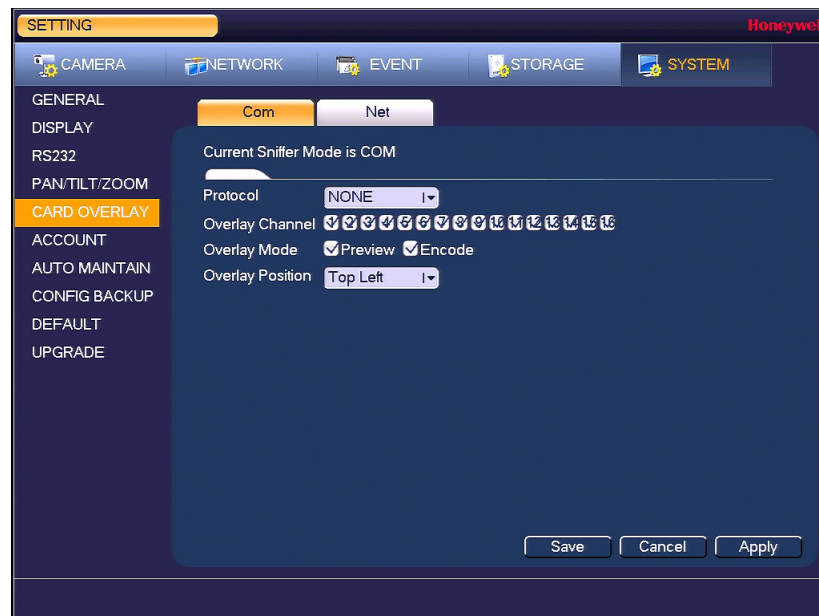
Configuring Card Overlay Settings

The card overlay settings allow the DVR to communicate with automated teller machines (ATMs) and point of sale (POS) machines in a retail environment.

Configuring COM Settings

To configure the COM settings

1. Go to **Main Menu > Setting > System > Card Overlay > Com.**



2. On the **Com** tab, configure the following settings:
 - **Protocol** Select **None** or **POS**.
 - **Overlay Channel** Select a camera.
 - **Overlay Mode** The **Preview** and **Encode** overlay modes are enabled by default. Clear the check boxes if you want to disable them.
 - **Overlay Position** Select **Top Left**, **Bottom Left**, **Top Right**, or **Bottom Right**.
3. Click **Apply**, and then click **Save** to save the settings.

Configuring Net Settings

You can configure the network settings with or without the ATM/POS protocol.

To configure the network settings with the ATM/POS protocol

1. Go to **Main Menu > Setting > System > Card Overlay > Net**.

The screenshot shows the 'SETTING' menu with 'SYSTEM' selected. Under 'SYSTEM', 'CARD OVERLAY' is selected, and the 'Net' tab is active. The configuration fields are as follows:

- Protocol:** ATM/POS (dropdown)
- Current Sniffer Mode is COM**
- Overlay Mode:** Preview Encode
- Overlay Position:** Top Left (dropdown)
- Data Group:** Data Group1 (dropdown)
- Source IP:** 0 . 0 . 0 . 0 Port 0
- Destination IP:** 0 . 0 . 0 . 0 Port 0
- Record Channel:** 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
- Frame ID Settings:**

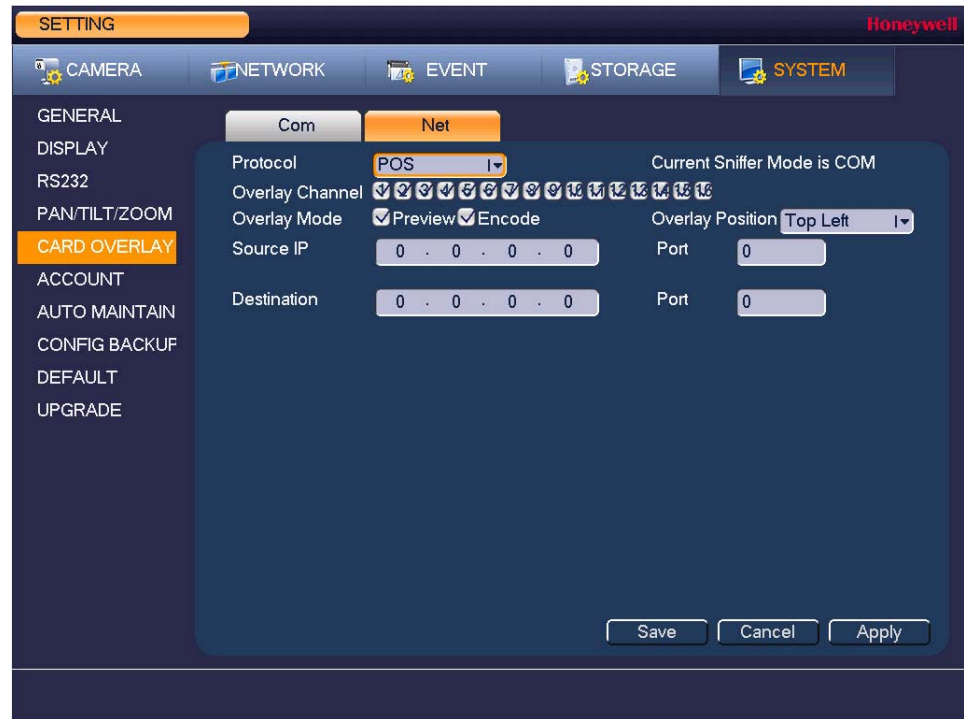
Frame ID	StartPosition	Length	Key	Action
Frame ID1	1	0		Data
Frame ID2	1	0		Data
Frame ID3	1	0		Data
Frame ID4	1	0		Data
Frame ID5	1	0		Data
Frame ID6	1	0		Data

Buttons at the bottom: Save, Cancel, Apply.

2. On the **Net** tab, configure the following settings:
 - **Protocol** Select **ATM/POS**.
 - **Overlay Mode** The **Preview** and **Encode** overlay modes are enabled by default. Clear the check boxes if you want to disable them.
 - **Overlay Position** Select **Top Left**, **Bottom Left**, **Top Right**, or **Bottom Right**.
 - **Source IP/Port** Enter the source IP and port. The source IP refers to the host IP address that sends out the information.
 - **Destination/Port** Enter the destination IP and port. The destination IP refers to the IP address of the device that receives the information.
 - **Record Channel** Select a camera.
 - **Frame ID** Configure up to 6 Frame IDs to ensure valid and legal information.
Enter the **StartPosition**, **Length**, and **Key**. Click **Data** to enter **Start Position**, **Length**, and **Title** information for up to four fields, and then click **Save**.
3. Click **Apply**, and then click **Save** to save the settings.

To configure the network settings without the ATM/POS protocol

1. Go to **Main Menu > Setting > System > Card Overlay > Net**.



2. On the **Net** tab, configure the following settings:
 - **Protocol** Select **POS**.
 - **Overlay Channel** Select a camera.
 - **Overlay Mode** The **Preview** and **Encode** overlay modes are enabled by default. Clear the check boxes if you want to disable them.
 - **Overlay Position** Select **Top Left**, **Bottom Left**, **Top Right**, or **Bottom Right**.
 - **Source IP/Port** Enter the source IP and port. The source IP refers to the host IP address that sends out the information.
 - **Destination/Port** Enter the destination IP and port. The destination IP refers to the IP address of the device that receives the information.
3. Click **Apply**, and then click **Save** to save the settings.

Configuring Account Settings

You can add, edit, or delete user accounts. By default, the DVR 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 DVR. The default user account only has permission to monitor live video.

To add a user account

1. Go to **Main Menu > Setting > System > Account > User**.



The screenshot shows the Honeywell DVR web interface. The top navigation bar includes 'SETTING' and 'Honeywell'. Below it are tabs for 'CAMERA', 'NETWORK', 'EVENT', 'STORAGE', and 'SYSTEM'. The left sidebar lists various settings categories, with 'ACCOUNT' highlighted. The main content area shows the 'User' tab selected, displaying a table of user accounts.

ID	User Name	Group Name	Modify	Delete	Status	Mac Ad
1	admin	admin			Login Local	
2	default	user			Default User	

An 'Add User' button is located at the bottom of the table area.

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

- On the **Add User** page, configure the following settings:

- **User Name** Enter a user name for the account.
- **Reusable** Select the check box to allow multiple clients to access to the DVR using the same user name.
- **Password** Enter a password for the account.
- **Confirm Password** Re-enter the password.
- **Memo** Optionally, enter a brief description of the account.
- **User MAC** Optionally, record the user's MAC address so that user can only log in on a specific device on the network. If this field is left blank, the user can log in on any connected device on the network.
- **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 DVR, back up files, and adjust color settings. To assign additional privileges, change the **user** settings on the **Group** tab.

- Click **Save** to save your settings.

To edit a user account

1. Go to **Main Menu > Setting > System > Account > User**.
2. On the **User** tab, click the **Modify** icon of 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:
 - **Password**
 - **User Name**
 - **User Group**
 - **User MAC**
 - **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 > User**.
2. On the **User** tab, click the **Delete** icon of 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 > Group**.
2. On the **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 > 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

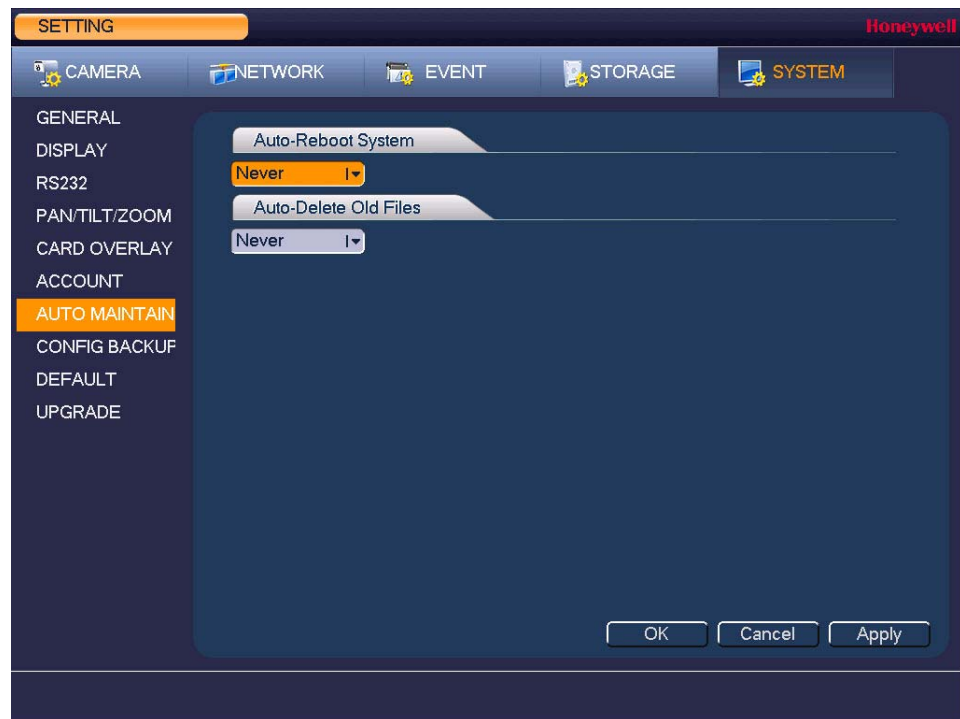
1. Go to **Main Menu > Setting > System > Account > Group**.
2. On the **Group** tab, click the **Delete** icon of the user group that you want to delete.
3. The message "Are you sure that you want to remove this?" appears. Click **OK** to delete the group.

Configuring Automatic Maintenance Settings

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

To configure the auto-reboot function

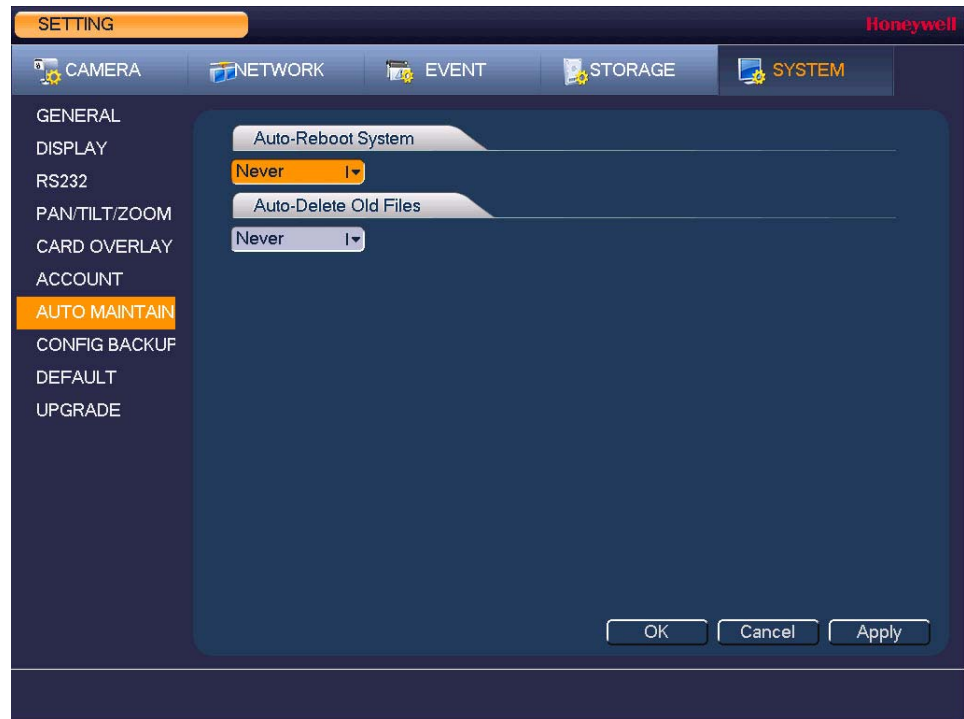
1. Go to **Main Menu > Setting > System > Auto Maintain**.



2. Under **Auto-Reboot System**, select one of the following options: **Never, Everyday, Every Sunday, Every Monday, Every Tuesday, Every Wednesday, Every Thursday, Every Friday, or Every Saturday**.
3. Click **Apply** to save your settings.

To configure the auto-delete old files function

1. Go to **Main Menu > Setting > System > Auto Maintain.**



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.

Exporting and Importing System Configurations

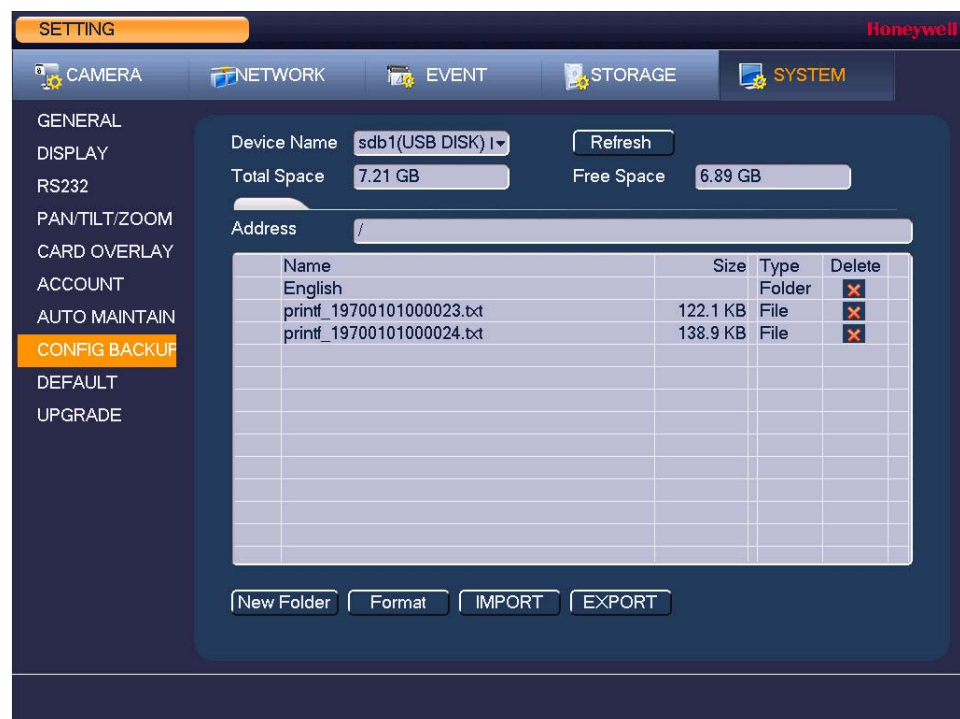
You can export and/or import DVR system configurations if you are installing several DVRs requiring the same setup.

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 DVR. 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 **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 DVR) into one of the USB ports on the DVR. 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 DVR 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 DVR. 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.

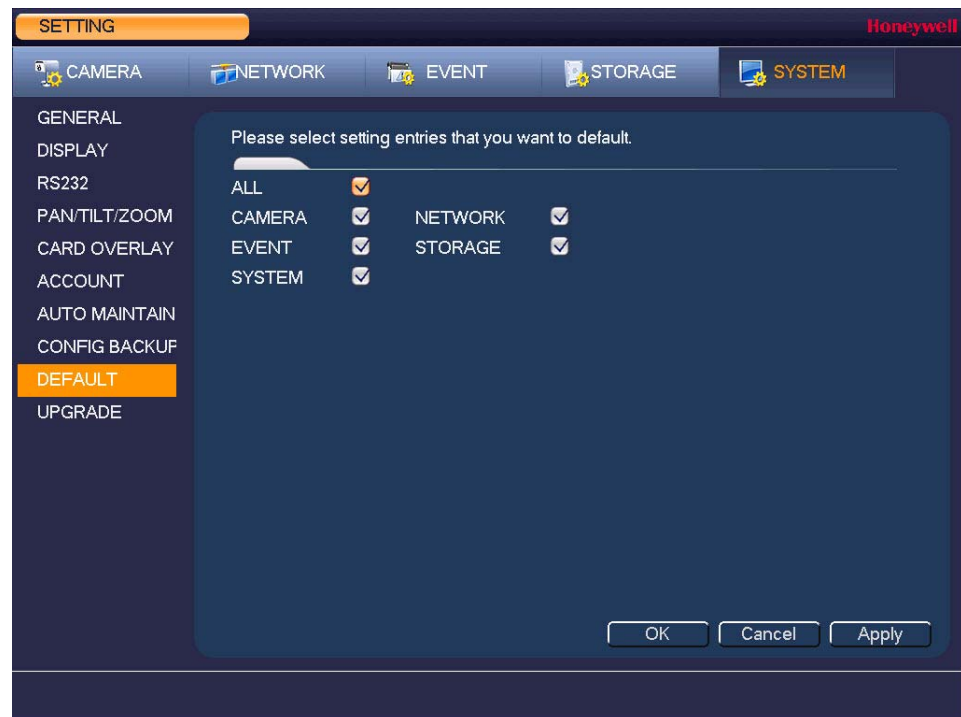
Restoring Default Settings

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**.



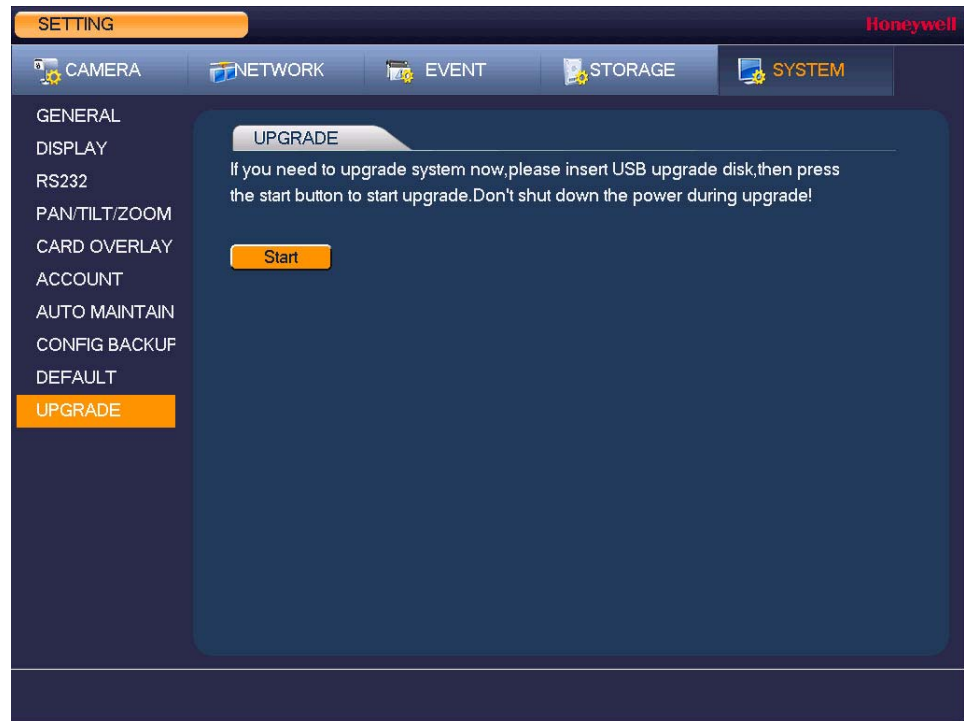
2. Select the check boxes of the items that you want to restore to their default settings, or select **All** to restore all of them to their default settings.
3. Click **Apply** to save your settings.

Upgrading the DVR

You can upgrade the system firmware locally at the DVR.

To upgrade the firmware

1. Go to **Main Menu > Setting > System > Upgrade**.



2. Insert a USB storage device (such as a USB flash drive) containing the new firmware into one of the USB ports on the DVR. 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 **System 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 128](#)
- [Viewing Event Information, page 131](#)
- [Viewing Network Information, page 132](#)
- [Viewing Log Information, page 136](#)

Viewing System Information

In the system information interface you can view HDD information, record information, bit stream statistics, and version details.

Viewing HDD Information

To view HDD information

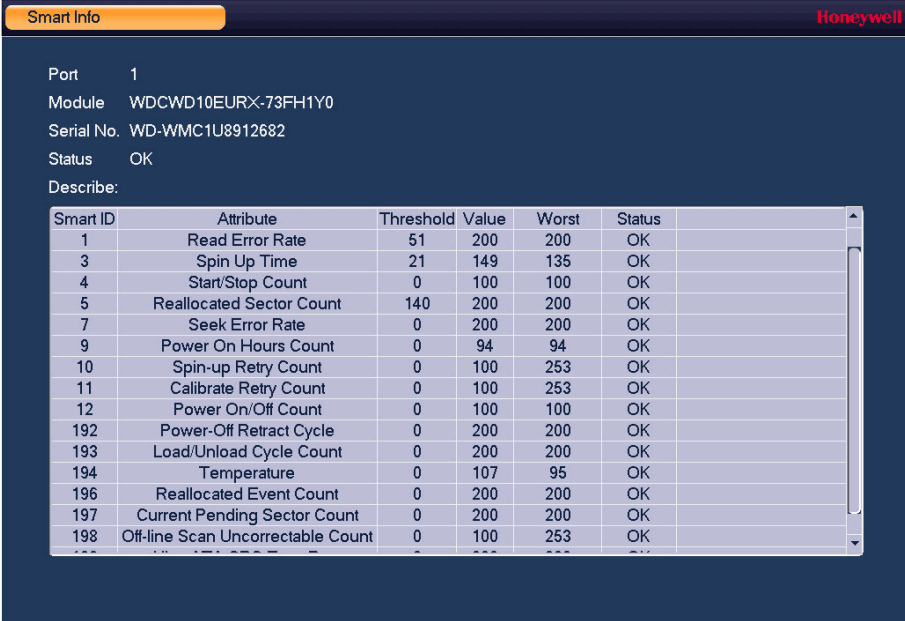
1. Go to **Main Menu > Info > System > HDD Info.**



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.
Type	Indicates the HDD type (for example, Read/Write).
Total Space	Indicates the total capacity of the HDD.
Free Space	Indicates the amount of free space remaining on 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.

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



Smart Info Honeywell

Port 1
 Module WDCWD10EURX-73FH1Y0
 Serial No. WD-WMC1U8912682
 Status OK
 Describe:

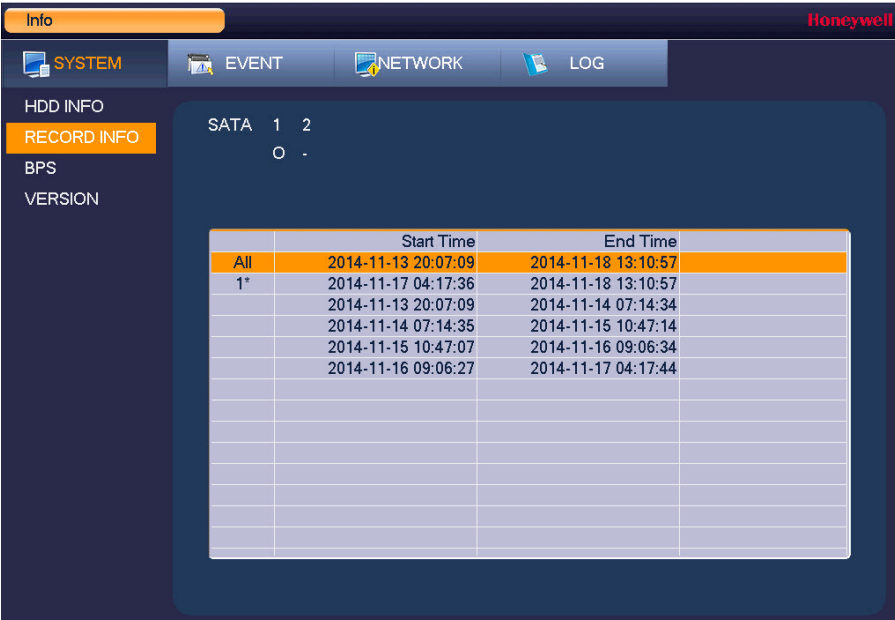
Smart ID	Attribute	Threshold	Value	Worst	Status
1	Read Error Rate	51	200	200	OK
3	Spin Up Time	21	149	135	OK
4	Start/Stop Count	0	100	100	OK
5	Reallocated Sector Count	140	200	200	OK
7	Seek Error Rate	0	200	200	OK
9	Power On Hours Count	0	94	94	OK
10	Spin-up Retry Count	0	100	253	OK
11	Calibrate Retry Count	0	100	253	OK
12	Power On/Off Count	0	100	100	OK
192	Power-Off Retract Cycle	0	200	200	OK
193	Load/Unload Cycle Count	0	200	200	OK
194	Temperature	0	107	95	OK
196	Reallocated Event Count	0	200	200	OK
197	Current Pending Sector Count	0	200	200	OK
198	Off-line Scan Uncorrectable Count	0	100	253	OK

- Right-click to return to the previous screen.

Viewing Recording Information

To view recording information

- Go to **Main Menu > Info > System > Record Info.**



Info Honeywell

SYSTEM EVENT NETWORK LOG

HDD INFO
RECORD INFO
 BPS
 VERSION

SATA 1 2
 0 -

	Start Time	End Time
All	2014-11-13 20:07:09	2014-11-18 13:10:57
1*	2014-11-17 04:17:36	2014-11-18 13:10:57
	2014-11-13 20:07:09	2014-11-14 07:14:34
	2014-11-14 07:14:35	2014-11-15 10:47:14
	2014-11-15 10:47:07	2014-11-16 09:06:34
	2014-11-16 09:06:27	2014-11-17 04:17:44

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

Viewing Data Stream Information

To view data stream information

- Go to **Main Menu > Info > System > BPS**.



Channel	Kbps	Resolution	Wave
1	42	720P	1
2	55	720P	1
3	2010	720P	1
4	1909	720P	1
5	1916	720P	1
6	1793	720P	1
7	2011	720P	1
8	2018	720P	1
9	2024	720P	1
10	2029	720P	1
11	2009	720P	1
12	1996	720P	1
13	2018	720P	1
14	2022	720P	1
15	2010	720P	1
16	2015	720P	1

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**.



Device Model	HQA
Channels	16
Alarm In	16
Alarm Out	3
System Version	1.000.HW00.0
Build Date	2014-11-17
Web	3.1.0.4
Serial No.	YZA4HZ018WW4QH9

On the **Version** page, you can view the DVR model type, 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

- Go to **Main Menu > Info > Event**.

The screenshot shows the Honeywell interface for viewing event information. The top navigation bar includes 'Info' and 'Honeywell'. Below it are tabs for 'SYSTEM', 'EVENT', 'NETWORK', and 'LOG'. The 'EVENT' tab is active. The main content area is divided into two sections: 'Device Status' and 'Channel Status'. The 'Device Status' section is titled 'Device(NIC No.:1,HDD No.:1)' and lists several events: 'No HDD', 'Disk Error', 'Disk No Space', 'Net Disconnection', 'IP Conflict', and 'MAC Conflicted'. The 'Channel Status' section is titled 'Channel(CH:16,Local Alarm:16)' and lists events: 'Local Alarm', 'Net Alarm', 'Video Loss' (with a count of 1 2), 'Mask' (with a count of 16), and 'Motion'. A 'Refresh' button is located at the bottom of the 'Channel Status' section.

On the **Event** page, you can view event information at the device level and at the channel level. Click **Refresh** to view the most up-to-date information.

To block an online user

- 1. Go to **Main Menu > Info > Network > Online Users.**

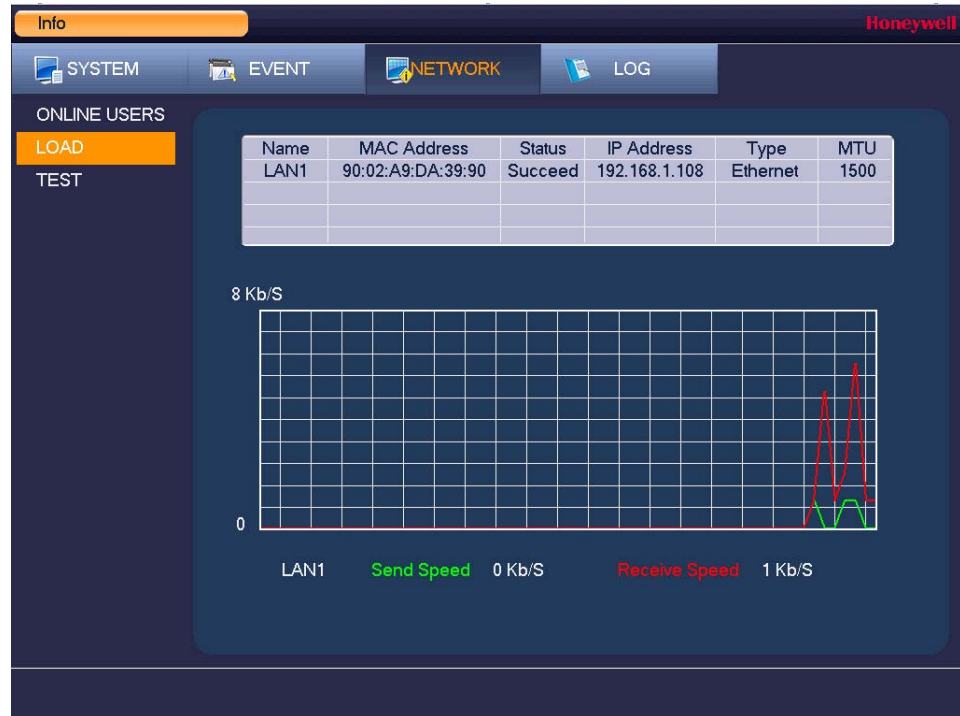


- 2. Click the **Block for** icon in the user list, and then, in the **Block for** box at the bottom of the screen, enter the time in seconds that you want to block the user for. You can enter up to **65535** seconds (18.2 hours).

Viewing Network Load Information

To view network load information

- Go to **Main Menu > Info > Network > Load**.



On the **Load** page, you can view the network adapter 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 > Test**.

The screenshot shows the Honeywell network management interface. The top navigation bar includes 'Info', 'SYSTEM', 'EVENT', 'NETWORK', and 'LOG'. The left sidebar has 'ONLINE USERS', 'LOAD', and 'TEST' (highlighted). The main content area is divided into two sections: 'Network Test' and 'Network Sniffer Packet Backup'.

Network Test Section:

- Destination Address:
- Test:
- Test Result:

Network Sniffer Packet Backup Section:

- Device Name: Refresh:
- Address: Browse:

Name	IP	Sniffer Packet Size	Sniffer Packet Backup
LAN1	192.168.1.108	0KB	<input type="button" value="▶"/>

2. On the **Test** page, under **Network Test**, enter a valid IPv4 address or domain name in the **Destination Address** 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 DVR.
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**.



2. 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.
3. In the **Start Time** and **End Time** boxes, enter the time period to search, and then click **Search**.

The search results are displayed in an ordered list. The DVR 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 DVR. The **Find USB device** dialog box opens.



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 DVR does not turn on.

- Check that the input voltage is correct.
- Check that the power cable is connected correctly to the DVR.
- Check that the power switch is in the ON position.
- Check that there is power at the outlet. Try connecting the DVR 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 DVR automatically shuts down or stops running.

- Check that the DVR 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.
- Remove the housing and check that the hard drive cables are firmly connected.

Problem: The DVR 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 DVR. Turn on the monitor, and then turn on the DVR.
- Check that the video cable is connected correctly to the DVR.
- Make sure that the camera's brightness setting is configured correctly. See [Configuring Camera Settings](#) on page 59.
- Make sure that a privacy mask is not blocking the video. See [Configuring Privacy Mask Settings](#) on page 63.

Problem: Color of live video is distorted.

- Make sure that the camera image settings are configured correctly. See [Configuring Camera Settings](#) on page 59.
- Make sure that the DVR is configured to use the correct video standard (NTSC or PAL). See [Configuring General System Settings](#) on page 106.

Problem: Cannot search local records.

- Check that recording is enabled. See [Configuring General Record Settings](#) on page 47.

Problem: There is no audio when viewing live video.

- Check the audio input and output connections on the DVR.
- 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 107.
- Replace the battery on the main board.

Problem: The DVR cannot control PTZ functions.

- Check that the PTZ camera is connected correctly to the video input and RS485 port of the DVR.
- Make sure that the DVR is configured correctly for PTZ operation. The protocol and address settings of the DVR must match the protocol and address settings of the PTZ camera. See [Configuring PTZ Connection Settings](#) on page 38.

Problem: Motion detection does not work.

- Increase the motion detection sensitivity. It may be set too low. See [Configuring Motion Detection Settings](#) on page 84.
- Make sure that the motion detection schedule is configured correctly. See [Configuring Motion Detection Settings](#) on page 84.
- Make sure that the motion detection zone setup is configured correctly. See [Configuring Motion Detection Settings](#) on page 84.

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 DVR 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 143](#)
- [Alarm Input and Output Rear Panel Connections, page 143](#)
- [Guidelines for Connecting Alarm Input Ports, page 144](#)
- [Guidelines for Connecting Alarm Output Ports, page 144](#)

Before Connecting Alarm Inputs and Outputs

- Ensure that the alarm input mode is set to ground.
- Ensure that the signal is grounded.
- The alarm inputs require low-level voltage signals.
- The alarm input mode is set to either NC (normally closed) or NO (normally open).
- Use a relay if you are connecting two DVRs, or a DVR plus another device, to separate them.
- The alarm output port should not be directly connected 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 16	Alarms inputs 1 to 16. The inputs becomes active with low voltage.
NO1 C1, NO2 C2, NO3 C3	Normally open activation outputs (on/off)
	Ground

Guidelines for Connecting 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 DVR and the ground of the alarm detector in parallel.
- Connect the NC port of the alarm sensor to the DVR alarm input.
- Use the same ground as the DVR 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 2A; 125 V AC 1A
	Maximum switch power	125 V A, 160 W
	Maximum switch voltage	250 V AC; 220 V DC
	Maximum switch currency	1 A
Insulation	Between touches with same polarity	1000 V AC/1 minute
	Between touches with different polarity	1000 V AC/1 minute
	Between touch and winding	1000 V AC/1 minute
Surge voltage	Between touches with same polarity	1500 V (10 × 160 us)
Length of open time	3 ms maximum	
Length of closed time	3 ms maximum	
Longevity	Mechanical	50 × 10 ⁶ times (3 Hz)
	Electrical	200 × 1030 times (0.5 Hz)
Temperature	-40°F to 158°F (-40°C to 70°C)	

B

Installing Hard Drives

The appendix contains the following sections:

- *Installing a Hard Drive, page 146*
- *List of Compatible SATA HDDs, page 147*
- *List of Compatible Portable HDDs, page 150*

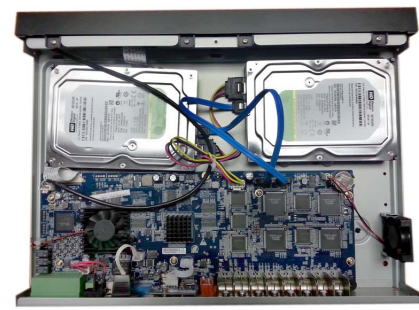
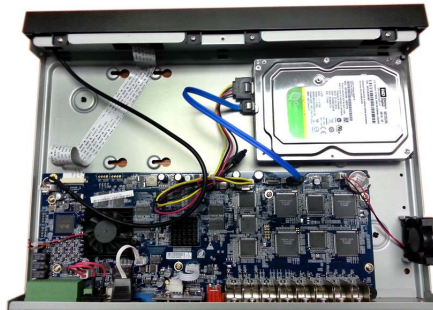
Installing a Hard Drive

On some HRHH DVR 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 147. A 7200 rpm or higher HDD is recommended.

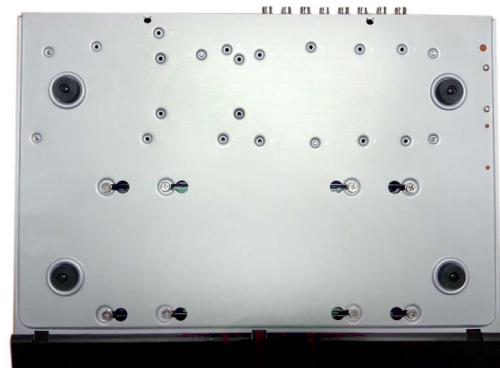
⚠ CAUTION Risk of electric shock. Disconnect power before removing cover.

To install an additional HDD

1. If the DVR is connected to a power source, disconnect it before continuing.
2. Remove the top cover from the DVR 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.



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



List of Compatible SATA HDDs

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

Manufacturer	Series	Model	Capacity
Seagate	Seagate SV35.1	ST3250824SV	250 GB
Seagate	Seagate SV35.1	ST3500641SV	500 GB
Seagate	Seagate SV35.2	ST3250820SV	250 GB
Seagate	Seagate SV35.2	ST3320620SV	320 GB
Seagate	Seagate SV35.2	ST3500630SV	500 GB
Seagate	Seagate SV35.2	ST3750640SV	750 GB
Seagate	Seagate SV35.3	ST3250310SV	250 GB
Seagate	Seagate SV35.3	ST3500320SV	500 GB
Seagate	Seagate SV35.3	ST3750330SV	750 GB
Seagate	Seagate SV35.3	ST31000340SV	1 TB
Seagate	Seagate SV35.4	ST3320410SV	320 GB
Seagate	Seagate SV35.4	ST3250311SV	250 GB
Seagate	Seagate SV35.5	ST3500410SV	500 GB
Seagate	Seagate SV35.5	ST3500411SV	500 GB
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 HD	ST3320410CS	320 GB
Seagate	Seagate Pipeline HD	ST3320310CS	320 GB
Seagate	Seagate Pipeline HD	ST3500422CS	500 GB
Seagate	Seagate Pipeline HD	ST3500321CS	500 GB
Seagate	Seagate Pipeline HD2	ST3250412CS	250 GB
Seagate	Seagate Pipeline HD2	ST3320311CS	250 GB

Manufacturer	Series	Model	Capacity
Seagate	Seagate Pipeline HD2	ST3500414CS	500 GB
Seagate	Seagate Pipeline HD2	ST3500312CS	500 GB
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	ST3500514NS	500 GB
Seagate	Seagate Constellation ES	ST31000524NS	1 TB
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	ST500NM0011	500 GB
Seagate	Seagate Constellation ES	ST2000NM0031	2 TB
Seagate	Seagate Constellation ES	ST1000NM0031	1 TB
Seagate	Seagate Constellation ES	ST500NM0031	500 GB
Seagate	Seagate Constellation ES	ST2000NM0051	2 TB
Seagate	Seagate Constellation ES	ST1000NM0051	1 TB
Seagate	Seagate Constellation ES	ST500NM0051	500 GB
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
Western Digital	Cariar SE	WD3200JD	320 GB
Western Digital	Cariar SE	WD3000JD	300 GB
Western Digital	Cariar SE	WD2500JD	250 GB
Western Digital	Cariar SE16	WD7500KS	750 GB
Western Digital	Cariar SE16	WD5000KS	500 GB
Western Digital	Cariar SE16	WD4000KS	400 GB
Western Digital	Cariar SE16	WD3200KS	320 GB
Western Digital	Cariar SE16	WD2500KS	250 GB
Western Digital	WD Caviar SE16	WD2500YS-01SHB0	250 GB
Western Digital	WD Caviar RE16	WD3200YS-01PGB0	320 GB

Manufacturer	Series	Model	Capacity
Western Digital	WD Caviar RE2	WD5000YS-01MPB0	500 GB
Western Digital	WD AV-AVJS	WD2500AVJS-63WDA0	250 GB
Western Digital	WD AV-AVJS	WD3200AVJS-63WDA0	320 GB
Western Digital	WD AV-AVJS	WD5000AVJS-63YJA0	500 GB
Western Digital	WDAV-GP-AVCS	WD5000AVCS-63H1B1	500 GB
Western Digital	WDAV-GP-AVCS	WD7500AVCS-63ZLB0	750 GB
Western Digital	WDAV-GP-AVCS	WD3200AVCS	320 GB
Western Digital	WDAV-GP-AVCS	WD2500AVCS	250 GB
Western Digital	WDAV-GP-EVCS	WD10EVCS-63ZLB0	1 TB
Western Digital	WDAV-GP-EVCS	WD20EVCS-63ZLB0	2 TB
Western Digital	WDAV-GP-AVVS	WD3200AVVS-63L2B0	320 GB
Western Digital	WDAV-GP-AVVS	WD5000AVVS-63ZWB0	500 GB
Western Digital	WDAV-GP-AVVS	WD7500AVVS-63E1B1	750 GB
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	WDAV-GP-AVDS	WD5000AVDS-63U7B0	500 GB
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	WD7500AURS	750 GB
Western Digital	WD AV-GP	WD7500AVDS	500 GB
Western Digital	WD AV-GP	WD500AVDS	500 GB
Western Digital	WD AV-GP	WD10EUCX	1 TB
Samsung	Samsung-HA	HA500LJ/CE	500 GB
Samsung	Samsung-HA	HA751LJ	750 GB
Samsung	Samsung-HA	HA101UJ/CE	1 TB
Samsung	Samsung-HD	HD502HI/CEC	500 GB
Samsung	Samsung-HD	HD103SI/CEC	1 TB
Samsung	Samsung-HD	HD154UI/CE	1.5 TB
Hitachi	HitachiCinemaStar™ 5K500	HCP725050GLA380	500 GB

Manufacturer	Series	Model	Capacity
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721050SLA360	500 GB
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721075SLA360	750 GB
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721010SLA360	1 TB
Maxtor	DiamondMax 20	STM3320820AS	320 GB
Maxtor	DiamondMax 20	STM3250820AS	250 GB

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

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Document 800-19403 – Rev A – 12/2014

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