Honeywell

HRGX Performance Series

4/8/16-Channel Embedded DVR

HRGX45	HRGX85	HRGX161
HRGX45X	HRGX85X	HRGX161X
HRGX41	HRGX81	HRGX162
HRGX41X	HRGX81X	HRGX162X
	HRGX82	HRGX164
	HRGX82X	HRGX164X

User Manual

Revisions

Issue	Date	Revisions
A	04/2014	New document.

Contents

Cautions and Warnings

⚠ **WARNING**   **Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries in accordance with local laws.**

⚠ **CAUTION**   **Use only with supplied power adapter.**

⚡	**CAUTION** RISK OF ELECTRIC SHOCK DO NOT OPEN	⚠	⚡	THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		⚠	THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.

Regulatory Statements

FCC Compliance Statement

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

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

Canadian Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe A 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.

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** - This unit is intended for indoor use only. Do not use this unit outdoors or in wet locations.

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. **CLEANING** - Unplug the unit from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

9. **SERVICING** - Do not attempt to service this unit yourself. Refer all servicing to qualified service personnel.

10. **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.

About This Manual

This manual introduces the Honeywell HRGX Performance Series embedded digital video recorder (DVR) and describes how to install, set up, and operate the DVR. It is intended for system integrators, installers, and end-user operators.

Overview of Contents

This manual contains the following chapters:

- *Chapter 1, Introduction*, introduces the HRGX DVR, providing an overview of the DVR's key features and layout, mouse and remote control operations, and menu structure.

- *Chapter 2, Getting Started*, describes installation and initial setup procedures.

- *Chapter 3, Viewing Live Video*, introduces live view mode and describes configuration procedures and basic operations.

- *Chapter 4, Controlling a PTZ Device*, provides instructions for configuring and controlling a PTZ device, including setting up and calling presets, patrols, and patterns.

- *Chapter 5, Recording Video*, provides instructions for configuring the DVR's recording settings.

- *Chapter 6, Playing Back Video*, provides instructions for searching and playing back video by channel, time, event, tag, and system log.

- *Chapter 7, Exporting Video*, provides instructions for exporting recorded video fies and customized video clips to an external storage device.

- *Chapter 8, Configuring Alarm Settings*, provides instructions for configuring event and device exception settings.

- *Chapter 9, Configuring Network Settings*, provides instructions for configuring and managing the DVR's network settings.

- *Chapter 10, Configuring HDD Settings*, provides instructions for configuring and managing the DVR's hard disk drive settings.

- *Chapter 11, Configuring Camera Settings*, provides instructions for configuring OSD settings, image settings, and privacy masks.

- *Chapter 12, Managing the DVR*, provides instructions for configuring and managing device settings, including upgrading firmware and restoring default settings.

- *Chapter 13, Managing Users*, provides instructions for managing user accounts and resetting the admin password.

Related Documents

For more information about operating the HRGX DVR, please refer to the following documents:

Document title	Part number
HRGX DVR Getting Started Guide	800-16694
HRGX DVR Remote Web Access User Guide	800-18321
HRGX DVR Apple Device Mobile App User Guide	800-18322
HRGX DVR Android Device Mobile App User Guide	800-18323
Multi-Site 4200 User Guide for Windows	800-12064V2
Multi-Site 4200 User Guide for Mac	800-13101

1

Introduction

This chapter contains the following sections:

Key Features

This section provides an overview of the key features of the HRGX DVR.

General

- NTSC/PAL adaptive video inputs.
- H.264 video compression with high reliability and superior definition.
- Encoding at up to WD1 (NTSC: 960×480; PAL: 960×576) resolution.
- Each channel supports dual-stream.
- Independent configuration for each channel, including resolution, frame rate, bit rate, image quality, etc.
- Input and output video quality is configurable.
- Normal and event recording parameters configurable per individual camera.
- Encoding for audio/video composite stream or video stream; audio and video synchronization during composite stream encoding.
- Watermark technology.

Local Monitoring

- Simultaneous HDMI/VGA and CVBS outputs.
- HDMI/VGA output at up to 1920×1080 pixel (1080p) resolution.
- 1/4/6/8/9/16-division live view is supported, and the display sequence of screens is adjustable.
- Live view screen can be switched in group, and manual switch and automatic cycle view is also provided, the interval of automatic cycle can be adjusted.
- Quick setting menu is provided for live view.
- The selected live view channel can be shielded.
- Motion detection, tamper-proof, video exception and video loss alarm functions.
- Privacy masking.
- Multiple PTZ protocols supported; setting and calling of PTZ presets, patrols, and patterns.
- Zooming in by clicking the mouse and PTZ tracing by dragging mouse.

Recording and Playback

- Holiday recording schedule configuration.
- Normal and event video encoding parameters.
- Multiple recording types: manual, normal, and motion.
- 8 recording time periods with separated recording types.
- Pre-record and post-record time for event and schedule recording.
- Record file searches by event.
- Customization of tags, searching and playing back by tags.
- Locking/unlocking record files.
- Local redundant recording.
- Search and playback of record video by channel number, recording type, start time, and end time.
- Smart search for selected areas in the video.
- Zoom during playback.
- Reverse playback.
- Support pause, speed up, speed down, skip forward, and skip backward during playback.
- 4/8/16-channel synchronous playback.

Export

- Export video data to USB or SATA storage device.
- Export video clips during playback.
- Management and maintenance of backup devices.

Alarm and Exception

- Alarm for sensor, motion detection, video tampering, video loss events, and device exceptions.
- Alarm event triggers full screen monitoring, audio alarm, notifying surveillance center and sending email.
- Automatic restore when system is abnormal.

Network Functions

- 1 self-adaptive 10/100M network interface.
- IPv6 support.
- TCP/IP, PPPoE, DHCP, DNS, DDNS, RTSP, NTP, SADP, SMTP, SNMP, UPnP, NFS, and iSCSI support.
- TCP, UDP, and RTP for unicast.
- Remote search, playback, download, locking and unlocking of record files.
- Remote parameters setup; remote import/export of device parameters.
- Remote viewing of device status, system logs, and alarm status.
- Remote locking and unlocking of control panel and mouse.
- Remote HDD formatting and program upgrading.
- Remote system restart.
- RS-485 transparent channel transmission.
- Alarm event and exception information can be sent to the remote host.
- Remote start/stop recording.
- Remote FTP server upgrade.
- Remote PTZ control.
- Two-way audio and voice broadcasting.
- Embedded web server.

HDD Management

- 1 SATA hard disk (up to 1 TB) can be connected to 4-channel models, and 2 SATA hard disks (up to 4 TB) to 8- and 16-channel models.
- 8 network disks (8 NAS disks, or 7 NAS disks + 1 IP SAN disk) can be connected.
- HDD group management.
- Support HDD standby function.
- HDD property: redundancy, read-only, read/write (R/W).
- HDD quota management: different capacity can be assigned to different channel.

Other Local Functions

- Admin user can create multiple operating accounts and define their operating permissions.
- Operation, exception, and log recording and searching.
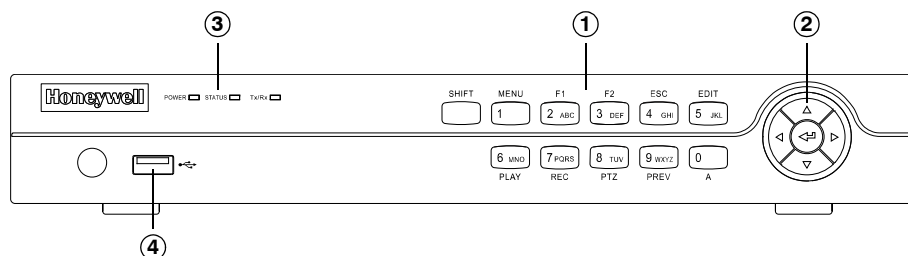- Import and export device configuration information.

Development Scalability

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

Front Panel Layout

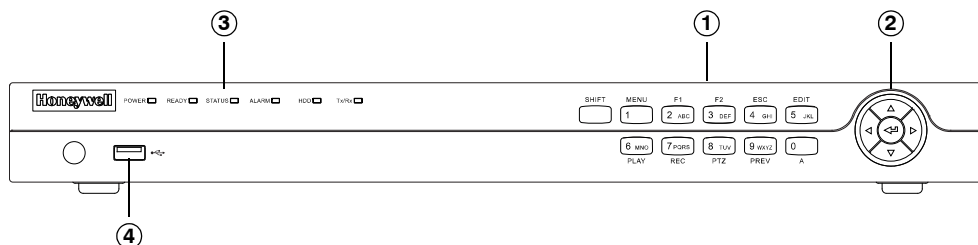The following illustration shows the front panel of the 4-channel HRGX DVR.

Figure 1-1   HRGX4 Front Panel

No.	Name	Function
1	Alphanumeric Buttons	SHIFT: Switches between number/letter input and function input.
		MENU/1: Enters 1; MENU accesses the main menu interface.
		2ABC/F1: Enters 2/A/B/C; F1 selects all items in a list. In live view or playback mode, F1 switches between main and spot video output. In PTZ mode, F1 zooms out PTZ camera.
		3DEF/F2: Enters 3/D/E/F; F2 cycles through tabbed pages. In PTZ mode, F2 zooms in PTZ camera.
		4GHI/ESC: Enters 4/G/H/I; ESC returns to previous menu.
		5JKL/EDIT: Enters 5/J/K/L; EDIT deletes characters before cursor, selects check boxes and on/off switches. In playback mode, EDIT starts/stops playback.
		6MNO/PLAY: Enters 6/M/N/O. In playback mode, PLAY accesses the playback interface.
		7PQRS/REC: Enters 7/P/Q/R/S; REC accesses the manual recording interface, manually starts/stops recording.
		8TUV/PTZ: Enters 8/T/U/V; PTZ accesses the PTZ control interface.
		9WXYZ/PREV: Enters 9/W/X/Y/Z. In live view mode, PREV enables multi-camera display. In playback mode, PREV deletes selected tag.
		0/A: Enters 0; A switches between uppercase and lowercase letters, symbols, numeric input). In playback mode, A adds default tag.
2	Direction/Enter Buttons	Direction buttons move the cursor up/down/left/right (▲ ▼ ◀ ▶). In live view mode, the direction buttons cycle through channels. In playback mode, up/down buttons speed up/slow down playback. In PTZ mode, the direction buttons control PTZ camera movement.
		The Enter button (↵) selects a menu item or executes a selection.
3	LED Indicators	POWER: Lights green when DVR is receiving power.
		STATUS: Lights red when DVR hard drive is reading/writing.
		Tx/Rx: Flashes green when network connection is active.
4	USB Port	Connects USB device (such as a flash drive for saving video clips).

The following illustration shows the front panel of the 8/16-channel HRGX DVR.

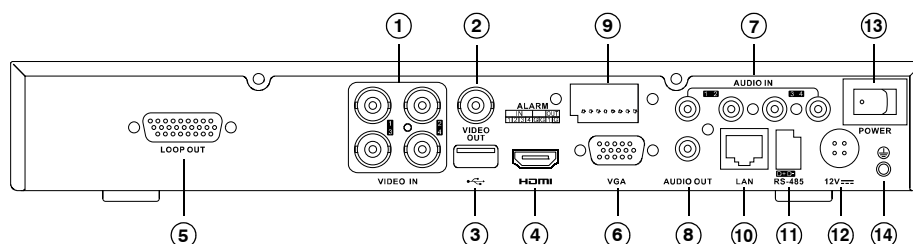**Figure 1-2   HRGX8/HRGX16 Front Panel**

No.	Name	Function
1	Alphanumeric Buttons	SHIFT: Switches between number/letter input and function input.
		MENU/1: Enters 1; MENU accesses the main menu interface.
		2ABC/F1: Enters 2/A/B/C; F1 selects all items in a list. In live view or playback mode, F1 switches between main and spot video output. In PTZ mode, F1 zooms out PTZ camera.
		3DEF/F2: Enters 3/D/E/F; F2 cycles through tabbed pages. In PTZ mode, F2 zooms in PTZ camera.
		4GHI/ESC: Enters 4/G/H/I; ESC returns to previous menu.
		5JKL/EDIT: Enters 5/J/K/L; EDIT deletes characters before cursor, selects check boxes and on/off switches. In playback mode, EDIT starts/stops playback.
		6MNO/PLAY: Enters 6/M/N/O. In playback mode, PLAY accesses the playback interface.
		7PQRS/REC: Enters 7/P/Q/R/S; REC accesses the manual recording interface, manually starts/stops recording.
		8TUV/PTZ: Enters 8/T/U/V; PTZ accesses the PTZ control interface.
		9WXYZ/PREV: Enters 9/W/X/Y/Z. In live view mode, PREV enables multi-camera display. In playback mode, PREV deletes selected tag.
		0/A: Enters 0; A switches between uppercase and lowercase letters, symbols, numeric input). In playback mode, A adds default tag.
2	Direction/Enter Buttons	Direction buttons move the cursor up/down/left/right (▲ ▼ ◄ ►). In live view mode, the direction buttons cycle through channels. In playback mode, up/down buttons speed up/slow down playback. In PTZ mode, the direction buttons control PTZ camera movement.
		The Enter button (↵) selects a menu item or executes a selection.
3	LED Indicators	POWER: Lights green when DVR is receiving power.
		READY: Lights blue when DVR is operating properly.
		STATUS: Lights blue when DVR is controlled by IR remote. Lights red when DVR is controlled by keyboard. Lights orange when DVR is being controlled by IR remote and keyboard at the same time.
		ALARM: Lights red when a sensor alarm is detected.
		HDD: Flashes red when DVR hard drive is reading/writing.
		Tx/Rx: Flashes green when network connection is active.
4	USB Port	Connects USB device (such as a flash drive for saving video clips).

Rear Panel Layout

The following illustration shows the rear panel of the 4-channel HRGX DVR.

Figure 1-3   HRGX4 Rear Panel

No.	Name	Description
1	Video In	BNC connectors for analog video input
2	Video Out	BNC connector for analog video output
3	USB Port	Connects USB device (such as a USB mouse)
4	HDMI	HDMI connector for high definition digital video output
5	Loop Out	DB26 socket for independent video output
6	VGA Port	DE15 socket for local video output
7	Audio In	RCA connectors for audio input
8	Audio Out	RCA connector for audio output
9	Alarm In/Out	Connector for alarm input/output
10	LAN Port	RJ45 10/100M Ethernet interface
11	RS-485	Connects RS-485 devices. Connect D+ and D− terminals to R+ and R− terminals of PTZ receiver.
12	12V	12 V DC power input
13	Power Switch	Switch for turning DVR on/off
14	GND	Ground terminal (needs to be connected before DVR is turned on)

The following illustration shows the rear panel of the 8-channel HRGX DVR.

Figure 1-4   HRGX8 Rear Panel

No.	Name	Description
1	Video In	BNC connectors for analog video input
2	Video Out	BNC connector for analog video output
3	USB Port	Connects USB device (such as a USB mouse)
4	HDMI	HDMI connector for high definition digital video output
5	Loop Out	DB26 socket for independent video output
6	VGA Port	DE15 socket for local video output
7	Audio In	RCA connectors for audio input
8	Audio Out	RCA connector for audio output
9	Alarm In/Out	Connector for alarm input/output
10	LAN Port	RJ45 10/100M Ethernet interface
11	RS-485	Connects RS-485 devices. Connect D+ and D− terminals to R+ and R− terminals of PTZ receiver.
12	12V	12 V DC power input
13	Power Switch	Switch for turning DVR on/off
14	GND	Ground terminal (needs to be connected before DVR is turned on)

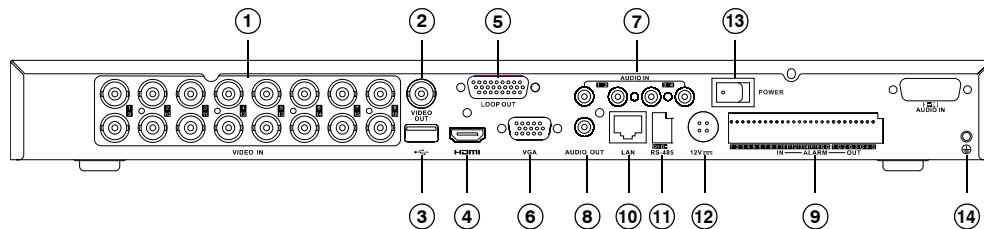The following illustration shows the rear panel of the 16-channel HRGX DVR.

Figure 1-5   HRGX16 Rear Panel

No.	Name	Description
1	Video In	BNC connectors for analog video input
2	Video Out	BNC connector for analog video output
3	USB Port	Connects USB device (such as a USB mouse)
4	HDMI	HDMI connector for high definition digital video output
5	Loop Out	DB26 socket for independent video output
6	VGA Port	DE15 socket for local video output
7	Audio In	RCA connectors for audio input
8	Audio Out	RCA connector for audio output
9	Alarm In/Out	Connector for alarm input/output
10	LAN Port	RJ45 10/100M Ethernet interface
11	RS-485	Connects RS-485 devices. Connect D+ and D− terminals to R+ and R− terminals of PTZ receiver.
12	12V	12 V DC power input
13	Power Switch	Switch for turning DVR on/off
14	GND	Ground terminal (needs to be connected before DVR is turned on)

Mouse Operation

It is recommended that you use the supplied mouse to set up and operate your HRGX DVR. To use the mouse, connect the mouse cable to the USB port at the rear of the DVR. The mouse should be detected automatically.

Note If you prefer, you can use your own mouse instead of the supplied mouse. Ask your Honeywell dealer for a list of compatible mice.
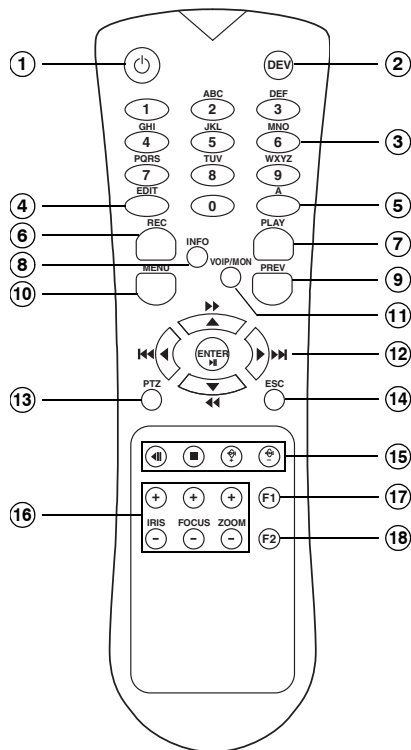
The following table describes basic mouse operations:

Name	Action	Description
Left Mouse Button	Click	Live view: Select channel and display quick set menu. Menu: Select and enter.
	Double-click	Live view: Switch between single-screen and multi-screen.
	Press and drag	Live view: Select time bar. PTZ control: Pan, tilt, and zoom. Privacy masking and motion detection: Select target area. Digital zoom: Select target area.
Right Mouse Button	Click	Live view: Show menu. Menu: Exit menu.
Scroll Wheel	Scroll up	Live view: Go to previous screen. Shortcut menu: Go to previous item.
	Scroll down	Live view: Go to next screen. Shortcut menu: Go to next item.

Remote Control Operation

Although it is recommended to use a mouse to set up and operate your HRGX DVR, you can also use the supplied IR remote control. Two AAA batteries (not included) must be installed before use.

The following illustration shows the layout of the remote control.

No.	Button	Function
1	Power	Turns DVR on/off.
2	DEV	Enables/disables remote control.
3	Alphanumeric	Inputs numbers/characters in edit mode. Selects channel to view in live view and playback mode.
4	EDIT	Deletes characters before cursor, selects check boxes in edit mode. Generates video clips for backup in playback mode.
5	A	Switches between uppercase and lowercase letters, symbols, numeric input.
6	REC	Accesses manual record menu. Calls preset in PTZ mode (press REC, then preset number).
7	PLAY	Accesses all-day playback menu.
8	INFO	Reserved
9	PREV	Switches between single screen and multi-screen layout in live view mode.
10	MENU	Accesses main menu.
11	VOIP/MON	Selects all items in a list.
12	Direction/ ENTER	Move cursor up/down/left/right in edit mode. Cycle through channels in live view mode. In playback mode, up/down buttons speed up/slow down playback, left/right buttons jump back/forward 30 s.
13	PTZ	Enters PTZ control mode.
14	ESC	Returns to previous menu.
15	RESERVED	Reserved
16	PTZ Controls	Control iris, focus, and zoom of PTZ camera.
17	F1	Selects all items in a list.
18	F2	Cycles through tabbed pages.

Pairing the Remote Control with the DVR

To pair the remote control with the DVR, follow these steps:

1. Turn on the DVR.

2. Using the mouse, log in to the DVR.

3. Right-click anywhere on the screen to display the shortcut menu, and then click **Menu**.

4. If prompted, enter the DVR's admin password. The default admin password is **12345**.

5. In the main menu, click **Settings**.

6. In **System Settings**, on the **General** page, click the **More Settings** tab.

7. Make a note of the device number of the DVR. The default device number is **255**.

8. Press the **DEV** button on the remote control, input the device number, and then press the **ENTER** button.
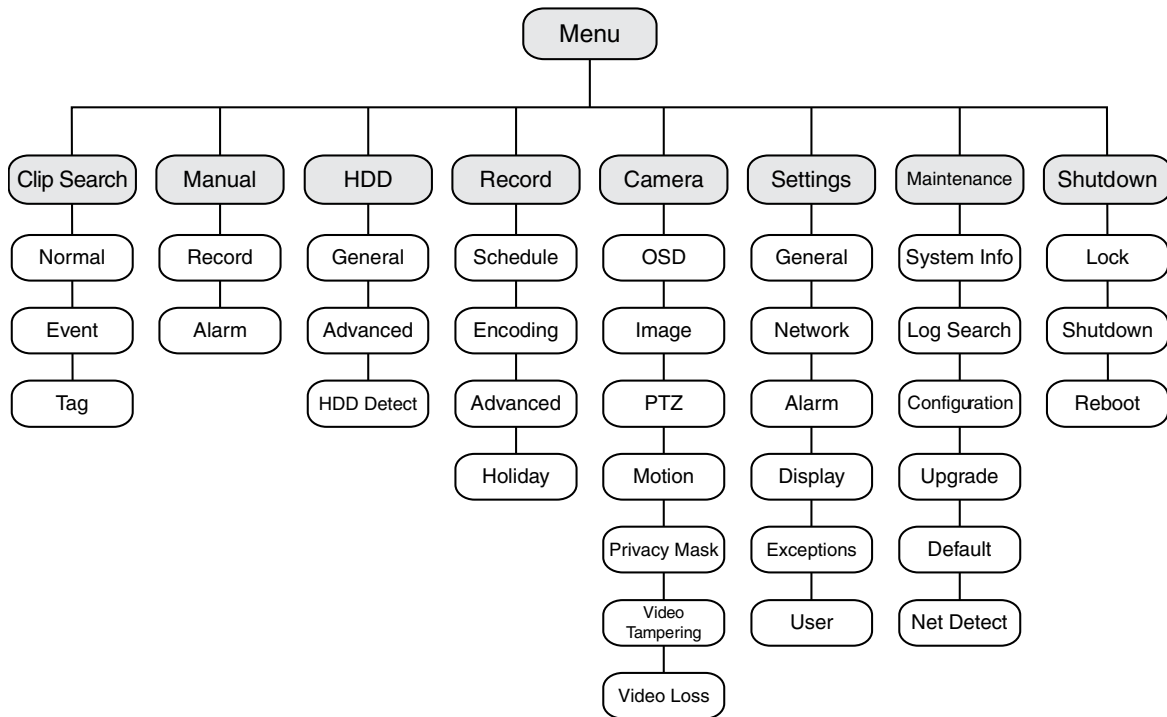
Troubleshooting the Remote Control

If there is no response when you try to use the remote control, follow these steps:

1. Check that the batteries are properly installed. Ensure that the polarities are not reversed.

2. Check that the IR receiver on the DVR front panel is not obstructed.

3. Aim the remote control at the IR receiver.

If the problem persists, contact your Honeywell dealer for a replacement.

Menu Structure

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                                    ┌──────────┐
                                    │   Menu   │
                                    └──────────┘
  ┌──────────┬──────────┬──────────┬──────────┬──────────┬──────────┬──────────┐
┌───────────┐┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌───────────┐┌──────────┐
│Clip Search││ Manual  ││  HDD    ││ Record  ││ Camera  ││Settings ││Maintenance││ Shutdown │
└───────────┘└─────────┘└─────────┘└─────────┘└─────────┘└─────────┘└───────────┘└──────────┘
┌───────────┐┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌───────────┐┌──────────┐
│  Normal   ││ Record  ││ General ││Schedule ││  OSD    ││ General ││System Info││   Lock   │
└───────────┘└─────────┘└─────────┘└─────────┘└─────────┘└─────────┘└───────────┘└──────────┘
┌───────────┐┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌───────────┐┌──────────┐
│  Event    ││ Alarm   ││Advanced ││Encoding ││ Image   ││ Network ││Log Search ││ Shutdown │
└───────────┘└─────────┘└─────────┘└─────────┘└─────────┘└─────────┘└───────────┘└──────────┘
┌───────────┐           ┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌───────────┐┌──────────┐
│   Tag     │           │HDD Detect││Advanced ││  PTZ    ││ Alarm  ││Configuration││ Reboot  │
└───────────┘           └─────────┘└─────────┘└─────────┘└─────────┘└───────────┘└──────────┘
                                   ┌─────────┐┌─────────┐┌─────────┐┌───────────┐
                                   │ Holiday ││ Motion  ││ Display ││  Upgrade  │
                                   └─────────┘└─────────┘└─────────┘└───────────┘
                                              ┌────────────┐┌─────────┐┌───────────┐
                                              │Privacy Mask││Exceptions││  Default  │
                                              └────────────┘└─────────┘└───────────┘
                                              ┌────────────┐┌─────────┐┌───────────┐
                                              │   Video    ││  User   ││ Net Detect│
                                              │ Tampering  │└─────────┘└───────────┘
                                              └────────────┘
                                              ┌────────────┐
                                              │ Video Loss │
                                              └────────────┘
```

2

Getting Started

This chapter contains the following sections:

Installation Precautions

Follow these precautions when installing the DVR:

- Use brackets for rack mounting.
- Ensure that there is at least 0.75 in. (2 cm) of space between rack-mounted devices.
- Ensure that there is ample room for the audio and video cables.
- When installing cables, ensure that the bend radius of the cable is at least five times the cable diameter.
- Ensure that the DVR is properly grounded.
- Ensure that the environmental temperature is between 14°F (−10°C) and 131°F (55°C).
- Ensure that the environmental humidity is between 10 percent and 90 percent.

Connecting External Devices

Video, audio, network, and other connections are made using the rear panel connectors (see *Rear Panel Layout, page 16*).

Connecting Cameras

Connect the coaxial cables from the cameras to the **Video In** BNC connectors.

Connecting Monitors

Connect your main video monitor to the **VGA** or **HDMI** output. Connect a spot monitor, if used, to the **Video Out** BNC connector.

Connecting Audio Devices

To record audio, connect your audio sources to the **Audio In** RCA connectors. To play audio, connect a speaker to the **Audio Out** RCA connector.

Connecting to a Local Area Network

Connect a Cat5 Ethernet cable to the **LAN** RJ45 jack.

Connecting a Mouse

Connect the supplied USB mouse to the rear panel USB port. This leaves the front panel USB port available for importing data from, or exporting data to, a USB flash drive.

Connecting a PTZ Camera or Other RS-485 Device

Connect the R+ and R− terminals of the PTZ receiver or other RS-485 device to the D+ and D− terminals of the **RS-485** interface. Press and hold the orange part of the terminal block, insert the wire, then release the orange part to lock the wire in place.

Connecting Alarm Devices

Connect alarm devices to the **Alarm In**/**Out** interface. Press and hold the orange part of the terminal block, insert the wire, then release the orange part to lock the wire in place.

Alarm Input

The alarm input should be an open/closed dry contact relay. If an open/closed relay is not used, connect the alarm input as follows:
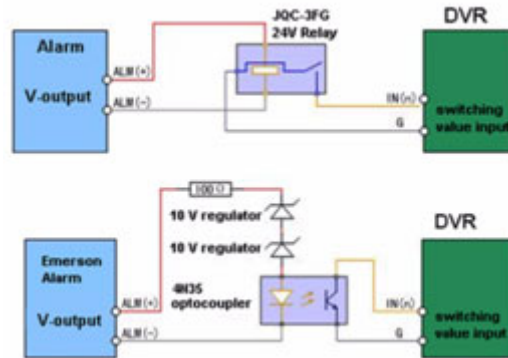
Alarm Output

The alarm output relay supports connections to AC/DC loads. DC loads must be within the limit of 12 V DC / 1 A.

Refer to the following diagram when connecting to AC/DC loads:
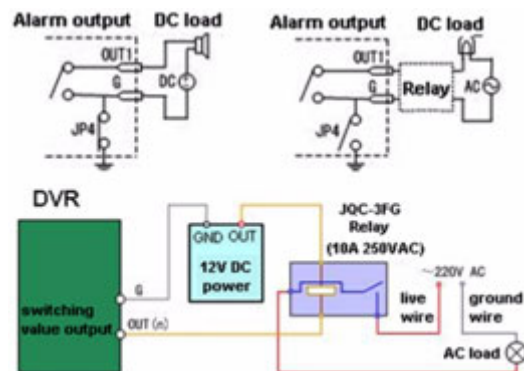
⚠️ **CAUTION**   **Risk of electric shock. An external relay is necessary to prevent electric shock when connecting to an AC load.**

Connecting Power

Connect the supplied power adapter to the 12 V DC power input. It is strongly recommended that you use an uninterruptible power supply when powering the DVR.

Typical Installation

The following diagram shows a typical HRGX DVR installation:
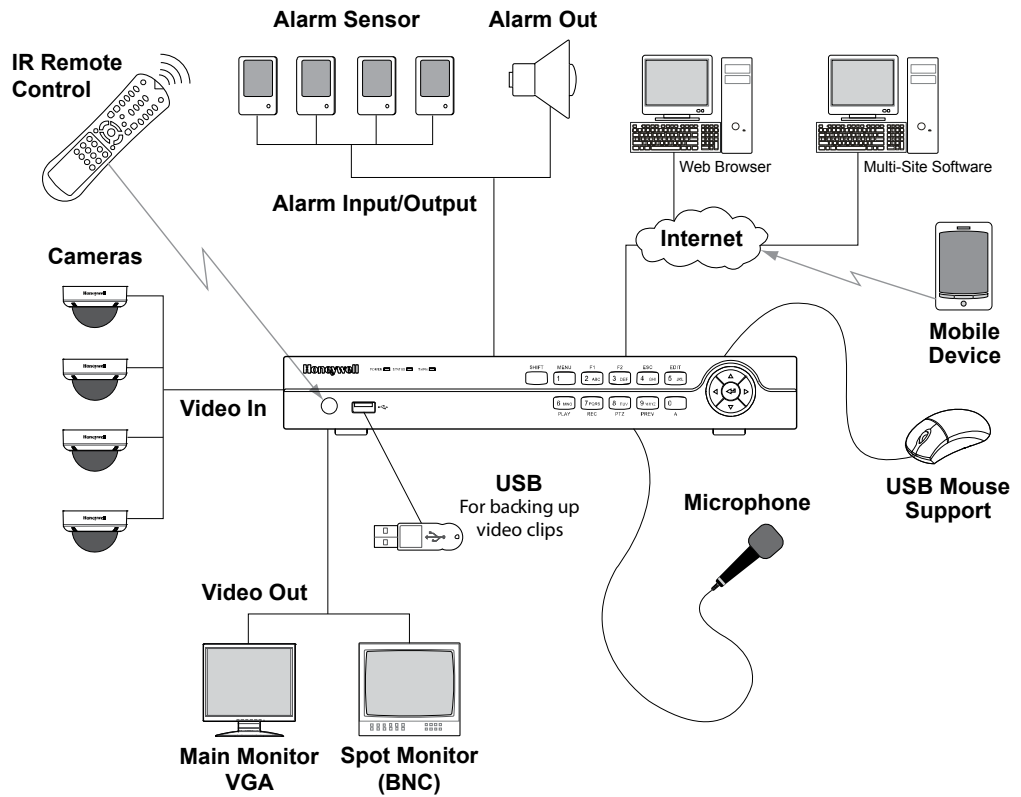
Starting Up and Shutting Down the DVR

Following correct startup and shutdown procedures will help to prolong the life of your DVR. Before you begin, ensure that all extension cords, surge protectors, and uninterruptible power supplies used with the DVR are rated to handle the DVR's electrical requirements, and ensure that the DVR is properly grounded.

To turn on the DVR:

1. Ensure that the DVR is connected to a suitable power source.

2. Turn on the power switch on the rear panel of the DVR. The POWER LED on the front panel lights solid green when the DVR is receiving power.

> **Note**   The DVR takes approximately 45 seconds to initialize after it is turned on.

To turn off the DVR:

> **Note**   To shut down the DVR, you must be logged in as the admin user or else have shutdown privileges assigned to you.

1. In live view mode, right-click anywhere on the screen to display the shortcut menu, and then click **Menu**.

2. If prompted, enter the DVR's admin password. The default admin password is **12345**.

3. In the main menu, click **Shutdown**.

4. In the **Shutdown** menu, click **Shutdown**.


5. Click **Yes** to confirm that you want to shut down the system.

6. Turn off the power switch on the rear panel of the DVR.

Using the Setup Wizard

The setup wizard starts by default when you turn on the DVR. The wizard will guide you through the initial setup of the DVR.

Note It is strongly recommended that you use the supplied mouse to set up and operate the DVR. If you have not already done so, plug the mouse into the USB on the rear panel of the DVR.
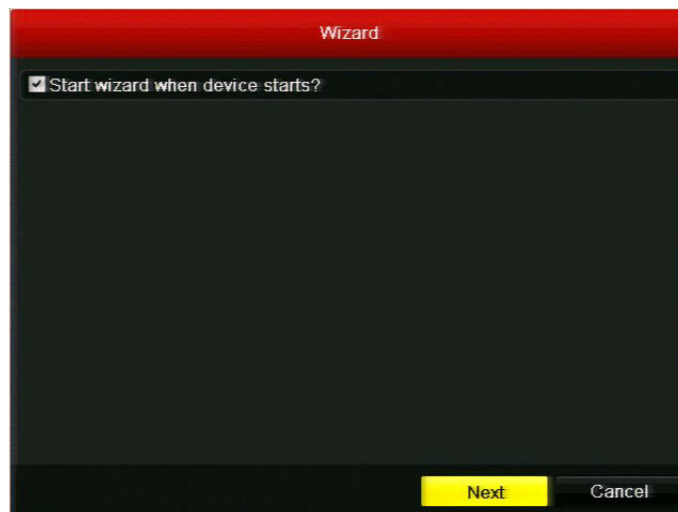
1. The **Start wizard when device starts?** check box is enabled by default. If you want to stop the setup wizard from starting each time you turn on the DVR, clear the check box.

2. Click **Next** to continue to the next screen.

3. Click the **Admin Password** field to display the on-screen numerical keypad, enter your DVR's admin password (the default admin password is **12345**), and then click **Enter**.

4. If you want to create a new password, select the **New Admin Password** check box, enter a new password in the **New Password** field, and then re-enter the new password in the **Confirm** field.

5. Click **Next** to continue to the next screen.

6. Specify your DVR's network settings. If you want to configure the IP address, subnet mask, default gateway, and DNS addresses manually, clear the **Enable DHCP** check box.

7. Click **Next** to continue to the next screen.

8. Select a camera, and then specify the desired recording resolution, frame rate, and recording time. You can use the DiskCalculator storage estimator tool included with your DVR to help you determine these settings. See also *HDD Storage Calculation, page 34*.

9. Specify the recording settings for each camera that is connected to your DVR. To copy the same settings to one or more additional cameras, click **Copy**, select the check boxes of the channel(s) that you want to copy the settings to (or select the **Analog** check box to select all the channels), and then click **OK**.
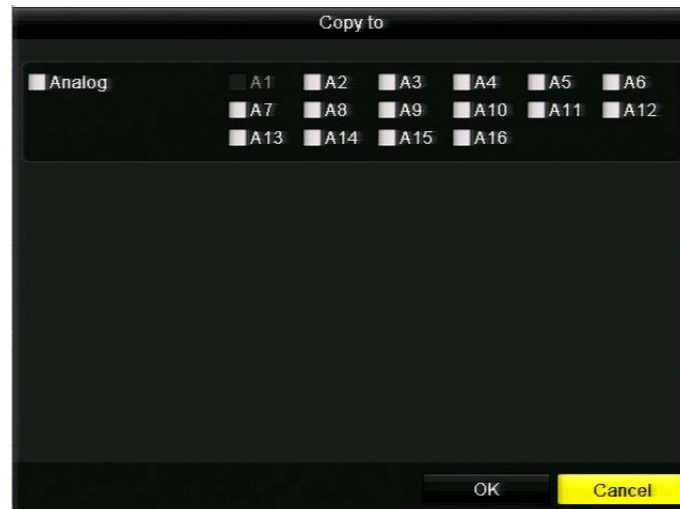
10. Click **Next** to continue to the next screen.

11. Motion detection is disabled for all channels by default. Click the channel(s) that you want to enable motion detection for, or click **Analog** to select all channels, and then click **OK**.
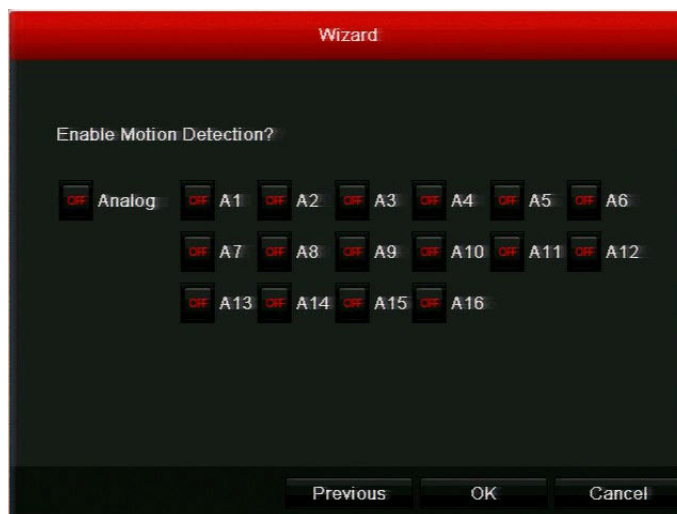
Accessing the Main Menu

Use the following procedure to access the main menu.

To access the main menu:

1. In live view mode, right-click anywhere on the main monitor screen to display the shortcut menu, and then click **Menu**.

2. If prompted, enter the DVR's admin password, and then click **OK**. The default admin password is **12345**.
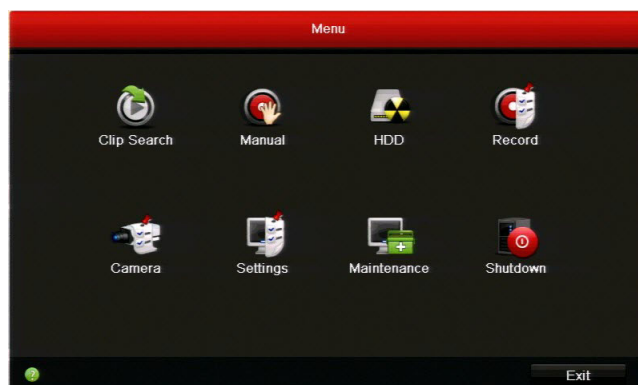
3. In **Menu**, click the submenu you want to open: **Clip Search**, **Manual**, **HDD**, **Record**, **Camera**, **Settings**, **Maintenance**, or **Shutdown**.

Setting the System Date and Time

Before you begin using the DVR, set the system date and time to ensure that recordings and events are time-stamped accurately.

To set the system date and time:

1. Go to **Menu > Settings**. The **System Settings** window opens.
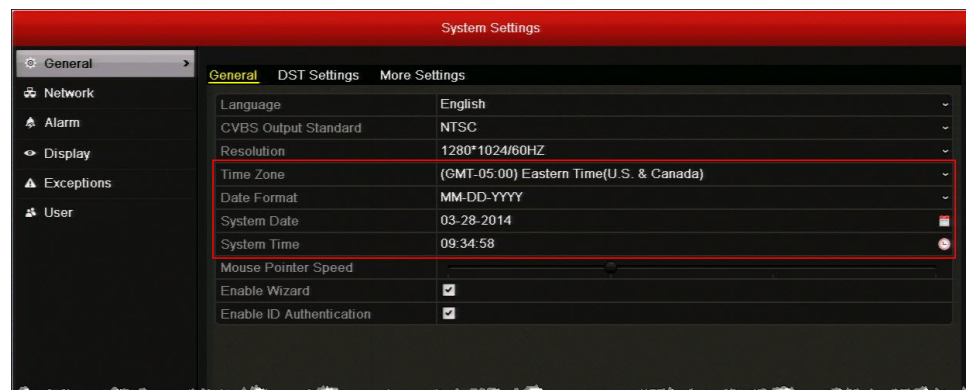
2. On the **General** page, under **General**, configure the following settings:

   - **Time Zone**   Select your time zone from the list.

   - **Date Format**   Select **MM-DD-YYYY**, **YYYY-MM-DD**, or **DD-MM-YYYY**.

   - **System Date**   Click the calendar icon to display the on-screen calendar, and then select the current date.

   - **System Time**   Click the clock icon, and then enter the current time (hh:mm:ss).

3. Click **Apply** to save your settings.

Upgrading the Firmware

To obtain the latest firmware for your HRGX DVR, contact your Honeywell dealer. The firmware can be upgraded locally (by connecting a USB flash drive or other device containing the firmware file to the DVR) or remotely (via an FTP server).

To upgrade the firmware locally:

1. Insert a USB flash drive containing the `digicap.dav` file into the USB port on the front of the DVR. Ensure that no other USB flash drive or storage device is connected to the DVR.

2. Go to **Menu > Maintenance > Upgrade > Local Upgrade**. The `digicap.dav` file should appear in the file list under **Local Upgrade**.
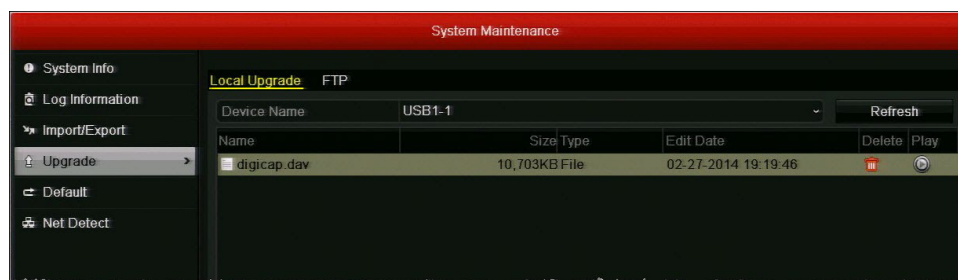
3. Click **digicap.dav**, and then click **Upgrade**. The DVR restarts automatically after the upgrade is complete.

To upgrade the firmware remotely via FTP:

1. Ensure that your DVR and the PC running the FTP server are properly connected to the network and that the digicap.dav file is saved in the appropriate directory on the PC.

2. Go to **Menu > Maintenance > Upgrade > FTP**.
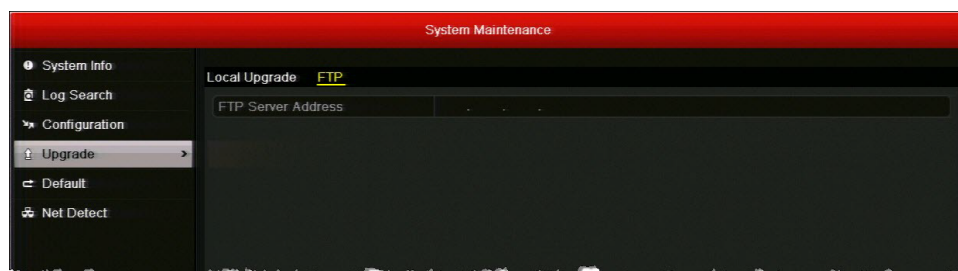
3. In the **FTP Server Address** field, enter the address of the FTP server you want to access, and then click **Upgrade**.

4. After the firmware upgrade is complete, restart the DVR.

HDD Storage Calculation

The following table estimates storage space usage based on recording one channel for hour at a fixed bit rate. Actual usage will vary.

Bit Rate (Kbps)	Storage Used (MB)
96	42
128	56
160	70
192	84
224	98
256	112
320	140
384	168
448	196
512	225
640	281
768	337
896	393
1024	450
1280	562
1536	675
1792	787
2048	900
3072	1350

3

Viewing Live Video

This chapters contains the following sections:

About Live View

Live view mode is the DVR's default mode. When you start the DVR, live video from the connected cameras displays automatically on the monitor.

On-Screen Notifications

The following icons appear in the upper right corner of each channel's screen when the camera is recording and/or when an event alarm has been triggered:

Indicates video is being recorded. This may be a scheduled recording, a recording initiated manually by the DVR operator, or it may be initiated by motion or a relay alarm.

Indicates video loss/tampering, motion detection, or a relay alarm.

Quick Setting Toolbar

The following toolbar appears when you click on a channel in live view mode:

Start/Stop Recording   Audio On/Mute   Digital Zoom   Close

Instant Playback   PTZ Control   Image Settings
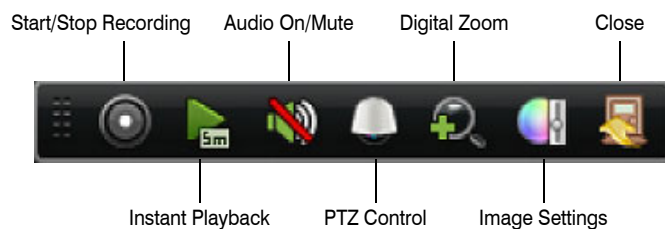
Shortcut Menu

The following menu appears when you right-click on the screen in live view mode:
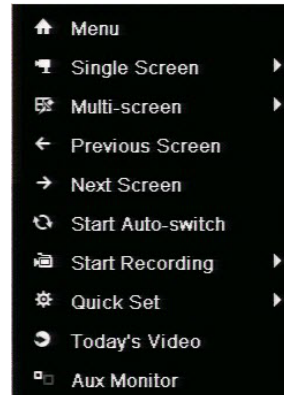
Name	Description
Menu	Enter the main menu.
Single Screen	Switch to full screen view. Select channel from list.
Multi-screen	Switch to multi-screen view. Select option from list.
Previous Screen	Go to previous channel.
Next Screen	Go to next channel.
Start Auto-switch	Enable auto-switching between channels.
Start Recording	Start all-day normal recording or motion detection recording for all channels.
Quick Set	Set video output mode to Standard, Bright, Gentle, or Vivid.
Today's Video	Play back day's video of current channel.
Aux Monitor	Disable main output and switch to auxiliary output. Aux monitor must be connected.

Configuring Live View Settings

Setting the Screen Layout

The live view interface is configurable as a single channel for multiple camera display (4, 8, or 16 channels depending on your DVR model).

To display video from a single channel full screen:

• Double-click the channel that you want to view full screen.

• Right-click anywhere on the screen to display the shortcut menu, click **Single Screen**, and then click the channel you want to view from the list (for example, "Camera 03").

Note	You can alternate between single channel (full screen) and multi-channel display modes by double-clicking the left mouse button. In full screen mode, use the scroll wheel on the mouse to switch between channels. Moving the scroll wheel up displays the previous channel and moving the scroll wheel down displays the next channel.

To display video from multiple channels simultaneously:

1. Right-click anywhere on the screen to display the shortcut menu, and then click **Multi-screen**.

2. Select a display mode from the list (the options will vary depending on the number of channels your DVR supports).

Setting the Video Output Mode

There are four video output modes in live view: Standard, Bright, Gentle, and Vivid. The default output mode is Bright.

To change the video output mode, right-click anywhere on the screen to display the shortcut menu, click **Quick Set**, click **Output Mode**, click the output mode you want, and then click **OK**.

Configuring Camera Image Settings

You can create customized image settings for up to two time periods per camera to accommodate changing lighting conditions.

To configure image settings:

1. Click on a channel to display the quick setting toolbar (see *Quick Setting Toolbar, page 35*).

2. On the toolbar, click the **Image Settings** button 🖼.

3. In the **Image Settings** window, next to **Period 1**, specify the time range that you want to configure the image settings for (such as 07:00–19:00).

4. Based on the anticipated lighting conditions for the specified time range, next to **Mode**, select one of the following:

   • **Standard** (default)

   • **Indoor**

   • **Dim Light**

   • **Outdoor**

5. Adjust the following image settings by moving the slider or by clicking the up/down arrows:

   • **Brightness** (0–255)

   • **Contrast** (0–255)

   • **Saturation** (0–255)

   • **Hue** (0–255)

   • **Sharpness** (0–15)

   • **De-noising** (0–5)

6. If you want to define different image settings for the remaining time (such as 19:01 to 06:59), select **Period 2**, and then repeat steps 4 and 5.

7. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

8. Click **OK** to save your settings.
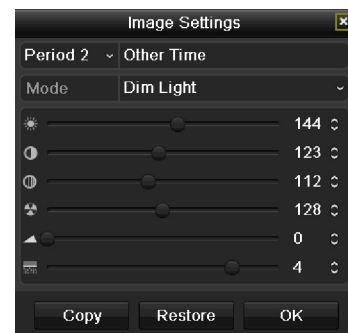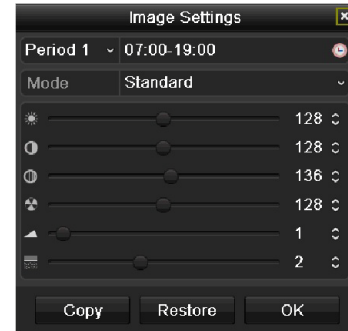
Configuring System Display Settings

This section describes how to configure general display settings, set the camera order, enable/disable live view for one or more cameras, and set up channel-zero encoding.

Configuring General Display Settings

You can configure general display settings in the System Settings menu. Follow the instructions below to set up video and audio outputs, the live view screen layout, and the auto-switching dwell time.

To configure general display settings:

1. Go to **Menu > Settings > Display**.
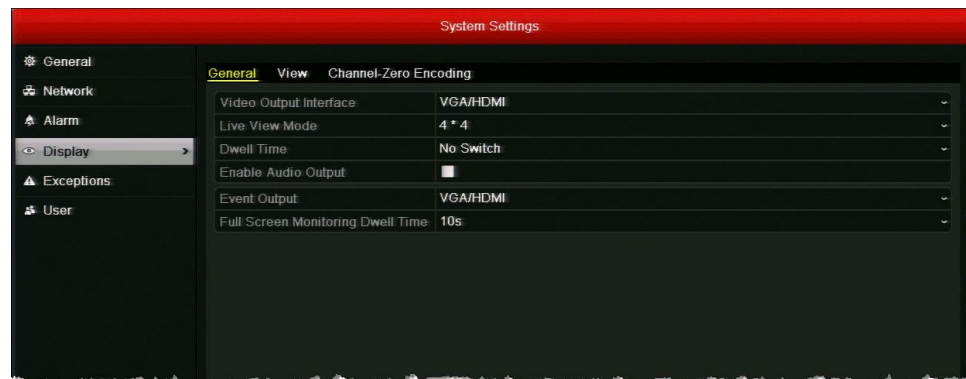
2. On the **Display** page, under **General**, configure the following settings:

   - **Video Output Interface**   Sets the main video output for live view and playback mode. Select **VGA/HDMI** (default) or **Main BNC**.

   - **Live View Mode**   Sets the screen layout for live view mode. Available options are dependent on DVR type.

   - **Dwell Time**   Sets the channel switching interval time in seconds when auto-switching is enabled in live view mode. Select a value between **5 s** and **300 s** or select **No Switch**.

   - **Enable Audio Output**   Select/clear the check box to enable/disable audio output for the selected main video output.

   - **Event Output**   Sets the video output for event recording. Select **VGA/HDMI** (default) or **Main BNC**.

   - **Full Screen Monitoring Dwell Time**   Sets the time in seconds to show alarm events on screen.

3. Click **Apply** to save your settings.

Note   When the VGA/HDMI output interface is used as the main video output and Audio Output is enabled, the VGA/HDMI audio and AUDIO OUT can be used for live view, playback and two-way audio. If Audio Output for the VGA/HDMI output interface is disabled, the VGA/HDMI output provides no audio and the AUDIO OUT is used for two-way audio.

When the Main BNC output is used as the main video output, the VGA/HDMI audio is provided for Aux video output in live view, and the AUDIO OUT is used as the main video output (for live view, playback or two-way audio).

Setting the Camera Order

You can set the order in which the cameras appear on screen in live view mode in the System Settings menu.

To set the camera order:

1. Go to **Menu > Settings > Display > View**.

2. In the **Video Output Interface** list, select **VGA/HDMI** or **Main BNC** as your main video output.

3. Select a screen on the right and then, from the list of cameras on the left, double-click the camera you want to assign to that screen. The camera number (for example, "A1") appears in the selected screen. You can assign the cameras to up to 32 screens in any order.

4. Click **Apply** to save your settings.

Enabling or Disabling Live View

You can enable or disable the live video feed (live view) for one or more cameras in the System Settings menu.

To enable/disable live view:

1. Go to **Menu > Settings > Display > View**.

2. Do one of the following:

   • To enable live view *for a single camera*, double-click the camera name. The camera icon changes to yellow. To disable live view *for a single camera*, double-click the camera name again or click the ✕ in the corresponding screen. The camera icon changes to white.

   • To enable live view *for all cameras*, click the play button ▷. The camera icons for all cameras change to yellow. To disable live view *for all cameras*, click the stop button ☐. The camera icons for all cameras change to white.
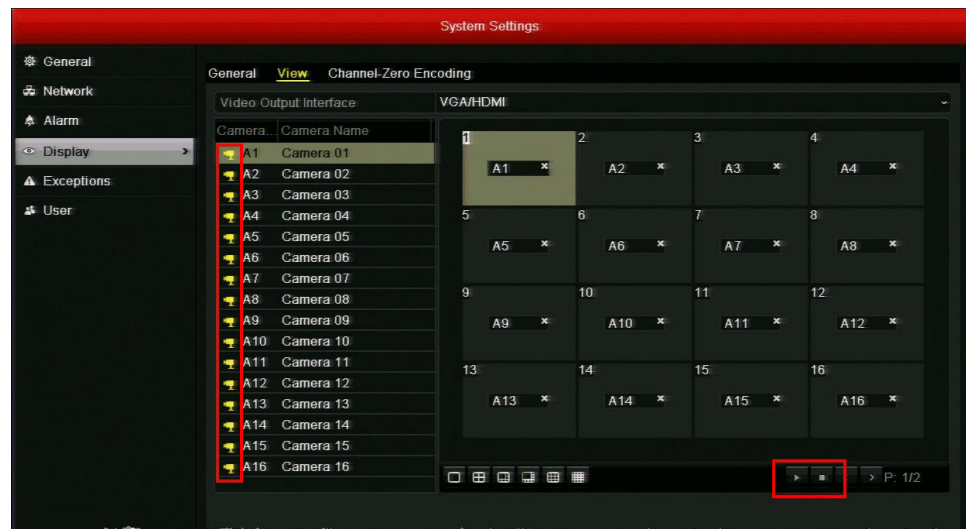
3. Click **Apply** to save the setting.

Enabling or Disabling Channel-Zero Encoding

You can enable or disable channel-zero encoding in the System Settings menu. With channel-zero encoding enabled you can remotely view real-time video from multiple channels in one screen, minimizing bandwidth usage while preserving image quality.

To enable channel-zero encoding:

1. Go to **Menu > Settings > Display > Channel-Zero Encoding**.

2. Select the **Enable Channel-Zero Encoding** check box.

3. Configure the following settings:

    *   **Frame Rate**   Select a value between **1/8 fps** and **12 fps** (default).
    *   **Max. Bitrate(Kbps)**   Select a value between **32** and **2048**. The default is **1024**.

4. Click **Apply** to save your settings.

To disable channel-zero encoding:

1. In **System Settings**, on the **Display** page, click the **Channel-Zero Encoding** tab.
2. Clear the **Enable Channel-Zero Encoding** check box, and then click **Apply**.

Operations in Live View

Switching Between Channels

In full screen display mode, you can switch between channels manually or you can use the auto-switch function to automatically cycle through each channel's video feed at predetermined intervals.

> **Note**   Before you can use the auto-switch function, you must set the dwell time. See *Configuring General Display Settings, page 39*.

To manually switch to the next channel, do one of the following:

- Scroll down with your mouse. (Scrolling up switches to the previous channel.)
- Right-click anywhere on the screen to display the shortcut menu, and then click **Next Screen**.

To automatically cycle through the channels:

- Right-click anywhere on the screen to display the shortcut menu, and then click **Start Auto-switch**.

  The DVR starts automatically cycling through each channel. The period of time each channel's video feed appears on the screen is determined by the dwell time you specified in the Display Settings.

To stop cycling through all the channels:

- Right-click anywhere on the screen to display the shortcut menu, and then click **Stop Auto-switch**.

Main/Aux Output Switching

You can access certain live view mode features using an auxiliary monitor. These features include **Single Screen**, **Multi-screen**, **Previous Screen**, **Next Screen**, and **Quick Set** (see *Shortcut Menu, page 36*).

When HDMI/VGA output is configured as the main output, you can switch to Main BNC output by double-clicking the mouse wheel anywhere on the screen. The message "Double-click the mouse again to switch the auxiliary and main output?" appears. Double-click the mouse wheel again to continue, or click **Cancel** to cancel the operation.

To switch back to the main HDMI/VGA output, right-click on the screen in live view mode to display the shortcut menu, and then click **Main Monitor**.

Zooming In

You can use the digital zoom function to enlarge an area of the on-screen image.

To enter digital zoom mode

1. Right-click anywhere on the screen to display the shortcut menu, and then click **Digital Zoom**.

   The picture on the screen is magnified by 4 times and the normal screen view appears as an inset window in the lower right corner of the screen. The magnified area is indicated by a red frame.

2. In the inset window, drag the red frame to the area of the screen you want to zoom in on.

To exit digital zoom mode

- Right-click anywhere on the screen, and then click **Exit**.

4

Controlling a PTZ Device

This chapters contains the following sections:

About PTZ Control

You can control a connected PTZ camera in live view mode using the on-screen PTZ control interface.
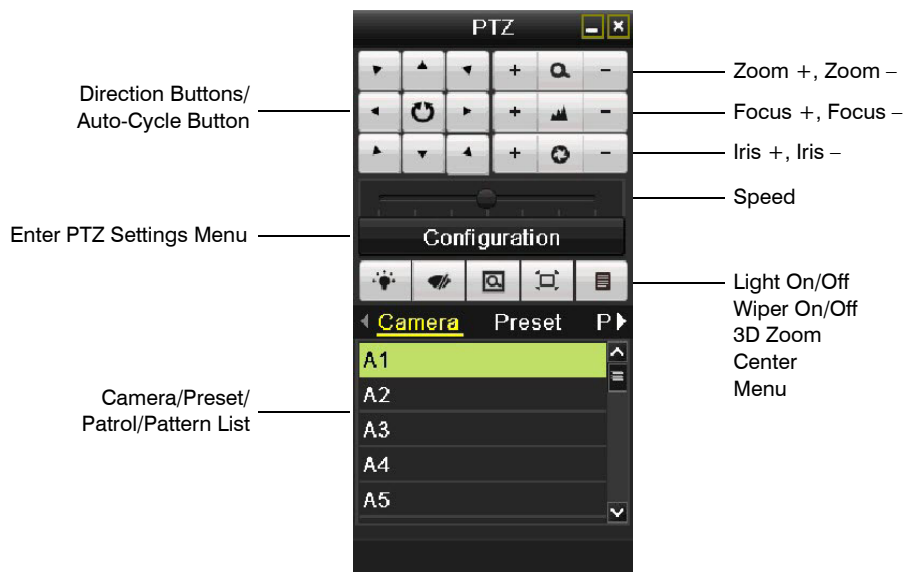
You can access this interface in live view mode by clicking the **PTZ Control** button on the quick setting toolbar (see *Quick Setting Toolbar, page 35*).

Configuring PTZ Settings

Before you can control a PTZ camera, you must configure the connection settings in the Camera Management menu. This section describes how to configure PTZ connection settings, presets, patrols, and patterns.

Configuring PTZ Connection Settings

The PTZ connection settings on the DVR must match the settings of the camera. For example, if the PTZ camera has a baud rate as 115200, you should select 115200 in the baud rate field.

To configure the PTZ connection settings:

1. Go to **Menu** > **Camera** > **PTZ** > **General**.
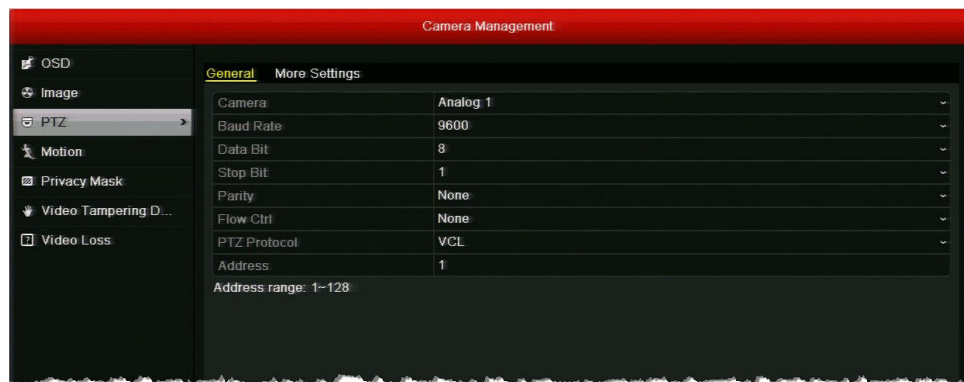
2. Configure the following settings:

   - **Camera**   Select the PTZ camera you want to configure settings for.
   - **Baud Rate**   Select your PTZ camera's baud rate setting.
   - **Data Bit**   Select your PTZ camera's data bit setting (**5**, **6**, **7**, or **8**).
   - **Stop Bit**   Select your PTZ camera's stop bit setting (**1** or **2**).
   - **Parity**   Select your PTZ camera's parity setting (**None**, **Odd**, or **Even**).
   - **Flow Ctrl**   Select a flow control setting (**None**, **Software**, or **Hardware**).
   - **PTZ Protocol** Select your PTZ camera's protocol.
   - **Address**   Enter your PTZ camera's address.

3. To copy the same settings to one or more additional PTZ cameras, click **Copy**, select the channel(s) that you want to copy the settings to, or click **Analog** to select all channels, and then click **OK**

4. Click **Apply** to save your settings.

Programming Presets

You can program up to 127 preset positions for the PTZ camera. For example, you can program the camera to point at a specific location, such as a doorway, when an alarm event takes place.

To program a preset:

1. Go to **Menu > Camera > PTZ > More Settings**.
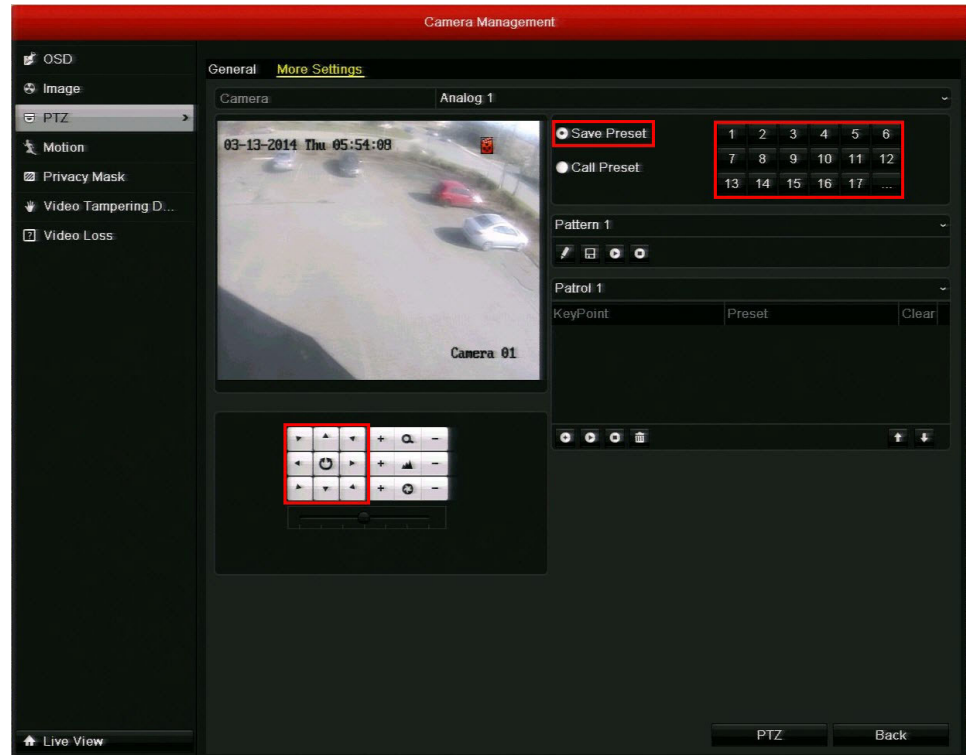
2. Use the direction buttons to point the camera at the location where you want to set the preset.

3. Click **Save Preset**, and then click the number you want to assign to the preset. For example, clicking "1" will save the preset as Preset 1, clicking "2" will save the preset as Preset 2, and so on.

4. Repeat steps 2 and 3 to save more presets. You can click **…** to display additional numbers.

Programming Patrols

You can program the PTZ camera to move automatically from one preset to the next in a specific order and define the length of time the camera remains at each preset. This is called a patrol. You can program up to 3 patrols.

To program a patrol:

1. Go to **Menu > Camera > PTZ > More Settings**.
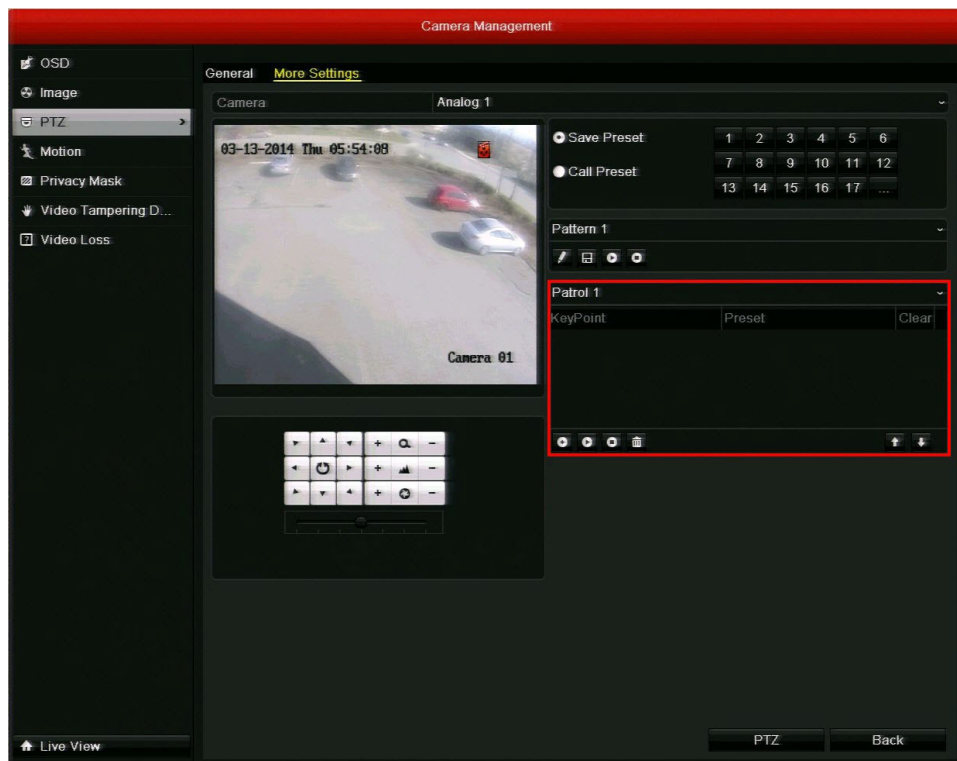
2. Select the patrol you want to program from the patrol list (**Patrol 1**, **Patrol 2**, or **Patrol 3**).

3. Click the **Add KeyPoint** button. The **KeyPoint** window opens.

4. In the **KeyPoint** window, configure the following settings:

- **Preset**   Select the preset you want to assign to this key point.
- **Duration**   Select the time, in seconds, that you want the camera to remain at this key point.
- **Speed**   Select the speed at which you want the camera to move to this key point.

5. Click **OK** to save the key point to the patrol.

6. Repeat steps 3 to 5 to add more key points. To delete a key point from the list, click the **Clear** button [trash icon] next to the preset name.
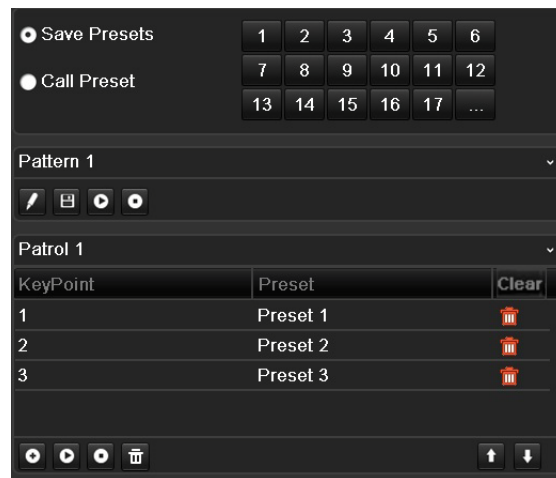
Programming Patterns

You can record a set of PTZ movements as a pattern. When you call the pattern in live view mode, the PTZ camera will automatically follow the path you have defined. You can program up to 3 patterns.

To program a pattern:

1. Go to **Menu > Camera > PTZ > More Settings.**
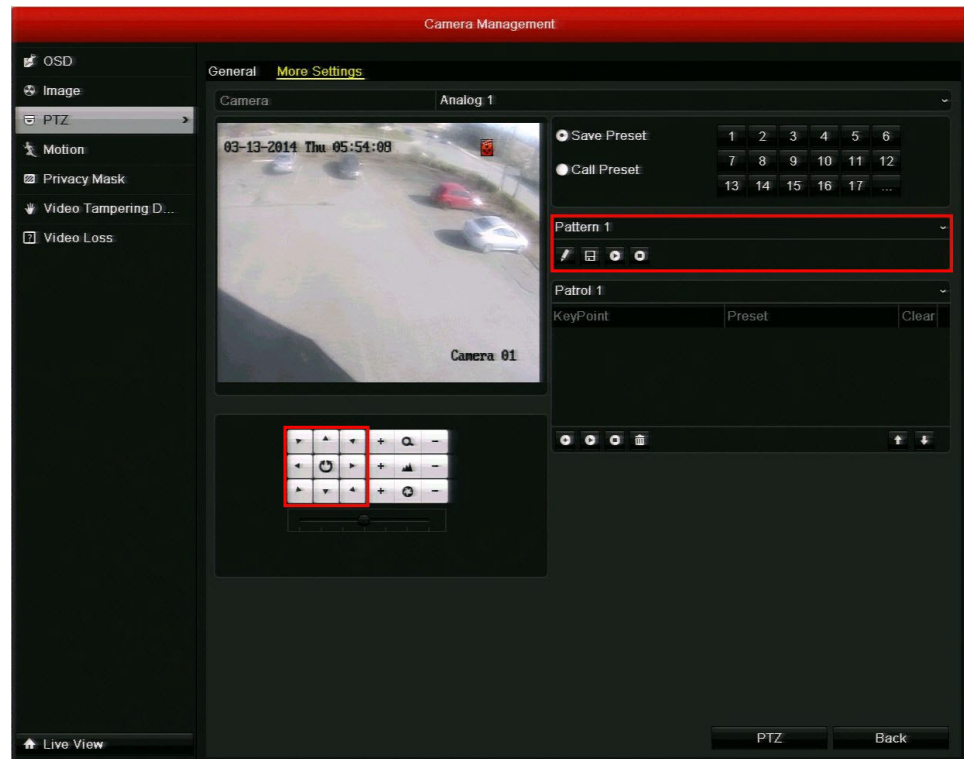
2. Select the pattern you want to program from the pattern list (**Pattern 1**, **Pattern 2**, or **Pattern 3**).

3. Click the **Record** button.

4. Drag the mouse over the live image, or, alternatively, use the direction buttons, to define the desired path of the PTZ camera.

5. Click the **Save** button to save the path as the selected pattern.

6. Repeat steps 2 to 5 to save more patterns.

Calling Presets, Patrols, and Patterns

This section describes how to call pre-programmed presets, patrols, and patterns in live view mode and within the PTZ configuration interface.

Calling Presets

To call a preset in live view mode:

1. Click on a channel to display the quick setting toolbar (see *Quick Setting Toolbar, page 35*).

2. On the toolbar, click the **PTZ Control** button .

3. In the on-screen PTZ control interface, under **Camera**, select your PTZ camera from the list.

4. Click **Preset** to view the list of presets, and then click the preset you want to call.
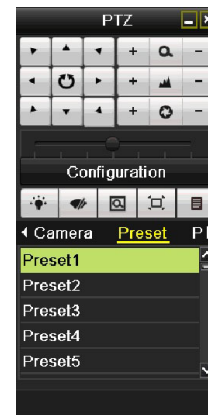
To call a preset in the PTZ configuration interface:

1. Go to **Menu** > **Camera** > **PTZ** > **More Settings** (or click **Configuration** in the PTZ control interface).

2. Click **Call Preset**, and then click the number of the preset you want to call.
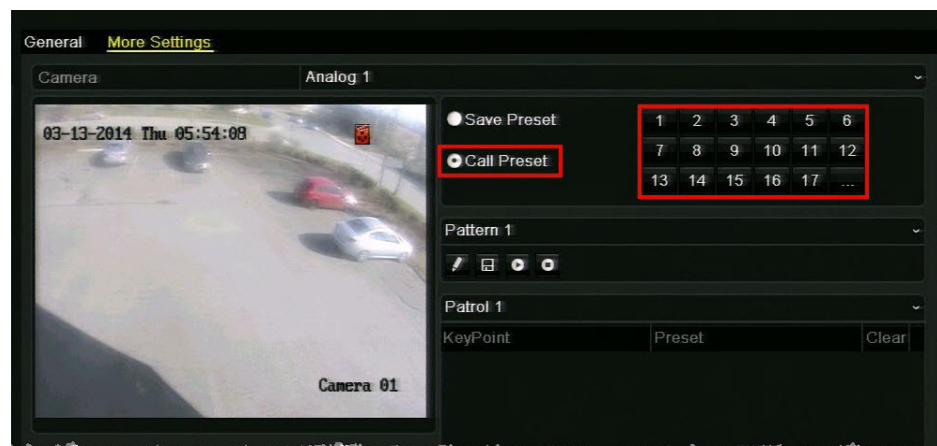
Calling Patrols

To call a patrol in live view mode:

1. Click on a channel to display the quick setting toolbar (see *Quick Setting Toolbar, page 35*).

2. On the toolbar, click the **PTZ Control** button 🔘.

3. In the on-screen PTZ control interface, under **Camera**, select your PTZ camera from the list.

4. Click **Patrol** to view the list of patrols, and then click the patrol you want to call.

5. Click the start button ▶ to start the patrol. To stop the patrol, click the stop button ⏹.

To call a patrol in the PTZ configuration interface:

1. Go to **Menu > Camera > PTZ > More Settings** (or click **Configuration** in the PTZ control interface).

2. Select the patrol you want to call from the drop-down list, and then click the **Run** button ▶ to call the patrol. To stop the patrol, click the **Stop** ⏹ button.
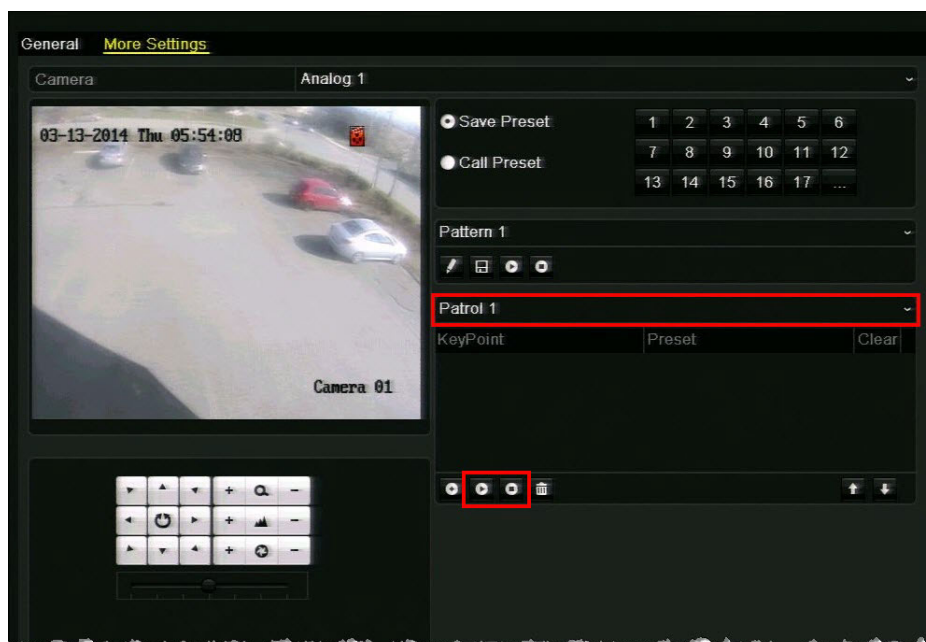
Calling Patterns

To call a pattern in live view mode:

1. Click on a channel to display the quick setting toolbar (see *Quick Setting Toolbar, page 35*).

2. On the toolbar, click the **PTZ Control** button .

3. In the on-screen PTZ control interface, under **Camera**, select your PTZ camera from the list.

4. Click **Pattern** to view the list of patterns, and then click the pattern you want to call.

5. Click the start button to start the pattern. To stop the pattern, click the stop button .
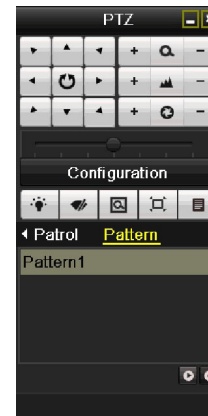
To call a pattern in the PTZ configuration interface:

1. Go to **Menu > Camera > PTZ > More Settings** (or click **Configuration** in the PTZ control interface).

2. Select the pattern you want to call from the drop-down list, and then click the **Run** button to call the pattern. To stop the pattern, click the **Stop** button.

5
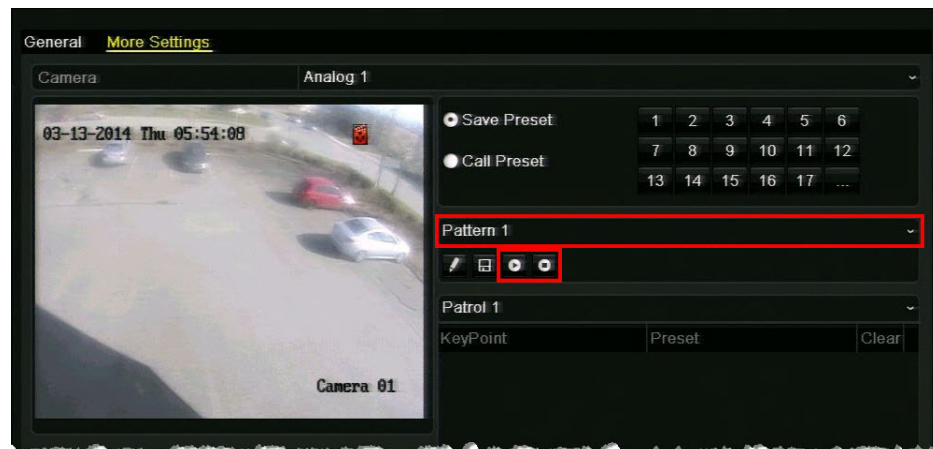
Recording Video

This chapter contains the following sections:

Live View Record Settings

In live view mode, you can manually start/stop recording a specific channel or you can start all-day normal or motion detection recording of all channels.

To manually start or stop recording a specific channel:

- In live view mode, click on a channel to display the quick setting toolbar, and then click the **Start recording** button to start recording video from the channel. To stop recording video from the channel, click the **Stop recording** button.

To start all-day normal recording of all channels:

- In live view mode, right-click anywhere on the screen to display the shortcut menu, click **Start Recording**, and then click **Normal Record**. The message "Start normal all-day recording of all channels?" appears. Click **Yes**.

To start all-day motion detection recording of all channels:

- In live view mode, right-click anywhere on the screen to display the shortcut menu, click **Start Recording**, and then click **Motion Detection Record**. The message "Start all-day motion detection recording of all channels?" appears. Click **Yes**.

Configuring a Record Schedule

You can set channels to start or stop recording according to a defined schedule.
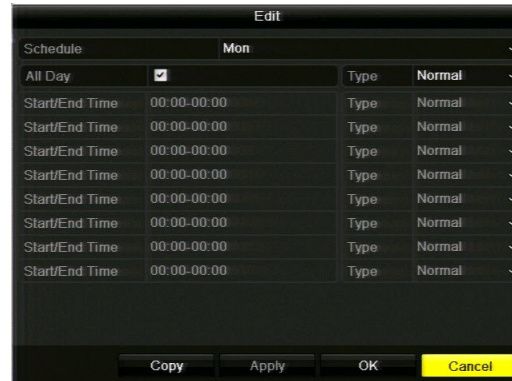
To configure the schedule:

1. Go to **Menu** > **Record** > **Schedule**.
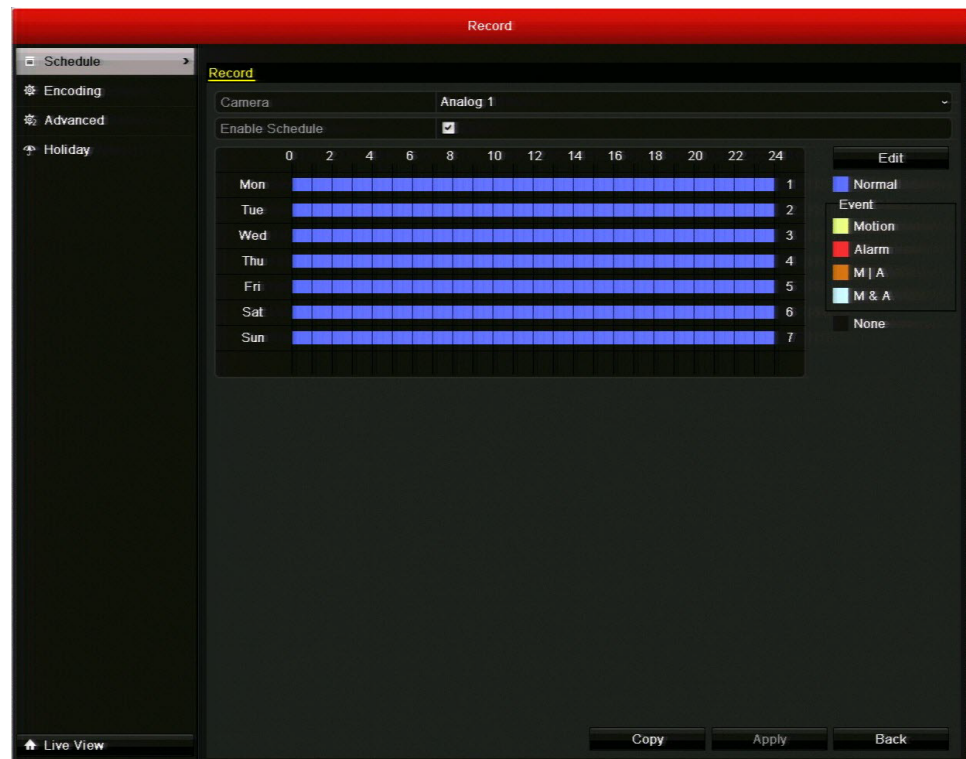
2. Select the camera you want to configure the schedule for.
3. Select the **Enable Schedule** check box.

4. Click **Edit**. The **Edit** window opens.

5. In the **Schedule** list, select the day of the week that you want to set the schedule for. If Holiday settings have been enabled (see *Configuring Holiday Record Settings, page 59*), you can also select **Holiday**.

6. You can set the DVR to record video from the selected camera all the time or only at specific times.

   • To set the DVR to record video from the selected camera all the time, select the **All Day** check box to enable all-day recording, and then, in the **Type** list, select one of the following recording types: **Normal**, **Motion**, **Alarm**, **Motion | Alarm**, or **Motion & Alarm**.

   • To set the DVR to record video from the selected camera only at specific times, clear the **All Day** check box and define the **Start**/**End Time** and **Type** settings for up to 8 non-overlapping time periods.

Note   You must configure the alarm input and/or motion detection settings before selecting an event recording type (**Motion**, **Alarm**, **Motion | Alarm**, **Motion & Alarm)**. See *Chapter 8, Configuring Alarm Settings*.

---

7. To copy these settings to one or more additional days, click **Copy** to open the **Copy to** window, select the days(s) you want to copy the settings to, or click **All** to copy the settings to all days, and then click **OK**. Alternatively, in **Schedule**, select another day of the week to set the schedule for and repeat step 6. Do this for each day you want to set the schedule for.

8. Click **Apply** to save your settings, and then click **OK**. The recording schedule is displayed graphically in the window, with different colors for different recording types.

9. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

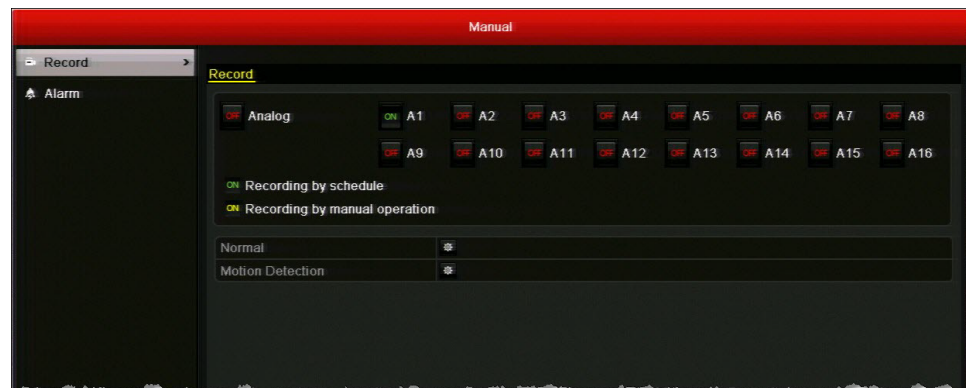10. Click **Apply** to save your settings, and then click **OK**.

Configuring Manual Record Settings

You can set the DVR to record channels by manual operation. Manual recording is prior to scheduled recording.

Note   Manual recording settings are automatically cleared when the DVR restarts.

To configure manual recording:

1. Go to **Menu > Manual**.

2. Click the status button twice next to the channel(s) you want to enable manual recording for, or click the status button twice next to **Analog** to enable manual recording for all channels.

    By default, the channels are set to recording by schedule (green "ON"). Clicking the status button once turns off recording (red "OFF") and clicking it again changes the recording status to recording by manual operation (yellow "ON").

To start all-day normal recording of all channels:

•   In **Menu > Record**, next to **Normal**, click ⚙ . The message "Start all-day normal recording of all channels?" appears. Click **Yes**.

To start all-day motion detection recording of all channels:

•   In **Menu > Record**, next to Motion Detection, click ⚙ . The message "Start all-day motion detection recording of all channels?" appears. Click **Yes**.

Configuring Holiday Record Settings

You can set up special recording settings for holidays.

To configure holiday recording settings:

1. Go to **Menu** > **Record** > **Holiday**.
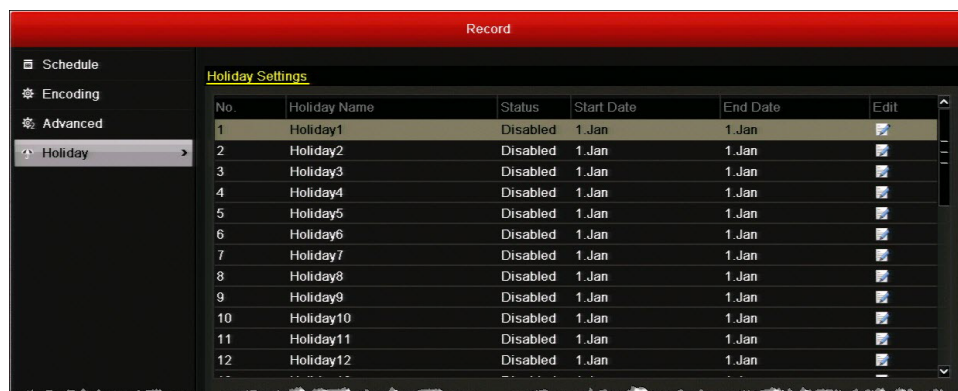
2. Under **Holiday Settings**, select the holiday you want to configure from the list.

3. Click the **Edit** button ![edit icon]. The **Edit** window opens.

4. Configure the following settings:

    *   **Holiday Name**   Enter the name of the holiday.

    *   **Enable**   Select/clear the check box to enable/disable this setting.

    *   **Mode**   Select **By Date**, **By Week**, or **By Month**.

    *   **Start Date**   Select the start date for the setting. Format varies by mode.

    *   **End Date**   Select the end date for the setting. Format varies by mode.

5. Click **Apply** to save your settings, and then click **OK**.

6. Set the recording schedule for the holiday. See *Configuring a Record Schedule, page 56*.

Configuring Encoding Parameters

By configuring the encoding parameters you can define the transmission stream type, the recording resolution, and so on.

To configure encoding parameters for main stream:

1. Go to **Menu** > **Record** > **Encoding** > **Record**.

2. Select the camera you want to configure encoding parameters for.

3. Configure the following encoding parameters for Main Stream(Normal) and Main Stream(Event):

•	**Stream Type**	Set the stream type to **Video** or **Video & Audio**.
•	**Resolution**	Set the recording resolution to one of the following settings: **WD1**, **4CIF**, **2CIF**, **CIF**, or **QCIF**.
•	**Bitrate Type**	Set the bitrate type to **Variable** or **Constant**.
•	**Video Quality**	Set the recording video quality. 6 levels configurable.
•	**Frame Rate**	Set the recording frame rate.
•	**Max. Bitrate Mode**	Set the bit rate mode to **General** or **Customize**.
•	**Max. Bitrate(Kbps)**	Select or customize the maximum bit rate for recording.

4. Configure the following settings:

•	**Pre-record**	Sets the time to record before a scheduled recording time or event.
•	**Post-record**	Sets the time to record after a scheduled recording time or event.
•	**Expired Time (day)**	The expired time is the longest time a record file can be kept in the HDD. After this, the file is deleted. If the expired time is set to 0, the file will not be deleted. The actual keeping time for the file should be determined by the capacity of the HDD.
•	**Redundant Record**	This option is only available when the HDD storage mode is set to **Group**. Select this check box to simultaneously save recorded video to the redundant HDD. See *Configuring Redundant Recording, page 63*.
•	**Record Audio**	Select the check box to record video with sound. Clear the check box to record video without sound.
•	**Enable 960Mode**	Select the check box to enable encoding at WD1 resolution. Clear the check box to disable it.

5. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.
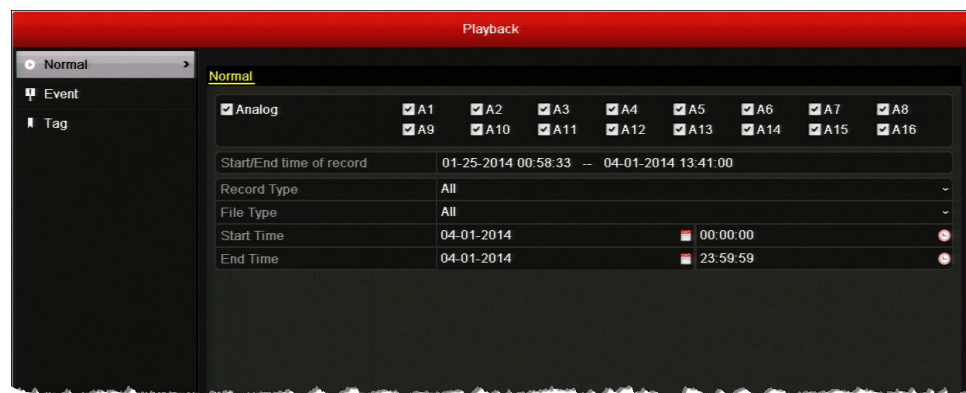

6. Click **Apply** to save your settings.

Note   To restore the current substream settings to the default parameters, click **Restore**.

To configure encoding parameters for substream:

1. Go to **Menu > Record > Encoding > Substream**.

2. Select the camera you want to configure encoding parameters for.

3. Configure the following encoding parameters for substream:

   - **Stream Type**   Set the stream type to **Video** or **Video & Audio**.

   - **Resolution**   Set the recording resolution to one of the following settings: **WD1**, **4CIF**, **2CIF**, **CIF**, or **QCIF**.

   - **Bitrate Type**   Set the bitrate type to **Variable** or **Constant**.

   - **Video Quality**   Set the recording video quality. 6 levels configurable.

   - **Frame Rate**   Set the recording frame rate.

   - **Max. Bitrate Mode**   Set the bit rate mode to **General** or **Customize**.

   - **Max. Bitrate(Kbps)**   Select or customize the maximum bit rate for recording.

4. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

5. Click **Apply** to save your settings.

6. To restore the current substream settings to the default parameters, click **Restore**.

Configuring Redundant Recording

If you have two or more HDDs, with the HDD storage mode set to **Group** (see *Configuring HDD Groups, page 117*), you can enable redundant recording—that is, you can set up the DVR to save recorded video not only on the R/W (read/write) HDD but also on the redundant HDD for additional security and reliability.

To configure redundant recording:

1. Go to **Menu > HDD > General**.

2. Under **HDD Information**, select the HDD you want to configure as the redundant HDD, and then click the **Edit** button 📝 to open the **Local HDD Settings** window.

3. Click **Read-only**, click **Apply** to save the setting, and then click **OK**.

4. Go to **Menu > Record > Encoding > Record**.

5. In the **Camera** list, select the camera you want to record to both the R/W and Read-only HDDs.

6. Select the **Redundant Record** check box.

7. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

8. Click **Apply** to save your settings.

Protecting Recorded Files

You can lock individual recorded video files or set the HDD property to read-only to protect recorded video from being overwritten. You can also disable the default overwrite setting in **Menu > Record > Advanced**.

Note To set the HDD property to read-only, the storage mode of the HDD must be set to **Group**. See *Configuring HDD Groups, page 117*.

To lock recorded video files:

1. Go to **Menu > Clip Search > Normal**.

2. Under **Normal**, select the channel(s) you want to search, or click **Analog** to select all the channels.

3. Configure the following search parameters:

   • **Record Type**   Select one of the following recording types: **Normal**, **Motion**, **Alarm**, **Motion | Alarm**, **Motion & Alarm**, **Manual**, or **All**.

   • **File Type**   Select one of the following file types: **Unlocked**, **Locked**, or **All**.

   • **Start Time**   Select the date and time for the start point of the search.

   • **End Time**   Select the date and time for the end point of the search.

Note The start and end search points must fall within the range listed next to **Start**/**End time of record**.

---

4. Click **Search**. The **Search result** window opens, displaying a list of search results.

5. Select the video file(s) that you want to lock, and then click the **Lock** button.

To set the HDD property to read-only:

1. Go to **Menu** > **HDD** > **General**.

2. Under **HDD Information**, select the HDD you want to edit, and then click the **Edit** button 📝 to open the **Local HDD Settings** window.

3. Click **Read-only**, click **Apply** to save the setting, and then click **OK**.

Note If you want to save files to the HDD, change the property to **R/W**. If there is only one HDD and it is set to **Read-only**, the device will not record any files. Only live view mode will be available. If you set the HDD to **Read-only** while the device is saving files, the filed will be saved to the next R/W HDD or, if there is only one HDD, recording will stop.

6

Playing Back Video

This chapter contains the following sections:

Searching and Playing Back Video by Channel

You can play back video recorded on a specific channel. Channel switch is supported.

To play back the last five minutes of video:

1. Click a channel in live view mode to display the quick setting toolbar.

2. On the toolbar, click the **Instant Playback** button ⬛. The channel begins playing back video from the last five minutes.

   You can use the on-screen playback controls to move backwards or forwards through the video or to pause playback.

3. To return to live view mode, click the **Exit** button ⬛.

To search and play back video from the current day or other dates:

1. Right-click a channel in live view mode to display the shortcut menu, and then click **Today's Video**. The playback interface appears.

2. To display the channel and date selection panel, move the mouse to the right edge of the playback interface.

- To switch playback to another channel or to play back video from multiple cameras simultaneously, select one or more additional cameras from the list.

- To play back video from a different date, double-click the date in the calendar. The dates with recorded video are shown in blue or red. Blue indicates normal recording. Red indicates event recording.

3. Control playback using the control panel at the bottom of the screen. Drag the yellow indicator to the desired playback point in the timeline.

Zoom in on timeline
Zoom out on timeline

Recorded video for playback

Current playback point

Timeline

Audio on/off
Clipping start/stop
Add default tag
Add customized tag
Tag management

Go to date/time
Play reverse
Stop
Pause/Play
30s reverse
30s forward
Slow down
Speed up
Previous day
Next day

Hide control panel*
Exit playback

* To show the control panel again, right-click on the screen to display the shortcut menu, and then click **Control Panel**.

4. To close the playback interface, click the **Exit** button .

Searching and Playing Back Video by Time

You can search for and play back recorded video by record type, file type, and time. Multi-channel simultaneous playback and channel switch are supported.

To search for and play back video by time:

1. Go to **Menu** > **Clip Search** > **Normal**.

2. Under **Normal**, select the channel(s) you want to search, or click **Analog** to select all the channels.

3. Configure the following search parameters:

   - **Record Type**   Select one of the following recording types: **Normal**, **Motion**, **Alarm**, **Motion | Alarm**, **Motion & Alarm**, **Manual**, or **All**.

   - **File Type**   Select one of the following file types: **Unlocked**, **Locked**, or **All**.

   - **Start Time**   Select the date and time for the start point of the search.

   - **End Time**   Select the date and time for the end point of the search.

   > **Note**   The start and end search points must fall within the range listed next to **Start**/**End time of record**.

4. Do one of the following:

   - To view the time ranges and record types of the video matching your search parameters, click **Detail**. Click **Previous** or **Next** to see information for the previous or following day. Click **Back** to close the window.

   - To play back video matching your search parameters from the earliest point, click **Playback**. The video begins playing in the playback interface.

- To search for a specific video file to play back, click **Search**. The **Search result** window opens, displaying a list of search results.
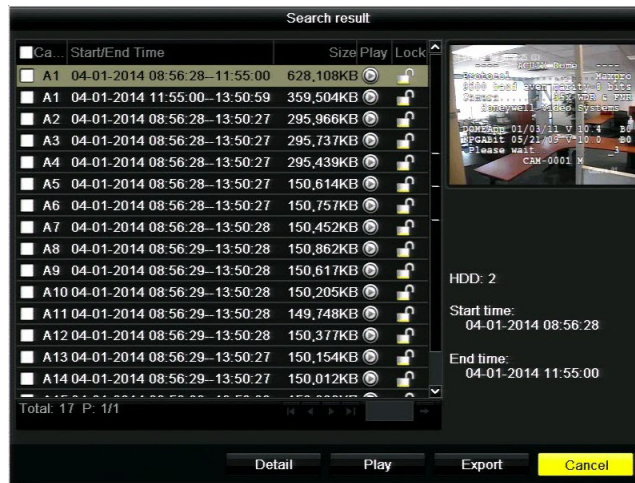
Select the video file that you want to view, and then click **Play**. The video begins playing in the playback interface.

Searching and Playing Back Video by Event

You can search for and play back video recorded during alarm input and motion detection events. Channel switch is supported. For information on configuring alarm input and motion detection settings, see *Configuring Alarms Inputs,* page 84, and *Configuring Motion Detection Settings,* page 89.

To search for and play back video by event:

1. Go to **Menu** > **Clip Search** > **Event**.

2. Under **Event**, configure the following search parameters:

    •   **Event Type**   Select **Alarm Input** or **Motion**.

    •   **Start Time**   Select the date and time for the start point of the search.

    •   **End Time**   Select the date and time for the end point of the search.

3. Do one of the following:

    •   If **Alarm Input** was selected as the event type, select the alarm input(s) you want to search from the list, or click **Alarm Input No.** to select all the alarm inputs.

    •   If **Motion** was selected as the event type, select the channel(s) you want to search from the list, or click **Analog** to select all the channels.

4. Click **Search**. A list of search results is displayed. (If no event recordings were found, the message "No event information found" appears.)
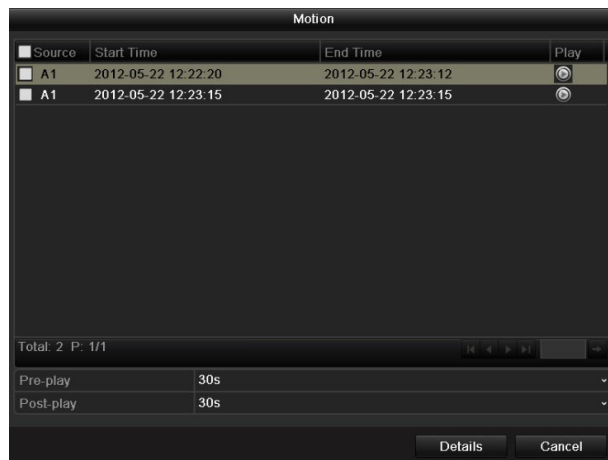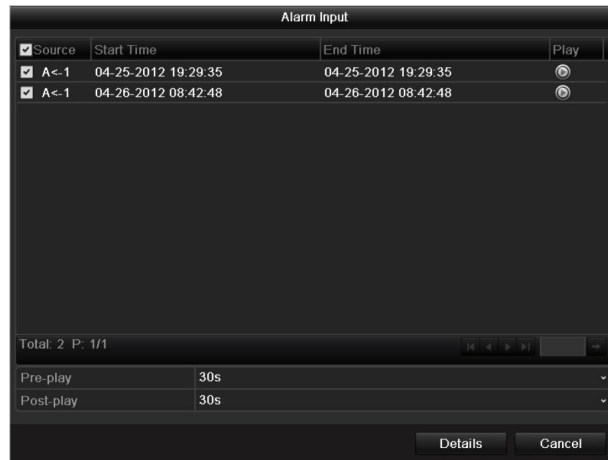
5. Select the clips(s) you want to view, and then click the **Play** button .

    If you want, you can adjust the **Pre-play** and **Post-play** settings. By default, playback starts 30 seconds before the start of the event and continues 30 seconds past the end of the event. To view the file details (start time, end time, file size), click **Details**.

Searching and Playing Back Video by Tag

You can search for and play back video that has been previously tagged. For more information, see *Working with Tags,* page 76.

To search for and play back video by tag:

1. Go to **Menu** > **Clip Search** > **Tag**.
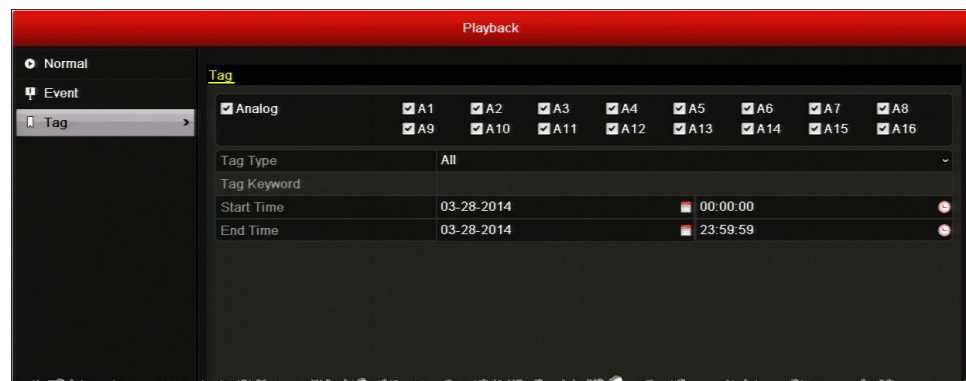
2. Under **Tag**, select the channel(s) you want to search, or click **Analog** to select all the channels.

3. Configure the following search parameters:

   - **Tag Type**   Select **Tag Keyword** or **All**.
   - **Tag Keyword**   If **Tag Keyword** was selected as the tag type, enter the tag keyword you want to search for.
   - **Start Time**   Select the date and time for the start point of the search.
   - **End Time**   Select the date and time for the end point of the search.

4. Click **Search**. A list of search results is displayed. (If no tags were found, the message "No tag found" appears.)

5. Select the clips(s) you want to view, and then click the **Play** button [icon].

    •   If you want, you can adjust the **Pre-play** and **Post-play** settings. By default, playback starts 30 seconds before the tag and continues 30 seconds after the tag.

    •   To edit the tag name, click the **Edit** button [icon]. Enter a new name in the **Tag Name** field, and then click **OK**.

    •   To delete the tag, click the **Delete** button [icon].

Searching and Playing Back Video by System Log

See *Searching and Exporting Log Files,* page 137.

Playback Operations

Creating Video Clips

You can create a customized video clip during playback.

To create a video clip:

1. In the playback interface, select the starting point of the clip by using the controls on the playback control panel (for example, drag the yellow indicator to the desired start point in the timeline).

2. On the playback control panel, click the **Start clipping** button ![icon] to start the clip.

3. Click the **Stop clipping** button ![icon] to stop the clip.

Working with Tags
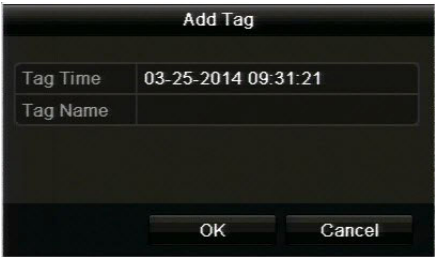
You can tag people or items of interest in a video under playback to mark points in the video that you may want to return to later (see *Searching and Playing Back Video by Tag,* page 74).

To add a default (non-editable) tag:

1. In the playback interface, select the point in the video where you want to add a tag by using the controls on the playback control panel (for example, drag the yellow indicator to the desired insertion point in the timeline).

2. On the playback control panel, click the **Add default tag** button ![icon].

To add a custom tag:

1. In the playback interface, select the point in the video where you want to add a tag by using the controls on the playback control panel (for example, drag the yellow indicator to the desired insertion point in the timeline).

2. On the playback control panel, click the **Add custom tag** button ![icon]. The **Add Tag** window opens.

| Add Tag	
Tag Time	03-25-2014 09:31:21
Tag Name	

OK   Cancel

3. In the **Tag Name** field, enter a unique tag name or keyword, and then click **OK**.

To manage tags:

1. In the playback interface, on the playback control panel, click the **Manage tags** button ![icon]. The **Tag Management** window opens.

2. Do one of the following:

    *   To edit a tag name, select the tag you want to edit, and then click the **Edit** button ![icon]. In the **Edit Tag** window, enter a new name in the **Tag Name** field, and then click **OK**.
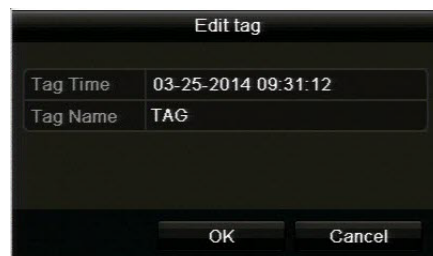
    *   To delete a tag, select the tag you want to delete, and then click the **Delete** button ![icon].

Using Digital Zoom

You can use the digital zoom function during playback to enlarge an area of the on-screen image.

To use digital zoom during playback:

1. In the playback interface, right-click on the screen to display the shortcut menu, and then click **Digital Zoom**.

    The picture on the screen is magnified by 4 times and the normal screen view appears as an inset window in the lower right corner of the screen. The magnified area is indicated by a red frame.

2. In the inset window, drag the red frame to the area of the screen you want to zoom in on.

3. To exit digital zoom mode, right-click anywhere on the screen.

Using Smart Search

You can use the smart search function during all-day playback (See *Searching and Playing Back Video by Channel,* page 68) to find motion detection events that have occurred in a specific area in a scene.

To use smart search:

1. In the playback interface, right-click on the screen to display the shortcut menu, and then click **Smart Search**.

2. Set the smart search area.

   - To set a portion of the screen as the smart search area, drag the mouse over the area of the scene you want to search. You can set multiple smart search areas.

   - To set the whole screen as the smart search area, click the **Full Screen Detection** button on the on-screen toolbar.
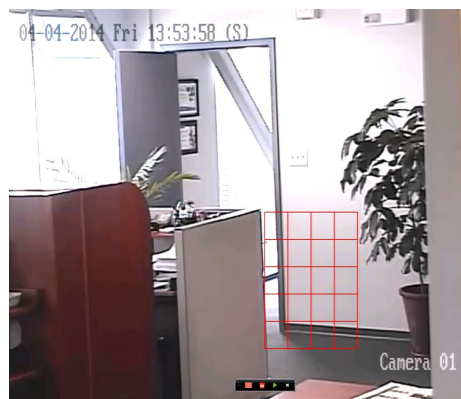
   The smart search area is indicated by a red grid.

3. Click the **Search** button on the on-screen toolbar. The search results are displayed over the timeline as a series of green bars.

4. Click the **Next smart search result** and **Previous smart search result** buttons to quickly go to the video locations where motion was detected in the smart search area.

7

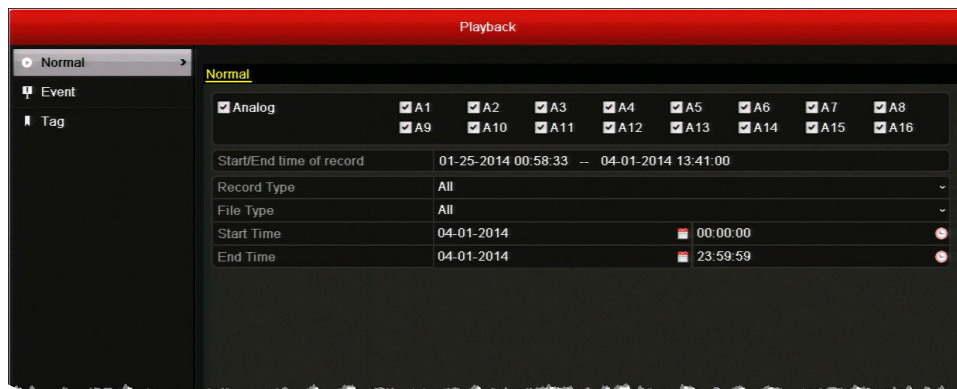# Exporting Video

This chapter contains the following sections:

Exporting Recorded Video Files

You can export recorded video to a USB flash drive or other external storage device. You can search for video by date and time or by event (motion detection and/or alarm).

To export recorded video files:

1. Insert a USB flash drive or other external storage device into the USB port on the front of the DVR.

2. Go to **Menu** > **Clip Search** > **Normal**.

3. On the **Normal** page, under **Normal**, select the channel(s) you want to search, or click **Analog** to select all the channels.

4. Configure the following search parameters:

- **Record Type**   Select one of the following recording types: **Normal**, **Motion**, **Alarm**, **Motion | Alarm**, **Motion & Alarm**, **Manual**, or **All**.

- **File Type**   Select one of the following file types: **Unlocked**, **Locked**, or **All**.

- **Start Time**   Select the date and time for the start point of the search.

- **End Time**   Select the date and time for the end point of the search.

Note   The start and end search points must fall within the range listed next to **Start**/**End time of record**.

5. Click **Search**. The **Search result** window opens, displaying a list of search results.

6. Select the file(s) that you want to export, and then click **Export**. The **Export** window opens.

7. Click **Export** to save the file(s) to the storage device.

Exporting Video Clips

You can export a customized video clip created during playback.

To export customized video clips:

1.   During video playback, use the clipping start/stop function on the playback control panel to create one or more video clips. See *Creating Video Clips, page 76*.

2.   Close the playback interface. The following message appears: "There are some video clips to be saved. Do you want to save them now?" Click **Yes**. The **Export** window opens.

3.   If you have not already done so, insert a USB flash drive or other external storage device into the USB port on the DVR, and then click **Refresh**.

4.   Click **Export** to save the video clip(s) to the storage device.

8

Configuring Alarm Settings

This chapter contains the following sections:

Configuring Alarms Inputs

This section describes how to set the alarm input (sensor) type and handling properties. You can set up the DVR to trigger one or more of the following alarm responses when a sensor alarm event is detected:

Video Recording	Video begins recording on the triggered channel.
Full Screen Monitoring	The monitor displays full screen video from the triggered channel. When multiple channels are triggered simultaneously, the images switch at regular intervals (the default dwell time is 10 seconds).
Audio Alarms	An audible beep sounds.
Surveillance Center Notification	A signal is sent to a remote alarm host. See *Configuring Remote Alarm Host Settings, page 99*.
Email Notification	An email containing the event details is sent to one or more recipients. See *Configuring Email Settings, page 97*.
Alarm Output	A signal is sent to an external alarm. See *Configuring Alarm Outputs, page 87*.

To configure alarm input settings:

1. Go to **Menu** > **Settings** > **Alarm** > **Alarm Input**.

2. Select the alarm input you want to configure from the **Alarm Input No.** drop-down list.

3. If you want, in the **Alarm Name** field, enter a descriptive name for the alarm input.

4. Next to **Type**, select your alarm input type:

   - **N.O.** The alarm input is normally open. If it is closed, an alarm signal is generated.

   - **N.C.** The alarm input is normally closed. If it is opened, an alarm signal is generated.

5. Select the **Setting** check box to enable the alarm input.

6. Click the **Handling** button ⚙ to set up the alarm response actions. The **Handling** window opens.

a. Under **Trigger Channel**, select the channel(s) you want to begin full-screen monitoring or recording video with when the alarm input generates an alarm signal, or click **Analog** to select all the channels, and then click **Apply** to save your settings.

Note   To automatically start recording video on the channel when an alarm input event is detected, you must set the recording schedule to **Alarm**, **Motion | Alarm**, or **Motion & Alarm**. See *Configuring a Record Schedule, page 56*.
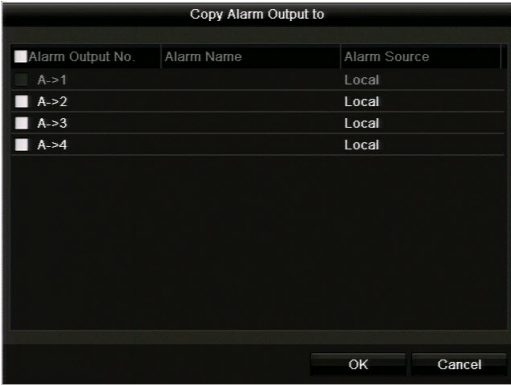
---

b. Click the **Arming Schedule** tab to set the arming schedule of the alarm input. You can set up to eight time periods per day (the time periods cannot repeat or overlap). To copy the arming schedule to other days of the week, click **Copy**. Click **Apply** to save your settings.

c. Click the **Handling** tab to set the action(s) you want to occur when the alarm input generates an alarm signal. Select the check box corresponding to the action(s) you want to enable, and then click **Apply** to save your settings.

d. If applicable, select the **PTZ Linking** tab to set the PTZ linkage of the alarm input. Select the preset, patrol, or pattern you want to call when the alarm input generates an alarm signal, click **Apply** to save your settings, and then click **OK** to close the window.

7. To copy these settings to one or more additional alarm inputs, click **Copy** to open the **Copy Alarm Input to** window, select the alarm input(s) you want to copy the settings to, or click **Alarm Input No.** to copy the settings to all alarm inputs, and then click **OK**.

8. Click **Apply** to save your settings.

Configuring Alarm Outputs

This section describes how to set the dwell time and handling properties of alarm outputs.

To configure alarm output settings:

1. Go to **Menu** > **Settings** > **Alarm** > **Alarm Output**.

2. Select the alarm output you want to configure from the **Alarm Output No.** drop-down list.

3. If you want, in the **Alarm Name** field, enter a descriptive name for the alarm output.

4. Next to **Dwell Time**, set the alarm output dwell time in seconds. Select a value between 5 seconds and 600 seconds (10 minutes) or select **Manually Clear**.

Note   If the alarm output dwell time is set to **Manually Clear**, you must go to **Menu** > **Manual** > **Alarm** to clear the alarm. Select the alarm output(s) you want to clear, and then click **Clear** (or click **Clear All** to clear all alarm outputs).

5. Click the **Handling** button [⚙] to set the arming schedule of the alarm output. You can set up to eight time periods per day (the time periods cannot repeat or overlap). To copy the arming schedule to other days of the week, click **Copy**. Click **Apply** to save your settings.

6. To copy these settings to one or more additional alarm outputs, click **Copy** to open the **Copy Alarm Output to** window, select the alarm output(s) you want to copy the settings to, or click **Alarm Output No.** to copy the settings to all alarm outputs, and then click **OK**.

7. Click **Apply** to save your settings.

Configuring Motion Detection Settings

You can set up the DVR to trigger one or more of the following alarm responses when motion is detected in a restricted area:

Video Recording Video begins recording on the triggered channel.

Full Screen Monitoring The monitor displays full screen video from the triggered channel. When multiple channels are triggered simultaneously, the images switch at regular intervals (the default dwell time is 10 seconds).

Audio Alarms An audible beep sounds.

Surveillance Center Notification A signal is sent to a remote alarm host. See *Configuring Remote Alarm Host Settings, page 99*.

Email Notification An email containing the event details is sent to one or more recipients. See *Configuring Email Settings, page 97*.

Alarm Output A signal is sent to an external alarm. See *Configuring Alarm Outputs, page 87*.

To configure motion detection settings:

1. Go to **Menu** > **Camera** > **Motion**.
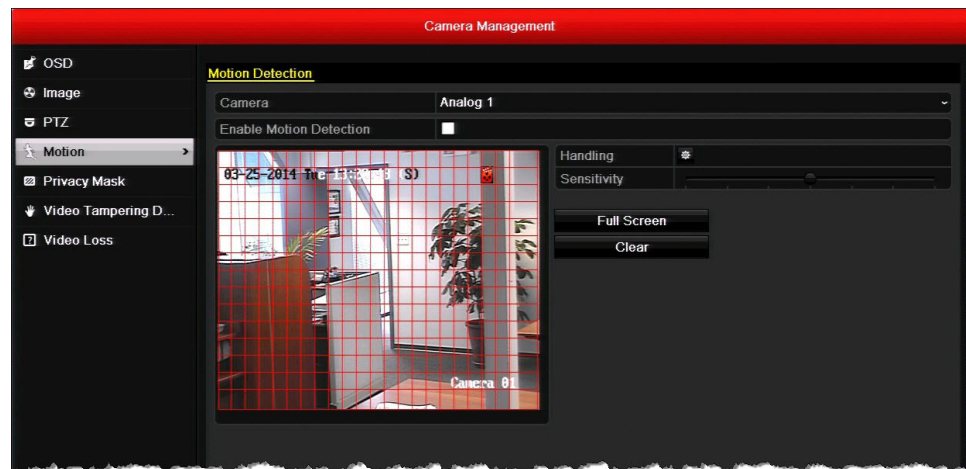
2. Select the camera you want to configure motion detection settings for by clicking a number in the **Camera** drop-down list.

3. Select the **Enable Motion Detection** check box.

4. The motion detection area (indicated by a red grid) covers the entire screen by default. To create a smaller motion detection area, click **Clear**, and then drag the mouse over the area you want to detect motion in on the preview window.

5. Drag the **Sensitivity** slider to set the desired sensitivity level (7 levels configurable).

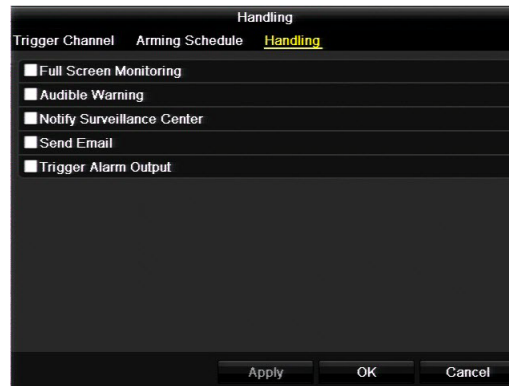6. Click the **Handling** button [icon] to set up the alarm response actions. The **Handling** window opens.

a. Under **Trigger Channel**, select the channel(s) you want to begin full-screen monitoring or recording video with when motion is detected, or click **Analog** to select all the channels, and then click **Apply** to save your settings.

> **Note** To automatically start recording video on the channel when motion is detected, you must set the recording schedule to **Motion**, **Motion | Alarm**, or **Motion & Alarm**. See *Configuring a Record Schedule, page 56*.

b. Click the **Arming Schedule** tab to set the arming schedule. You can set up to eight time periods per day (the time periods cannot repeat or overlap). To copy the arming schedule to other days of the week, click **Copy**. Click **Apply** to save your settings.
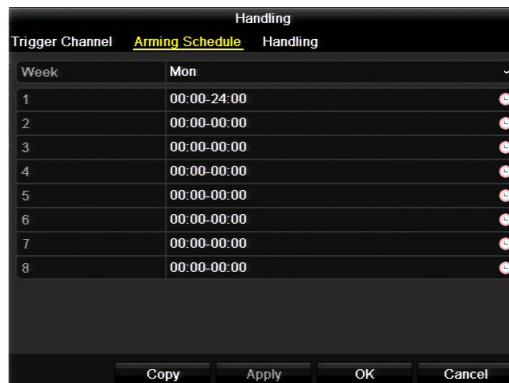
c. Click the **Handling** tab to set the action(s) you want to occur when motion is detected. Select the check box corresponding to the action(s) you want to enable, click **Apply** to save your settings, and then click **OK** to close the window.

7. To copy these settings to one or more additional channels, click **Copy** to open the **Copy to** window, select the channel(s) you want to copy the settings to, or click **Analog** to copy the settings to all channels, and then click **OK**.

8. Click **Apply** to save your settings.

Configuring Video Tampering Detection Settings

You can set up the DVR to trigger one or more of the following alarm responses when a video tampering event is detected (for example, the lens is covered):

Full Screen Monitoring	The monitor displays full screen video from the triggered channel. When multiple channels are triggered simultaneously, the images switch at regular intervals (the default dwell time is 10 seconds).
Audio Alarms	An audible beep sounds.
Surveillance Center Notification	A signal is sent to a remote alarm host. See *Configuring Remote Alarm Host Settings, page 99*.
Email Notification	An email containing the event details is sent to one or more recipients. See *Configuring Email Settings, page 97*.
Alarm Output	A signal is sent to an external alarm. See *Configuring Alarm Outputs, page 87*.

To configure video tampering detection settings:

1. Go to **Menu** > **Camera** > **Video Tampering Detection**.
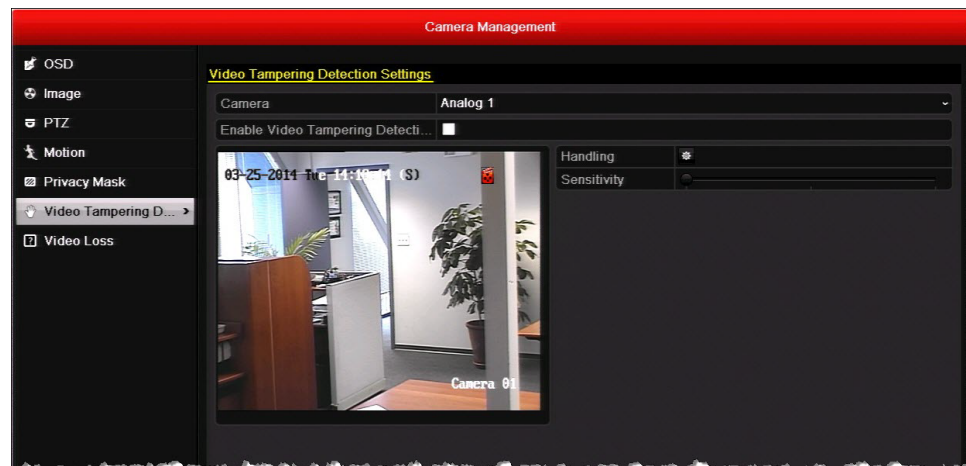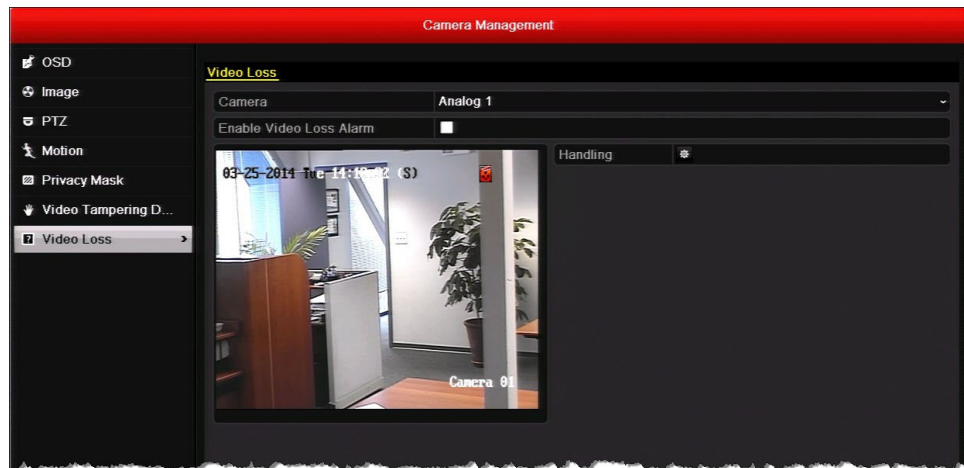

2. Select the camera you want to configure video tampering detection settings for by clicking a number in the **Camera** drop-down list.

3. Select the **Enable Video Tampering Detection** check box.

4. Click the **Handling** button ⚙ to set up the alarm response actions. The **Handling** window opens.

a. Under **Arming Schedule**, you can set up to eight time periods per day (the time periods cannot repeat or overlap). To copy the arming schedule to other days of the week, click **Copy**. Click **Apply** to save your settings.
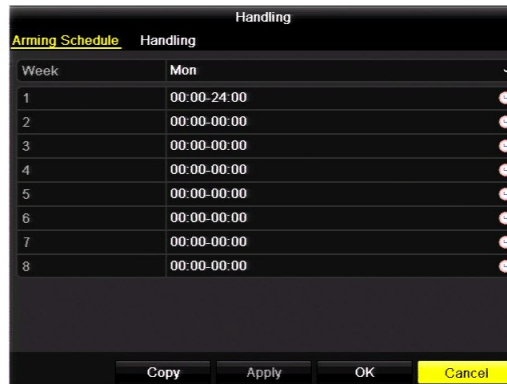
b. Click the **Handling** tab to set the action(s) you want to occur when video tampering is detected. Select the check box corresponding to the action(s) you want to enable, click **Apply** to save your settings, and then click **OK** to close the window.
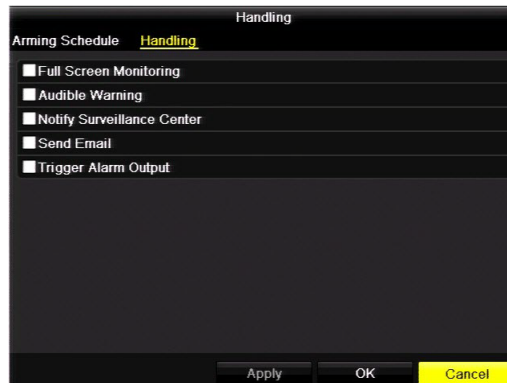
5. Drag the **Sensitivity** slider to set the desired sensitivity level (3 levels configurable).

6. To copy these settings to one or more additional channels, click **Copy** to open the **Copy to** window, select the channel(s) you want to copy the settings to, or click **Analog** to copy the settings to all channels, and then click **OK**.

7. Click **Apply** to save your settings.

Configuring Video Loss Detection Settings

You can set up the DVR to trigger one or more of the following alarm responses when a video loss event is detected:

Full Screen Monitoring	The monitor displays full screen video from the triggered channel. When multiple channels are triggered simultaneously, the images switch at regular intervals (the default dwell time is 10 seconds).
Audio Alarms	An audible beep sounds.
Surveillance Center Notification	A signal is sent to a remote alarm host. See *Configuring Remote Alarm Host Settings, page 99*.
Email Notification	An email containing the event details is sent to one or more recipients. See *Configuring Email Settings, page 97*.
Alarm Output	A signal is sent to an external alarm. See *Configuring Alarm Outputs, page 87*.

To configure video loss settings:

1. Go to **Menu** > **Camera** > **Video Loss**.

2. Select the camera you want to configure video tampering detection settings for by clicking a number in the **Camera** drop-down list.

3. Select the **Enable Video Loss Alarm** check box.

4. Click the **Handling** button ⚙ to set up the alarm response actions. The **Handling** window opens.

a. Under **Arming Schedule**, you can set up to eight time periods per day (the time periods cannot repeat or overlap). To copy the arming schedule to other days of the week, click **Copy**. Click **Apply** to save your settings.
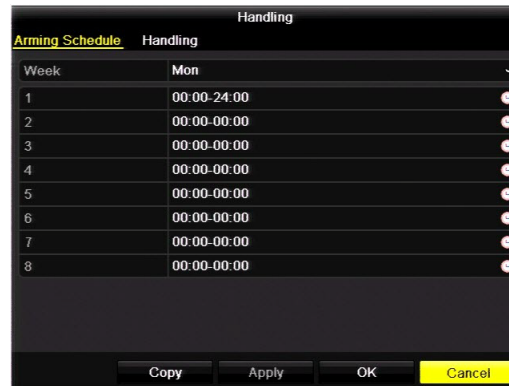
b. Click the **Handling** tab to set the action(s) you want to occur when video loss is detected. Select the check box corresponding to the action(s) you want to enable, click **Apply** to save your settings, and then click **OK** to close the window.

5. To copy these settings to one or more additional channels, click **Copy** to open the **Copy to** window, select the channel(s) you want to copy the settings to, or click **Analog** to copy the settings to all channels, and then click **OK**.

6. Click **Apply** to save your settings.

Configuring Exception Settings

In addition to configuring alarms for sensor, motion detection, video tampering detection, and video loss events, you can also configure alarms for device exceptions, such as hard drive errors and network problems.

To configure exception settings:

1. Go to **Menu** > **Settings** > **Exceptions**.

2. In the **Exception Type** drop-down list, select one of the following exceptions, or select **All**:

    - **HDD Full**   The DVR's hard disk drive (HDD) is full.
    - **HDD Error**   The HDD has experienced a writing or formatting error.
    - **Network Disconnected**   The network cable is disconnected.
    - **IP Conflicted**   There is an IP address conflict.
    - **Illegal Login**   An incorrect user name or password was entered.
    - **Input/Output Video**   Input/output video standards do not match.
      Standard Mismatch
    - **Record Exception**   There is no space to save a recorded file.

3. Select one or more of the following alarm responses for the exception(s):

    - **Audible Warning**
    - **Notify Surveillance Center** (Not available for Network Disconnected or IP Conflicted)
    - **Send Email**
    - **Trigger Alarm Output**

4. Click **Apply** to save your settings.

Configuring Email Settings

You can configure email settings for sending notification messages when an alarm event or a device exception is detected.

Note   It is recommended that you set up a web-based email account for use only with the DVR.

Before you begin, ensure that the DVR is connected to a local area network (LAN) that maintains an SMTP mail server (see *Configuring General Network Settings, page 102*). The network must also be connected to a local intranet or the Internet, depending on the location of the email accounts you want to notify.

To configure email settings:

1. Go to **Menu** > **Settings** > **Network** > **Email**.
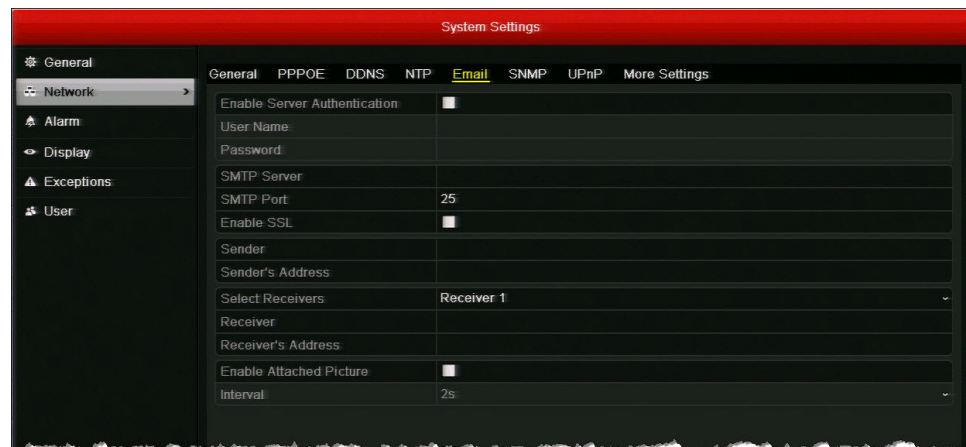
2. Configure the following settings:

- **Enable Server Authentication**   (Optional) Select the check box to enable server authentication. Clear the check box to disable it.

- **User Name**   Sender's email address. For example: *my.hrgx.dvr@gmail.com*

- **Password**   Password of sender's email account.

- **SMTP Server**   SMTP server address of sender's email account. For example: *smtp.gmail.com*

- **SMTP Port**   The default TCP/IP port used for SMTP is 25.

- **Enable SSL**   Select the check box to enable SSL (if required by SMTP server). Clear the check box to disable it.

- **Sender**   Enter the name of the sender.
  For example: *My HRGX DVR*

- **Sender's Address**   Enter the email address of the sender.
  For example: *my.hrgx.dvr@gmail.com*

- **Select Receivers**   Select the receiver to be notified. You can configure up to 3 receivers.

- **Receiver**   Enter the name of the receiver you have selected.

- **Receiver's Address**   Enter the email address of the receiver you have selected.

- **Enable Attached Picture** Select the check box to attach alarm images to notification email.

- **Interval**   Sets the time between actions of sending attached pictures. Select a value between

3. Click **Apply** to save your settings.

4. If you want, click **Test** to send a test email. A message will appear telling you whether the test succeeded or failed. If the test email fails, you will be prompted to recheck the email and network settings.

Configuring Remote Alarm Host Settings

You can configure a remote alarm host to receive a notification message from the DVR when an alarm event or a device exception is detected. The remote alarm host must be a PC with Client Management System (CMS) software installed on it (such as Multi-Site 4200).

To configure a remote alarm host:

1. Go to **Menu** > **Settings** > **Network** > **More Settings**.
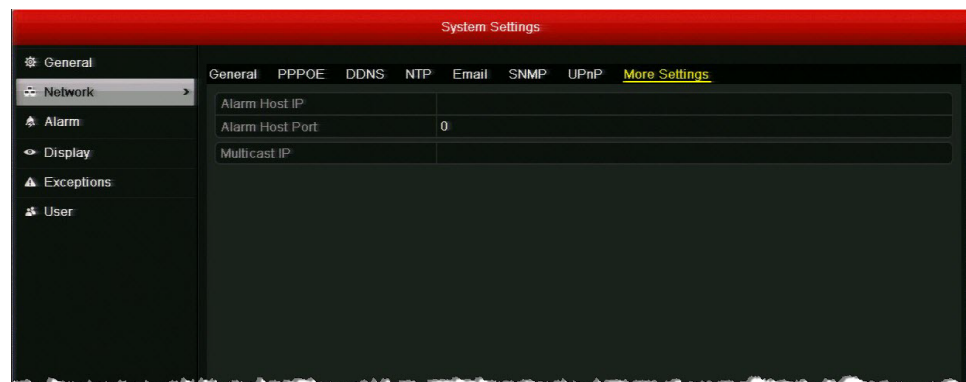
2. In the **Alarm Host IP** and **Alarm Host Port** fields, enter the IP address and port of the remote alarm host.

    The Alarm Host IP refers to the IP address of the remote PC on which Multi-Site 4200 or other CMS software is installed. The Alarm Host Port must be the same as the alarm monitoring port configured in the software (the default port is 7200).

3. Click **Apply** to save your settings.

9

Configuring Network Settings

This chapter contains the following sections:

Configuring General Network Settings

This section describes how to configure your DVR's general network settings. Your network settings must be properly configured before you operate the DVR over a network.

To configure general network settings:

1. Go to **Menu** > **Settings** > **Network** > **General**.

2. Configure the following settings:

   - **NIC Type**   Select your network interface controller type from the list.
   - **Enable DHCP**   DHCP is enabled by default. To disable it, clear the check box.
   - **IPv4**/**IPv6 and DNS**   If DHCP is disabled, manually enter your DVR's network settings.
   - **MTU(Bytes)**   Select a value between **500** and **1500**. Default setting is **1500**.
   - **Bandwidth Throttle** Select a value between **1Mbps** and **30Mbps** or select **None**.
   - **Server Port**   Used for remote client software access. Default setting is **8000**.
   - **HTTP Port**   Used for remote browser access. Default setting is **8001**.
   - **RTSP Port**   Used for multimedia playback. Default setting is **554**.

3. Click **Apply** to save your settings.

Configuring Advanced Network Settings

This section describes how to configure PPPoE, DDNS, NTP, SNMP, UPnP, Multicast, RTSP, server port, and HTTP port settings.

Note   Instructions for configuring email and remote alarm host settings are found in *Chapter 8, Configuring Alarm Settings*.

Configuring PPPoE Settings

The HRGX supports Point-to-Point Protocol over Ethernet (PPPoE) network connections.

To configure PPPoE settings:

1. Go to **Menu** > **Settings** > **Network** > **PPPOE**.
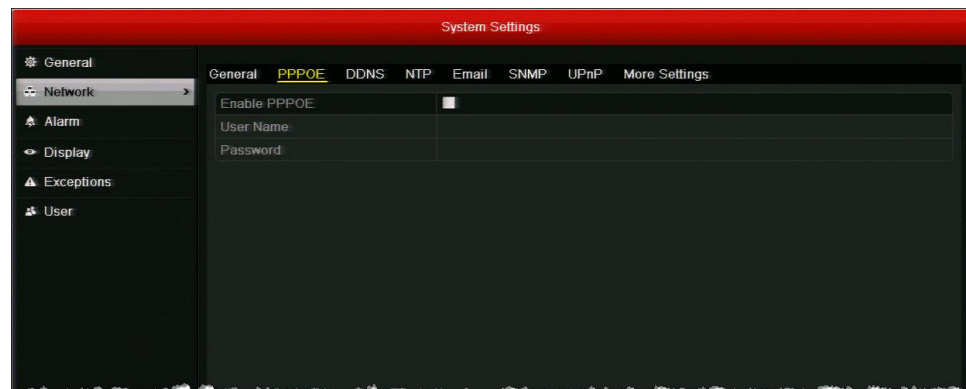
2. Select the **Enable PPPOE** check box to enable a PPPoE network connection.

3. In the **User Name** and **Password** fields, enter the user name and password assigned by your Internet service provider for PPPoE access.

4. Click **Apply** to save your settings, and then restart the DVR for the change to take effect. The PPPoE connection will initiate automatically.

    To view PPPoE connection information, go to **Menu** > **Maintenance** > **System Info** > **Network**.

Configuring DDNS Settings

If your device is set to use PPPoE as its default network connection, you can use Dynamic DNS (DDNS) for network access. Prior registration with your Internet service provider is required before configuring the system to use DDNS.

To configure DDNS settings:

1. Go to **Menu > Settings > Network > DDNS**.
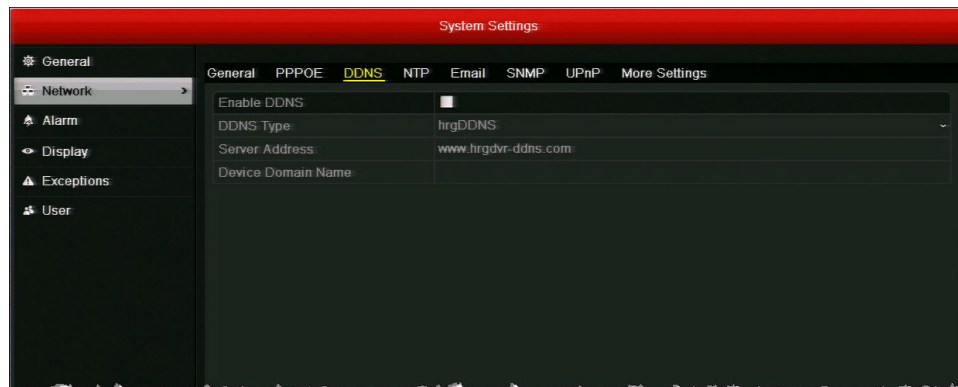
2. Select the **Enable DDNS** check box to enable DDNS functionality.

3. Set **DDNS Type** to **DynDNS** or **hrgDDNS** (default).

4. In the **Server Address** field, enter the server address of the DDNS service.

   - If you selected **DynDNS** as the DDNS type, enter **members.dyndns.org**.

   - If you selected **hrgDDNS** as the DDNS type, enter **www.hrgdvr-ddns.com**.

5. In the **Device Domain Name** field, do one of the following:

   - If you selected **DynDNS** as the DDNS type, enter the domain name (hostname) that you created on the DynDNS website (for example, *hrgx-sample-dvr.dyndns-server.com*).

   - If you selected **hrgDDNS** as the DDNS type, enter the domain name you want to use for the DVR. The domain name must begin with a lowercase letter and cannot contain any special characters other than hyphens (-).

6. Click **Apply** to save your settings.

Configuring NTP Server Settings

You can configure a Network Time Protocol (NTP) server to ensure the accuracy of the system date and time.

To configure NTP settings:

1. Go to **Menu > Settings > Network > NTP**.
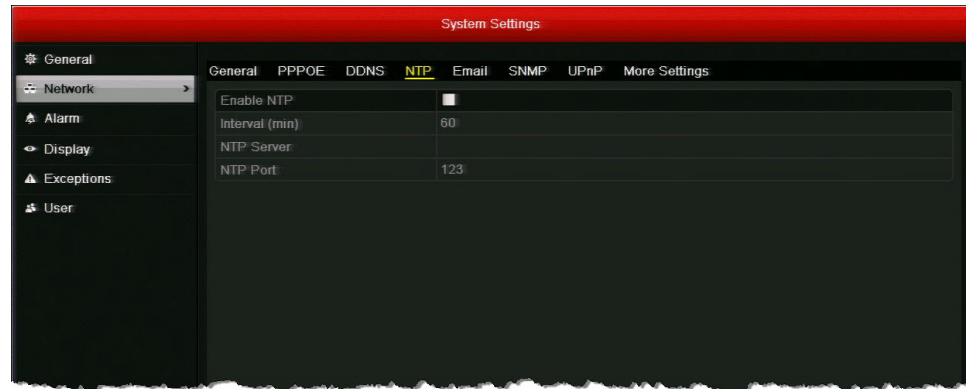
2. Select the **Enable NTP** check box to enable time synchronization with an NTP server.

3. Configure the following settings:

   - **Interval (min)**   Sets the time interval, in minutes, between two synchronizing actions with the NTP server. Select a value from **1** to **10080**. The default value is **60**.

   - **NTP Server**   Enter the IP address of the NTP server.

   - **NTP Port**   Enter the port of the NTP server.

4. Click **Apply** to save your settings.

Configuring SNMP Settings

You can use Simple Network Management Protocol (SNMP) to obtain device status and parameters-related information. You will need to install SNMP software to receive device information via SNMP.

To configure SNMP settings:

1. Go to **Menu > Settings > Network > SNMP**.

2. Select the **Enable SNMP** check box to enable this feature.

3. Configure the following settings: **SNMP Version**, **SNMP Port**, **Read Community, Write Community**, **Trap Address**, and **Trap Port**.

Note   By setting the trap address, you are allowing the device to send alarm event and device exception notification messages to the surveillance center.

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4. Click **Apply** to save your settings.

Configuring UPnP Settings

Universal Plug and Play (UPnP) lets the DVR to seamlessly discover other devices on the network and establish functional network services for data sharing, and communications. For example, if you want to enable a fast WAN connection via a router, you should configure UPnP on the DVR.

To enable UPnP on the DVR, you will first need to enable UPnP on the router that your device is connected to. When the network working mode of the DVR is set as multi-address, the Default Route should be in the same network segment as the LAN IP address of the router.

To configure UPnP settings:

1. Go to **Menu** > **Settings** > **Network** > **UPnP**.
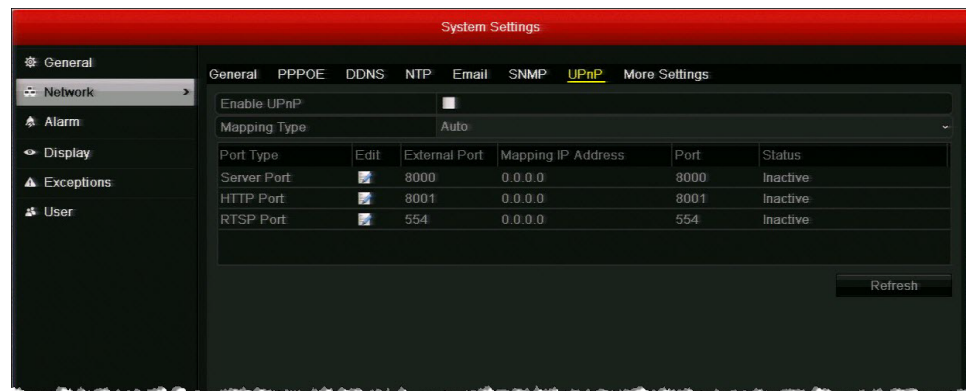
2. Select the **Enable UPnP** check box to enable Universal Plug and Play on your DVR.

3. Set **Mapping Type** to **Auto** or **Manual**.

    When **Auto** is selected, the mapping ports are automatically assigned by the router. When **Manual** is selected, the mapping ports must be configured manually.

4. If the mapping type is set to **Manual**, click the **Edit** button to manually configure the external port numbers for **Server Port**, **HTTP Port**, and **RTSP Port**.

5. To view the latest status of the port mapping, click **Refresh**.

6. Click **Apply** to save your settings.

Configuring Multicast Settings

Multicast allows multiple simultaneous views of the same live video stream over a network.

To configure multicast:

1. Go to **Menu > Settings > Network > More Settings**.
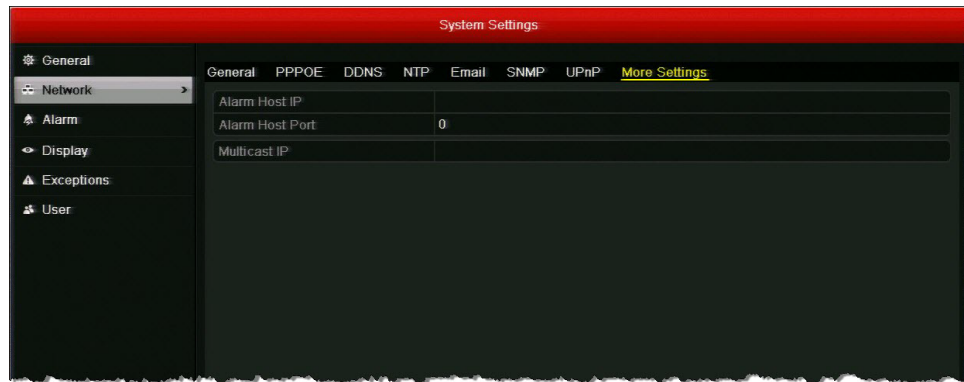
2. In the **Multicast IP** field, enter a multicast address for the DVR. It is recommended that you use an IP address in the range of 239.252.0.0 to 239.255.255.255.

Note   When adding a device using Multi-Site 4200 or other CMS software, the multicast address must be the same as the multicast IP of the DVR.

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3. Click **Apply** to save your settings.

Managing Network Settings

This section describes how to monitor real-time network traffic data and network statistics, test network delay and packet loss, and export a network packet.

Monitoring Network Traffic and Bandwidth

You can view real-time information about the network, including linking status, MTU, sending/receiving rate, and bandwidth statistics for remote live view, remote playback, and net total idle.

To view network traffic data:

- Go to **Menu** > **Maintenance** > **Net Detect** > **Traffic**.
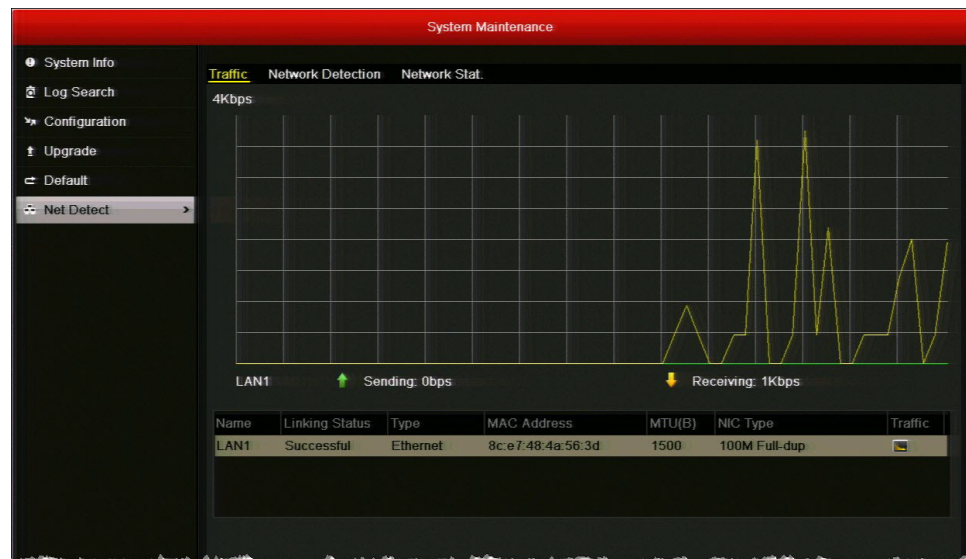
You can view the sending and receiving rate. You can also view the linking status and MTU size below the graph. The traffic data is refreshed every 1 second.

To view network bandwidth data:

1. Go to **Menu** > **Maintenance** > **Net Detect** > **Network Stat.**
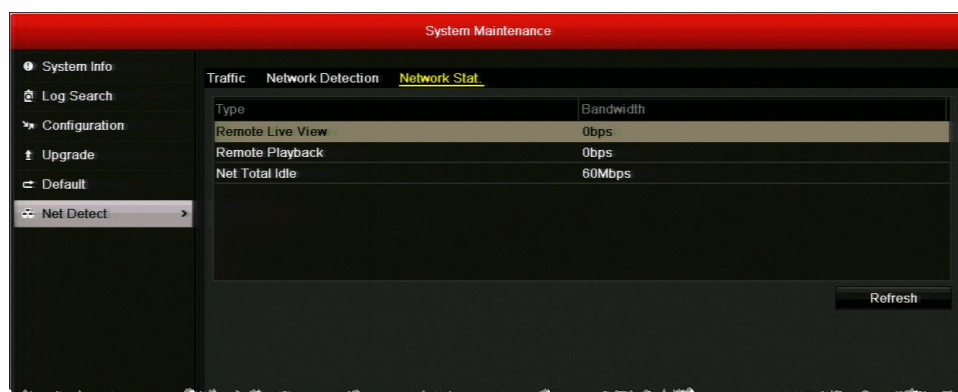
Bandwidth information for remote live view, remote playback, and net total idle is displayed.

2. Click **Refresh** to view the latest bandwidth statistics.

Testing Network Delay and Traffic Loss

You can test network delay and traffic loss and check whether the network is operating normally.

To test network delay and traffic loss:

1. Go to **Menu** > **Maintenance** > **Net Detect** > **Network Detection**.
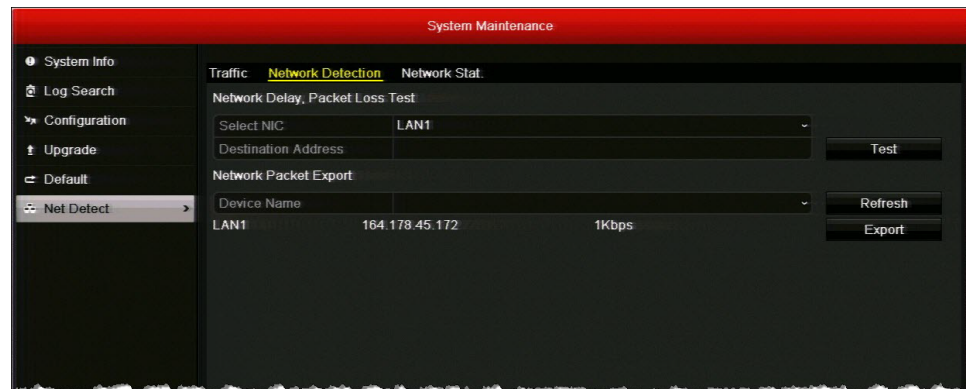
2. Under **Network Delay, Packet Loss Test**, in the **Destination Address** field, enter the IP address of the packet destination.

3. Click **Test** button to start testing network delay and packet loss. A message will appear telling you whether the test succeeded or failed.

To view network status:

1. Go to **Menu** > **Maintenance** > **Net Detect** > **Network Detection**.

2. Click **Status** to check the network status. If the network is operating normally, the message "Network status is normal" appears. If the network is not operating normally, you can click **Network** to review and edit your network settings.

Exporting Network Packet

You can export a network data packet to a USB flash drive or other external storage device.

To export a network packet:

1. Go to **Menu > Maintenance > Net Detect > Network Detection**.
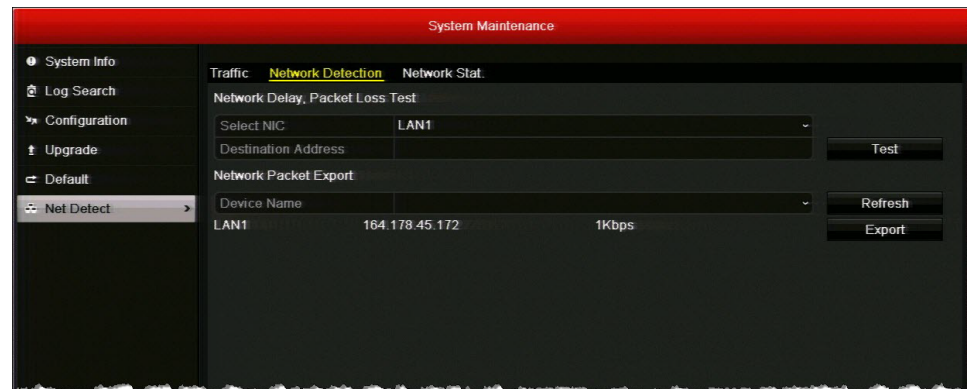
2. Under **Network Packet Export**, select your external storage device from the **Device Name** drop-down list. If your device is not displayed, click **Refresh** to refresh the list.

3. Click **Export**.

4. After the export process is complete, click **OK**. You can export up to 1 MB of data each time.

10

Configuring HDD Settings

This chapter contains the following sections:

Viewing HDD Status

You can check the status of the hard disk drive(s) at any time.

To view the status of an HDD:

1. Go to **Menu** > **HDD** > **General**.

2. Under **HDD Information**, the status of each installed HDD is displayed. If the status of the HDD is listed as **Normal** or **Sleeping**, then the HDD is working correctly. If the status is listed as **Uninitialized** or **Abnormal**, initialize the HDD (select the HDD and click **Init**. This will erase all data on the hard disk.). If the initialization fails, replace the HDD.

    You can also view the HDD status in the System Maintenance menu. See *Viewing System Information, page 134*.

Adding a Network HDD

To increase storage capacity you can add a connected NAS (Network-Attached Storage) device or a SAN (Storage Area Network) device to the DVR as a network HDD. You can add up to 8 NAS devices or 7 NAS devices + 1 SAN device.

To add a network HDD:

1. Go to **Menu** > **HDD** > **General**.

2. Click **Add** to open the **Add NetHDD** window.

3. In the **NetHDD** list, select the NetHDD you want to add.

4. Set the **Type** to **NAS** or **IP SAN**.

5. In the **NetHDD IP Address** field, enter the IP address of the NAS or SAN device.

6. Do one of the following:

   - For NAS, enter the directory of the NAS disk in the **NetHDD Directory** field (for example, /dvr/9000).

- For SAN, click **Search** to display a list of available SAN disks on the network, and then select a disk from the list. The directory of the selected disk populates the **NetHDD Directory** field.
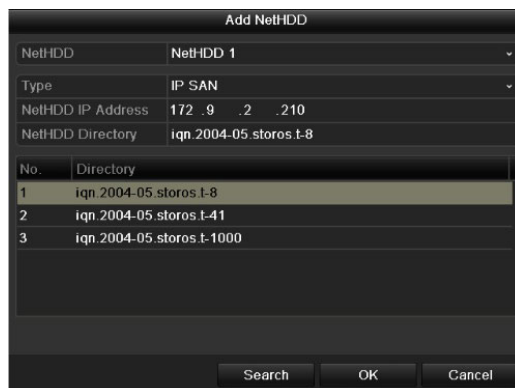
7. Click **OK** to add the disk as the selected network HDD. The newly added network HDD is displayed in the lists of HDDs on the **General** page.

8. If the status of the newly added network HDD shows as **Uninitialized**, select the HDD, and then click **Init** to initialize the HDD. The HDD must be initialized before it can be used.

To delete a network HDD:

- In **Menu > HDD > General**, select the HDD you want to delete from the list of HDDs, and then click the **Delete** button 🗑 .

Configuring HDD Groups

You can manage multiple HDDs in groups. After you have set up an HDD group, you can set the property of an HDD to R/W, Read-only, or Redundancy.

To set up an HDD group:

1. Go to **Menu** > **HDD** > **Advanced**.

2. Under **Storage Mode**, set the **Mode** to **Group**, and then click **Apply**.
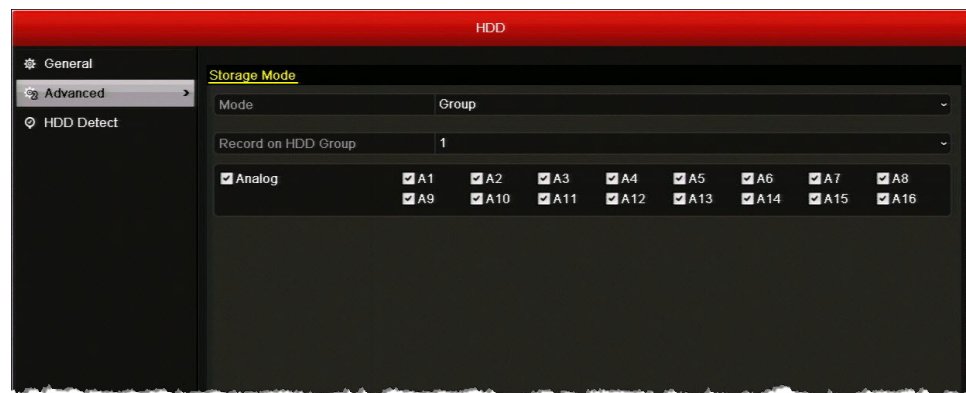
3. Restart the DVR for the change to take effect.

4. Go to **Menu** > **HDD** > **General**.

5. Select an HDD from the list, and then click the **Edit** button [icon] to open the **Local HDD Settings** window.

6. If you want to change the HDD property, under **HDD Property**, select one of the following settings:

- **R/W**   Read/write. The default setting.

- **Read-only**   When the HDD is set to read-only, the recorded files are not overwritten when the HDD becomes full in overwrite recording mode.

- **Redundancy**   When the HDD is set to redundancy, video can be recorded both onto the redundancy HDD and the R/W HDD simultaneously for additional security and reliability.

7. In the **Group** area, select a group number for the HDD group.

8. Click **Apply** to save your settings, click **Yes** to confirm, and then click **OK** to close the window.

Configuring Recording Quotas

You can configure recording quotas for individual cameras. By setting a quota, you limit the amount of HDD capacity used for storing recorded video from that particular camera. Otherwise, all cameras will use the total capacity of the HDD for recording.

To configure a recording quota:

1. Go to **Menu** > **HDD** > **Advanced**.
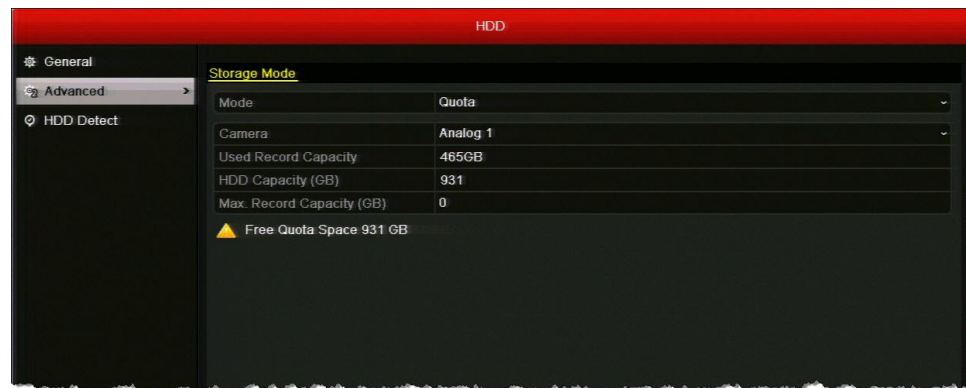
2. Under **Storage Mode**, set the **Mode** to **Quota**.

3. In the **Camera** list, select the camera you want to configure a recording quota for.

4. In the **Max. Record Capacity (GB)** field, enter the maximum storage limit for the camera (in gigabytes). If the value is left as "0", then all cameras will use the total capacity of the HDD for recording.

5. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

6. Click **Apply** to save your settings.

7. Restart the DVR for the change to take effect.

Configuring S.M.A.R.T. Testing

You can set up the hard disk drive to perform a series of self-tests using S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) to determine the overall health of the HDD and identify potential issues.

To set up a S.M.A.R.T test:

1. Go to **Menu > HDD > HDD Detect > S.M.A.R.T. Settings**.

2. Select the HDD you want to test from the **HDD** drop-down list.

3. To continue using the HDD even it fails the self-test, select the **Continue to use this disk when self-evaluation is failed** check box.

4. In the **Self-test Type** list, select one of the following options:

    • **Short Test**

    • **Expanded Test**

    • **Conveyance Test**

5. Click the **S.M.A.R.T.** button ⚙ to start the test. The test results are displayed under **S.M.A.R.T. Information**.

Detecting Bad Sectors

Bad hard disk drive sectors can cause the system to slow down when reading or writing data. This section describes how to detect and repair bad sectors.

To detect a bad sector:

1. Go to **Menu** > **HDD** > **HDD Detect** > **Bad Sector Detection**.
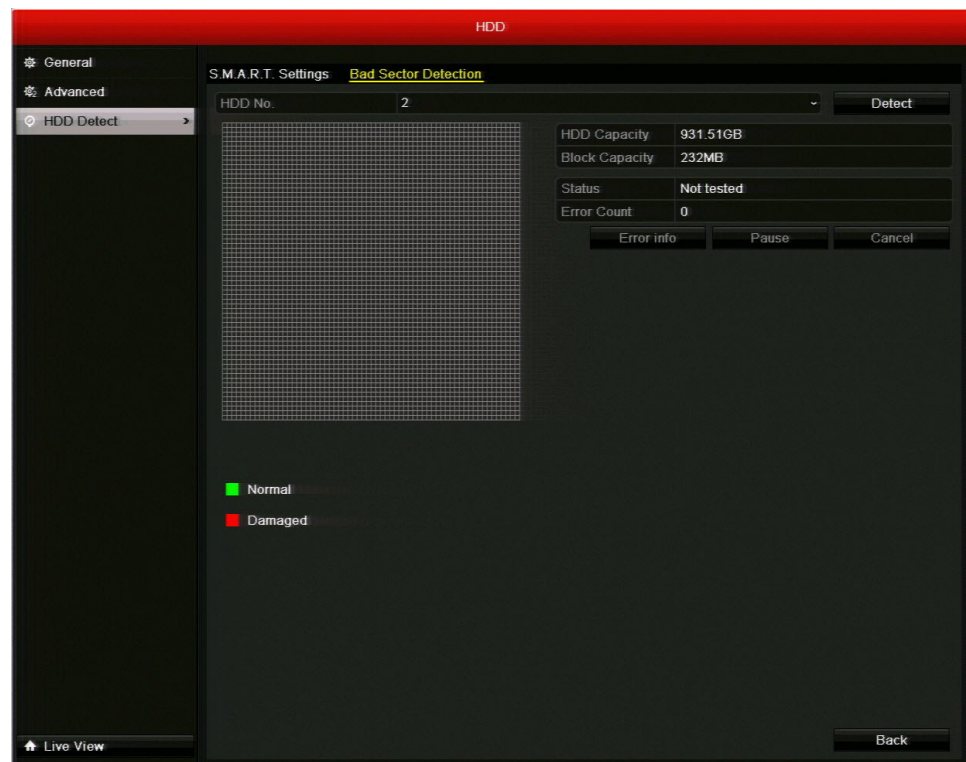
2. Select the HDD you want to scan from the **HDD No.** drop-down list, and then click **Detect**. You can pause, resume, or cancel the detection process at any time.

3. When the detection process has completed, click **Error info** to view any error information.

Configuring HDD Alarms

You can set up the DVR to generate alarm responses, such as an audible warning or notification email, when the hard disk drive is full or when an error is detected. See *Configuring Exception Settings, page 96*, for details.

11

Configuring Camera Settings

This chapter contains the following sections:

Configuring OSD Settings

You can customize the appearance and location of on-screen display (OSD) text, such as the date, time, and camera name.

To configure the OSD settings:

1. Go to **Menu** > **Camera** > **OSD**.
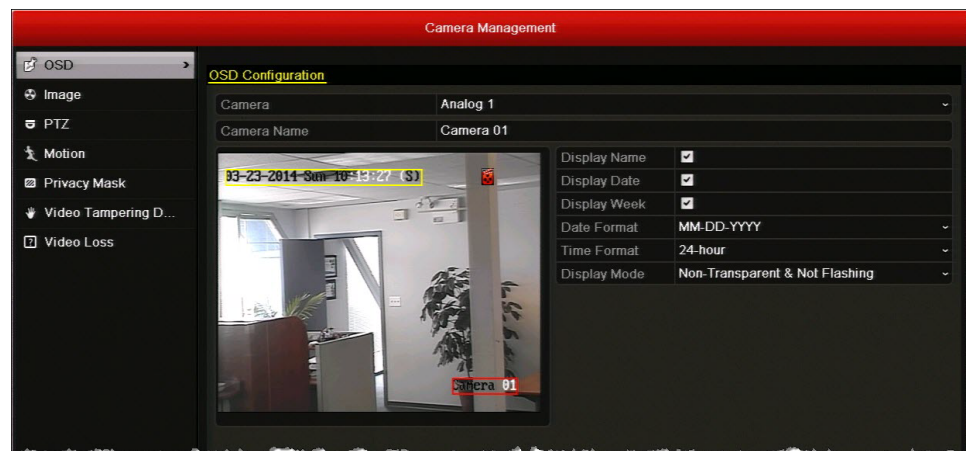
2. Under **OSD Configuration**, configure the following settings:

•	**Camera**	Select the camera you want to configure OSD settings for by clicking a number from the drop-down list.
•	**Camera Name**	If you want, you can enter a descriptive name for the camera (for example, "Front Door" instead of "Camera 01").
•	**Display Name**	To display the camera name on screen, select the check box. To hide the camera name, clear the check box.
•	**Display Date**	To display the date on screen, select the check box. To hide the date, clear the check box.
•	**Display Week**	To display the day of the week on screen, select the check box. To hide the day of the week, clear the check box.
•	**Date Format**	Select format you want the date to be displayed in: **YYYY-MM-DD**, **MM-DD-YYYY**, or **DD-MM-YYYY** format.
•	**Time Format**	Select the format you want the time to be displayed in: **24-hour** or **12-hour** format.
•	**Display Mode**	Select one of the following display modes: **Transparent & Flashing**, **Transparent & Not Flashing**, **Non-Transparent & Flashing**, or **Non-Transparent & Not Flashing**.

3. To adjust the location of the OSD text on the screen, using your mouse, drag the highlighted text boxes to the desired locations on the preview window. The date/time text box is highlighted yellow; the camera name text box is highlighted red.

4. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

5. Click **Apply** to save your settings.

To restore the default OSD settings:

• In **Menu** > **Camera** > **OSD**, click **Restore**.

Configuring Image Settings

You can create customized image settings for up to two time periods per camera to accommodate changing lighting conditions.
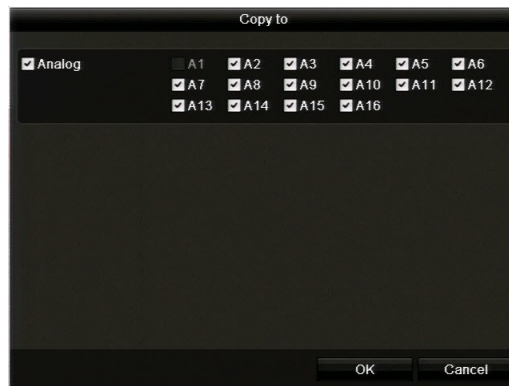
To configure camera image settings:

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

2. Select the camera you want to configure image settings for.

3. For **Period 1**, specify the time range that you want to configure the image settings for (such as 07:00–19:00).

4. Based on the anticipated lighting conditions for the specified time range, next to **Mode**, select one of the following:

    • **Standard** (default)

    • **Indoor**

    • **Dim Light**

    • **Outdoor**

5. Adjust the following image settings by moving the slider or by clicking the up/down arrows:

    • **Brightness** (0–255)

    • **Contrast** (0–255)

    • **Saturation** (0–255)

    • **Hue** (0–255)

    • **Sharpness** (0–15)

    • **De-noising** (0–5)

6. If you want to define different image settings for the remaining time (for example, from 19:01 to 06:59), select **Period 2**, and then repeat steps 7 and 8.

7. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

8. Click **Apply** to save your settings.

To restore the default camera image settings:

• In **Menu** > **Camera** > **Image**, click **Restore**.

Configuring PTZ Connection Settings

See *Configuring PTZ Connection Settings, page 46*.

Configuring Motion Detection Settings

See *Configuring Motion Detection Settings, page 89*.

Configuring Privacy Masks

You can configure up to four privacy mask zones for each camera. Privacy mask zones conceal portions of the scene from the view of the operator.

To add a privacy mask zone:

1. Go to **Menu** > **Camera** > **Privacy Mask**.

2. Select the camera you want to create a privacy mask for by clicking a number in the **Camera** drop-down list.

3. Select the **Enable Privacy Mask** check box.

4. Drag the mouse over the area you want to mask on the preview window to draw a privacy mask zone. You can mask up to four areas.
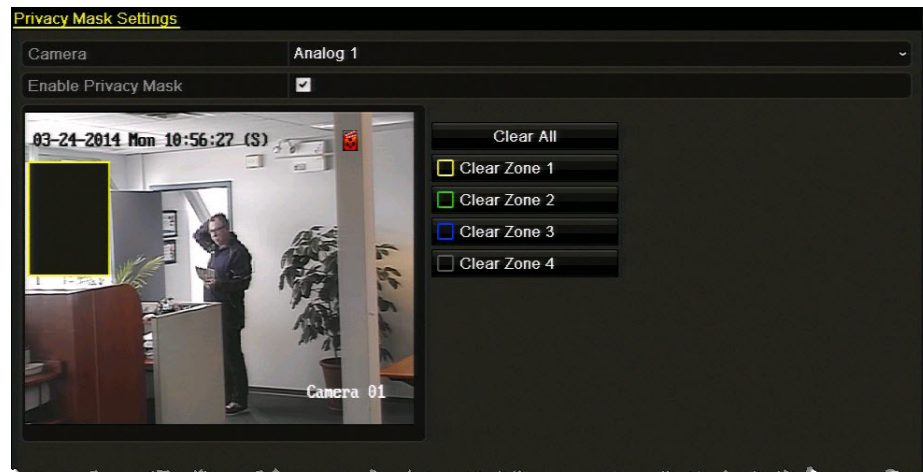
5. To copy these settings to one or more additional cameras, click **Copy** to open the **Copy to** window, select the camera(s) you want to copy the settings to, or click **Analog** to copy the settings to all cameras, and then click **OK**.

6. Click **Apply** to save your settings.

To remove a privacy mask zone:

1. In **Menu > Camera > Privacy Mask**, click the **Clear Zone** button corresponding to the zone(s) you want to remove, or click **Clear All** to clear all zones.
2. Click **Apply** to save your settings.

Configuring Video Tampering Detection Settings

See *Configuring Video Tampering Detection Settings, page 92*.

Configuring Video Loss Settings

See *Configuring Video Loss Detection Settings, page 94*.

12

Managing the DVR

This chapter contains the following sections:

Configuring General System Settings

Follow the instructions below to configure general system settings, including video output standard, system date and time, daylight saving time (DST) settings, device name and number, video output brightness, main monitor output, and operation timeout parameters.

To configure general system settings:

1. Go to **Menu > Settings > General > General**.
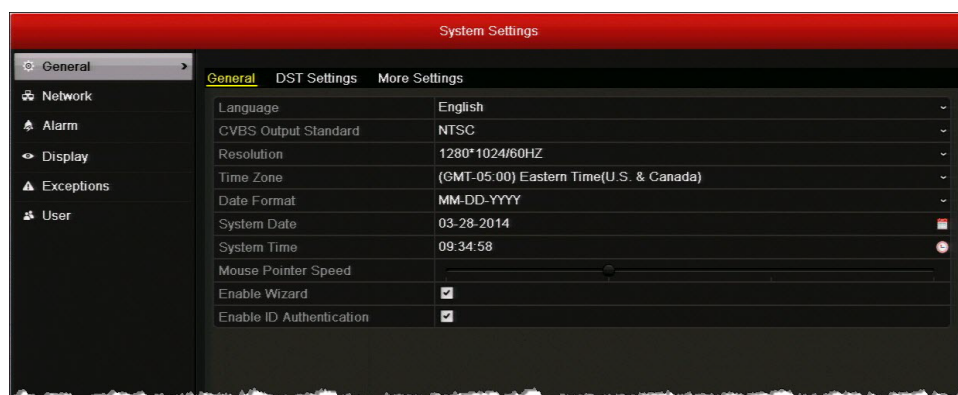
2. Configure the following settings:

- **Language**   Default language is English. Not user-configurable.

- **CVBS Output Standard** Sets the CVBS output standard. Select **NTSC** or **PAL**. Must be same as the video input standard.

- **Resolution**   Sets the VGA/HDMI output resolution. Select **1024×768/60HZ**, **1280×720/60HZ**, **1280×1024/60HZ**, or **1920×1080/60HZ (1080P)**. Must be same as monitor screen resolution.

- **Time Zone**   Sets the time zone. Select your time zone from the list.

- **Date Format**   Sets the date format. Select **MM-DD-YYYY**, **YYYY-MM-DD**, or **DD-MM-YYYY**.

- **System Date**   Sets the system date. Click the calendar icon to display the on-screen calendar, and then select the current date.

- **System Time**   Sets the system time. Click the clock icon, and then enter the current time (hh:mm:ss).

- **Mouse Pointer Speed**   Sets the mouse pointer speed. Drag the slider to select the desired speed. 4 levels configurable.

- **Enable Wizard**   Enables/disables setup wizard. Select the check box to enable the wizard; clear the check box to disable it.

- **Enable ID Authentication** Enables/disables login password. Select the check box to enable the login password; clear the check box to disable it.

3. Click the **DST Settings** tab.
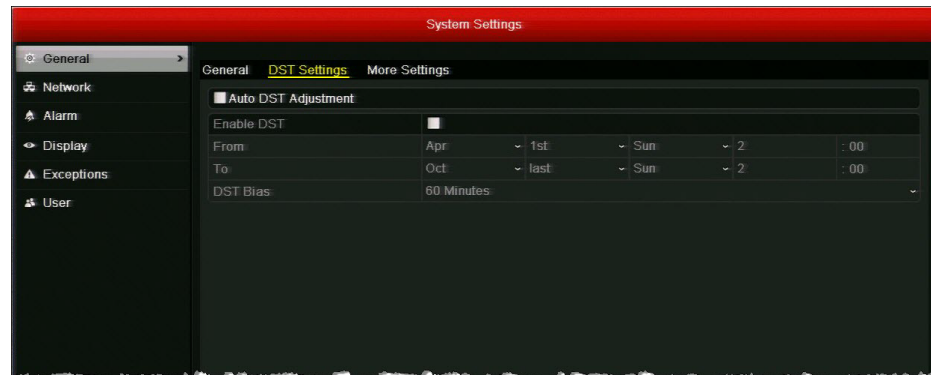
4. In **DST Settings**, do one of the following:

   • To adjust for daylight saving time automatically, select the **Auto DST Adjustment** check box.

   • To manually configure the settings, select the **Enable DST** check box, and then set the start and end dates and times for DST and the DST bias (recording overlap).

   • To disable daylight saving time adjustment, leave both check boxes blank.

5. Click the **More Settings** tab.

6. In **More Settings**, configure the following:

   • **Device Name**   Sets the device name. Enter a name for the device.

   • **Device Number**   Sets the device's serial number. If you want, enter a number for the device between **1** and **255**. The default number is **255**.

   • **Output Brightness**   Sets the video output brightness. Drag the slider to select the desired brightness. 10 levels configurable.

   • **Operation Timeout**   Sets the duration of menu inactivity before the system returns to live view mode. Select **1**, **2**, **5**, **10**, **20**, **30** minutes or **Never**.

   • **Main Monitor**   Sets the main output mode. Select **Auto**, **HDMI**/**VGA**, or **Main BNC**. The **Auto** setting detects the output automatically.

   • **Main BNC Scaling**   Enables/disables scaling for main BNC output. Select the check box to enable scaling; clear the check box to disable it.

7. Click **Apply** to save your settings.

Viewing System Information

You can view system information pertaining to the device, cameras, record settings, alarm settings, network settings, and HDD.

To view device information:

- Go to **Menu** > **Maintenance** > **System Info** > **Device Info**. The device name, model, serial number, firmware version, encoding version, and MAC address are displayed.
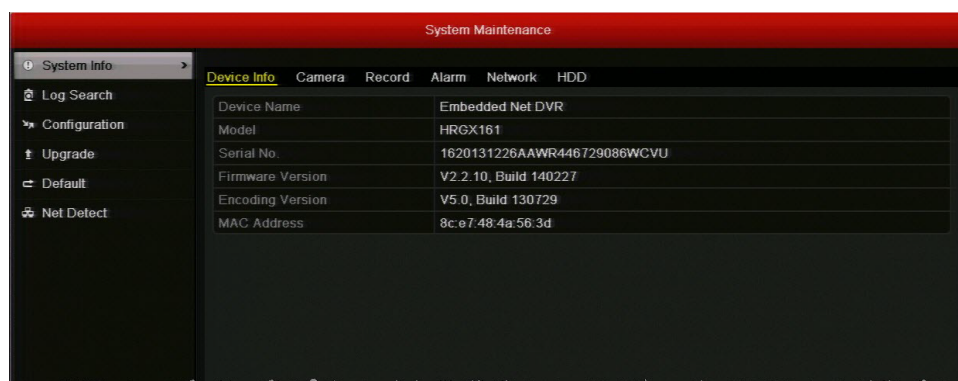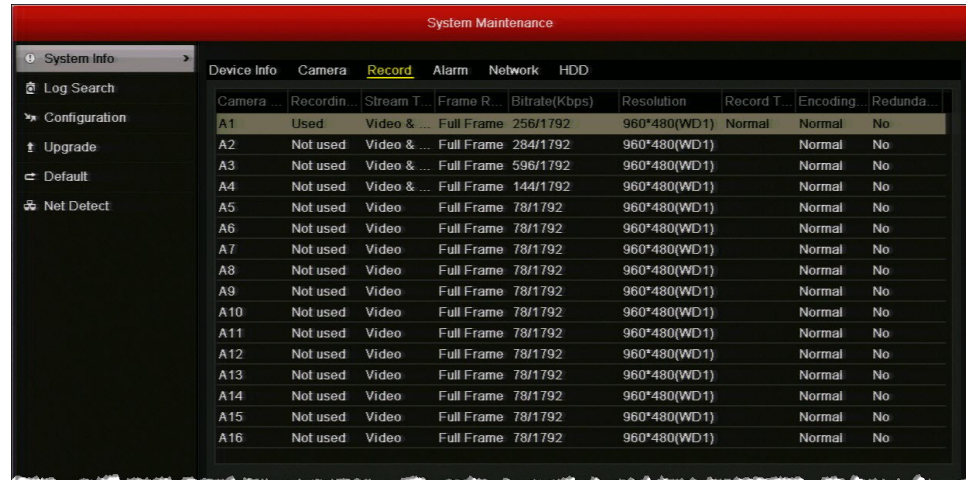

To view camera information:

- Go to **Menu** > **Maintenance** > **System Info** > **Camera**. Information for each camera, including its name, activity status, motion detection status, video tampering detection status, and video loss status, is displayed.
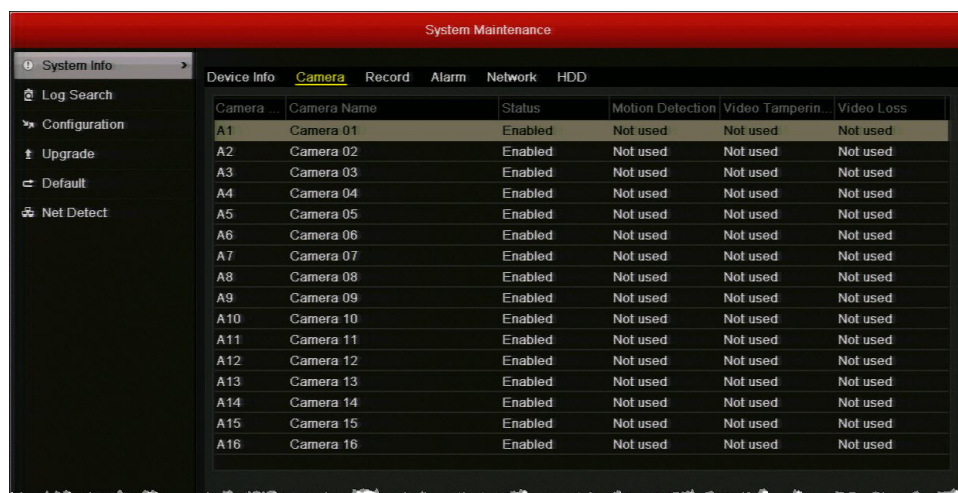
To view recording information:

- Go to **Menu** > **Maintenance** > **System Info** > **Record**. Recording details for each camera, including recording status, stream type, frame rate, bit rate, resolution, record type, encoding parameters, and redundant record status, are displayed.

To view alarm input information:

- Go to **Menu** > **Maintenance** > **System Info** > **Alarm**. Details for the alarm inputs and alarm outputs, including alarm type (normally open or normally closed), alarm status, and triggered cameras, are displayed.

Note   You can also view the alarm status by going to **Menu** > **Settings** > **Alarm** > **Alarm Status**.

To view the DVR's network settings:

- Go to **Menu > Maintenance > System Info > Network**. The DVR's network settings, including IP address, subnet mask, default gateway, DNS server addresses, DHCP, and PPOE settings, are displayed.

To view HDD information:

- Go to **Menu > Maintenance > System Info > HDD**. The hard disk drive details, including the label name, status, capacity, free space, read/write properties, type, and group, are displayed.
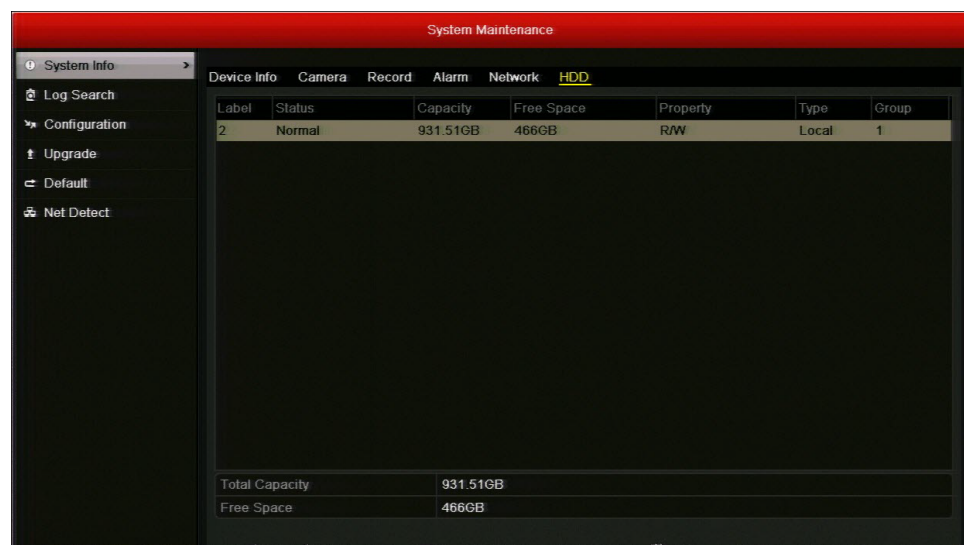
Searching and Exporting Log Files

Operation, alarm, exception, and HDD information is stored in log files. You can search and export these log files at any time.

To search log files:

1. Go to **Menu** > **Maintenance** > **Log Search** > **Log Search**.

2. Set the log search parameters, including **Start Time**, **End Time**, **Major Type** and **Minor Type**.

3. Click **Search** to start searching log files. A list of log files matching the search parameters is displayed.

4. To view a log file's details, double-click the log file or click the log file's button. The **Log Information** window opens.

To export specific log files:

1. Go to **Menu** > **Maintenance** > **Log Search** > **Log Search.**

2. Search for the log file(s) you want to export.

3. Insert a USB flash drive or other external storage device into the USB port on the front of the DVR.

4. Select the log file(s) that you want to export, and then click **Export**. The **Export** window opens.

5. If you want, you can click **New Folder** to create a new folder on the storage device, or you can click **Format** to format the backup device.

6. Click **Export** to save the log file(s) to the connect external storage device.

To export all log files stored on the HDD:

1. Go to **Menu** > **Maintenance** > **Log Search** > **Log Export**.

2. Insert a USB flash drive or other external storage device into the USB port on the front of the DVR.

3. Select your HDD from the list, and then click **Export**. The **Export** window opens.

4. If you want, you can click **New Folder** to create a new folder on the storage device, or you can click **Format** to format the backup device.

5. Click **Export** to save all the log files on the HDD to the connected external storage device.


Note   Exported log files are saved in .txt format. The file name follows the format YYYYMMDDhhmmss (for example, 20140319023628logBack.txt).

# Exporting and Importing Configuration Files

Configuration files can be used to configure multiple HRGX DVRs with the same parameters. You can export configuration files to, or import configuration files from, an external storage device.

To export a configuration file:

1. Insert a USB flash drive or other external storage device into the USB port on the front of the DVR.

2. Go to **Menu** > **Maintenance** > **Configuration**.
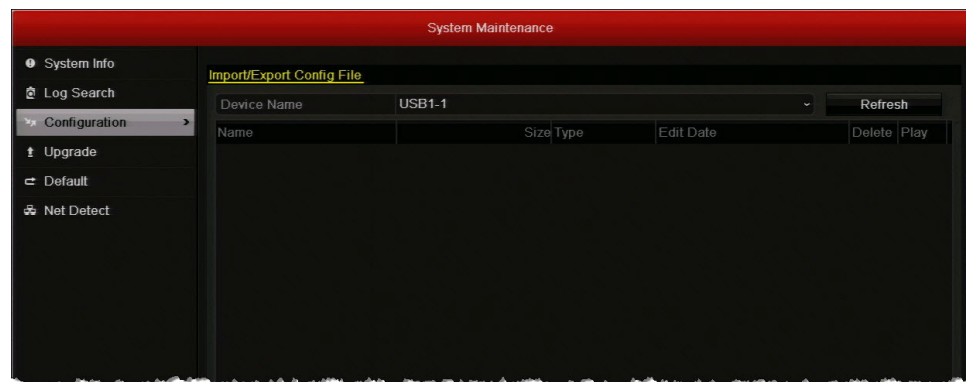
3. Click **Export** to export configuration files to the connected external storage device. The message "Export succeeded" appears, and the file is added to the file list.
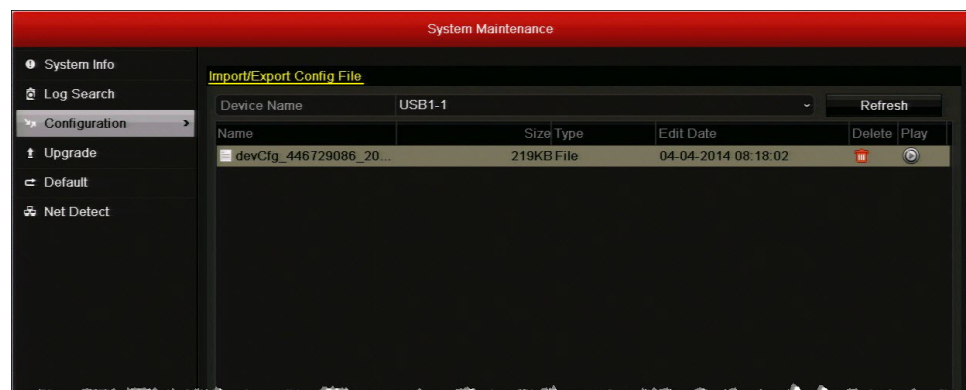
To import a configuration file:

1. Insert a USB flash drive or other external storage device containing a configuration file into the USB port on the front of the DVR.

2. Go to **Menu** > **Maintenance** > **Configuration**.

3. Select the configuration file you want to import, and then click **Import**. The message "System will reboot automatically after importing. Continue?" appears. Click **Yes**.

Upgrading the Firmware

To obtain the latest firmware for your HRGX DVR, contact your Honeywell dealer. The firmware can be upgraded locally (by connecting a USB flash drive or other device containing the firmware file to the DVR) or remotely (via an FTP server).

To upgrade the firmware locally:

1. Insert a USB flash drive containing the `digicap.dav` file into the USB port on the front of the DVR. Ensure that no other USB flash drive or storage device is connected to the DVR.

2. Go to **Menu > Maintenance > Upgrade > Local Upgrade**. The `digicap.dav` file should appear in the file list.

3. Click **digicap.dav**, and then click **Upgrade**. The message "System will reboot automatically after upgrading completed. Continue?" appears. Click **Yes**.

To upgrade the firmware remotely via FTP:

1. Ensure that your DVR and the PC running the FTP server are properly connected to the network and that the digicap.dav file is saved in the appropriate directory on the PC.

2. Go to **Menu > Maintenance > Upgrade > FTP**.
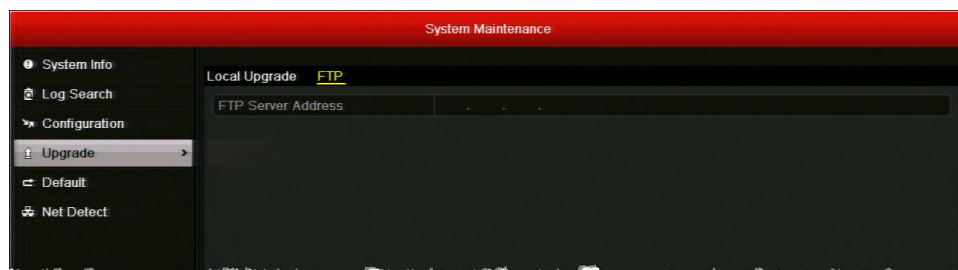
3. In the **FTP Server Address** field, enter the address of the FTP server you want to access, and then click **Upgrade**.

4. After the firmware upgrade is complete, restart the DVR.

**To confirm that the firmware upgrade was successful:**

1. Go to **Menu** > **Maintenance** > **System Info** > **Device Info**.

2. Next to **Firmware Version**, confirm that the firmware version shown on the screen matches the firmware version that you installed.

Restoring the Default Settings

You can restore your all of your DVR's settings, including user and network settings, to their factory defaults.

To restore the default settings:

1. Go to **Menu** > **Maintenance** > **Default**.
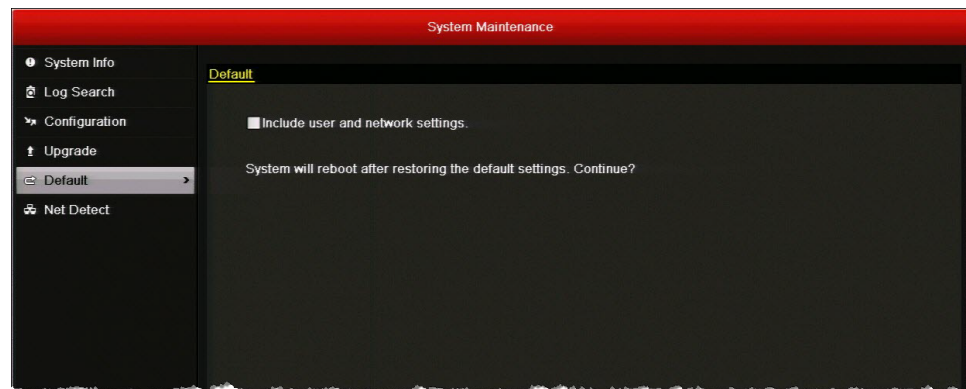
2. If you want to restore user and network settings to their default settings, select the **Include user and network settings** check box. Otherwise, the current user and network settings will not be changed.

3. Click **OK** to restore the default settings. The DVR restarts automatically after restoring the default settings.

13

Managing Users

This chapter contains the following sections:

Types of User Accounts

The default user account of the DVR is an administrator account. The default user name is **admin** and the default password is **12345**. The administrator ("admin") can add and delete additional user accounts and edit user account permissions.

There are three types of user accounts available:

Administrator	The administrator account has unlimited access to the DVR user interface.
Operator	An operator account has the following default permissions: local and remote camera operation (including PTZ camera operation), local and remote camera playback, remote two-way audio, local video export, and local and remote log searches. Additional permissions may be granted by the administrator.
Guest	A guest account has the following default permissions: local and remote camera playback, and local and remote log searches. Additional permissions may be granted by the administrator.

Adding Users

You can add multiple operator or guest user accounts.

To add a user:

1. Go to **Menu > Settings > User**.
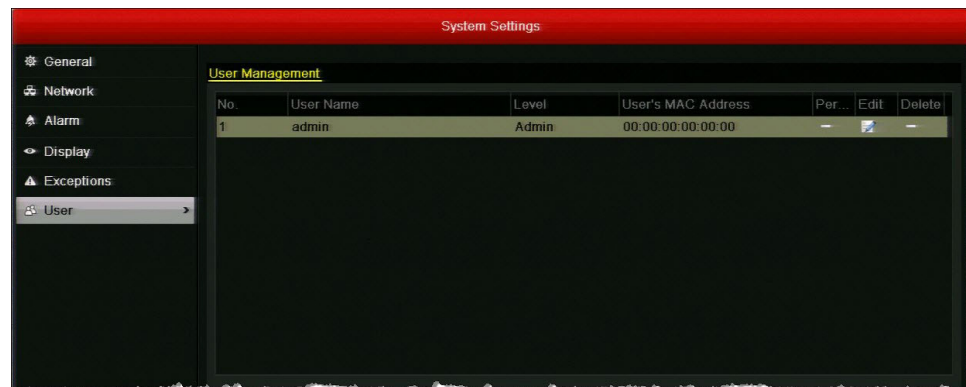
2. Click **Add** to open the **Add User** window.

3. Configure the following settings:

    *   **User Name**   Enter the user name.
    *   **Password**   Enter the password.
    *   **Confirm**   Re-enter the password.
    *   **Level**   Select **Operator** or **Guest**.
    *   **User's MAC Address**   If the user is logging in to the DVR remotely, enter the MAC address of the user's PC. The user must log in from this MAC address to access the DVR.

4. Click **OK** to save your settings and close the window. The user is added to the list of users.

Editing Users

You can edit permissions and account details of user accounts that you have created.

To edit a user's permissions:

1. Go to **Menu > Settings > User**.

2. Select from the list of users the user you want to edit permissions for.

3. Click the **Permission** button ● to open the **Permission** window.
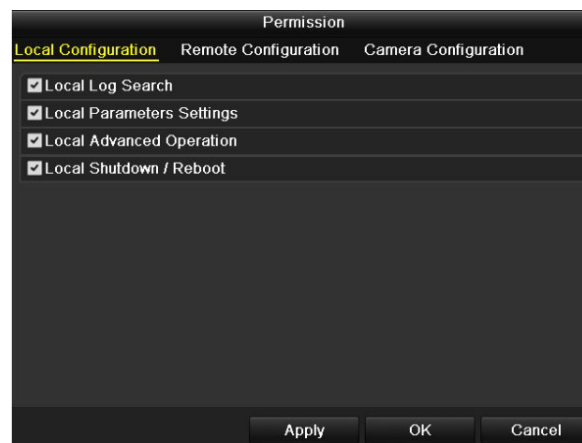
4. Set the **Local Configuration**, **Remote Configuration**, and **Camera Configuration** permissions by selecting or clearing the appropriate check boxes.

   Local Configuration

   • Local Log Search: Locally search and view logs and system information.
   • Local Parameters Settings: Configure parameters, restore factory defaults, and import/export configuration files.
   • Local Advanced Operation: Manage HDD (initialize HDD, set HDD property), upgrade system firmware, clear I/O alarm output.
   • Local Shutdown/Reboot: Shut down or reboot the DVR.

   Remote Configuration

   • Remote Log Search: Remotely view logs saved on the device.
   • Remote Parameters Settings: Remotely configure parameters, restore factory defaults, and import/export configuration files.
   • Remote Serial Port Control: Configure settings for RS-485 port.
   • Remote Video Output Control: Send remote control panel signal.
   • Two-Way Audio: Effect two-way radio communication between remote client and DVR.
   • Remote Alarm Control: Remotely arm alarms and control alarm output.
   • Remote Advanced Operation: Remotely manage HDD (initialize HDD, set HDD property), upgrade system firmware, clear I/O alarm output.
   • Remote Shutdown/Reboot: Remotely shut down or reboot the DVR.

Camera Configuration

- Remote Live View: Remotely view live video from the selected camera(s).
- Local Manual Operation: Locally start/stop manual recording, capture still pictures, and manage alarm output of the selected camera(s).
- Remote Manual Operation: Remotely start/stop manual recording, capture still pictures, and manage alarm output of the selected camera(s).
- Local Playback: Locally play back recorded files of the selected camera(s).
- Remote Playback: Remotely play back recorded files of the selected camera(s).
- Local PTZ Control: Locally control PTZ movement of the selected camera(s).
- Remote PTZ Control: Remotely control PTZ movement of the selected camera(s).
- Local Video Export: Locally export recorded files of the selected camera(s).

Note   Select the specific camera(s) for which each operation permission is configured, or select the **Analog** check box to select all cameras.

---

5. Click **Apply** to save your settings, and then click **OK** to close the window.

To edit a user's account details:

1. Go to **Menu > Settings > User**.
2. Select from the list of users the user you want to edit account details for.
3. Click the **Edit** button to open the **Edit User** window.

4. Edit the one or more of the following settings:

- **User Name**
- **Password**
- **Confirm**
- **Level**
- **User's MAC Address**

5. Click **Apply** to save your changes, and then click **OK** to close the window.

Deleting Users

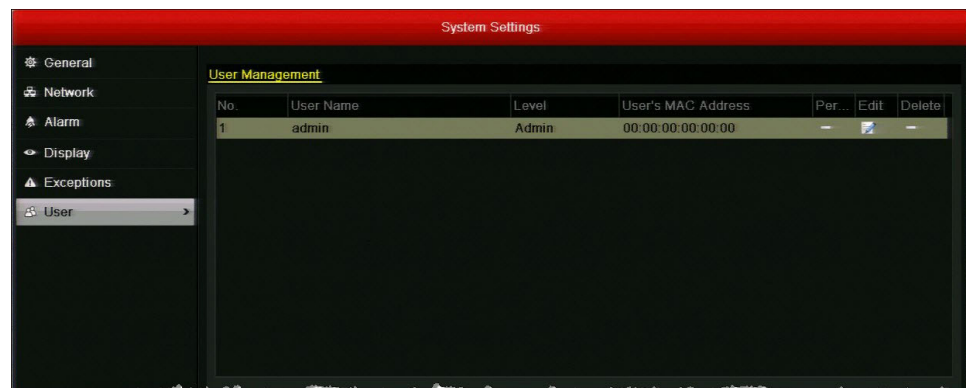You can delete a user account that you have created.

To delete a user:

1. Go to **Menu** > **Settings** > **User**.

2. Select from the list of users the user you want to delete.

3. Click the **Delete** button 🗑 to delete the user. The message "Delete this user?" appears. Click **Yes**.

Changing the Admin Password

If you are logged in as the admin user, you can change the admin password.

To change the admin password:

1. Go to **Menu** > **Settings** > **User**.

2. Select **admin**, and then click the **Edit** button ![edit icon] to open the **Edit User** window.

3. In the **Old Password** field, enter the old admin password. (The default admin password is **12345**.)

4. Select the **Change Password** check box.

5. In the **Password** field, enter the new admin password.

6. In the **Confirm** field, re-enter the new admin password.

7. Click **Apply** to save your settings, and then click **OK** to close the window.

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