DS-9000/DS-9100/DS-9600 Series
DVR USER'S MANUAL
Version 1.2

Hikvision® Network Digital Video Recorder User's Manual

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Preventive and Cautionary Tips

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

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the DVR.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the DVR in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.

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C H A P T E R 1

Introduction

Overview

Thank you for your purchase of DS-9000/DS-9100/DS-9600 series Digital Video Recorder (DVR). To get the most out of your DVR, please read through the *Installation's Manual and this User's Manual* thoroughly.

The DS-9000/DS-9100/DS-9600 DVR, shown in figure 1, figure 2 and figure 3 separately, is a new generation product developed by HIKVISION. Built on an embedded platform and combining the latest in advanced H.264 video encoding and decoding technologies, the DS-9000/DS-9100/DS-9600 series contains the perfect combination of rock-solid reliability and high performance. The DS-9000 supports both analog and network cameras and can be used as a standalone DVR, hybrid DVR or as an NVR. The DS-9600 series only supports the IP cameras while DS-9100 only supports analog cameras.

Figure 1. DS-9000/9100-SH and DS-9600 Series DVR

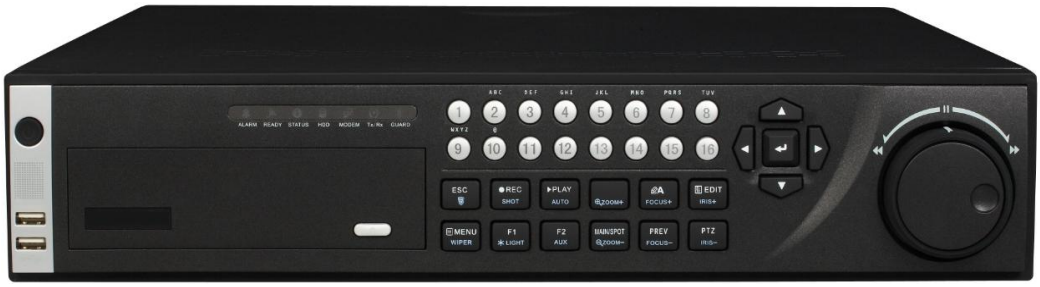


Figure 2. DS-9000-S Series DVR

Figure 3. DS-9100-S Series DVR

Product Key Features

- **Compression:**
- Support PAL/NTSC video input.
- Adopt H.264 video compression standard.

- DS-9000 supports analog camera, IP camera(from HIKVISION, Sony, Axis, etc), IP Dome and DVS.
- DS-9600 supports IP camera(from HIKVISION, Sony, Axis, etc), IP Dome and DVS
- Each analog channel supports dual stream. Main stream supports up to 4CIF resolution and sub stream supports up to CIF resolution.
- Each IP channel of DS-9000/DS-9600 support up to UXGA (1600*1200) resolution.
- Video encoding parameters of each channel can be set separately, including resolution, frame rate, bit rate, image quality.
- Each channel supports normal continuous and event compression parameters.
- Supports both composite stream and video only stream. Audio and video streams are strictly simultaneous.
- Supports watermark.

- **Monitoring:**
- 9000/9100-SH and 9600 series support three independent local output including HDMI, VGA, main and AUX composite video output.
- 9000/9100-S series support VGA, Main and AUX composite video output simultaneously.
- For Full HD HDMI display, it supports 1920x1080 resolution.
- Supports 1/4/6/8/9/16 screen live view, channel sequence is adjustable.
- Support live view group switch, manual switch and automatic cycle, the interval of automatic cycle can be adjusted.
- Supports digital zoom on live view.
- Supports shielding the assigned live view channel.
- Supports motion detection, view tampering alert, video exception alert and video loss alert.
- Supports privacy mask.
- Supports various PTZ protocols, PTZ preset, patrol and pattern.
- Supports zoom in by clicking the mouse and trace function by dragging mouse.

- **HDD Management:**
- Supports up to eight SATA HDD, eight network HDD(eight NAS disks or seven NAS disks+one iSCSI disk), each disk can support over 2TB capacity.
- Supports eSATA(optional)
- Supports S.M.A.R.T. technology.
- Supports HDD standby function.
- Supports hard disk group management.
- HDD file system is compatible with Windows. Use pre-allocating hard disk management technology, and no disk fragments.

- **Recording and Playback:**
- Supports cycle and non-cycle recording mode.
- Supports normal and event video encoding parameters.
- Supports multiple recording types, including manual, continuous, alarm, motion, motion | alarm, motion & alarm and intelligent recording.
- Supports 8 recording time periods with separate recording types.
- Supports Pre-record and Post-record time for alarm, motion detection and intelligent alarm, and pre-record time for schedule and manual recording.
- Supports lock and unlock video files.
- Supports local redundant recording.
- Supports setting hard disk to read only.
- Supports video data search and playback by channel number, recording type, time, etc.
- Supports video data search by events such as alarm input, motion detection and intelligent alarm
- Supports video smart search by motion detection event
- Supports overlay intelligent analysis types on the video
- Supports digital zoom function in playback.
- Supports pause, rewind, play fast, play slow, skip forward, and skip backward when playback, locating in progress

bar by dragging the mouse.

- DS-9000/DS-9100 support up to 16-ch synchronous playback, DS-9600 supports up to 4-ch synchronous playback.

- **Intelligent Features:**
- 9000/9100--SH series support intelligent features as an option.
- Each channel Supports up to 8 rules for intelligent detecting, including traverse plane, enter region, exit region, invasion, loiter, left take, parking, run and high density.
- Supports the notification of intelligent alarm by uploading information and JPEG picture to client software to CMS.
- Supports the intelligent module reboot partly when setup intelligent detection system

Note: Intelligent features is optional only for DS-9000HFI-SH and DS-9100HFI-SH, and not supported in the default unit.

Note: HIKVISION provides intelligent board with following options: B-B, B-A and B-F

Levels	Traverse plane	Enter/Exit Area	Object Left/Taken	Intrusion	Loitering	High Density	Illegal Parking	Fast Movement
B_F	√	√	√	√	√	√	√	√
B_A	√	√	√	√	√	√		
B_B	√	√						

- **Backup:**
- Supports USB device backup.
- Supports SATA CD/DVD-R/W backup.
- Supports backup by file or by time.
- Supports backup device maintenance and management.
- Supports video clips backup when playback.

- **Alarm & Exception:**
- Unified management of DVR and IP camera alarm in/out of DS-9000/DS-9600.
- Unified management of DVR alarm in/out of DS-9100.
- Unified management of intelligent detection, motion detection, view tampering and video lost
- Supports alarm in/out arming schedule setting.
- Supports various alarm input such as hard disk full, illegal access, network break, IP conflicted, hard disk error, video exception, and video output standard mismatch.
- Supports various alarm response such as camera recording, relay alarm out, on screen warning, audible warning, send email and upload to center, etc.
- Supports auto recovery from exceptions.

- **Network:**
- Supports 10/100/1000M adaptive network interface.
- Supports TCP/IP protocols, PPPoE, DHCP, DNS, DDNS, NTP, SMTP, NFS, iSCSI and SADP, etc.
- Supports unicast and multicast, support TCP, UDP, and RTP for unicast.
- Supports remote search, playback and download video files, support breakpoint resume.
- Supports remote configuration, support remote import and export of DVR settings.
- Supports remote acquisition of device status, system log and alarm status.
- Supports remote button operation, remote locking and unlocking of panel buttons.
- Supports remote format of hard disk, upgrade, reboot, shutdown and other system maintenance operations.
- Supports RS-232 and RS-485 transparent channel transmission.
- Supports event alarm and exceptions upload to remote management host.
- Supports remote manual recording.
- Supports remote manual alarm output control.
- Supports JPEG image capturing.
- Supports remote PTZ control.
- Supports voice talk and broadcast.

• Built-in WEB Server.

• **Other:**
• Supports front panel, mouse, IR control, special keyboard operation.
• Supports multi-level user management, each user can have individual DVR access rights.
• Powerful DVR log, including operation, alarm, information and exception log.
• Supports remote manual alarm output control.
• Supports configuration information import/export.

Product Application Diagram

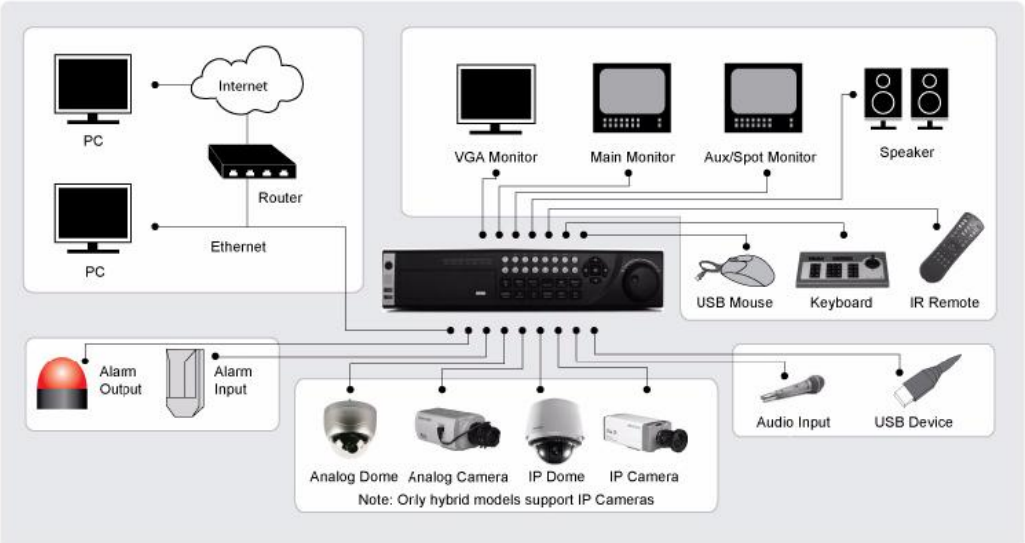


Figure 4. Product Application Diagram

Note: For 9600 series NVR, it does not support analogue cameras

Operating Your DVR

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

Using the Front Panel Controls

The DS-9000/9100-S DVR comes with built-in front panel controls, as shown in Figure 5.

Figure 5. DS-9000/9100-S DVR Front Panel Controls

The controls on the front panel include:

1. **Power Button:** Powers DVR on/off.
2. **IR Receiver:** Receiver for IR remote.
3. **USB Ports:** Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
4. **Status Indicators:** Status indicators for different features of the DVR.
   - **Alarm:** Alarm indicator turns red when a sensor alarm is detected.
   - **Ready:** Ready indicator turns blue when DVR is functioning properly.
   - **Status:** Status indicator turns blue when DVR is controlled by an IR remote. Indicator turns red when controlled by a keyboard and purple when IR remote and keyboard is used at the same time.
   - **HDD:** HDD indicator blinks red when data is being read from or written to HDD.
   - **Modem:** Reserved
   - **TX/RX:** TX/RX indictor blinks blue when network connection is functioning properly.
   - **Guard:** Guard indicator turns blue when the device is armed, off when the device is unarmed. The arm/disarm state can be initiated by pressing and holding on the ESC button for more than 3 seconds in Preview mode.
5. **Alphanumeric Buttons:** Alphanumeric buttons used in various menus of the DVR. Some uses include:
   - Switching to the corresponding channel in Preview or PTZ Control mode.
   - Inputting numbers and characters in Edit mode.
   - Switching between different channels in Playback mode.
6. **Control Buttons:**
   - **ESC Button:** The ESC button is used to escape to the previous menu and to arm/disarm the DVR in Preview mode.
   - **REC/SHOT Button:** The REC/SHOT button is used to enter the Manual Record interface. If used when controlling a PTZ, pressing the REC/SHOT button and then a Numeric button will call a PTZ preset.
   - **PLAY/AUTO Button:** The PLAY/AUTO button is used to enter the Playback menu. It is also used to turn audio on/off in the Playback menu and auto scan in the PTZ Control menu.
   - **ZOOM+ Button:** The ZOOM+ button is used to zoom the PTZ camera in when in the PTZ Control menu.
   - **A/FOCUS+ Button:** The A/FOCUS+ button is used to adjust focus in the PTZ Control menu. It is also used to switch between input methods (upper and lowercase alphabet, symbols and numeric

input). It can also be used to clear entire masked areas, such as in the Motion Detection and Privacy Mask menus.

- **EDIT/IRIS+ Button:** The EDIT/IRIS+ button is used to edit text fields. When editing text fields, it will also function as a Backspace button to delete the character in front of the cursor. On checkbox fields, pressing the EDIT/IRIS+ button will *tick* the checkbox. In PTZ Control mode, the EDIT/IRIS+ button opens up the iris of the camera. In Playback mode, it can be used to generate video clips for backup.
- **MENU/WIPER Button:** Pressing the MENU/WIPER button will return the user to the Main menu (after successful login). Pressing and holding the button for 5 seconds will turn off audible key beep. The MENU/WIPER button will also bring up Sensitivity Interface settings. In PTZ Control mode, the MENU/WIPER button will start wiper (if applicable).
- **F1/LIGHT Button:** The F1/LIGHT button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
- **F2/AUX Button:** The F2/AUX button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
- **MAIN/SPOT/ZOOM- Button:** The MAIN/SPOT/ZOOM- button is used to switch between main and spot output. In PTZ Control mode, it can be used to zoom the camera out.
- **PREV/FOCUS- Button:** The PREV/FOCUS- button is used to switch between single screen and multi-screen mode. In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button. It can also be used to select entire masked areas, such as in Motion Detection and Privacy Mask menus.
- **PTZ/IRIS- Button:** The PTZ/IRIS- button is used to enter the PTZ Control mode. When in the PTZ Control mode, it is used to close the iris of the PTZ camera.

7. **DIRECTION/ENTER Buttons:**
   - **DIRECTION Buttons:** The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. The Left and Right button will select the next and previous day of recordings. In Preview mode, these buttons can be used to cycle through channels.
   - **ENTER Button:** The ENTER button is used to confirm selection in any of the menu modes. It can also be used to *tick* checkbox fields. In Playback mode, it can be used to play or pause the video. In Single Play mode, pressing the ENTER button will advance the video by a single frame.
8. **JOG SHUTTLE Control:** The JOG SHUTTLE control can be used to move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In the Playback mode, the inner ring is used to jump 30 seconds forward/backward in a video. The outer ring can be used to speed up/slow down the video. In Preview mode, it can be used to cycle through different channels.

The DS-9000/9100-SH and DS- 9600 DVR have the front panel shown as figure 6.

Figure 6. DS-9000/9100-SH and DS- 9600 DVR Front Panel Controls

The controls on the front panel include:

1. **Status Indicators:** Status indicators for different features of the DVR.
   - **Alarm:** Alarm indicator turns red when a sensor alarm is detected.
   - **Ready:** Ready indicator turns blue when DVR is functioning properly.

- **Status:** Status indicator turns blue when DVR is controlled by an IR remote. Indicator turns red when controlled by a keyboard and purple when IR remote and keyboard is used at the same time.
- **HDD:** HDD indicator blinks red when data is being read from or written to HDD.
- **Modem:** Reserved
- **TX/RX:** TX/RX indictor blinks blue when network connection is functioning properly.
- **Guard:** Guard indicator turns blue when the device is armed, off when the device is unarmed. The arm/disarm state can be initiated by pressing and holding on the ESC button for more than 3 seconds in Preview mode.

2. **Power Button:** Powers DVR on/off.
3. **IR Receiver:** Receiver for IR remote.
4. **DVD-ROM:** This space is for DVD-ROM. (Optional)
5. **DIRECTION/ENTER Buttons:**
   - **DIRECTION Buttons:** The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. The Left and Right button will select the next and previous file of recordings. In Preview mode, these buttons can be used to cycle through channels.
   - **ENTER Button:** The ENTER button is used to confirm selection in any of the menu modes. It can also be used to *tick* checkbox fields. In Playback mode, it can be used to play or pause the video. In Single Play mode, pressing the ENTER button will advance the video by a single frame.
6. **USB Ports:** Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
7. **Control Buttons:**
   - **ESC Button:** The ESC button is used to escape to the previous menu and to arm/disarm the DVR in Preview mode.
   - **REC/SHOT Button:** The REC/SHOT button is used to enter the Manual Record interface. If used when controlling a PTZ, pressing the REC/SHOT button and then a Numeric button will call a PTZ preset.
   - **ZOOM+ Button:** The ZOOM+ button is used to zoom the PTZ camera in when in the PTZ Control menu.
   - **MENU/WIPER Button:** Pressing the MENU/WIPER button will return the user to the Main menu (after successful login). Pressing and holding the button for 5 seconds will turn off audible key beep. The MENU/WIPER button will also bring up Sensitivity Interface settings. In PTZ Control mode, the MENU/WIPER button will start wiper (if applicable).
   - **PLAY/AUTO Button:** The PLAY/AUTO button is used to enter the Playback menu. It is also used to turn audio on/off in the Playback menu and auto scan in the PTZ Control menu.
   - **MAIN/SPOT/ZOOM- Button:** The MAIN/SPOT/ZOOM- button is used to switch between main and spot output. In PTZ Control mode, it can be used to zoom the camera out.
   - **A/FOCUS+ Button:** The A/FOCUS+ button is used to adjust focus in the PTZ Control menu. It is also used to switch between input methods (upper and lowercase alphabet, symbols and numeric input). It can also be used to clear entire masked areas, such as in the Motion Detection and Privacy Mask menus.
   - **F1/LIGHT Button:** The F1/LIGHT button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
   - **EDIT/IRIS+ Button:** The EDIT/IRIS+ button is used to edit text fields. When editing text fields, it will also function as a Backspace button to delete the character in front of the cursor. On checkbox fields, pressing the EDIT/IRIS+ button will *tick* the checkbox. In PTZ Control mode, the EDIT/IRIS+ button opens up the iris of the camera. In Playback mode, it can be used to generate video clips for backup.
   - **PREV/FOCUS- Button:** The PREV/FOCUS- button is used to switch between single screen and multi-screen mode. In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button. It can also be used to select entire masked areas, such as in Motion Detection and Privacy Mask menus.
   - **F2/AUX Button:** The F2/AUX button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
   - **PTZ/IRIS- Button:** The PTZ/IRIS- button is used to enter the PTZ Control mode. When in the PTZ Control mode, it is used to close the iris of the PTZ camera.
8. **Alphanumeric Buttons:** Alphanumeric buttons used in various menus of the DVR. Some uses include:

- Switching to the corresponding channel in Preview or PTZ Control mode.
- Inputting numbers and characters in Edit mode.
- Switching between different channels in Playback mode.

9. **JOG SHUTTLE Control:** The JOG SHUTTLE control can be used to move the active selection in a menu. It will move the selection up and down. In the Playback mode, the ring is used to jump 30s forward/backward in video files. In Preview mode, it can be used to cycle through different channels.
10. **Left and Right Button:** The left and right button can be used to move the active selection in a menu. It will move the selection left and right. In the Playback mode, the buttons can be used to speed up/slow down the video. In preview mode, it can be used to cycle through different channels.

Note: If GUARD indicator is blue (default), all alarm event and exception settings are valid. Otherwise, alarm event and exception settings will be invalid, but normal recording will still be available.

Note: It is important to note that you must click the EDIT button on either the remote or front panel on a text field before you're able to edit its content. After you're done entering text, you must hit the ENTER button to be able to move on to the next field.

Using the IR Remote Control

Your DVR may also be controlled with the included IR remote control, shown in Figure 7.
Batteries (2x AAA) must be installed before operating.

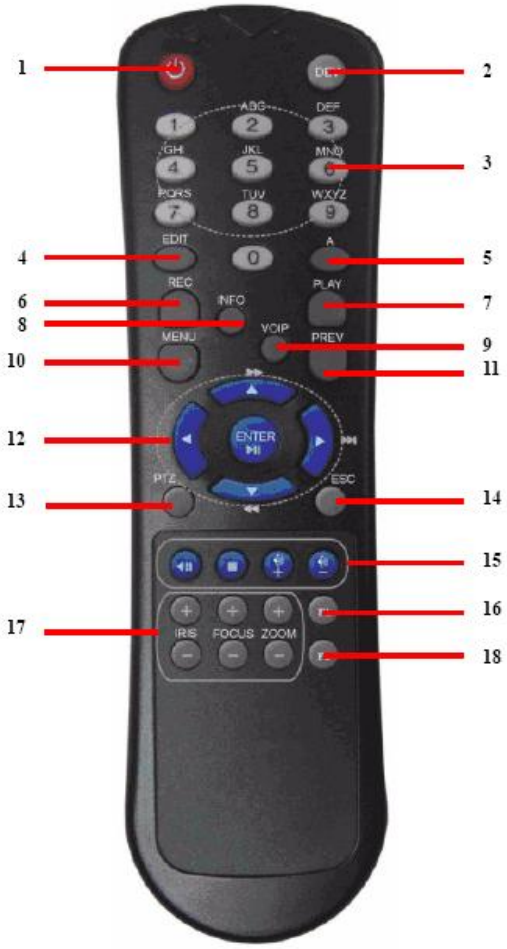


Figure 7. IR Remote Control

The keys on the remote control closely resemble the ones found on the front panel. Referring to Figure 5, they include:

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

Aim the remote control at the IR receiver located at the front of the unit to test operation. If there is no response:

1. Using the front control panel or the mouse, go into Menu > Settings > General > More Settings.
2. Check and remember DVR ID#. The default ID# is 255. This ID# is valid for all IR controls.
3. Press the DEV button on the remote.
4. Enter the DVR ID# from step 2.
5. Press the ENTER button on the remote.

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

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.

Using a USB Mouse

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

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

The buttons on the mouse corresponds to:

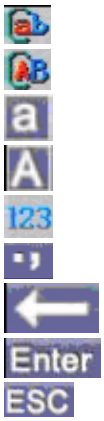
1. **Left Button:**
   - **Single-Click:** Select a component of a menu, such as a button or an input field. This is similar to pressing the ENTER button on the remote/front panel controls.
   - **Double-Click:** Switch between single screen and multi-screen mode in Preview/ Playback mode.
   - **Click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

Using the Soft Keyboard

When a mouse is used to perform task on the DVR, clicking on a text input field will bring up the Soft Keyboard, shown in Figure 8.

Figure 8. Soft Keyboard

The buttons on the soft keyboard represents:



Lowercase: Designates lowercase input is being used.

Uppercase: Designates uppercase input is being used.

Switch to Lowercase: Switch to lowercase input.

Switch to Uppercase: Switch to uppercase input.

Number: Designates number input is being used.

Symbols: Switch to symbols input.

Backspace: Delete the character in front of the cursor.

Enter: Confirm selection.

ESC: Exit out of Soft Keyboard.

Figure 9. Soft Keyboard Buttons

Rear Panel Diagram

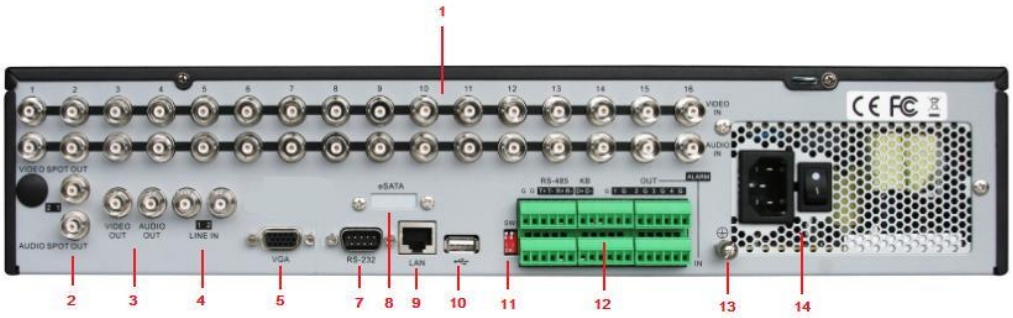


Figure 10. DS-9000/9100-S DVR Rear Panel Diagram

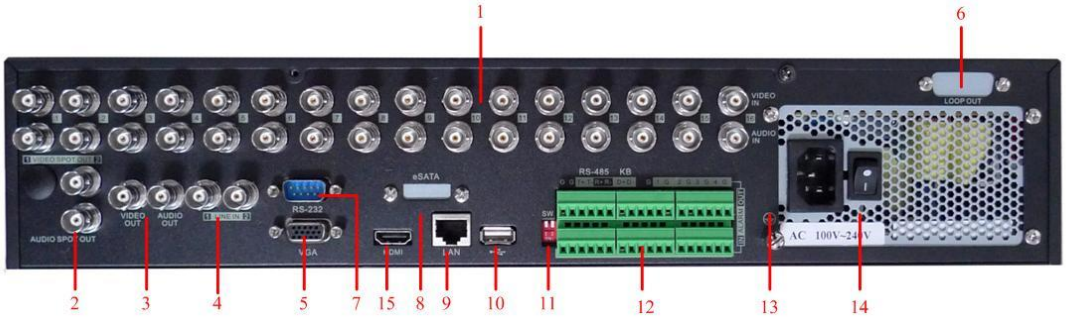


Figure 11. DS-9000/9100-SH DVR Rear Panel Diagram

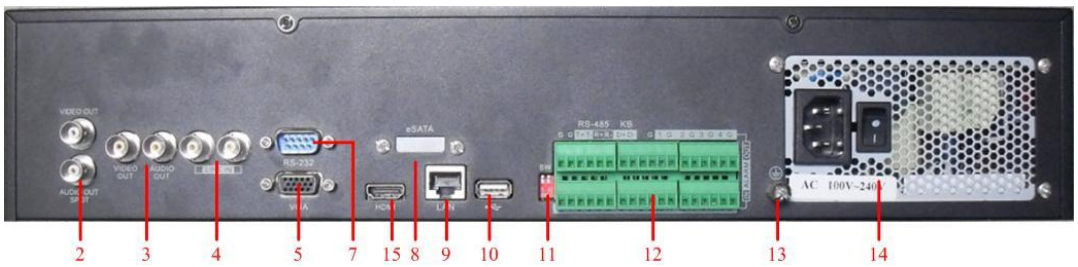


Figure 12. DS-9600 NVR Rear Panel Diagram

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input.
	AUDIO IN	BNC connectors for analog audio input.
2	VIDEO SPOT OUT	BNC connector for monitor. If HDMI is connected, interface is deactivated, If VGA is connected, interface is for video output only. If VGA is not connected, interface is for video output, playback and showing PTZ controls.
	AUDIO SPOT OUT	BNC connector for audio output. If HDMI/VGA is connected, audio is synchronized with HDMI/VGA. If HDMI/VGA is not connected, audio is synchronized with VIDEO SPOT OUT.
3	VIDEO OUT	BNC connector for video output. If HDMI/VGA is connected, the interface is used for spot output only with local video display, playback, recording and PTZ controls. If HDMI/VGA is not connected, the interface is used as the main video output with local video display and menu operations.
	AUDIO OUT	BNC connector for audio output. This connector is synchronized with VIDEO OUT.
4	LINE IN	BNC connector for audio input.
5	VGA	DB9 connector for VGA output. Display local video output and menu.
6	Loop Out (Optional)	DB15 interface for connection video matrix and monitor.
7	RS-232 Interface	Connector for RS-232 devices.
8	eSATA (Optional)	Connects external SATA HDD, CD/DVD-RM or disk array.
9	LAN Interface	Connector for LAN (Local Area Network).
10	USB Interface	Connector for USB devices.
11	Termination Switch	RS-485 termination switch. Up position is not terminated. Down is 120Ω termination.
12	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ.
	Controller Port	D+, D- pin connects to Ta, Tb pin of controller. For cascading devices, the first DVR's D+, D- pin should be connected with the D+, D- pin of the next DVR.
	ALARM IN	Connector for alarm input (up to 16 channels).
	ALARM OUT	Connector for alarm output (4 channels).
13	GROUND	Ground(needs to be connected when DVR startup)
14	POWER	AC 110V ~ 220V
15	HDMI	HDMI video output connector

C H A P T E R 2

Getting Started

Starting and Shutting Down Your DVR

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

To startup your DVR:

1. Ensure the power supply is plugged into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the unit. The Power indicator LED on the front panel should turn red, indicating the unit is receiving power.
2. Press the POWER button on the front panel. The Power indicator LED should turn blue. The unit will begin to start.
3. After startup, the Power indicator LED will remain blue. A splash screen with the status of the DSP and HDD will be shown. The first row of icons at the bottom of the screen shows the DSP status. If an 'X' is shown on top of an icon, it means that the DSP initialization has failed. The second row of icons at the bottom of the screen will show the HDD status. If an 'X' is shown, it means that the HDD is not installed or cannot be detected.

There are two proper ways to shutdown the DVR. To shutdown the DVR:

• OPTION 1: Standard Shutdown

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

Figure 1. Shutdown Menu

---

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

• OPTION 2: Manual Shutdown

1. Press and hold the POWER button for 3 seconds.
2. Enter the administrator's username and password in the dialog box for authentication.
3. Click the Yes button.

Note: Do not press the POWER button again when the system is shutting down.

Rebooting and Locking Your DVR

While in the Shutdown menu (Figure 1), you may also reboot or lock your DVR. Locking your DVR will return you to the Live Preview mode, which will require an user name and password to exit out of it. The Reboot button will reboot your DVR.

To reboot or lock your DVR:

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

Using the Setup Wizard

By default, the Setup Wizard will start once the DVR has loaded, as shown in Figure 2. The Setup Wizard will walk you through some of the more important settings of your DVR. If you do not wish to use the Setup Wizard at this time, click the Cancel button. You may also choose to use the Setup Wizard at a later time by leaving the **"Start Wizard when DVR starts?**" checkbox checked.

Figure 2. Setup Wizard

To start using the Setup Wizard:

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

Figure 3. User Permission

---

2. Navigate to the **Admin Password** input field.
3. Enter the admin password into the **Admin Password** input field. By default, the password is 12345.
4. To change the admin password, check the **New Admin Password** checkbox. Enter the new password and confirm the password in the given fields.
5. Click the Next button. This will take you to the time settings window, show in Figure 4.

Figure 4. General Settings

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6. After the time settings, click the OK button which will take you back to the Setup Wizard window.
7. Click the Next button. This will take you to the **HDD Management** window, shown in Figure 5.

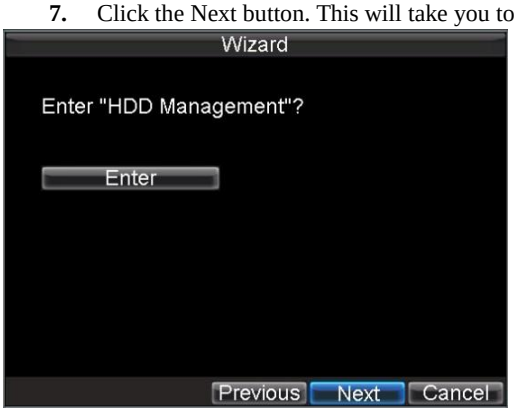

Figure 5. HDD Management

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8. To start HDD management, click the Enter button.
9. If a new HDD was recently installed, select the HDD from the list to initialize it. Initializing the HDD will format and remove all data from it.
14. After the HDD has been initialized, click the OK button which will take you back to the Setup Wizard window.
15. Click the Next button. This will take you to the **Record Settings** window, as shown in Figure 6.

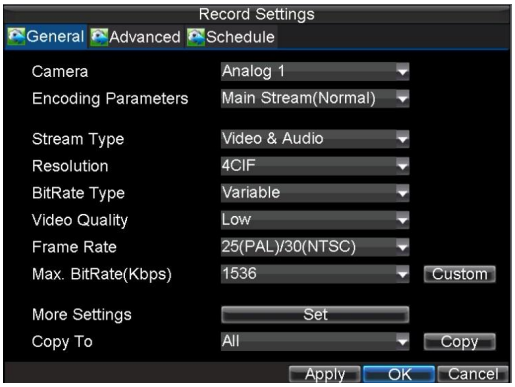

Figure 6. Record Settings

16. To enter the **Record Settings** window, click the Enter button.
17. Select the **Schedule** tab, shown in Figure 7.

Figure7. Schedule Settings

18. Click the Edit button. This will open up a new recording schedule, shown in Figure 8.
19. Check both the **Enable Schedule** and **All Day** checkbox. This will enable the recording schedule and have it record continuously all day.

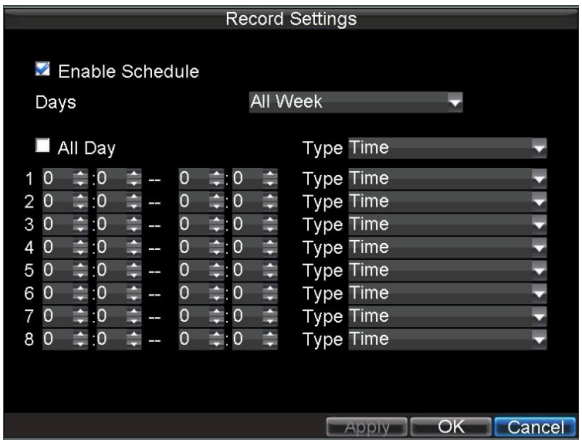

Figure 8. Edit Schedule Settings

20. Click the OK button. This will take you back to the **Schedule** tab. To copy the schedule to a different channel, select the channel or all under **Copy To** and click the Copy button.
21. Click the Next button. This will take you to the **Network Settings** window, shown in Figure 9.

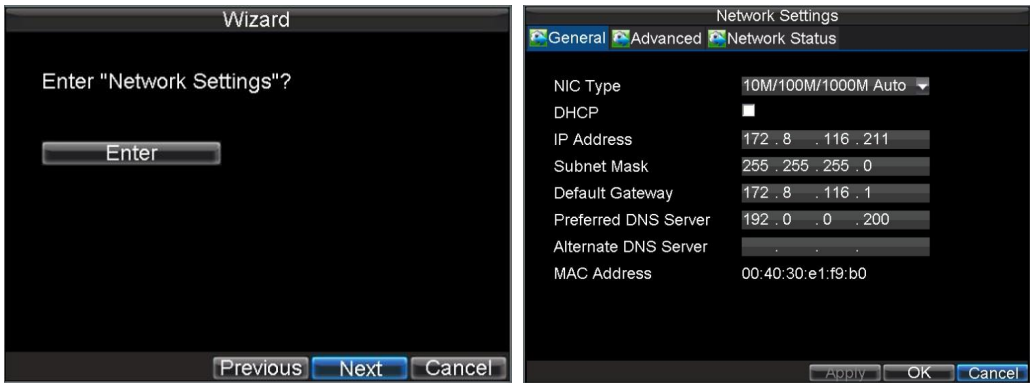

Figure 9. Network Settings

22. To configure network settings, click the Enter button.
23. Enter the **IP Address**, **Subnet Mask** and **Default Gateway**. Click the OK button to return to the Setup Wizard.
24. Click the Next button. This will take you to the **Camera Management** window, shown in Figure 10.

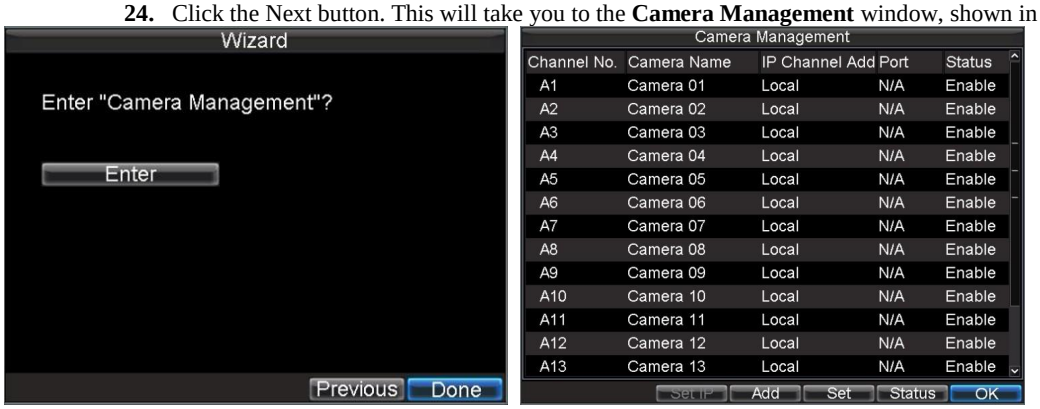

Figure 10. Camera Management

25. Select Add to add IP camera, and click OK to return to Setup Wizard.
26. If all the settings are entered as desired, click the Done button to finish and exit the Setup Wizard.

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

Note: For 9600 series NVR, there is no analogue channel, and 9100 series DVR does not support IP channels

C H A P T E R 3

Live Preview

Watching a Live Preview

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

Understanding Live Preview Icons

There are multiple icons on each display in Live Preview mode to indicate different camera status. These icons include:

Event Icon: Indicates video loss or tampering, motion detection and/or sensor alarm.

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

Main Icon: Indicates the current channel is in the main output mode.

Aux Icon: Indicates the current channel is in the aux output mode.

Spot Icon: Indicates the current channel is in the spot output mode.

Alarm Icon: Indicates there is an alarm or exception.

Figure 1. Live Preview Icons

Note: Status for video loss is only valid with analog cameras. Event icons will only be displayed when armed, except for the video loss alarm. Output icon is only valid when enable output hint in **General** menu

Operating the Live Preview

In Live Preview mode, you can:

1. **Display Single Camera:**
   - **Using Front Panel/Remote:** Use Alphanumeric buttons.
   - **Using Mouse:** Select Single Camera in right-click menu.
2. **Preview Layout Switch:**
   - **Using Front Panel/Remote:** Click PREV button.
   - **Using Mouse:** Select Multi-Camera in right-click menu.
3. **Manual Switch:**
   - **Using Front Panel/ Remote:** To move to the previous screen, click the Left direction button. To move to the next screen, click the Right direction button.
   - **Using Mouse:** Select Next screen in right-click menu.
4. **Auto Switch:**
   - **Using Front Panel/Remote:** Click ENTER button.

- **Using Mouse:** Select Start Sequence in right-click menu.

5. **Digital Zoom:**
   - **Using Mouse:** Select Digital Zoom in right-click menu.
6. **Switch between Main and Aux Output**:
   - **Using Front Panel/Remote:** Click MAIN/AUX button.
   - **Using Mouse:** Select Aux Monitor/Main Monitor in right-click menu.

Using the Mouse in Live Preview

Many features of the Live Preview can be quickly accessed by clicking the right-button of the mouse (shown in Figure 2). These features include:

- **Single Camera:** Switch to a full screen display of the selected camera. Camera can be selected from a drop down list.
- **Multi-Camera:** Switch between different display layout options. Layout options can be selected from a drop down list.
- **Next Screen:** When displaying less than the maximum number of cameras in Live Preview, clicking this feature will switch to the next set of displays.
- **Playback:** Enter into Playback mode.
- **PTZ:** Enter PTZ Control mode.
- **Digital Zoom:** Enter Digital Zoom interface.
- **Reboot Intelligent:** if the monitoring field changed, you may need to select this option to reboot intelligent library in order to activate the settings.
- **Menu:** Enter Main menu.
- **Start Auto-switch:** Enable sequencing in Live Preview mode.
- **Aux Monitor:** Enter Aux operation mode.

Note: The *dwell time* of the preview configuration should be set before using **Start Auto-switch**.

Note: If you enter Aux monitor mode and the Aux monitor is not connected, switch back to the Main output with the MAIN/AUX button on the front panel or remote.

Note: If the corresponding camera support intelligent function, the Reboot Intelligence option will be included when right-click mouse on this camera.

Figure 2. Live Preview Mouse Menu

Using Digital Zoom

To use digital Zoom in Live Preview mode:

1. Right-click using the mouse in Live Preview mode.
2. Select Digital Zoom from Mouse menu.
3. Left-click and drag the red box to the desired area for zoom. The zoomed image will be magnified by 4x. A sample of this can be seen in Figure 3.

Figure 3. Digital Zoom

Using an Aux Monitor

Certain features of the Live Preview are also available while using an Aux monitor. These features include:

- **Single Camera:** Switch to a full screen display of the selected camera. Camera can be selected from a drop down list.
- **Multi-Camera:** Switch between different display layout options. Layout options can be selected from a drop down list.
- **Next Screen:** When displaying less than the maximum number of cameras in Live Preview, clicking this feature will switch to the next set of displays.
- **Playback:** Enter into Playback mode.
- **PTZ:** Enter PTZ Control mode.
- **Main Monitor:** Enter Main operation mode.

Figure 4. Aux Monitor Mouse Menu

Note: Main menu operation's not available while in Aux monitor mode.

Configuring Live Preview Displays

Live Preview displays can be customized to your own needs. These settings can be accessed by entering the Display Settings menu.

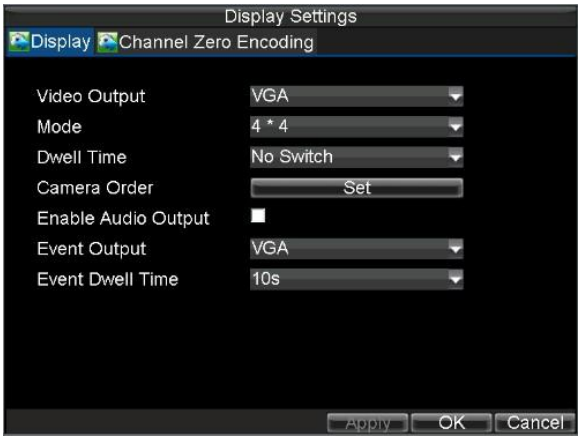

Figure 5. Display Settings

To access the Display Settings menu:

1. Click the MENU button.
2. Click the Setting icon.
3. Click the Display icon.
4. Select Display tab

The settings available in this menu include:

- **Video Output:** Designates the output to configure the settings for. Outputs include HDMI(depends on the model), VGA, Main and Aux composite video (CVBS).
- **Mode:** Designates the display mode to be use for Live Preview.
- **Dwell Time:** The time in seconds to *dwell* between switching of channels when **Start Sequence** is selected in Live Preview.
- **Camera Order:** The order of the cameras to be used in the selected display mode (See ***Setting Camera Order***).
- **Enable Audio Output:** Enables/disable audio output for the selected video output.
- **Event Output:** Designates the output to show event video on.
- **Event Dwell Time:** The time in seconds to show event screen.

Note: 9000/9100-SH and 9600 series DVR will automatically detect if a HDMI monitor or VGA monitor is connected. Only HDMI monitor can be activated if both HDMI and VGA ports are connected.

Note: When a HDMI display is connected to the DVR, the HDMI monitor will become the main output. All the Live Preview operations will be available. Main video (VIDEO OUT) is set as Aux control output, which supports PTZ Control, Playback, and Preview mode on it. The main audio (AUDIO OUT) is tied to the main video (VIDEO OUT), while Aux audio (AUDIO SPOT OUT) is tied to the HDMI video output.

Note: When a VGA display is connected to the DVR, the VGA monitor will become the main output. All the Live Preview operations will be available. Main video (VIDEO OUT) is set as Aux control output, which supports PTZ

Control, Playback, and Preview mode on it. Aux video (VIDEO SPOT OUT) only allows Preview depending on configuration. The main audio (AUDIO OUT) is tied to the main video (VIDEO OUT), while Aux audio (AUDIO SPOT OUT) is tied to the VGA video output.

Note: When both VGA display is not connected to the DVR, all the Live Preview operations will then become available to the main video output. The VIDEO SPOT OUT will be the Aux control output. Main audio will still be tied to main video while Aux audio will be tied to Aux CVBS video (VIDEO SPOT OUT).

Note: When the resolution of video output is set as the highest one, the intelligent and zero channel encoding features will be not available anymore.

Setting Camera Order

Setting the camera order allows you to logically position cameras for more efficient monitoring of your own individual location.

Figure 6. Camera Order Setting

To set the camera order:

1. Enter the Display Settings menu, shown in Figure 6 (Menu > Settings > Display).
2. Click the Set button.
3. Select the display mode you would like to set the camera order for under **Mode**.
4. Using the up and down button at each display, select the camera you would like to set. Setting an 'X' will mean the camera will not be displayed.
5. Click the OK button.

Channel Zero Encoding

Sometimes the user needs to remote view a lot of cameras simultaneously from web browser or CMS software, in order to decrease the bandwidth requirement in case that the image quality is not strictly required, zero channel encoding feature is supported as an option for users.

Enter the Display Settings menu and select Channel Zero Encoding tab, shown in Figure 7.

Figure 7. Channel Zero Encoding

The video source of channel zero is from video Aux output, the users are allowed to configure the video divisions, camera order and dwell time for channel zero.

Note: The channel zero does not support sub stream, only main stream is available.

C H A P T E R 4

Record Settings

Configuring Settings for Recording

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

Initializing Record Settings

Before setting your DVR up for recording, certain settings should be configured first. The steps to configuring these settings are:

1. If you have not initialized a HDD either through the Setup Wizard or through HDD management, you must do so before proceeding.
2. Navigate to Menu > Settings > Record. You will be taken to the Record Settings menu, shown in Figure 1.

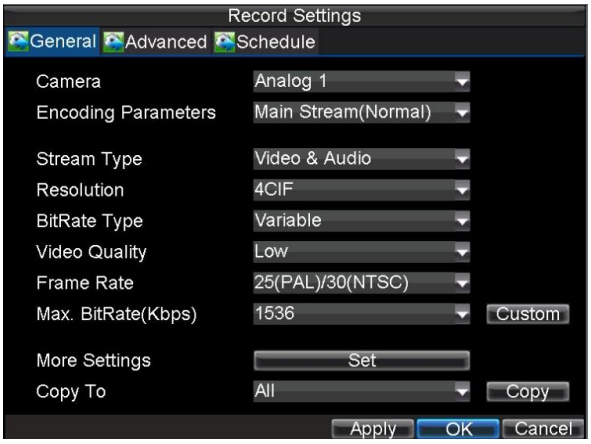

Figure 1. General Record Settings

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3. Select the camera you would to configure the settings for.
4. Configure settings for:
   - **Encoding Parameters:** Select the encoding parameters, Normal, Event or Sub stream.
   - **Stream Type:** Type of stream to record, either video or video and audio.
   - **Resolution:** Select the resolution of the recording. The options include 4CIF, DCIF, 2CIF, CIF, and QCIF.
   - **Bit Rate Type:** Select either Variable or Constant bit rate.
   - **Video Quality:** Select the quality to record cameras at.
   - **Frame Rate:** Select recordings frame rate.
   - **Max Bit Rate:** Select or define custom maximum bit rate for recordings.
5. Click the Set button under **More Settings**. This will bring up another menu with more advance recording options, as shown in Figure 2.

Figure 2. Additional Record Settings

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6. Set additional record settings:
   - **Pre-record:** Sets the time in seconds to pre-record before the actual recording begins.
   - **Post-record:** Sets the time in seconds to post-record after the actual recording has ended.
   - **Recording Expired Time:** Sets the expiration time in days for recorded video. Recordings after expiration time would be deleted. If it's set to '0,' the option would be disabled.
   - **Redundantly Record:** Select to enable or disable redundant recording on the particular channel.
   - **Record Audio:** Select to record audio of the camera or not.
7. Click the OK button to finish and return to the previous menu.
8. Select the **Advanced** tab, this will open the Advanced settings menu, shown in Figure 3.
9. Enable or disable the **Overwrite** setting. Enabling the **Overwrite** setting will cause recorded files to be overwritten once the HDD is full.
10. Click Apply and then the OK button.

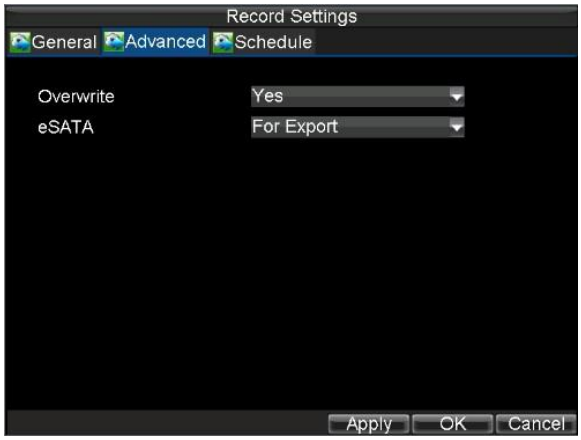

Figure 3. Advanced Record Settings

Scheduling a Recording

Scheduling a recording allows you to setup the DVR to only record when you want it to.
To setup a recording schedule:

1. Enter the Record Settings menu (Menu > Setting > Record).
2. Select the **Schedule** tab to open the Schedule menu, shown in Figure 4.

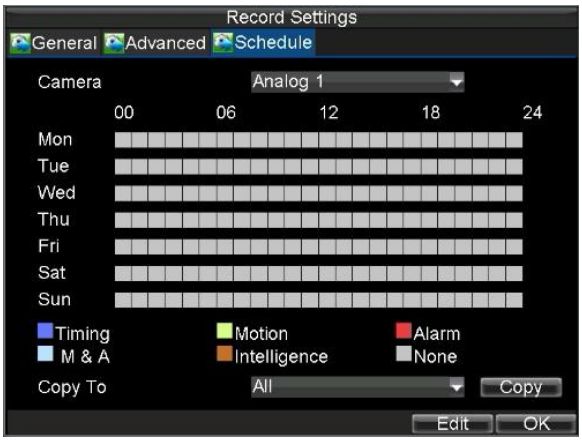

Figure 4. Schedule Settings

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3. Select Camera to edit schedule for.
4. Click the Edit button.
5. Click and check **Enable Schedule**.
6. Select the day you would like to setup the schedule for or select All Week to record the entire week.
7. Select to record the entire day by clicking **All Day** or at different time periods. Up to 8 time periods can be scheduled. It is important to note that time periods cannot be overlapped.
8. Select recording **Type**. Recording type can be based on time and triggered by motion detection and/or alarm. Motion detected and alarm triggered recordings are further explained in ***Configuring Alarms***.
9. Click the OK button to finish configuration.
10. Repeat steps 3-9 for other cameras or copy settings from one schedule to the next under the **Copy To** section.
11. Click OK to finish and save the schedule settings.

Note: **Event** encoding parameters will take effect when motion detection or alarm happens. **Normal** encoding parameters will take effect when there are no events happening.

Starting a Manual Recording

A manual recording can be started at any time. To start a manual recording:

1. Press the REC/SHOT button on the front panel or in the Main menu to bring up the Manual Record menu (shown in Figure 5).

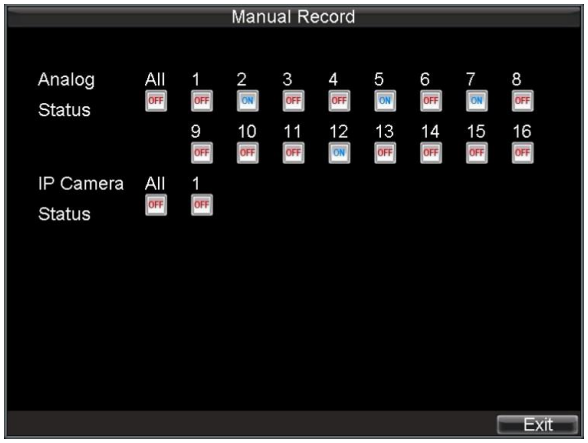

Figure 5. Manual Record Menu

2. Start manual recording by selecting On or Off for the cameras desired.

Protecting Recorded Files

There are two methods to prevent recorded files from being deleted off the HDD. It's highly recommended that important recorded events be protected from deletion. Recorded files can either be *locked* or the HDD that the files reside on can be set to *read only*.

Locking and Unlocking Recorded Files

To lock or unlock a recorded file:

1. Enter the Video Search menu by navigating to Menu > Video Search. The Video Search menu is shown in Figure 6.

Figure 6. Video Search Menu

2. Search for desired recording by entering search parameters. Search parameters include Camera #, Video/File Type, and Start/End Time.

3. Click the Search button. A list of recordings (similar to Figure 7), matching the search parameters will be displayed.
4. Select the file you would like to lock/unlock.
5. Click on the lock icon to lock file. If the file is already locked, click on the lock icon again to unlock file. Locked files will be shown with a closed lock while unlocked files, opened lock.
6. Click Cancel to exit out of the Video Search menu.

Figure 7. Video Search Result List

Setting HDD to Read-Only

To set a HDD to read-only:

1. Navigate to the HDD Management menu by going to Menu > HDD Management. The HDD Management menu is shown in Figure 8.

Figure 8. HDD Management Menu

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

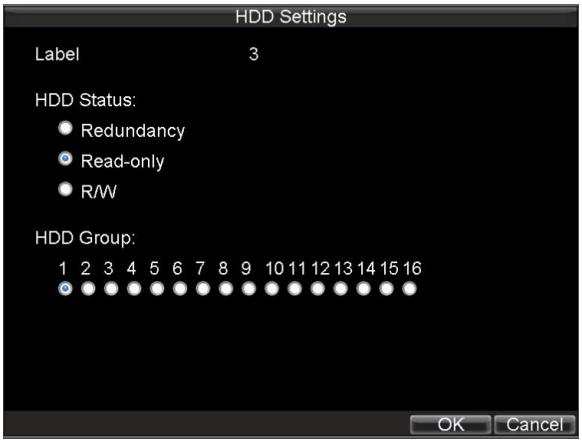

Figure 9. HDD Settings Menu

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5. Set HDD to Read-Only.
6. Click the OK button. The HDD is now read-only.

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

Configuring Advanced HDD Settings

Setting up HDD Redundancy

To insure unexpected failures of hard disk drives, it's recommended to set up HDD redundancy. It is important to note that in order to set up HDD redundancy, you'll need more than one HDD in your DVR.

To set up HDD redundancy:

1. Navigate to the HDD Management menu by clicking Menu > HDD management.
2. Click on the **General** tab.
3. Select the HDD to be used for redundancy, as shown in Figure 10.

Figure 10. HDD Management Menu

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

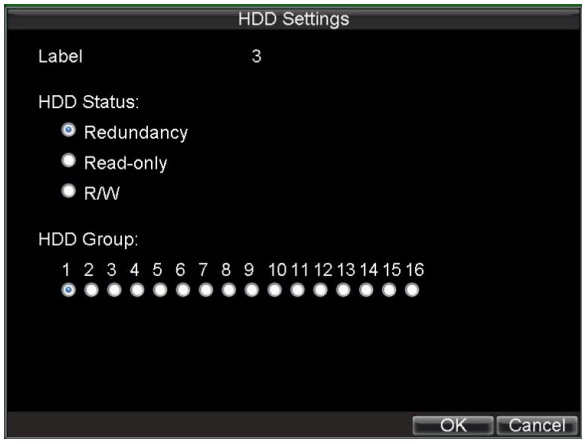

Figure 11. HDD Settings

7. Navigate to the Record Settings menu by clicking Menu > Settings > Record Setting.
8. Click on the **General** tab.
9. Select the **Camera** to be used for redundancy.
10. Next to **More Settings**, click on the Set button. This will bring up additional settings for the selected camera (shown in Figure 12).

Figure 12. Additional Record Settings

---

11. Set **Redundantly Record** to Yes.
12. Click the OK button to save settings.
13. Repeat steps 8-12 for other cameras you would like to redundantly record.

C H A P T E R 5

Playback

Playing Back a Recording

You must first search for recordings to play them back. There are multiple ways to search for recordings, including searching for them by time, by channel, by file type and by log.

Understanding the Playback Interface

There are various controls on the Playback interface that makes viewing recordings more efficient. A screenshot of the Playback interface is shown below in Figure 1.

Figure 1. Playback Interface

The Playback Control Panel, shown in Figure 2 contains the various controls on the Playback interface.

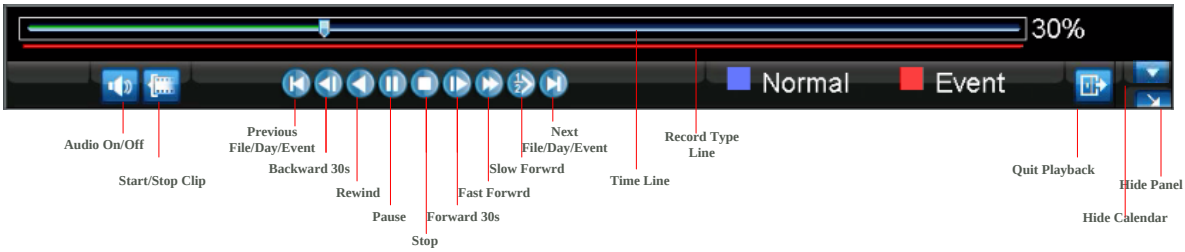

Figure 2. Playback Control Panel

Note: A blue Record Time Line designates schedule/manual recording while a red one shows event recordings.

Playing Back from General Video Search

To playback files from a general video search:

1. Enter into the Video Search menu by clicking Menu > Video Search.

2. Set the search parameters by selecting cameras to search, video/file type and the start/end time (as shown in Figure 3).

Figure 3. Video General Search Menu

3. Click the Play button to start playback of all the files found with the specified search criteria or click the Search button to bring up the list of search results. After search results are presented, you can press play icon to enter multi-channel playback cameras selection, show in Figure 4.

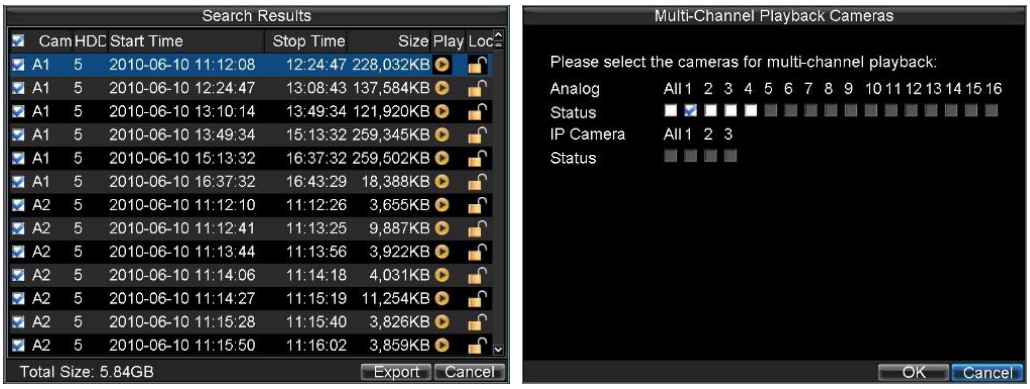

Figure 4. File and Channel Selection Menu

4. When press OK, recordings will automatically be play backed in the Playback interface, shown in Figure 5.

Figure 5. Playback Interface

Playing Back from Event Search

To playback files from a video event search:

1. Enter into the Video Search menu by clicking Menu > Event Search
2. Set the search parameters by selecting event type to search, alarm input/ channel and the start/end time (as shown in Figure 6).

Figure 6. Video Event Search Menu

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

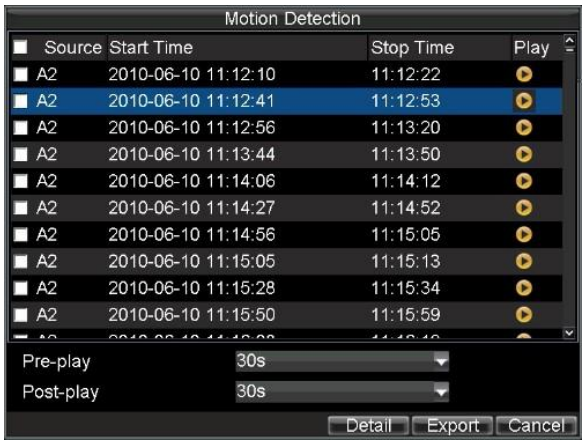

Figure 7. File Selection Menu

4. Recordings will automatically be play backed in the Playback interface, shown in Figure 8.

Figure 8. Playback Interface

Playing Back from Live Preview

You may also instantly playback from a channel while watching a Live Preview. The playback will be of recordings from the past 5 minutes.

To playback from a channel instantly in Live Preview:

- **Using a Mouse:**
  1. Right-click the mouse on desired channel and select the Playback button.
  2. Recordings from the selected channel will start playing back in the Playback interface. An *Attention* message will appear if there are no recordings found from the previous 5 minutes. You may also press the Play button to view the day's recording for the selected channel.
  3. You may also select additional channels for playback from the channel list on the right hand side of the Playback interface, as shown in Figure 9.

Figure 9. Playback Interface

- **Using the Front Panel/Remote:**
  1. Press the PLAY button. This will take you into the Playback interface.
  2. Enter the channel you would like to watch recordings for on the front panel or remote (i.e. press '11' for channel 11).
  3. Recordings will begin for the selected channel.

Playing Back from System Log

You may also playback recordings from the System Log.

To playback video from the System Log:

1. Enter the Log Search menu by clicking Menu > Maintenance > Log Search (shown in Figure 10).
2. Set **Start time** and **End Time.**
3. Click **Search** button, after search results are presented, select a log item and click **Play** button to playback the associated video directly. *Attention* message will appear if there is no video associated with the log.

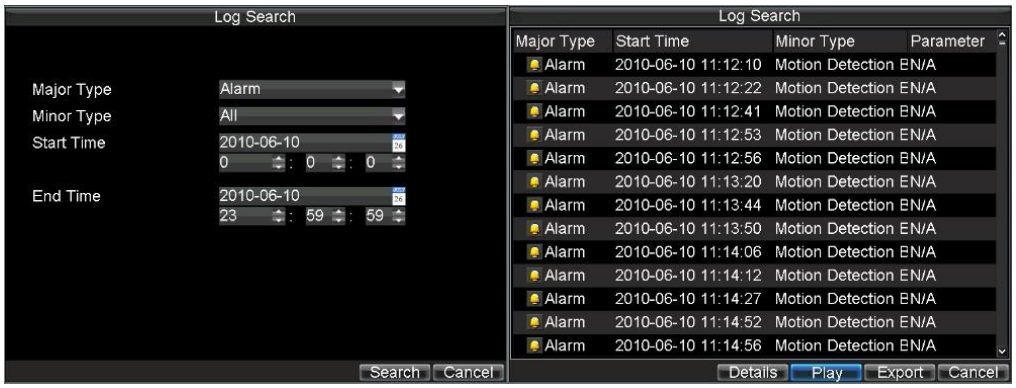

Figure 10. Log Search Menu

Playing Back Frame-by-Frame

To playback frame-by-frame in the Playback interface:

- **Using a Mouse:**
  1. Click the Slow Forward button on the Playback Control Panel until the speed changes to *Single* frame.
  2. Click the Pause button to advance the video frame by frame.
- **Using the Front Panel/Remote:**
  1. Rotate the inner control on Jog Shuttle counterclockwise or press the Down button to set the play to *Single* frame.
  2. Press the OK button.
  3. Press the Enter button to advance the video frame by frame.

Note: For 9000/9100-SH series and 9600 series, the way to control play speed is a little different with 9000/9100-S series DVR, please refer to the front panel explanation in this manual for details.

Smart Search

In order to locate motion detection event easily and accurately in the playback progress line, the users are allowed to analyze a certain area(scene) dynamically, and to get all of the related motion detection events that occurred in this area.

Note: The smart search function is only available for analog channels.

To use dynamic analysis function:

1. Go to playback interface and play the video
2. Right-click mouse and select Dynamic Analysis to go to analysis area selection interface
3. You can left-click the mouse and drag an area for motion detection analysis, then right-click mouse you will get popped up menu.

Figure 11. Right-click menu when dynamic analysis

---

4. Before selecting Analyze to start analysis, you also can select full-screen detection, configure the sensitivity level, etc.

5. You will go to playback interface with the result of smart search which is indicated by green line clips in the recording type line

Figure 12. Playback time line after dynamic analysis

6. Right-click mouse you will find popped up menu as below

Figure 13. Right-click menu when playback

You can select Dynamic Analysis to re-drag the analysis area and to re-analyze it, on the other hand, you can select Previous Dynamic to go to the previous event clip or Next Dynamic to go to the next event clip.

Using Digital Zoom

To use digital zoom in Playback mode:

1. Enter Digital Zoom mode by right-clicking with the mouse in Playback and selecting Zoom.
2. Left-Click and drag red box for desired magnification area, as shown in Figure 14. The selected area will be zoomed to full screen.

Figure 14. Digital Zoom Area Selection

C H A P T E R 6

Backup

Backing up Recorded Files

Recorded files can be backed up to various devices, such as USB flash drives, USB HDDs, e-SATA or a DVD writer, and You may backup recorded files via normal Video Search or Event Search.

Exporting Files

To export recorded files via Video Search:

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

Figure 1. Video Search Menu

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

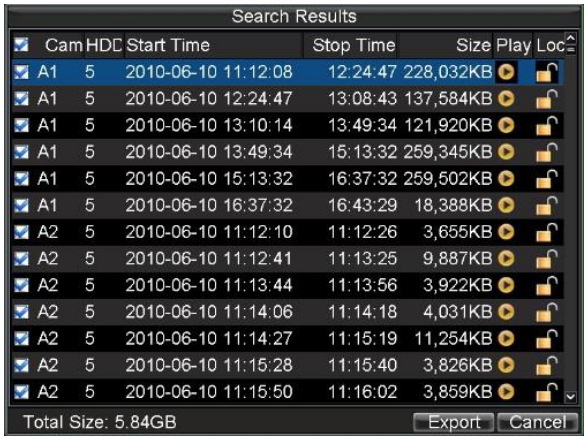

Figure 2. Video Search Results

5. The size of the currently selected files is displayed in the lower-left corner of the window. Select the

Export button to enter the Export menu, shown in Figure 3.

Figure 3. Export Menu

---

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

Figure 4. Backup Progress

---

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

Figure 5. Export Successful Screen

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

To export recorded files via Event Search:

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

Figure 6. Event Search Menu

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

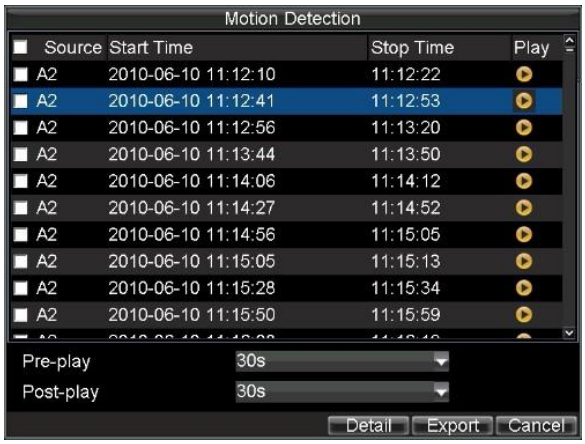

Figure 7. Event Search Results

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

Exporting Video Clips

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

To export video clips during Playback:

- **Using the Mouse:**
  1. Enter into the Playback interface (See ***Playing Back a Recording***).
  2. Using the Clip Start/Stop button in the Playback Control Panel, select the start and end of the video clip during playback.
  3. Repeat for additional clips.
  4. Click the Quit Playback button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 8.

Figure 8. Video Clips Save Prompt

  5. Click the Yes button to enter Backup interface or select No to exit to Playback interface.
  6. At the Backup interface, select the Start button to begin the Backup process.
- **Using the Front Panel / Remote:**
  1. Enter into the Playback interface (See ***Playing Back a Recording***).
  2. During playback, press the EDIT button to mark start of clip.
  3. Press the EDIT button again to mark end of clip.
  4. Repeat for additional clips.

5. Press the ESC button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 8.
6. Click the Yes button to enter Backup interface or select No to exit to Playback interface.
7. At the Backup interface, select the Start button to begin the Backup process.

Exporting Files via e-SATA

DVR provides the e-SATA port on the rear panel as an option, you can back up the recorded files via e-SATA port by using external SATA disk.

To export recorded files via e-SATA:

1. Enter the Record Settings menu by clicking Menu > Settings > Record
2. Click Advanced tab, it will take you to the e-SATA property configuration, as shown in Figure 9, select For Export option in the drop-down list, the DVR will ask for reboot to take effect.

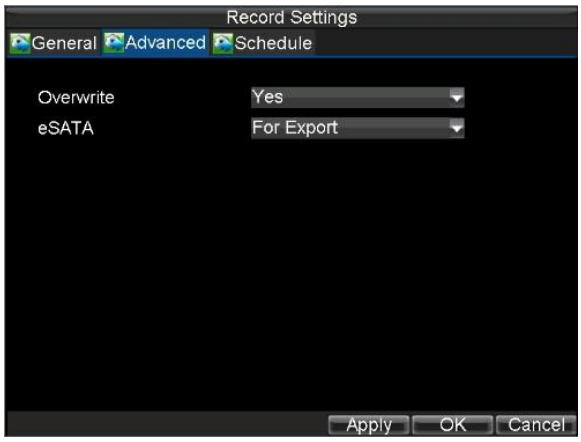

Figure 9. E-SATA Property Settings

3. You may go to recorded files export interface following the above explanation in section Exporting Files or Exporting Video Clips. The Export menu appears as shown in Figure 10.

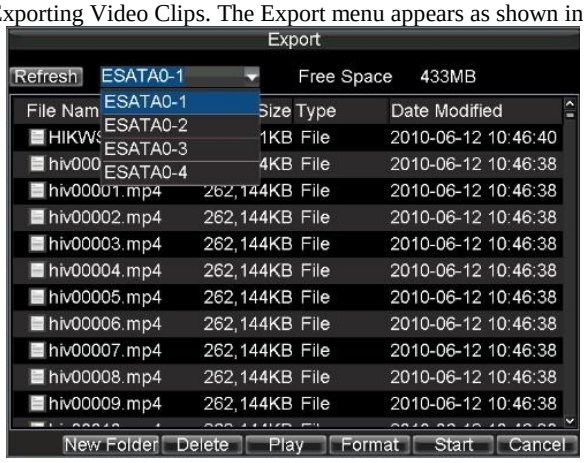

Figure 10. Files Export Interface

4. Select a partition in the drop-down list, then you may click Start to start exporting. Wait until the backup process complete.

Managing Backup Devices

To manage backup devices, you must first be in the Export menu, shown in Figure 11. The Export menu can be accessed by following the steps shown in the previous section (See ***Exporting Files***).

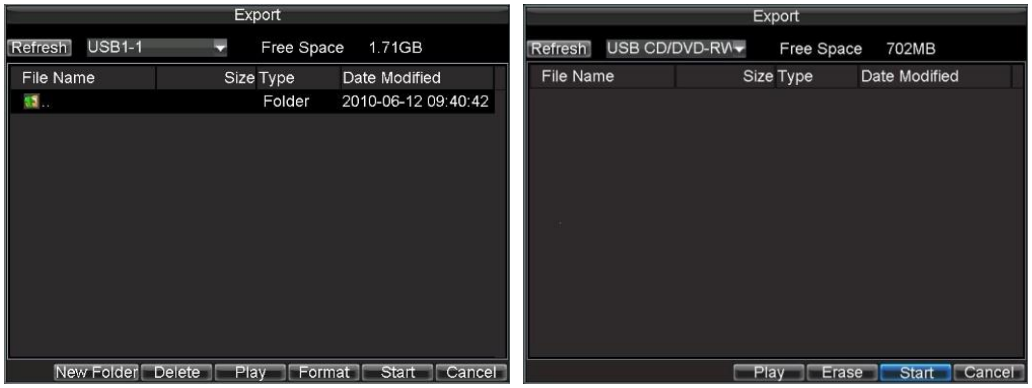

Figure 11. Export Menu

Once in the Export menu, you may:

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

C H A P T E R 7

Alarm Settings

Configuring Alarms

Setting up Motion Detection

Set up properly, using motion detected recording will increase the number of days your DVR is able to record. It will only record relevant events rather than recording everything, making searching for an event easier.

To set up motion detection:

1. **Enter Camera Management/Setting:**
   - **Using DS-9000 or 9600 Series DVR:** Enter the Camera Management interface, shown in Figure 1 by navigating to Menu > Setting > Camera. Select the channel to configure motion detection on and click Set.

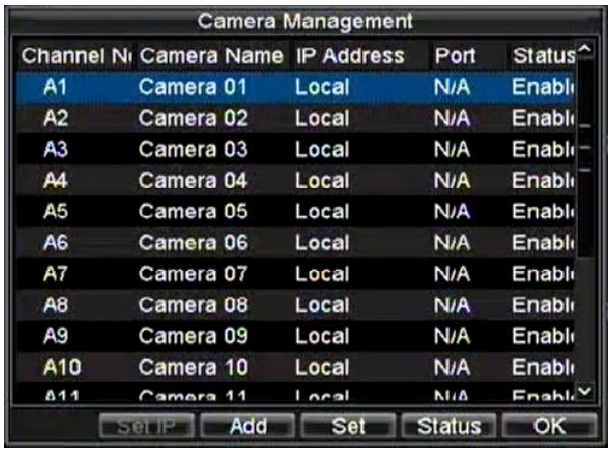

Figure 1. Camera Management Interface

   - **Using a DS-9100 Series DVR:** Enter the Camera Settings interface by navigating to Menu > Setting > Camera. Select channel to configure motion detection on.

2. Select the **Advanced** tab to open up the Advanced Camera Settings menu, shown in Figure 2.

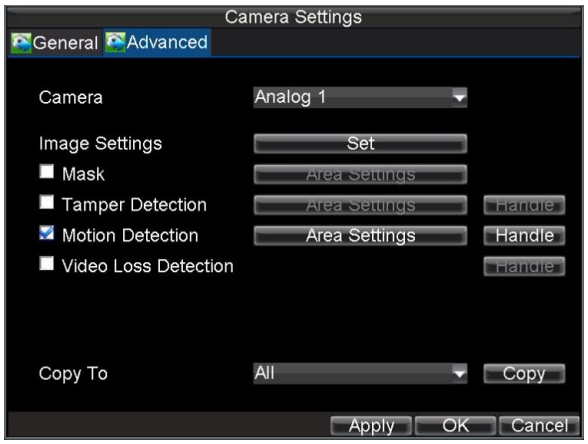

Figure 2. Advanced Camera Settings

3. Check the checkbox next to Video Motion Detection.
4. Click the Area Settings button to enter the Motion Detection area and Sensitivity configuration interface.
5. The Motion Detection area, shown in Figure 3, allows you to mask out areas where you would like motion to be detected in. The maximum area is the whole screen. You can left click mouse, hold and drag it to mask the Motion Detection area. Using **EDIT** button and direction buttons can also help you to select Motion Detection area.

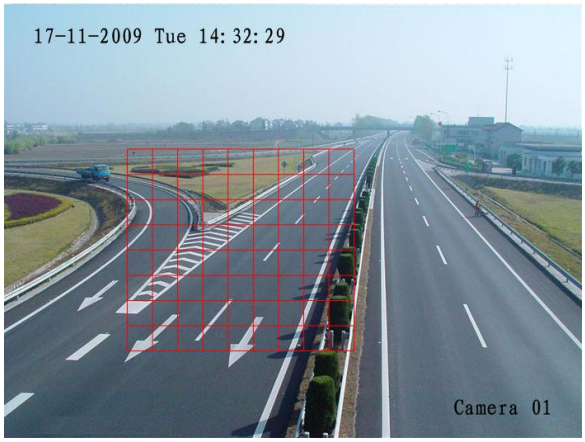

Figure 3. Motion Detection Area

6. Right click mouse or press **MENU** button on the front panel to set the Motion Detection Sensitivity, shown in Figure 4. The higher the sensitivity value, the higher the sensitivity. In order to configure a proper sensitivity for the surveillance field, you may select Highlight On in the right-click menu, then all detected motion area in the camera will be marked with red highlight color.

Figure 4. Motion Sensitivity Setting

7. Click OK to return to the Camera Settings menu.
8. Click the Handle button to open the Exception Handle menu, shown in Figure 5. Select the Triggered Camera tab

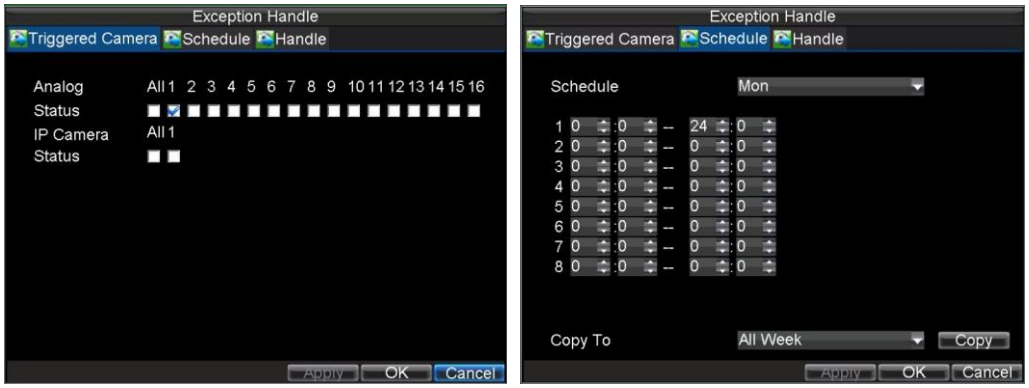

Figure 5. Exception Handle Menu

1. Select cameras to trigger for recording when motion is detected by checking the checkboxes under the desired cameras.
2. Select Schedule tab to set arm time, 8 periods can be set.
3. Click OK to complete motion settings for the selected camera.

You may now add a schedule to start recording when motion is detected (See ***Scheduling a Recording***).

Setting up Sensor Alarms

Recordings can also be triggered from an external sensor alarm device. To setup sensor alarms:

1. Enter into the Alarm Management menu, shown in Figure 6.

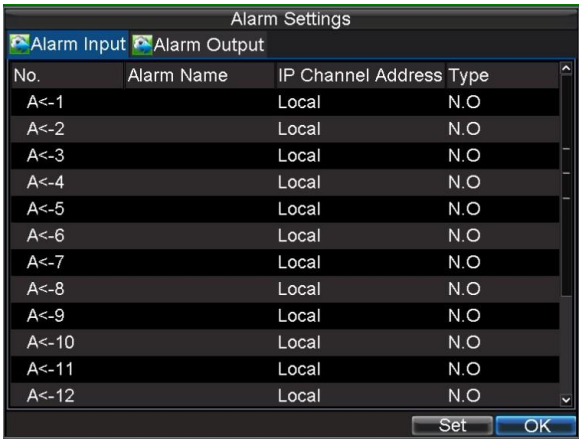

Figure 6. Alarm Management Menu

2. Select the **Alarm Input #** and click the Set button. This will open the Alarm Input Setting menu, shown in Figure 7.

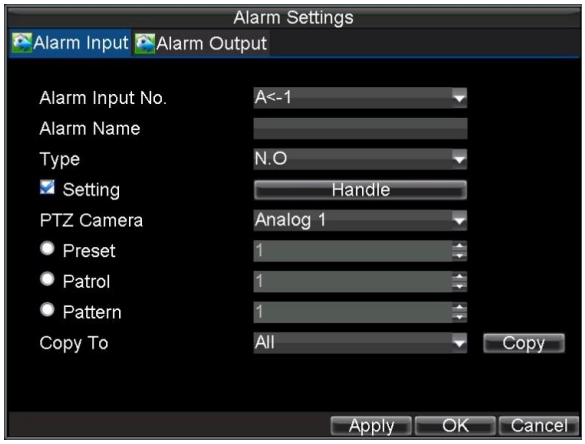

Figure 7. Alarm Management Settings

---

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

Figure 8. Triggered Cameras Menu

---

7. Click the OK button to complete setup.

You may now add a schedule to start recording when an alarm is triggered (See ***Scheduling a Recording***).

Alarm outputs may also be configured in the Alarm Management menu. To set up Alarm Output:

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

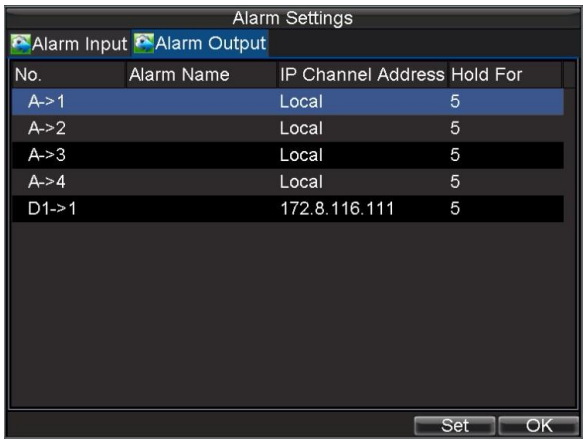

Figure 9. Alarm Output Interface

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

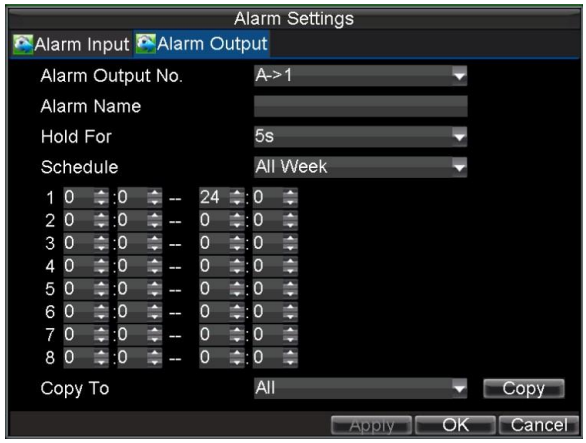

Figure 10. Alarm Output Settings

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

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

Note: Triggering an IP camera will require the necessary permissions from the camera.

Triggering Alarm Outputs Manually

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

To trigger alarm outputs manually:

1. Enter the Manual Alarm menu (Figure 11) by clicking Menu > Manual Alarm.

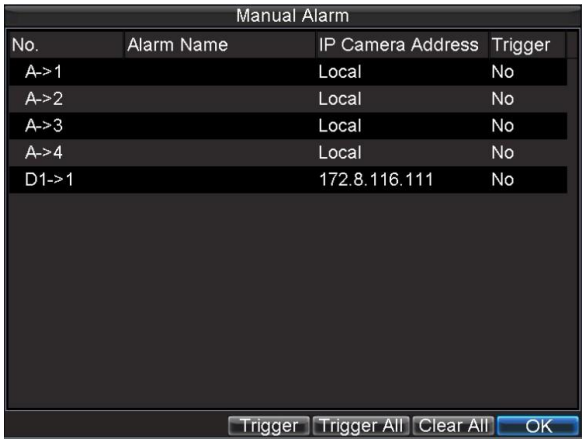

Figure 11. Manual Alarm Menu

---

2. In the Manual Alarm menu, you may:
   - **Trigger:** Select an alarm from the list and click Trigger to trigger its output.
   - **Trigger All:** Trigger all alarm outputs at once.
   - **Clear All:** Stop all alarm outputs at once.
3. Select OK to return to the previous menu.

Detecting Video Loss

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

1. Enter Camera Management/Settings menu (Figure 12) by clicking Menu > Setting > Camera.

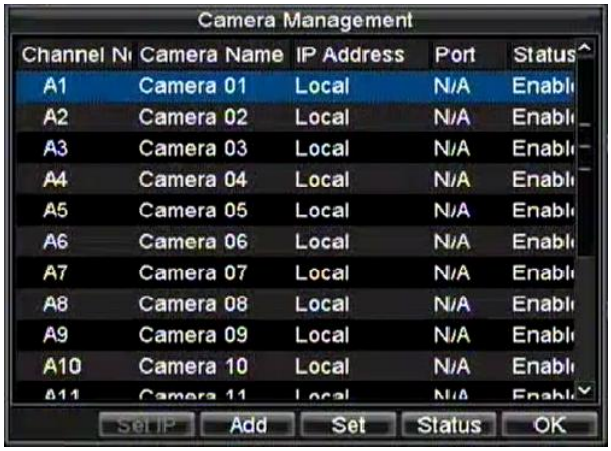

Figure 12. Camera Management Menu of 9000

---

2. Select camera under **Channel #** to configure video loss detection for and click the Set button. (9100 will directly enter Camera Settings menu when click Camera icon.)
3. Select the **Advanced** tab.
4. Check the **Video Loss Detection** checkbox to enable feature, as shown in Figure 13.

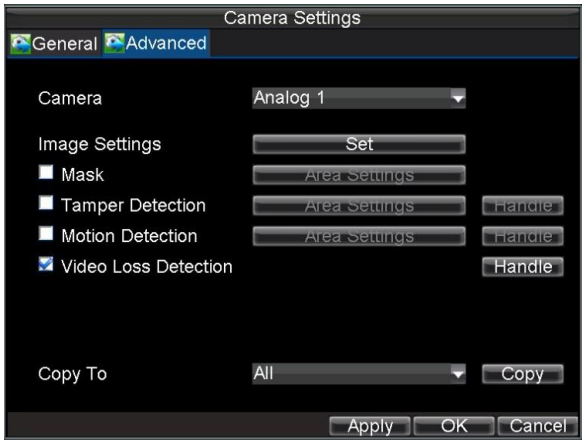

Figure 13. Camera Settings Menu

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

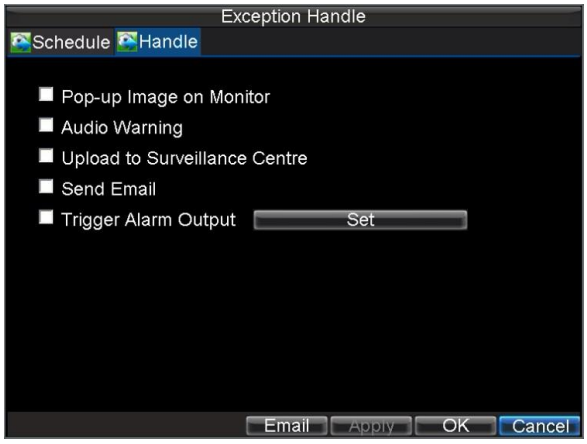

Figure 14. Exception Handle Menu

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

Detecting Video Tampering

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

1. Enter Camera Management/Settings menu (Figure 15) by clicking Menu > Setting > Camera.

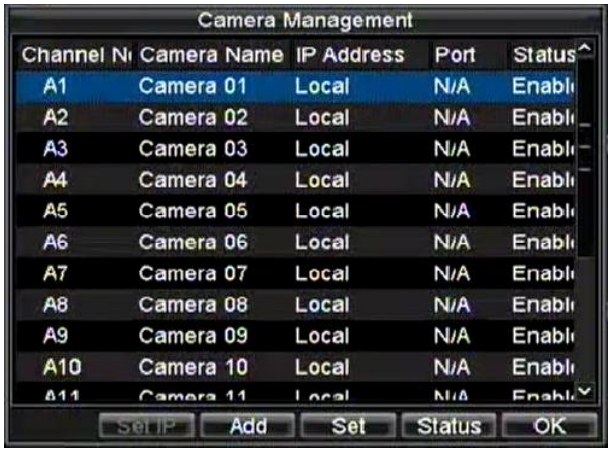

Figure 15. Camera Management Menu

---

2. Select camera under **Channel #** to configure video loss detection for and click the Set button.
3. Select the **Advanced** tab.
4. Check the **Tamper Detection** checkbox, as shown in Figure 16.

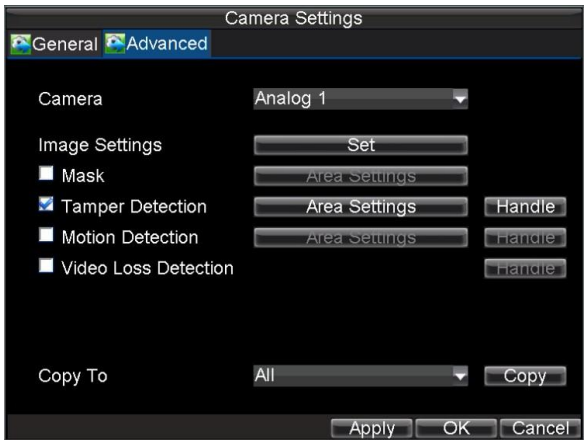

Figure 16. Camera Settings Menu

---

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

Figure 17. Tampering Area Setup

---

7. Right click the mouse to set detection sensitivity. There are three options: Low, Medium and High.
8. Click OK to return to the Camera Settings menu.
9. Click the Handle button to enter the Exception Handle menu, shown in Figure 18.
10. Select the **Handle** tab to configure exceptions handling. Exception trigger options are further explained in the next section (See ***Understanding Exception Trigger Options***).

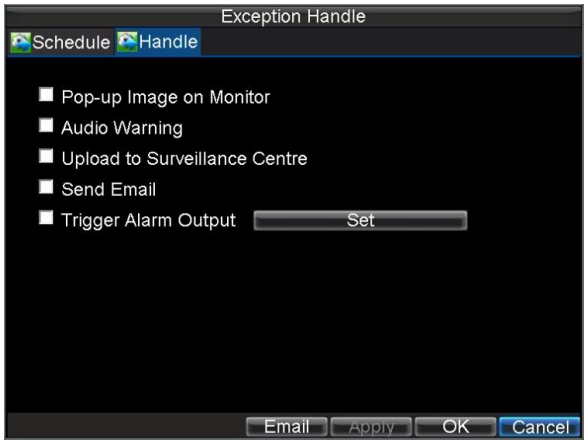

Figure 18. Exception Handle Menu

---

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

Setting Exception

Setting exceptions allow the DVR to alert you when irregular events occur. These events include:

- **HDD Full:** All installed HDD are full.
- **HDD Errors:** Errors occurred during writing of the HDD, no HDD installed or HDD had failed to initialize.
- **Network Disconnected:** Disconnected network cable.
- **IP Conflict:** Conflict in IP address setting.

- **Illegal Access:** Wrong user ID or password used.
- **Video Exception:** Instable video signal detected.
- **Video Output Standard Mismatch:** I/O video standards do not match.
- **Abnormal Recording:** No recording HDD.

To set exceptions:

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

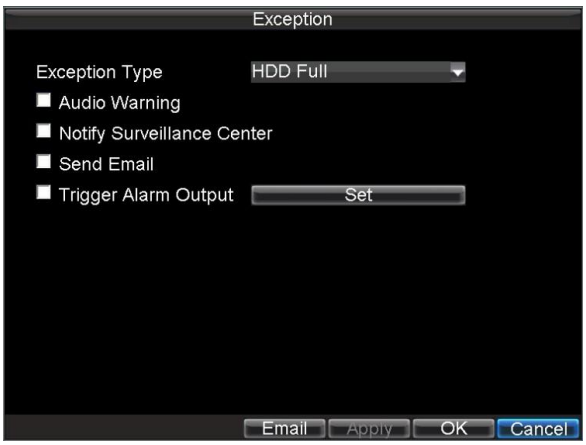

Figure 19. Exception Menu

---

4. Click OK to save and exit Exception menu.

Understanding Exception Trigger Options

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

The triggering options that you may select include:

- **Pop-up Image on Monitor:** When an alarm is triggered, the local monitor (VGA or BNC monitor) will display an image under Live Preview mode. This alarm can be configured under the Popup Alarm Image handle method. For alarms that are triggered simultaneously, images will be displayed one at a time every 10 seconds (default dwell time). A different dwell time can be set by going to Menu > Settings > Display > Dwell Time. Once the alarm stops, cycling of the images will also stop and you'll be returned to the Live Preview screen.
- **Audio Warning:** Trigger an audible *beep* when exception is detected.
- **Notify Surveillance Center:** Sends a signal to remote alarm host when exception is detected (See ***Configuring a Remote Alarm Host***).
- **Trigger Alarm Output:** Trigger an alarm output when exception is detected. Alarm output can be configured by following the steps listed in ***Setting Up Sensor Alarms*.**
- **Send Email:** Sending email when exception is detected. Sending email can be configured by following the steps listed in ***Configuring E-mail Settings*.**

Intelligent Analysis

Intelligent analysis module is an option and available only for 9000/9100-SH DVR, before use, you may need to install the intelligent board(iDS-90xxE/B) to the slot of DVR's mainboard. The resolution of HDMI will decrease to 1024x768 automatically when the intelligent module is activated, the Intelligent menu will appear in Settings as well, Shown in Figure 20.

Figure 20. Intelligent Settings

Note: The intelligent analysis function is only available for analog cameras.

Intelligent Settings

To set the intelligent functions:

1. Enter the Intelligent Settings interface by clicking Menu > Settings > Intelligent, shown in Figure 21.

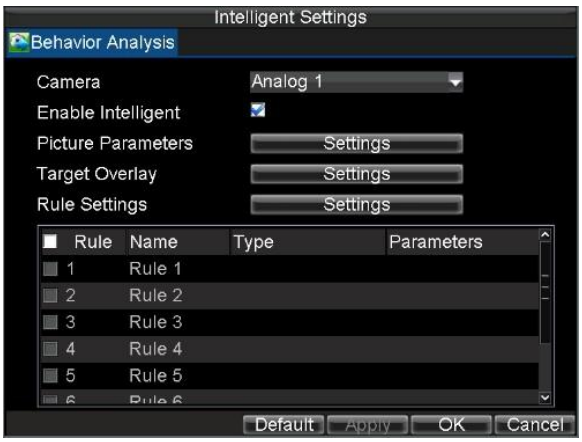

Figure 21. Intelligent Settings Menu

2. Select the camera you want to set intelligent function on and check the Enable Intelligent checkbox.
3. If the DVR should be able to capture and upload JPEG picture that triggered by intelligent alarm, you

need to enter Settings for Picture Parameters, shown in Figure 22, check the Upload Pictures checkbox and select image quality in the Quality drop-down list.

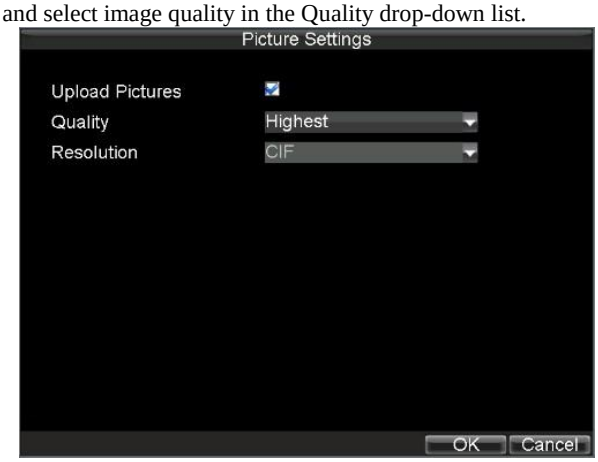

Figure 22. Picture Settings

4. To set the rule display status on image, you need to enter Overlay Settings by clicking Settings for Target Overlay, shown in Figure 23.

Figure 23. Overlay Settings

5. Set one or more rules for this camera in Rule Settings menu, then check the checkbox of available rules to include them in the rule list, shown in Figure 24, click Apply button to get the settings done.

Figure 24. Include the Rules to list

Rule Settings

Maximum eight rules can be included for one channel and users are allowed to choose rule from following types: Traverse Plane, Enter Region, Exit Region, Invasion, Loiter, Left Take, Parking, Run and High Density.

To set rules for camera:

1. Enter the Intelligent Settings interface by clicking Menu > Settings > Intelligent > Rule Settings, shown in Figure 25.

Figure 25. Rule Settings

2. Select a Rule No. and you can set Rule Name accordingly.
3. Select a desired type in the drop-down list of Rule Type, the settings of Rule Parameters may become available depends on the rule type you configured
4. For each rule, you may need to set an activated region. Region Settings are further explained in the next section
5. Enter Handle settings menu, as shown in Figure 26, select Triggered Camera tab.

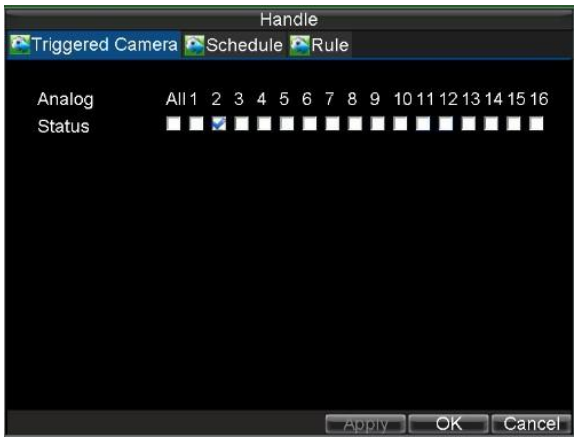

Figure 26. Rule Handle Menu

6. Select cameras to trigger for recording or actions when alarm occurs by checking the checkboxes under the desired cameras.
7. Click Schedule tab to set the activated schedule for this rule, there are two time segments can be set
8. Select Rule tab to configure alarm handling.

Note: for the polygon region settings, minimum three edges should be drawn, and maximum ten edges can be drawn.

Region settings for Traverse Plane:

1. In the Rule Settings menu, select rule type as Traverse Plane, and choose a desired direction type, there are three available options including: Bidirectional, From Left to Right and From Right to Left.
2. Enter Region Settings, left-click mouse to draw the line, left-click mouse to determine the terminals, shown in Figure 27, DVR will detect and analyze if the object crosses the line in wrong direction.

Figure 27. Region settings for Traverse Plane

3. Right-click mouse and select Finish to complete settings.

Region settings for Enter Region or Exit Region:

1. In the Rule Settings menu, select rule type as Enter Region or Exit Region.
2. Enter Region Settings, left-click mouse to draw the specific monitoring field, it supports polygon, shown in Figure 28. DVR will detect and analyze if there is object enter into or exit from this filed.

Figure 28. Region settings for Enter Region or Exit Region

---

3. Right-click mouse and select Finish to complete settings.

Region settings for Invasion:

1. In the Rule Settings menu, select rule type as Invasion, and enter a duration time, the DVR will give information if an object intrude this specific filed and the duration is longer than the value you set.
2. Enter Region Settings, left-click mouse to draw the specific monitoring field, it supports polygon, shown in Figure 29. DVR will detect and analyze if there is object enter into or exit from this filed.

Figure 29. Region settings for Invasion

---

3. Right-click mouse and select Finish to complete settings.

Region settings for Loiter:

1. In the Rule Settings menu, select rule type as Loiter, and enter a duration time, the DVR will give information if an object loiter in the specific filed and the duration is longer than the value you set.
2. Enter Region Settings, left-click mouse to draw the specific monitoring field, shown in Figure 28.
3. Right-click mouse and select Finish to complete settings.

Region settings for Left Take:

1. In the Rule Settings menu, select rule type as Left Take, and enter a duration time, the DVR will give information if an object is left in or taken away from the specific filed.
2. Enter Region Settings, left-click mouse to draw the specific monitoring field, shown in Figure 30.

Figure 30. Region settings for Left Take

---

3. Right-click mouse and select Finish to complete settings.

Region settings for Parking:

1. In the Rule Settings menu, select rule type as Parking, and enter a duration time, the DVR will give information if a vehicle is parked in the specific filed.
2. Enter Region Settings, left-click mouse to draw the specific monitoring field, shown in Figure 31.

Figure 31. Region settings for Parking

---

3. Right-click mouse and select Finish to complete settings.

Region settings for Run:

1. In the Rule Settings menu, select rule type as Run.
2. Set a value for Distance(%) , the DVR will give information if speed of moving object dramatically increase accordingly to the value you set.
3. Enter Region Settings, left-click mouse to draw the specific monitoring field.
4. Right-click mouse and select Finish to complete region settings

Region settings for Run:

1. In the Rule Settings menu, select rule type as High Density.
2. Set a value for Density(%) , the DVR will give information if there are objects fill up the monitoring

field accordingly to the value you set.

3. Enter Region Settings, left-click mouse to draw the specific monitoring field, shown in Figure 32.

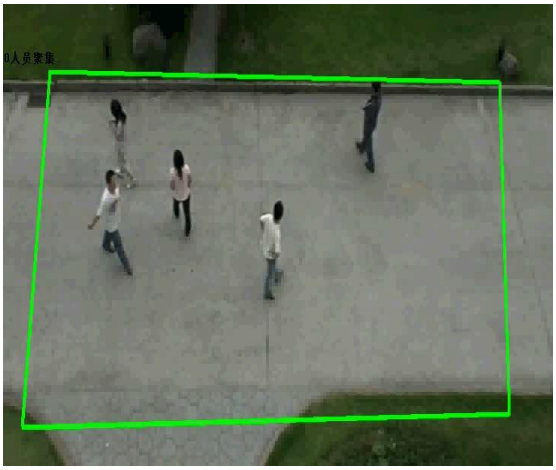

Figure 32. Region settings for Parking

4. Right-click mouse and select Finish to complete region settings.

C H A P T E R 8

Network Settings

Configuring Network Settings

Network settings must be configured before you're able to use your DVR over the network.

Configuring Basic Settings

To configure basic network settings:

1. Enter the Network Settings menu, shown in Figure 1 by clicking Menu > Settings > Network.

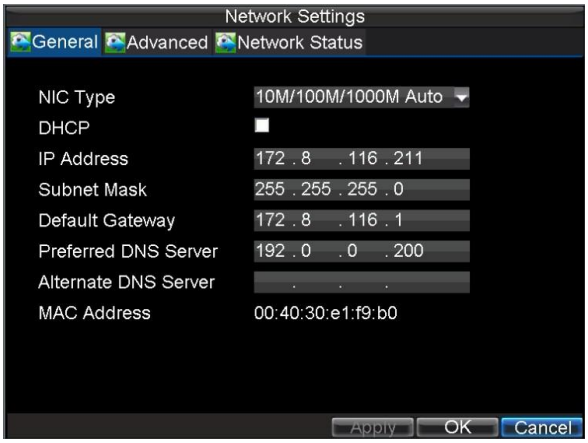

Figure 1. Network Settings Menu

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

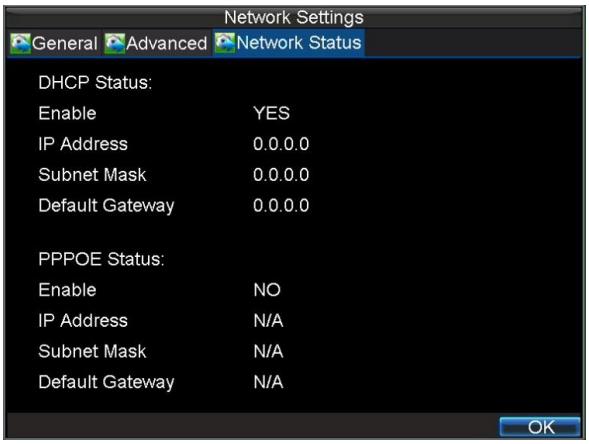

Figure 2. Network Status

4. If you would like to configure your own settings, enter the settings for:

- **IP Address:** IP address you would like to use for your DVR.
- **Subnet Mask:** Subnet Mask of network.
- **Default Gateway:** IP address of your Gateway. Typically the IP address of your router.
- **Preferred/Alternate DNS Server:** The preferred and alternate Domain Name System (DNS) Server to be used with your DVR.

5. Click OK to save and exit the Network Settings menu.

Configuring PPPoE Settings

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

1. Enter the Network Settings menu by clicking Menu > Settings > Network.
2. Select the **General** tab, as shown in Figure 3.

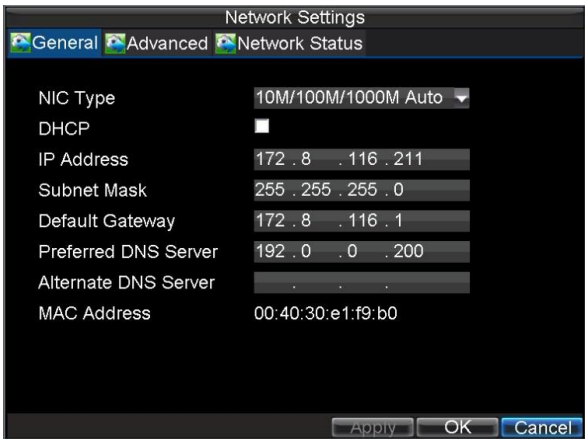

Figure 3. Network Settings Menu

3. Select the **Advanced** tab. This will take you to the advanced network settings menu, shown in Figure 4.

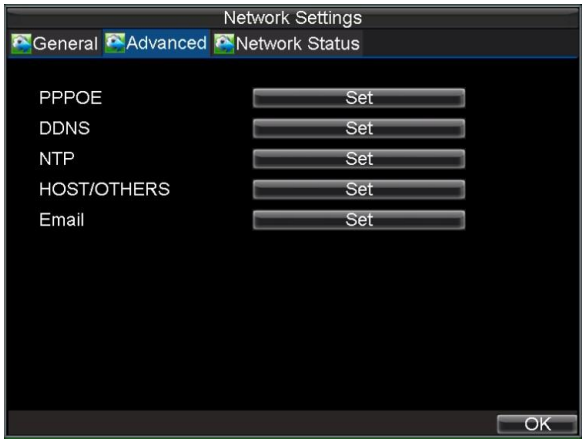

Figure 4. Advanced Network Settings

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

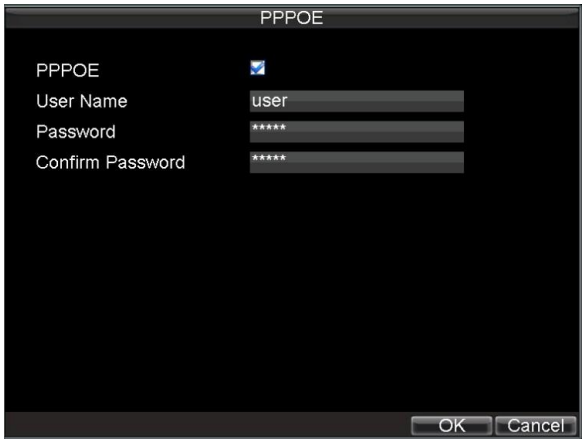

Figure 5. PPPoE Settings

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

Configuring DDNS

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

To setup DDNS:

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

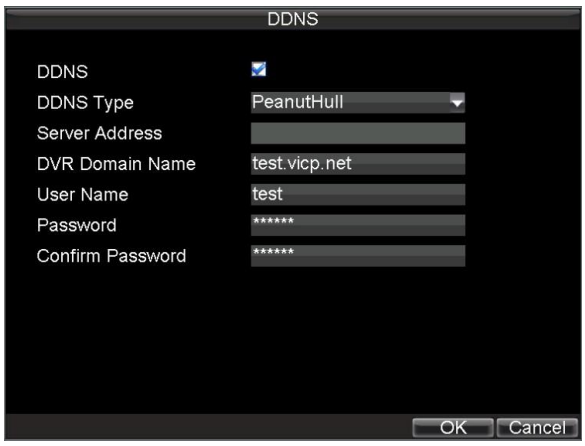

Figure 6. DDNS Settings Menu

4. Check the **DDNS** checkbox to enable feature.
5. Select **DDNS Type**. There are three different DDNS type to choose from, IpServer, PeanutHull, DynDNS and NO-IP.
   - **IpServer:** Enter **Server Address** for IpServer.
   - **PeanutHull:** Enter **User Name** and **Password** obtained from the PeanutHull website (Figure 6).
   - **DynDNS:** Enter **Server Address** for DynDNS (i.e. members.dyndns.org) (Figure 7). Under DVR Domain Name, enter the domain obtained from the DynDNS web site. Lastly, enter the **User Name** and **Password** registered in the DynDNS network.
   - **NO-IP:** Enter the account information in the corresponding fields. Refer to the Dyndns settings.

Figure 7. DynDNS Settings

Configuring an NTP Server

A Network Time Protocol (NTP) Server may also be setup on your DVR to keep the date and time current and accurate.

To setup an NTP server:

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

Figure 8. NTP Settings Menu

4. Check the **NTP** checkbox to enable feature.
5. Set NTP settings:
   - **Synchronize Every:** Time in minutes to synchronize with NTP server.
   - **NTP Server:** IP address of NTP server.
   - **NTP Port:** Port of NTP server.
6. Click OK to save and exit menu.

Note: Time synchronization interval has a range of 0-10080min, normally 60min. If the DVR is used on a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the DVR is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

Configuring a Remote Alarm Host

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

To set up a remote alarm host:

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

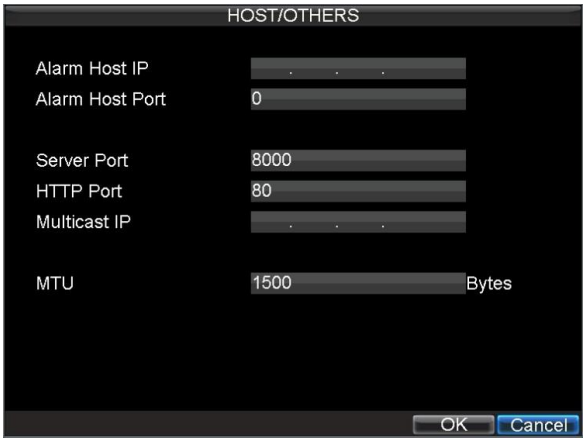

Figure 9. Host/Others Menu

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

Configuring Multicast

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

To set up multicasting:

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

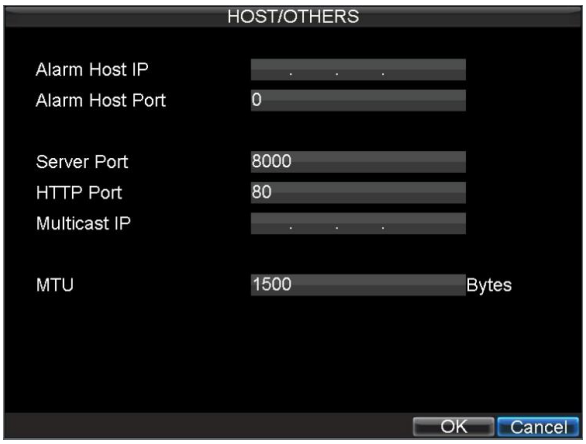

Figure 10. Host/Others Menu

5. Click OK to save and exit menu.

Configuring MTU

MTU is the abbreviation of Maximum Transmission Unit. Unit is represented by bytes.

To change MTU:

1. Enter the Network Settings menu by clicking Menu > Settings > Network.
2. Select the **Advanced** tab.
3. Click the Set button next to **Host/Others** to enter the Host/Others menu.
4. Enter new **MTU** for this device, as shown in Figure 11.

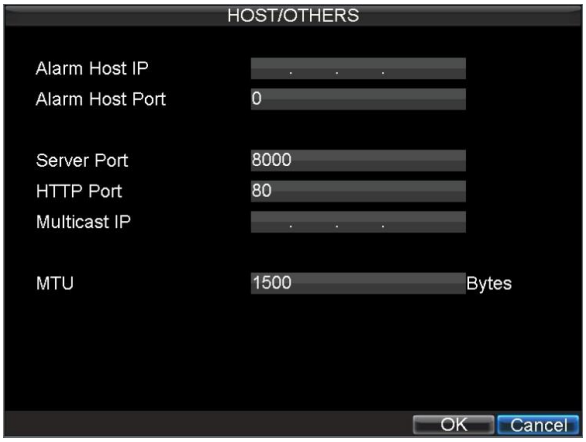

Figure 11. Host/Others Menu

Note: The virtual value of MTU is from 500 to 9676.

Configuring Server and HTTP Ports

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

To change the default ports:

1. Enter the Network Settings menu by clicking Menu > Settings > Network.
2. Select the **Advanced** tab.
3. Click the Set button next to **Host/Others** to enter the Host/Others menu.
4. Enter new **Server Port** and **HTTP Port**, as shown in Figure 12.

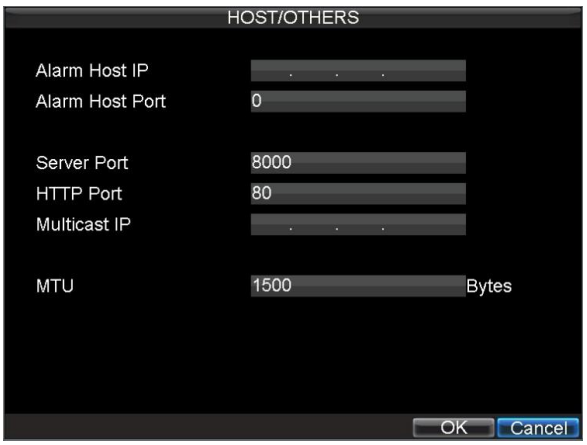

Figure 12. Host/Others Menu

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

Configuring E-mail Settings

To configure E-mail settings:

1. Enter the Network Settings menu by clicking Menu > Settings > Network.
2. Select the **Advanced** tab.
3. Click the Set button next to **E-mail** to enter the E-mail menu. The E-mail menu is shown in Figure 13.

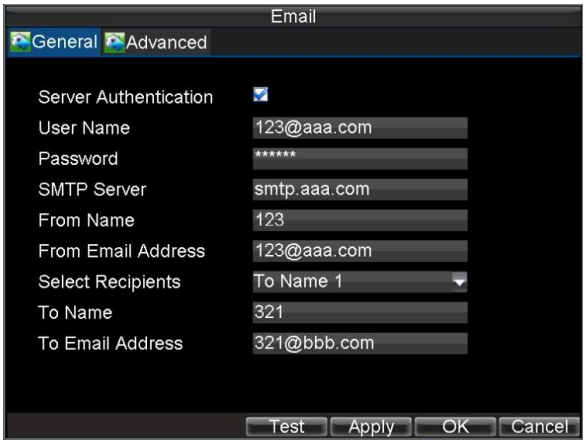

Figure 13. E-mail Menu

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4. Enter e-mail settings. Please refer to Figure 13 for details.
5. Click the Test button to test e-mail settings.
6. Select **Advanced** tab to enable **Attached JPEG File** if you want to send email with alarm images, the interval is the time of two adjacent alarm images. You can also set SMTP port and enable SSL here.
7. Click the OK button to save and exit the E-mail menu.

Note: It is recommended that the e-mail settings be tested after they are entered. This can be accomplished by clicking the Test button in the E-mail menu.

C H A P T E R 9

PTZ Controls

Navigating PTZ Menus

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

Figure 1. Mouse PTZ Settings Menu

The items that can be found on this menu include:

- **Camera:** Select a PTZ camera.
- **Call Preset:** Call a PTZ preset.
- **Call Patrol:** Call a PTZ sequence.
- **Call Pattern:** Call a PTZ pattern.
- **Preset Settings:** Enter PTZ preset configuration menu.
- **Patrol Settings:** Enter PTZ patrol configuration menu.
- **Pattern Settings:** Enter PTZ pattern configuration menu.
- **PTZ Menu:** Enter the menu of PTZ.
- **PTZ Settings:** Enter PTZ setting menu.

Configuring PTZ Settings

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

To configure PTZ settings:

1. Enter the PTZ Settings menu by clicking Menu > Settings > PTZ. The PTZ Settings menu is shown in Figure 2.

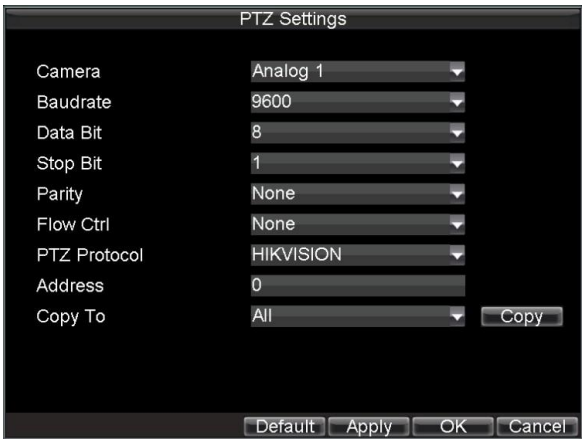

Figure 2. PTZ Settings Menu

2. Select channel where PTZ camera is installed next to **Camera** label.
3. Enter PTZ settings so it matches that of the PTZ camera.
4. Click OK button to save and exit menu.

Setting PTZ Presets, Patrols & Patterns

Your DVR allows you to customize presets, patrols and patterns for a connected PTZ camera.

Understanding PTZ Controls

Before setting presets, patrols and patterns, it's important to understand some of the features of the PTZ control panel, shown in Figure 3.

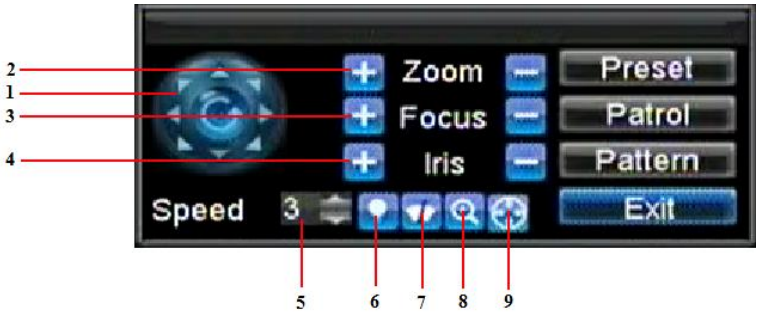

Figure 3. PTZ Control Interface

The controls on the PTZ panel include:

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

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

Customizing Presets

Presets can be set to move your PTZ camera to a desired *preset* location at the click of a button.

To setup and use custom PTZ presets:

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

Figure 4. Preset Management Menu

Note: Only valid presets can be called and deleted.

Customizing Patrols

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

To set up and use PTZ patrols:

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

Figure 5. Patrol Management Menu

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3. In the Patrol Management menu, you may:

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

Figure 6. Patrol Configuration Menu

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  4. Click OK to return to Patrol Management menu and repeat steps 2-3 to configure other key points.
  5. After all key points have been configured, click OK to save and exit menu.

- **Clear Patrol:**
  1. Select a valid **Patrol Number**.
  2. Click the Clear button to delete patrol.

- **Call Patrol:**
  1. Select a valid **Patrol Number**.
  2. Click the Start button to call the patrol, select the stop button to stop the patrol, as shown in Figure 7.

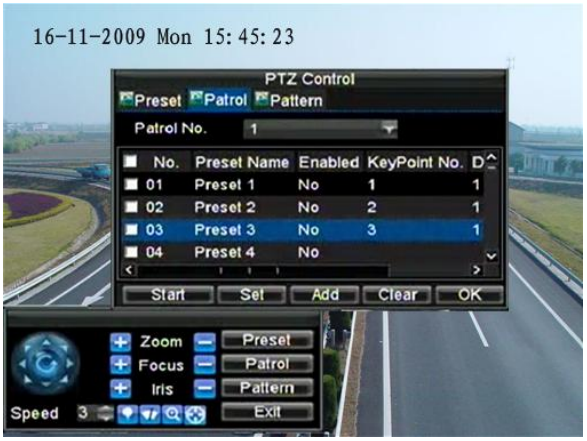

Figure 7. Patrol Management Menu

Customizing Patterns

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

To setup and use PTZ patterns:

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

Figure 8. Pattern Management Menu

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

C H A P T E R 1 0

Camera Management

Configuring IP Cameras

Depending on the model of your DVR, IP cameras can be setup and used in conjunction with regular analog cameras. IP cameras are supported in DS-9000 and DS-9600 series DVRs and are not supported in DS-9100 series DVRs. Please refer to following table for the performance of supported cameras, the number of IP cameras listed below are the maximum recording cameras that supported in the certain resolution.

Models	Analog cameras	IP cameras			
		4CIF IP cameras	HD720P IP cameras	UXGA IP cameras (half real time)	UXGA IP cameras (real time)
DS-9004HFI-S(E)	4	4	2	2	1
DS-9008HFI-S(E)	8	8	4	4	2
DS-9012HFI-S(E)	12	8	4	4	2
DS-9016HFI-S(E)	16	8	4	4	2
DS-9604HFI-SH	0	4	2	2	1
DS-9608HFI-SH	0	8	4	4	2
DS-9612HFI-SH	0	12	6	6	3
DS-9616HFI-SH	0	16	8	8	4

Note: For 9000HFI-S(E) series, if used as a NVR, it can support 4/8/12/16 4CIF IP cameras or 2/4/6/8 IP cameras with HD720p or UXGA(half real time) resolution.

Note: For 9000HFI-S series, it does not support IP camera in UXGA resolution and full frame rate, 9000HFI-SH supports IP camera with UXGA resolution and full frame rate.

Before configuring IP cameras, please ensure that all IP cameras are connected to the same network as your DVR and that the network settings for your DVR is properly setup (See ***Configuring Network Settings***). If the IP cameras are not in the same LAN, please make sure the value of server port and RTSP port in IP cameras are different with each other, and the ports mapping have been made properly.

To configure IP cameras:

1. Enter the Camera Management menu, shown in Figure 1 by clicking Menu > Settings > Camera.

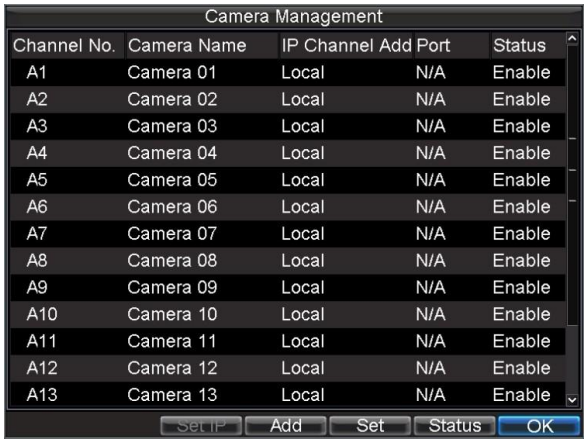

Figure 1. Camera Management Menu

2. Determine number of analog channels to disable. Please note that in order to add more than 8 channels of 4CIF IP cameras or 4 channels of 720p/ UXGA IP cameras, you will need to disable some analog channels. Disabling one analog channel will extend one channel for 4CIF IP camera. Disabling

two channels of analog cameras will extend one channel for 720p/UXGA IP camera.

3. To disable analog channels, click the Status button to enter the Camera Enabled Status menu, shown in Figure 2. Uncheck checkboxes to disable corresponding channels. Click OK to save setting. A confirmation message will appear on the screen asking you to reboot the DVR. Click Yes to reboot. After the system has rebooted, enter back into the Camera Management menu and continue with the following steps.

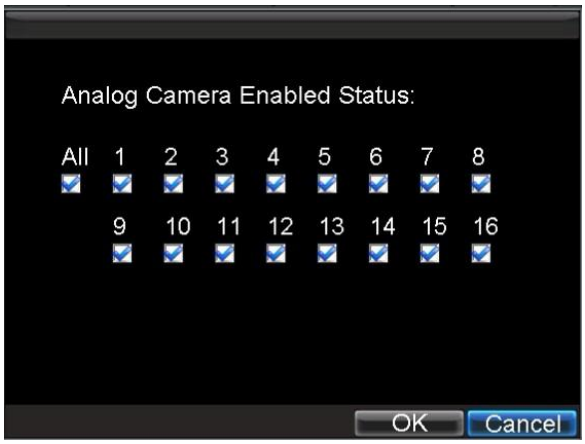

Figure 2. Camera Enabled Status Menu

---

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

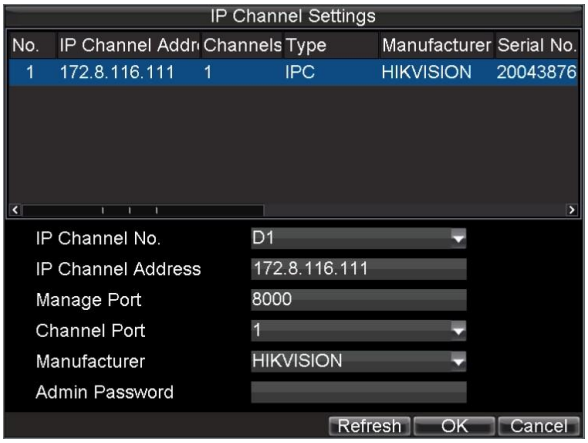

Figure 3. IP Channel Settings Menu

---

5. Select the IP device from the list. The devices found in the list are those supported by SADP and are found by the DVR. If no devices were found, you may manually enter the camera parameters in the fields below.
6. Enter IP camera parameters. This includes the IP address (domain name), manage port, channel port, manufacturer and password of the IP camera. It can support adding Hikvision, Sony and Panasonic IPC. It can also support DVS connection.
7. Select OK to save and return to the Camera Management menu.
8. If IP camera was added successfully, the **Status** for that camera would show that it is *Connected* (Figure 4). If it does not, click the Set button to verify that the parameters were entered correctly. You may also delete an added channel by clicking the Delete button.

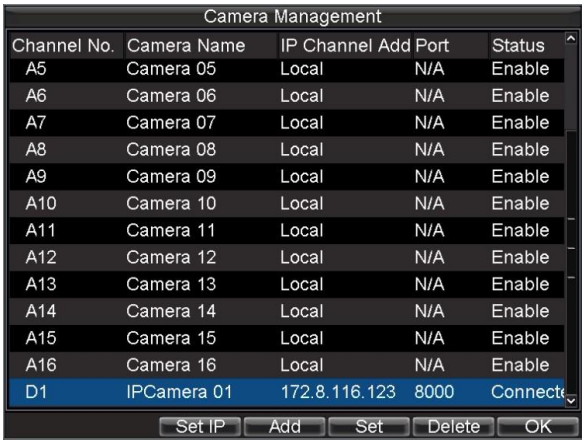

Figure 4. Camera Management Menu

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9. Click OK to exit out of the Camera Management menu.

To adjust IP camera compression settings:

1. Enter the Record Settings menu, shown in Figure 5 by clicking Menu > Settings > Record.

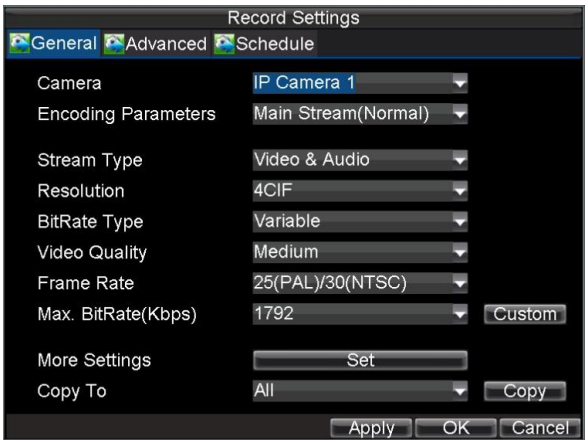

Figure 5. Record Settings Menu

---

2. Select the **General** tab.
3. Select the IP camera to configure next to the **Camera** label.
4. Adjust IP camera compression settings. If the IP camera was added successfully, the DVR will show OSD, channel name and the compression parameters in accordance to the IP camera's current settings.
5. Select the **Sub stream** next to the **Encoding Parameters** to set sub stream parameters. Sub stream is only used for previewing.
6. Click OK to save and exit out of menu.

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

Configuring OSD Settings

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

To configure OSD settings:

1. Enter the Camera Management/Settings menu, shown in Figure 1 by clicking Menu > Settings > Camera.
2. Select channel to setup OSD settings under **Channel #**. Click the Set button. (9100 will directly enter Camera Settings menu when click Camera icon.)
3. Configure desired OSD settings, as shown in Figure 6.

Figure 6. OSD Settings Menu

Setting up Privacy Mask

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

To setup privacy mask:

1. Enter the Camera Management/Settings menu, shown in Figure 1 by clicking Menu > Settings > Camera.
2. Select channel to setup privacy mask under **Channel #**. Click the Set button. (9100 will directly enter Camera Settings menu when click Camera icon.)
3. Select the **Advanced** tab to enter the Advanced Camera Settings menu, shown in Figure 7.

Figure 7. Advanced Camera Settings Menu

---

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

Figure 8. Setting Mask Area

---

7. Select OK to save and exit mask setup.

Note: Max. 4 areas can be set.

Adjusting Display Settings

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

To adjust display settings:

1. Enter the Camera Management/Settings menu, shown in Figure 1 by clicking Menu > Settings > Camera.
2. Select channel to adjust display settings under **Channel #**. Click the Set button. (9100 will directly

enter Camera Settings menu when click Camera icon.)

3. Select the **Advanced** tab to enter the Advanced Camera Settings menu, shown in Figure 7.
4. Click the Set button next to the Image Settings label.
5. Adjust the display settings, as shown in Figure 9. Brightness, contrast, saturation and hue can be adjusted. The adjustments of display settings not only affect previewed images, but also recorded images.

Figure 9. Display Settings

C H A P T E R 1 1

HDD Management

Managing HDDs

Initializing HDDs

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

To initialize a HDD:

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

Figure 1. HDD Management Menu

---

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

Setting Network HDD

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

To set a network HDD:

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

Figure 2. HDD Management Menu

---

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

Figure 3. Network HDD Menu

---

4. Select **Add** button to add network HDD to HDD list.

Figure 4. HDD Management Menu

---

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

Setting HDD Groups

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

To setup a HDD group:

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

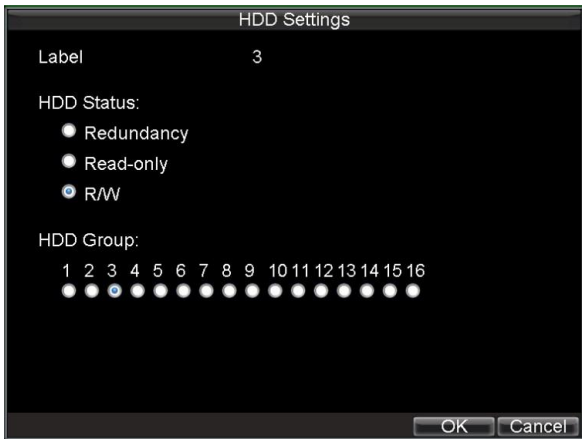

Figure 5. HDD Settings Menu

5. Select OK to save and exit menu.

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

To setup specified channels to be recorded onto a particular HDD group:

1. Select **Set Cameras for HDD Group** tab to enter setup interface.
2. Select channels for the group.
3. Select the HDD group you want the channels to be recorded on, as shown in Figure 6.

Figure 6. Set Cameras for HDD Group

---

4. Select OK to save and exit menu.

Setting HDD Status

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

Setting HDD to Read-Only

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

To set a HDD to read-only:

1. Enter the HDD Management menu by clicking Menu > HDD.
2. Select HDD to protect.
3. Select the Set button to enter the HDD Settings menu, as shown in Figure 7.

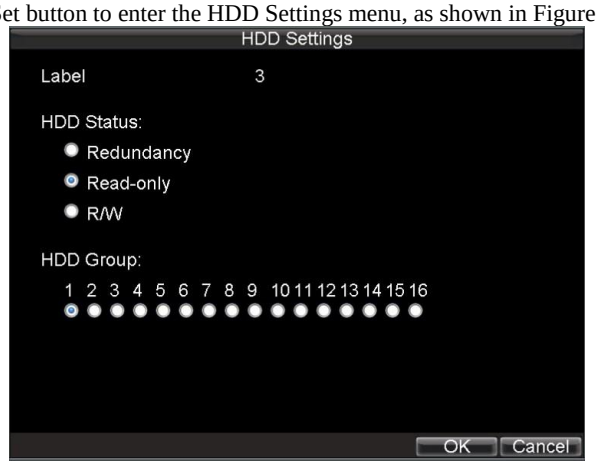

Figure 7. HDD Settings Menu

---

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

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

Setting HDD to Redundancy

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

To setup HDD redundancy:

1. Enter the HDD Management menu by clicking Menu > HDD.
2. Select HDD to setup redundancy on.
3. Select the Set button to enter the HDD Settings menu, as shown in Figure 7.
4. Set **HDD Status** to **Redundancy**.
5. Select OK to save and exit menu.

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

Checking HDD Status

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

To check the status of a HDD:

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

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

To view SMART information of a HDD:

1. Enter the HDD Management menu by clicking Menu >HDD , select Advance tab, shown in Figure 8.

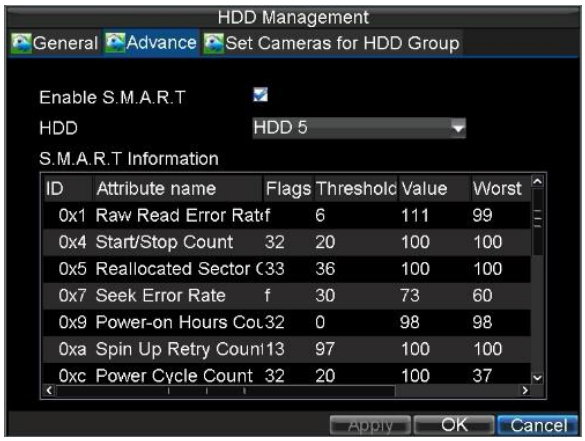

Figure 8. S.M.A.R.T Function

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

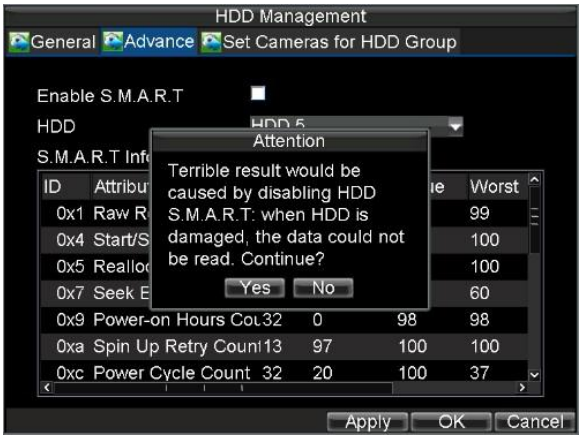

Figure 9. Warning Information Pop up

Configuring HDD Alarms

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

To set HDD alarms:

1. Enter Exception menu, shown in Figure 10 by clicking Menu > Settings > Exception.

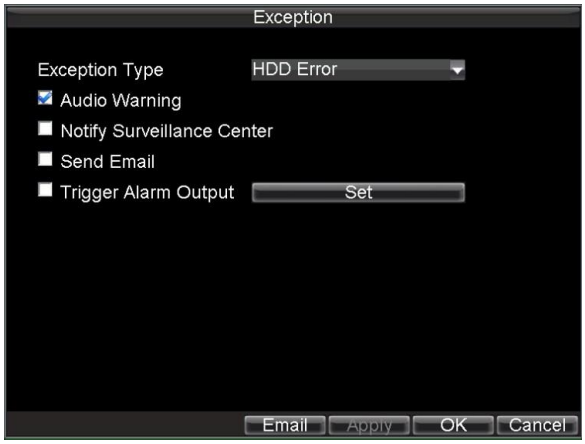

Figure 10. Exception Menu

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

C H A P T E R 1 2

DVR Management

Configuring System Settings

Configuring General Settings

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

To configure general settings:

1. Enter the General Settings menu, shown in Figure 1 by clicking Menu > Settings > General.

Figure 1. General Settings Menu

---

2. Select the **General** tab.
3. Configure general settings. These settings include:
   - **Language:** Default language used in DVR menus.
   - **CVBS Output Standard:** Video output standard: NTSC and PAL.
   - **Resolution:** VGA or HDMI output resolution.
   - **Time Zone:** Time zone to use for DVR.
   - **Menu Date Format:** Format to use for date.
   - **System Time:** System time and date.
   - **Mouse Pointer Speed:** Speed of mouse pointer.
   - **Enable Wizard:** activate/deactivate the Wizard when booting up.
   - **Enable Password:** Enable/disable system password.

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

Configuring Advanced Settings

To configure more advanced settings:

1. Enter the General Settings menu, shown in Figure 1 by clicking Menu > Settings > General.
2. Click the **More Settings** tab; this will take you to the More Settings menu, shown in Figure 2.

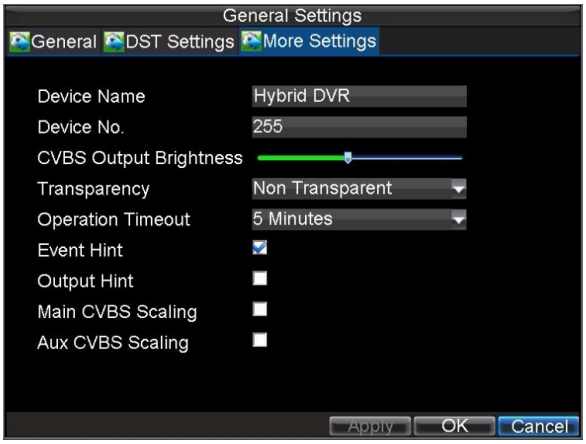

Figure 2. More Settings Menu

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

Configuring RS-232 Port Settings

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

1. Enter the RS-232 Settings menu, shown in by clicking Menu > Settings > RS232.

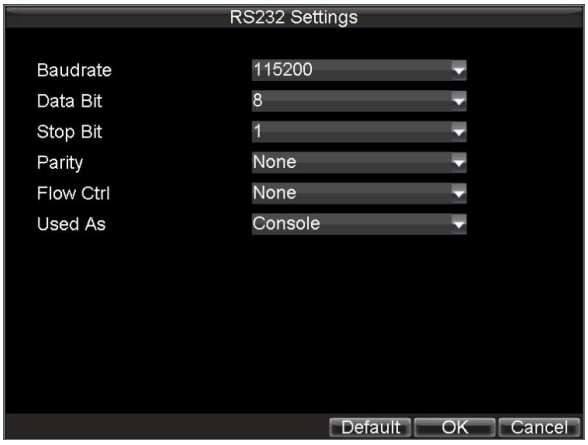

Figure 3. RS-232 Settings Menu

2. Configure RS-232 Settings.
3. The RS-232 port can be used in two ways:
   - **Parameter Control:** Connect a PC to the DVR using the PC serial port. Device parameters can then be set using software such as HyperTerminal. The serial port parameters must be the same as the DVR's when connecting with the PC serial port.
   - **Transparent Channel:** Connect a serial device directly to the DVR. The serial device will be controlled remotely by the PC through the network and the protocol of the serial device.

Note: Please note that the remote control features through the RS-232 port are limited.

Managing User Accounts

By default, your DVR comes with one user account, the *Administrator* account. The *Administrator* user name is *admin* and the password is *12345*. The default password for *Administrator* should be changed right away for security reasons. The *Administrator* has the authority to add, delete or configure parameters for many of the system functions.

Adding a New User

You may add up to 31 new users to your DVR. To add new users:

Enter the User Settings menu, shown in Figure 4 by clicking Menu > Settings > User.

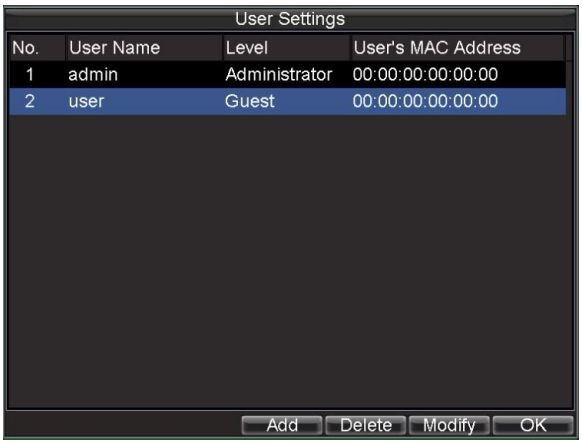

Figure 4. User Settings Menu

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1. Select the Add button to enter the Add User menu, shown in Figure 5.

Figure 5. Add User Menu

2. Enter information for new user, including **User Name**, **Password**, **Level** and **User's MAC**.
3. The **Level** is the user level and is separated into two tiers.
   - **Operator:** The Operator user level has the authority to configure two-way audio in network settings and all parameters in channel settings.
   - **Guest:** The Guest user can not configure network settings, but can configure the local playback as well as the remote playing in channel settings.
4. If **User's MAC** is configured and enabled, the user may only access the DVR from that particular MAC address.
5. Select the Permission button to enter the Permission Settings menu, shown in Figure 6.

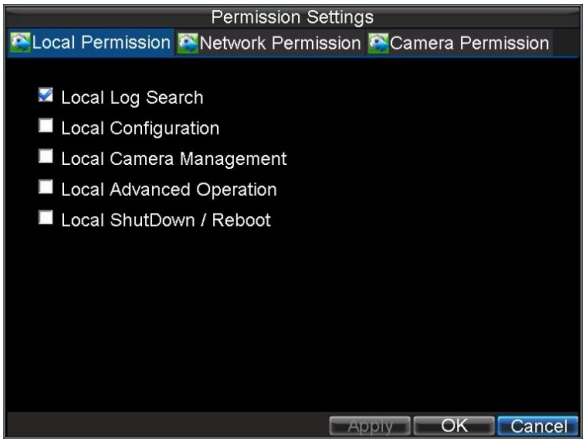

Figure 6. Permission Settings Menu

6. Configure privileges for local settings under **Local Permission** tab. The local settings include:
   - **Local Log Search:** Search and view logs of DVR.
   - **Local Configuration:** Configure and restore parameters to factory defaults. Introduce settings to or export settings from DVR.
   - **Local Camera Management:** Enable and disable analog channels. Ability to add and delete IP cameras
   - **Local Advanced Operation:** HDD management (including the initialization and changing the properties of a disk). Ability to update system firmware as well as to stop the relay output
   - **Local Shutdown/Reboot:** Shutdown or reboot the DVR.
7. Click on the **Network Permission** tab to configure network privileges, as shown in Figure 7. The network settings include:

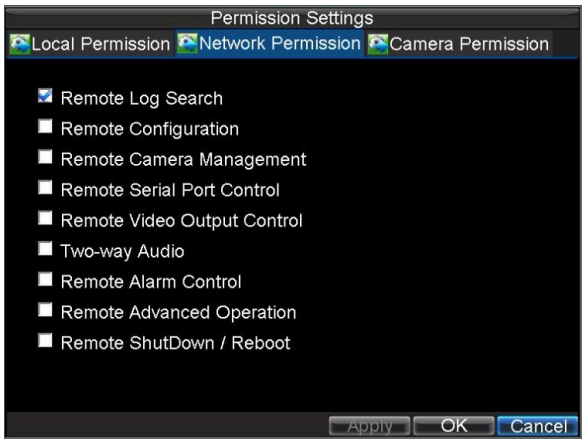

Figure 7. Network Privileges Menu

- **Remote Log Search:** Remotely view logs that are saved on the DVR.
- **Remote Configuration:** Remotely configure parameters, restore parameters to factory defaults and import settings to as well as export settings from DVR.
- **Remote Camera Management:** Remotely enable and disable analog channels. Add and delete IP cameras.
- **Remote Serial Port Control:** Configure settings for RS232 and RS485 ports.
- **Remote Video Output Control:** Send remote button control signal.
- **Two-Way Audio:** Ability to use two-way radio between the remote client and the DVR.
- **Remote Alarm Control:** Remote alert or control the relay output of the DVR. Alarm and exception settings must be configured properly to upload to host.
- **Remote Advanced Operation:** Remotely manage hard disk drives (initializing and setting properties for HDDs). Ability to remote update system firmware and stop of the relay output
- **Remote Shutdown/Reboot:** Remotely shutdown or reboot the DVR.

8. Click on the **Camera Permission** tab to configure channel privileges, as shown in Figure 8. The channel Settings include:

Figure 8. Channel Privileges Menu

- **Remote Live View:** Select and view live video over the network.
- **Local Manual Record:** Locally start and stop manual recording on any of the channels.
- **Remote Record Starting:** Remotely start and stop manual recording on any of the channels.
- **Local Playback:** Locally play recorded files that are on the DVR.
- **Remote Playback:** Remotely play and download recorded files that are on the DVR.
- **Local PTZ Control:** Locally control PTZ cameras.
- **Remote PTZ Control:** Remotely control PTZ cameras.

- **Local Video Export:** Locally backup recorded files from any of the channels.

9. Click the OK button to save and exit menu.

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

Deleting a User

To delete a user from the DVR:

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

Modifying a User

To modify a user:

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

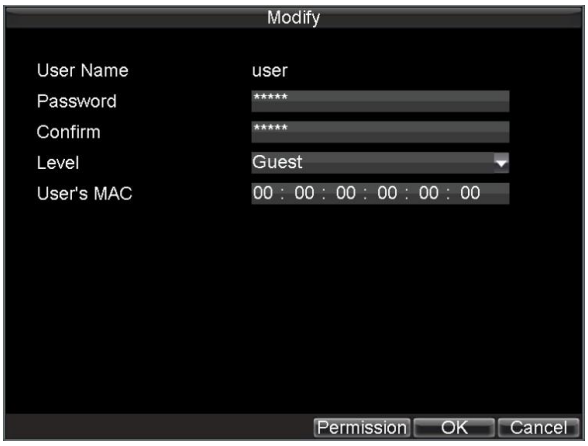

Figure 9. Modify User Menu

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

Managing System

Importing & Exporting Configuration

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

To import or export DVR configuration:

1. Enter the Import/Export Configuration menu, shown in Figure 10 by clicking Menu > Maintenance > Configuration.

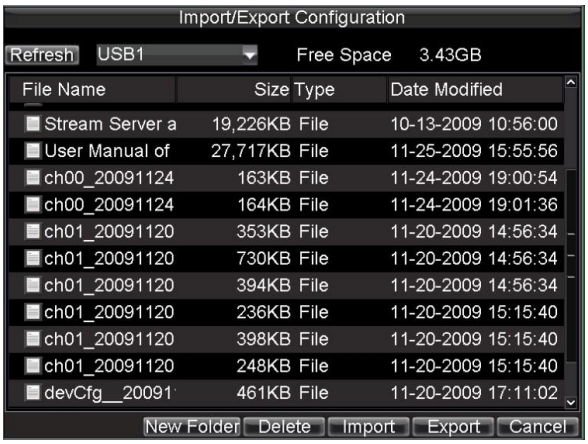

Figure 10. Import/Export Configuration Menu

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

Updating System Firmware

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

To update via an USB device:

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

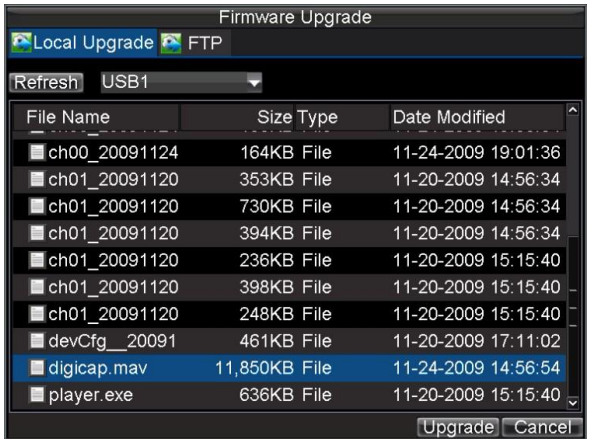

Figure 11. Firmware Update Menu

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

To update via a FTP server:

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

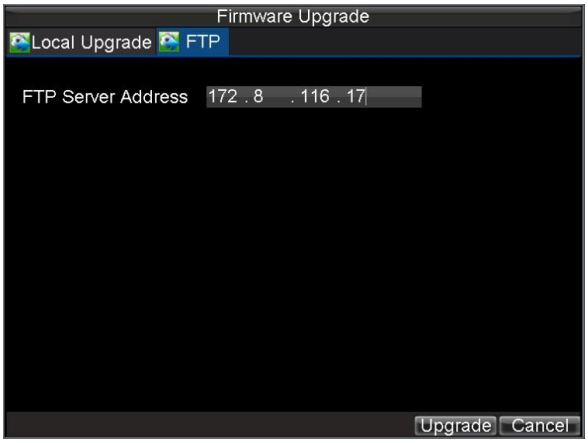

Figure 12. FTP Firmware Update

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4. Input the FTP server address.
5. Select **Upgrade** to begin update process.
6. After the system firmware has been update, reboot the DVR.

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

Restoring Default Settings

To restore default factory settings to your DVR:

1. Enter the Default Settings menu, shown in Figure 13 by clicking Menu > Maintenance > Default.

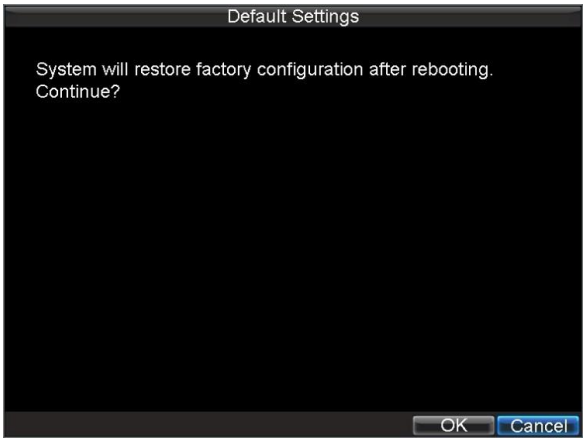


Figure 13. Default Settings Menu

Select OK to restore factory defaults.

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

Viewing System Information

To view system information:

1. Enter into the Information menu, shown in Figure 14 by clicking Menu > Maintenance > Information.

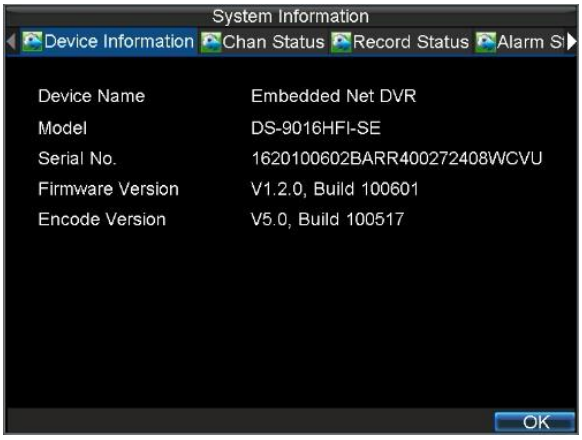


Figure 14. System Information

• **Device Information:** The model number of the DVR, serial No., the current firmware version installed on DVR, etc.
• **Chan Status:** Cameras working status in DVR such as motion, tampering, video loss and video exception.
• **Record Status:** Recording status of the cameras, including: stream type, frame rate, bit rate, resolution, record type, etc.
• **Alarm Status:** The status of external alarm in/out on DVR .
• **Network Status:** Network status such as IP address, gateway, DNS server, client port, etc.
• **HD Status:** Hard disk status on DVR .

2. Select OK to exit to the previous screen.

Viewing System Logs

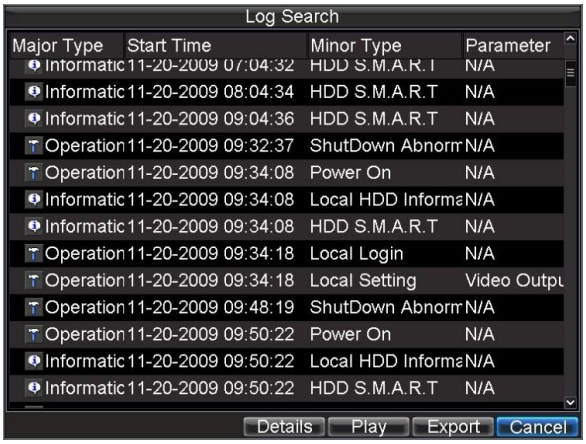
Many events of your DVR are logged into the system logs.

To access the system logs and search for these events:

1. Enter the Log Search menu, shown in Figure 15 by clicking Menu > Maintenance > Log Search.

Figure 15. Log Search Menu

2. Set search parameters.
3. Click the Search button to begin search. If logs matching the search criteria are found, it will be displayed in a list similar to that of Figure 16.



Log Search

Major Type	Start Time	Minor Type	Parameter
Informatic	11-20-2009 07:04:32	HDD S.M.A.R.T	N/A
Informatic	11-20-2009 08:04:34	HDD S.M.A.R.T	N/A
Informatic	11-20-2009 09:04:36	HDD S.M.A.R.T	N/A
Operation	11-20-2009 09:32:37	ShutDown Abnorm	N/A
Operation	11-20-2009 09:34:08	Power On	N/A
Informatic	11-20-2009 09:34:08	Local HDD Informa	N/A
Informatic	11-20-2009 09:34:08	HDD S.M.A.R.T	N/A
Operation	11-20-2009 09:34:18	Local Login	N/A
Operation	11-20-2009 09:34:18	Local Setting	Video Outpu
Operation	11-20-2009 09:48:19	ShutDown Abnorm	N/A
Operation	11-20-2009 09:50:22	Power On	N/A
Informatic	11-20-2009 09:50:22	Local HDD Informa	N/A
Informatic	11-20-2009 09:50:22	HDD S.M.A.R.T	N/A

Details Play Export Cancel

Figure 16. Log Search Results

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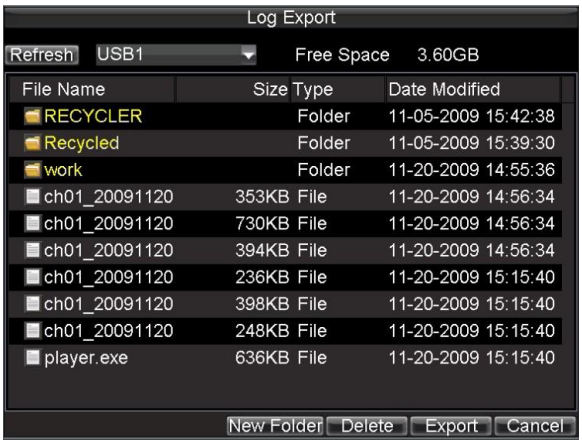
4. To view more detail information about a particular log entry, select the entry and click the **Details** button.
5. If applicable, you may also view the associated video to the selected log entry by clicking the **Play** button.
6. Log files can also be exported onto a USB device. To export a log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



Log Export

Refresh USB1 Free Space 3.60GB

File Name	Size	Type	Date Modified
RECYCLER		Folder	11-05-2009 15:42:38
Recycled		Folder	11-05-2009 15:39:30
work		Folder	11-20-2009 14:55:36
ch01_20091120	353KB	File	11-20-2009 14:56:34
ch01_20091120	730KB	File	11-20-2009 14:56:34
ch01_20091120	394KB	File	11-20-2009 14:56:34
ch01_20091120	236KB	File	11-20-2009 15:15:40
ch01_20091120	398KB	File	11-20-2009 15:15:40
ch01_20091120	248KB	File	11-20-2009 15:15:40
player.exe	636KB	File	11-20-2009 15:15:40

New Folder Delete Export Cancel

Figure 17. Log Search Export Menu

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7. Click Cancel to exit out of menu.

C H A P T E R 1 3

Appendix

Glossary

- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF.
- **DVR:** Acronym for Digital Video Recorder. A DVR is device that is able to accept video signals from analog cameras, compress the signal and store it on its hard drives.
- **HDD:** Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.
- **DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
- **HTTP:** Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network
- **DHCP:** PPPoE, Point-to-Point Protocol over Ethernet, is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with ADSL services where individual users connect to the ADSL transceiver (modem) over Ethernet and in plain Metro Ethernet networks.
- **DDNS:** Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.
- **Hybrid DVR:** A hybrid DVR is a combination of a DVR and NVR.
- **NTP:** Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.
- **NTSC:** Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of an

NTSC signal contains 525 scan lines at 60Hz.

- **NVR:** Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.
- **PAL:** Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.
- **PTZ:** Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.
- **USB:** Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

FAQ

• **Why does my DVR make a beeping sound after booting?**

There are a few reasons for the warning beep your DVR makes after booting.

1. There is no HDD present in the DVR.
2. The HDD has not been initialized.
3. The HDD is defective.

If you wish to use your DVR without any HDDs, you may disable this warning beep in the Exception Settings menu (See ***Setting Exception***).

• **Why does the DVR seem unresponsive when operating with the IR remote control?**

If your DVR seem unresponsive when using the IR remote and you have read through the section ***Using the IR Remote Control***, please check:

1. Check that the batteries are installed correctly in the remote, making sure that the polarities of the batteries are not reversed.
2. Make sure the batteries are fresh and are not out of power.
3. Make sure the remote has not been tampered with.
4. Check around and make sure there are no fluorescent lamps in use.

• **Why does the PTZ seem unresponsive?**

If the PTZ seem unresponsive, please check:

1. Check that the RS-485 cable is properly connected.
2. Check that the dome decoder type is correct.
3. Check that the dome decoder speed configuration is correct.
4. Check that the dome decoder address bit configuration is correct.
5. Check to make sure that the main board RS-485 interface is not broken.

• **Why is there no video recorded after setting the motion detection?**

If there are no recorded video after setting the motion detection, please check:

1. Check that the recording schedule is setup correctly by following the steps listed in ***Scheduling a Recording***.
2. Check that the motion detection area is configured correctly (See ***Setting Up Motion Detection***).
3. Make sure that channels are being triggered for motion detection (See ***Setting Up Motion Detection***).

• **Why doesn't the DVR detect my USB export device for exporting recorded files?**

There's a chance that the DVR and your USB device is not compatible. Please refer to our company's website to view a list of compatible devices.

• **My DVR is in Live Preview mode and the menu will not come up. It does not respond to the mouse, front panel, remote or keyboard.**

Your DVR may be in auxiliary mode. This occurs when the MAIN/SPOT button is pushed on the front panel. To return to the previous mode of operation, press the MAIN/
SPOT button again.