

# **HREP4, HREP8, HREP16**

**4-, 8-, 16-Channel Models  
Color Digital Video Recorder**

## **User Guide**



# **User Guide**

## Revisions

Issue	Date	Revisions
A	05/10	New document.
B	08/10	Inserted missing images in Table 2-1 and corrected the description of one of the buttons. Also edited the Front Panel and Rear Panel figures. Corrected the TOC to include level 1 headers. Edited the Marking Recorded Video and Archiving sections so that they are more thorough. Replaced Fig 2-21 with corrected images. Updated screen shots in Chapters 2 and 3. Added <a href="#">Configuring a PTZ Tour</a> in <a href="#">Configuring the PTZ Setup</a> . Moved the Configuring PTZ Cameras section into the System Setup section. Added new sections in the Configuring Display Sequence section: Activating, Modifying, and Deleting a Sequence.

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## About This Document

This document introduces the HREP4-, 8-, and 16-Channel Color Digital Video recorders. It covers how to install and operate these DVRs.

This document is intended for system integrators, installers, and end-user operators.

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## Overview of Contents

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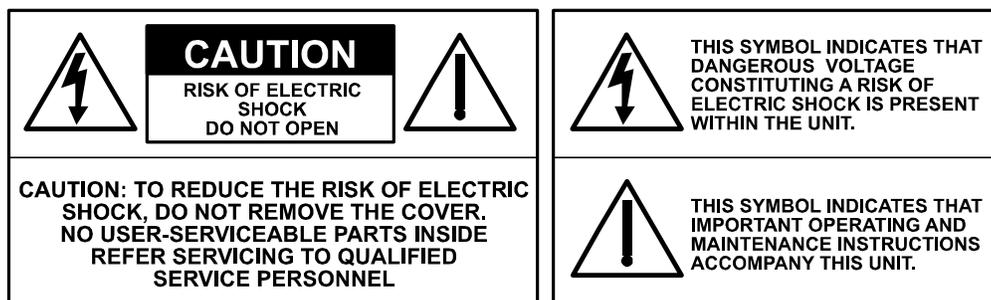
This document contains the following chapters and appendixes:

- [Chapter 1, Introduction](#), introduces the HREP DVR features and a typical setup.
- [Chapter 2, Installation](#), provides procedures for installing and configuring your DVR.
- [Chapter 3, DVR Operation](#), explains how to use your DVR.
- [Chapter 4, Using the Web Remote Viewer](#), explains how to use your DVR over the internet.
- [Chapter 5, Watermark Process](#), explains the watermark process, which identifies whether an image has been tampered with.

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## Cautions and Warnings

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

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## FCC Compliance Statement

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

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



**WEEE (Waste Electrical and Electronic Equipment).** Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

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## Manufacturer's Declaration of Conformance

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### North America

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

### Europe

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

## EN55022 Class A Notice

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**WARNING!** This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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## Important Safety Instructions

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- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produces heat.

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**Caution** Do not alter the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

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- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use the attachments/accessories specified by the manufacturer.
- Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
- When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- This equipment is intended for indoor use and all the communication wirings are limited to the inside of the building.
- The socket-outlet should be installed near the equipment and should be easily accessible.

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**Caution** RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

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Operation Max temperature: 40°C

USB Load condition: USB Ports(5 Vdc, Max. 500 mA)

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## Warranty and Service

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

In the event you have a problem with any Honeywell product, please call Customer Service at 1.800.796.CCTV for assistance or to request a **Return Merchandise Authorization (RMA)** number.

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

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

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## Typographical Conventions

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This document uses the following typographical conventions:

Font	What it represents	Example
Helvetica	Keys on the keyboard	Press Ctrl+C
Lucida	Values of editable fields that are mentioned in the body text of the document for reference purposes, but do not need to be entered as part of a procedure	The <b>Time from</b> field can be set to Hours:Minute:Seconds.
	Text strings displayed on the screen Syntax	The message Unauthorized displays. (object) entered

Font	What it represents	Example
<b>Swiss721 BT Bold</b>	Words or characters that you must type. The word "enter" is used if you must type text and then press the Enter or Return key.	Enter the <b>password</b> .
	Menu titles and other items you select	Double-click <b>Open</b> from the <b>File</b> menu.
	Buttons you click to perform actions	Click <b>Exit</b> to close the program.
<i>Italic</i>	Placeholders: words that vary depending on the situation	<i>user name</i>
	Cross-reference to external source	Refer to the <i>System Administrator Guide</i> .
	Cross-reference within document	See <i>Chapter 2, Installation</i> .



# Introduction

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## Before You Install

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- Installation should be carried out only by qualified personnel and in accordance with any electrical regulations in force at the time.
- The DVR must be placed on a stable surface or mounted in an approved cabinet.
- Adequate ventilation must be provided, taking particular care not to block any of the air vents on the DVR.
- Adequate protection against lightning strikes and power surges must be installed to prevent damage to the DVR.
- Any safety warnings on the DVR and in these instructions must be adhered to.
- If cleaning is necessary, shutdown the DVR and disconnect power first.
- Use a soft dry cloth only. Never use any abrasive cleaners.
- Do not attempt to service or repair the DVR. Opening or removing the cover may expose dangerous voltages or other hazards.
- Refer all servicing to qualified service personnel.

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## Features

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Your color digital video recorder (DVR) provides recording capabilities for 4, 8, or 16 camera inputs, depending on your model. It provides exceptional picture quality in both live and playback modes, and offers the following features:

**MOUSE CONTROL:** Designed to be controlled and easy to use with a mouse

**GENUINE PENTAPLEX OPERATION:** The DVR will continue to record at full frame rate during local playback, local setup, multi user remote viewing and playback, and remote setup.

**AUDIO:** Four audio inputs are supported. They can be assigned to any video channel. Live and recorded audio can be monitored remotely over the internet and remote 'talkback' audio transmission to the DVR is also possible.

**BACKUP:** Recorded footage (including audio) can be archived to a USB memory stick or to a CD/DVD.

Playback software is embedded with the backup files and the backup also contains the system event log and backup log for full traceability.

**REMOTE CONNECTION:** Web connection allows simultaneous connection for up to four remote users per DVR. Depending on the user level, full DVR control is available over the internet as well as the ability to remotely configure the DVR.

Alarm outputs on the DVR can be remotely triggered over the internet.

**COMPREHENSIVE RECORDING SETUP:** Recording can be scheduled, alarm, or motion activated. For each type of recording, frame rates, image quality, and audio recording properties can be adjusted per hour, day, and for each individual channel.

The DVR also has a panic recording feature (from the front panel or external input) which overrides all other recording settings to provide the best quality recording in the event of an emergency.

**PTZ CONTROL:** Full PTZ control is available from the front panel or remote connection and a wide number of speed dome protocols are supported. Protocols can be set individually for each channel and PTZ speed can be adjusted to suit particular speed domes.

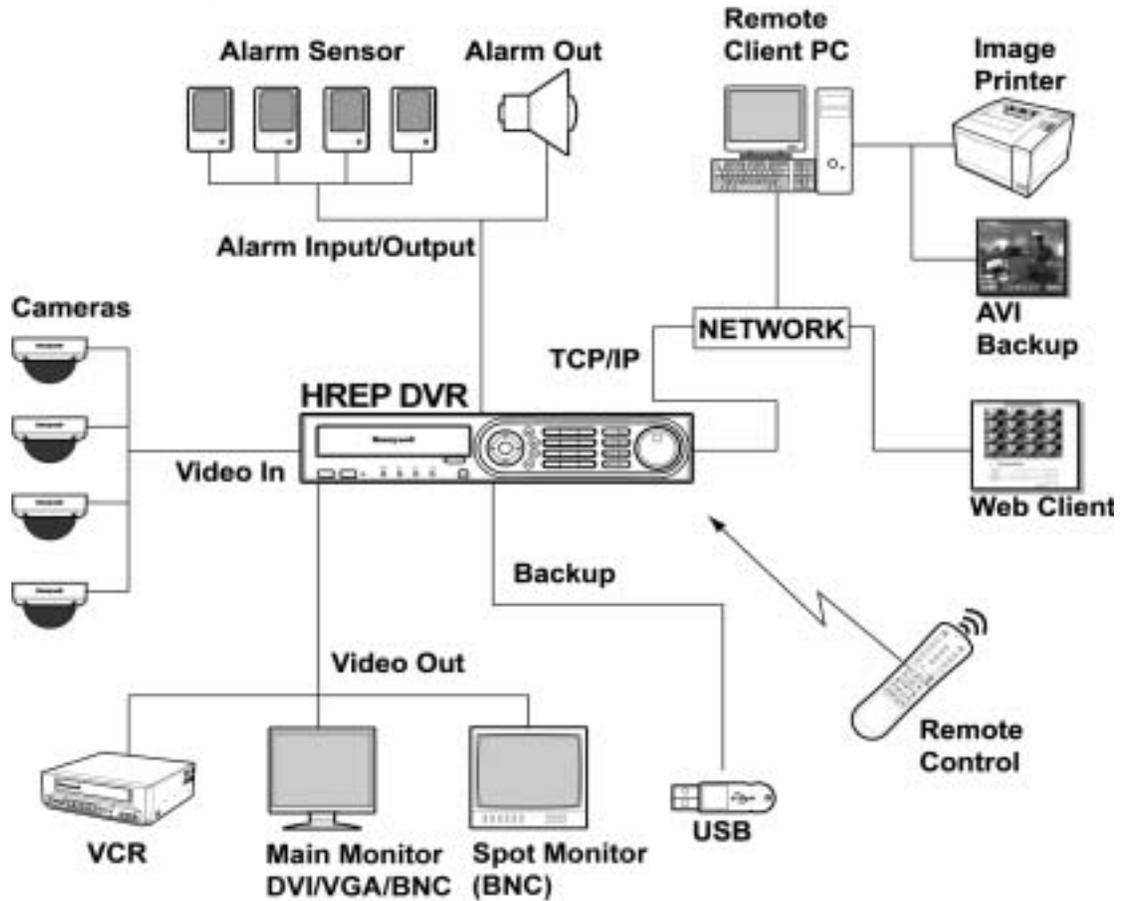
**TELEMETRY CONTROL:** Full telemetry control is available from the front panel or remote connection and a wide number of speed dome protocols are supported. Protocols can be set individually for each channel and telemetry speed can be adjusted to suit particular speed domes.

**EXTENSIVE MONITOR SUPPORT:** The DVR has two main monitor outputs (Composite and DVI). One spot monitor output can be programmed in the DVR setup.

**LIVE DISPLAY:** The DVR displays single or multi screen images and also has several sequence modes (standard and user definable).

## Typical System Setup

Figure 1-1 Typical System Setup





## Installation

### Front Panel Description

Figure 2-1 Front Panel

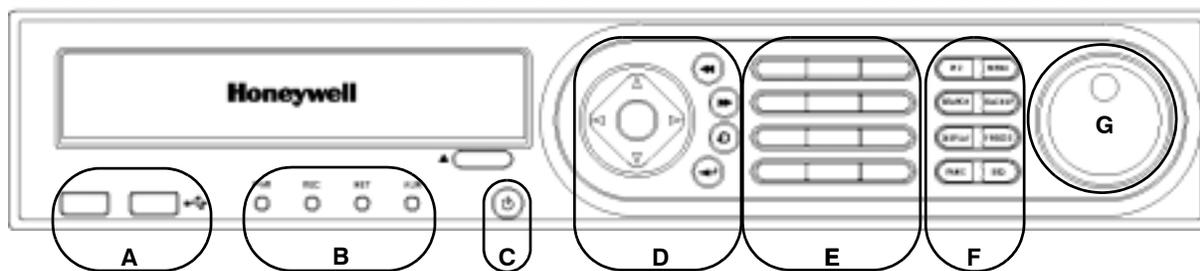


Table 2-1 Front Panel Description

Group	Function	Description
A	USB Port	Connect USB mouse or USB backup device
B	Status LED	Power/Recording (including pre-recording)/Network/Alarm
C	POWER	Turn <b>ON/OFF</b> the system power
D	Cursor Keys	Allow you to navigate through the menus
		 Increases reverse playback speed <b>Zoom -</b> for controlling PTZ cameras
		 Starts reverse playback
		 Pauses playback <b>Parameter</b> for PTZ cameras
		 Starts forward playback
		 Increases forward playback speed <b>Zoom +</b> for controlling PTZ cameras

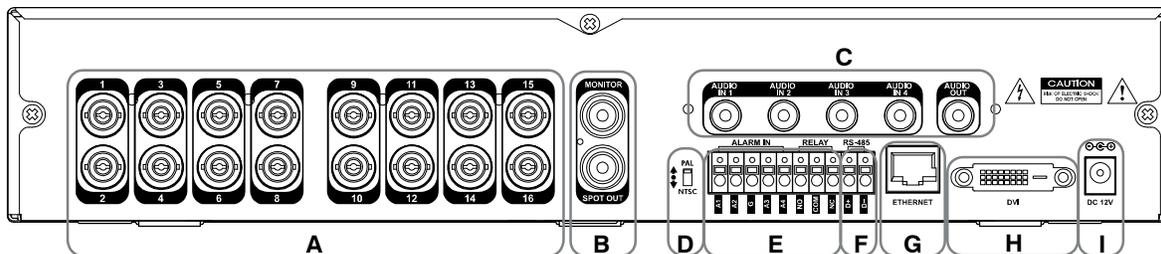
**Table 2-1 Front Panel Description**

<b>Group</b>	<b>Function</b>	<b>Description</b>
	<b>ENTER</b> 	Apply or Select an item Set a PTZ camera
	<b>RETURN</b> 	Cancel or go to previous menu
<b>E</b>	Channel Selection Buttons	Used to display individual channels in live display and playback. Also used to enter numeric passwords for the various login screens.
<b>F</b>	<b>PTZ</b>	Selects PTZ mode in live display <b>GOTO</b> for controlling PTZ cameras
	<b>MENU</b>	Displays the Setup menus
	<b>SEARCH</b>	Displays the Search menu <b>Preset -</b> for controlling PTZ cameras
	<b>BACKUP</b>	Displays the Archive menu <b>Preset +</b> for controlling PTZ cameras
	<b>DISPLAY</b>	Selects various display modes in live display and playback <b>Focus -</b> for controlling PTZ cameras
	<b>FREEZE</b>	Displays the freeze image in live view <b>Focus +</b> for controlling PTZ cameras
	<b>PANIC</b>	Records using the Panic Recording setup <b>Iris -</b> for controlling PTZ cameras
	<b>SEQUENCE</b>	Changes to the Sequence screen <b>Iris +</b> for controlling PTZ cameras
<b>G</b>	Shuttle Wheel	Used to quickly adjust the playback speed and direction.  Also used to control the camera zoom when in PTZ mode and the digital zoom level in live display mode
	JOG Ring	When playback is paused, used to move footage forwards or backwards, frame by frame

## Rear Panel Description

**Figure 2-2 Rear Panel**

Example shown is the 16 channel model. The back panel layout might vary based on the model of the DVR.

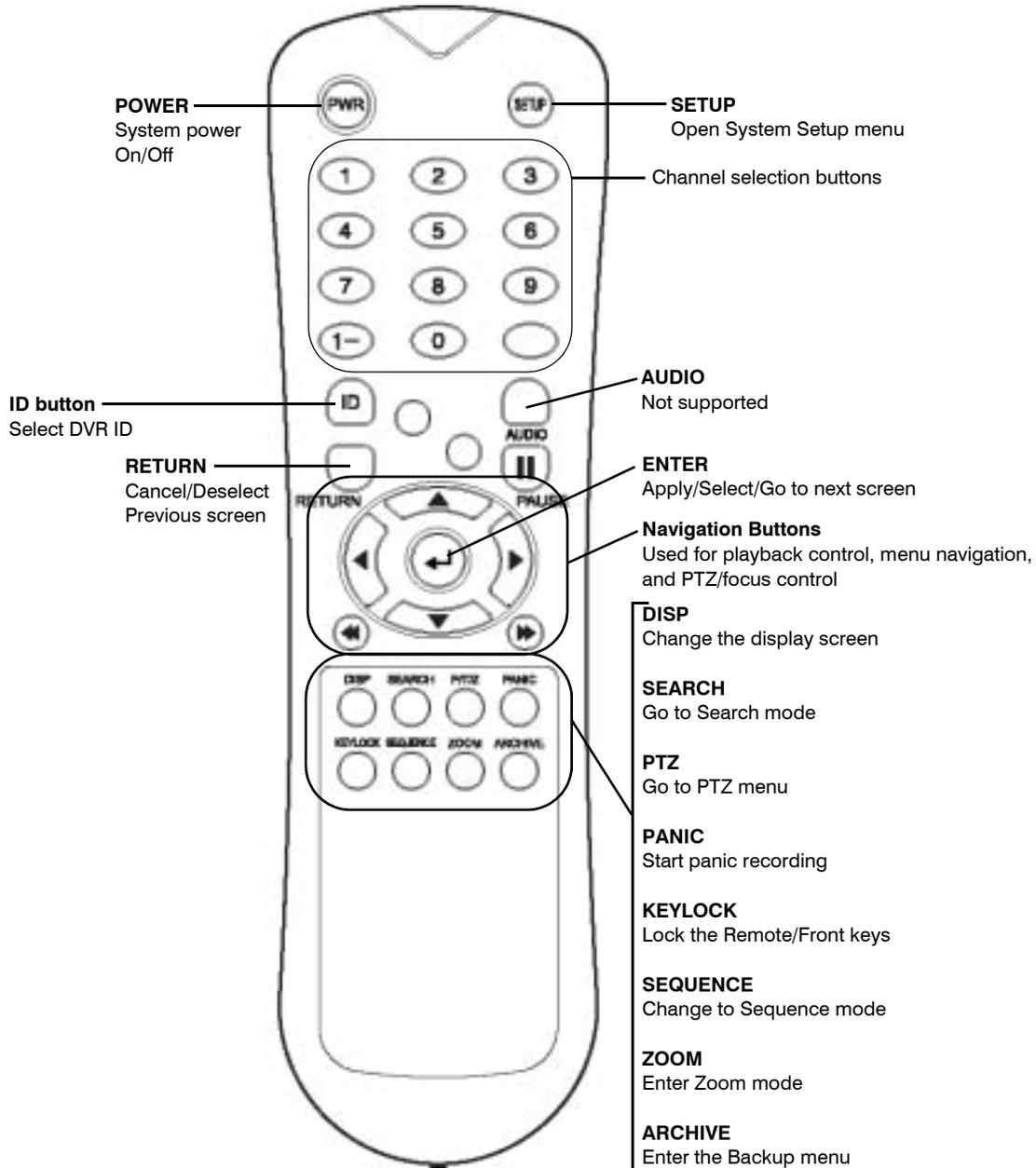


**Table 2-2 Rear Panel Description**

Group	Name	Description
A	<b>CAMERA INPUTS</b>	Connect up to 4/8/16 camera inputs (depending on your model).
B	<b>MONITOR</b>	Main BNC monitor.
	<b>SPOT OUT</b>	BNC spot monitor.
C	<b>AUDIO INPUTS/OUTPUTS</b>	Up to 4 audio inputs and one audio output can be connected.
D	<b>PAL/NTSC Switch</b>	Change the camera input type.
E	<b>ALARM INPUTS</b>	Up to four alarm inputs can be connected and configured as high or low inputs with common ground.
	<b>RELAY OUTPUT</b>	One alarm output can be connected and configured as high or low output with a common ground.
F	<b>RS485</b>	Connect a PTZ camera.
G	<b>LAN</b>	LAN connection to a router or internal network.
H	<b>DVI</b>	DVI main monitor connection to a PC monitor or a plasma screen.
I	<b>POWER</b>	<b>Note</b> If you want to connect to a VGA monitor, please use a DVI-to-VGA converter (supplied).
		Connect to a 12V/5A adapter (supplied).

## Remote Control

Figure 2-3 Remote Control Description



**Note** If there are several co-located DVRs, each DVR must be set with a different ID. Using the remote control, you can set an ID for each DVR. Then all DVRs can be controlled with one remote control.

## Setting the DVR ID Using the Remote Control

1. Press the ID button on the remote control.  
An **Input ID** message displays.
2. Press the Set ID, then press **RETURN**.

## Returning to the Original ID Settings

1. Press the **ID** button again.
2. Enter **255**, then press the **RETURN** button on the remote control.

---

## DVR Operation

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### Making the connections

Connect:

- up to 16 camera inputs (DVR model dependent)
- monitors to the DVR using the Composite or DVI connections
- power to the DVR. The DVR checks for proper power connection, and then emits two beeps.

### Powering up the DVR

Press the **POWER** button on the front panel of the DVR to begin operation. The Startup screen appears.

**Figure 2-4 Startup Screen**



The DVR startup screen detects and checks the status of the hard drives and the CDRW/DVD-RW drive.

## Logging On

After startup diagnostics are complete, you must log onto the system. The default user name is **ADMIN**.

**Figure 2-5 Log On Screen**



Enter the default password **1234** using the channel selection buttons, then press **ENTER**.

The DVR begins normal operation and shows the default display of 4, 8, or 16 channels (depending on your DVR model).

Figure 2-6 Default Display



### Navigating the Default Display

The **control bar** at the bottom of the screen when the DVR is first turned on. After that, it will show the current time and date.

Each channel has a title.

The red square and letter 'C' in the top right corner of each channel display indicates that the channel is in Continuous recording mode.

### Control Bar

All menus can be controlled with the Control bar, using either the front panel buttons or a mouse (not included).

Figure 2-7 Control Bar



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**Note** This User Guide contains instructions for using the front panel controls for configuration and operation, unless otherwise specified. Most actions can also be done using the remote control and a mouse (not included).

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## Live Display

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### Configuring the Screen Division

1. Navigate to **DISPLAY**  in the Control bar, then click . The Display popup menu appears.

**Figure 2-8** Display Popup Menu



2. Select the screen division (1, 4, 6, 8, 9, 16, or a rotation sequence) from the popup menu.

### Sequencing the Channels

Click **SEQ**  in the display popup menu. Each channel is shown in full screen for a set period of time before switching to the next channel in the sequence.

Click  again to stop the sequence on that current channel.

More complex sequences can be programmed through the Setup menu. See [Configuring the Display Sequence](#) on page 42.

### Controlling PTZ Cameras

1. Navigate to **PTZ**  in the Control bar, then click  to select. The PTZ window appears.

Figure 2-9 PTZ Window



2. Select the camera by channel.
3. Use the arrow buttons to reposition the PTZ camera field of view.
4. Use **ZOOM**, **FOCUS**, and **IRIS** to change the current camera view.
5. Click **PARAMETER** to configure PTZ camera parameters.

See [Table 2-1](#) on [page 23](#) for descriptions of front panel and remote controller controls for PTZ cameras.

## Using Digital Zoom

When viewing a channel in full screen, you can use your HREP8 or HREP16 to zoom in to a particular area by up to 8 times. The HREP4 supports 2 times digital zoom without a small picture-in-picture window.

Select the desired channel, then navigate to **ZOOM**  on the control bar, and then click .

Figure 2-10 Example of the Digital Zoom



---

## Viewing the Log

---

Navigate to **LOG**  in the control bar, then click  to see the current log. A LOG window appears.

**Figure 2-11 Log Window**



Select a log entry to view the associated video.

---

## Panic Recording

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Navigate to **REC**  in the control bar, then click  to start and stop Panic recording. The REC button changes to a red square with a "P" to indicate that panic recording has started.

Use the RECORD SETUP window to configure the Panic recording settings. See [Configuring Panic Recording](#) on page 70.

---

## Using the Quick Menu

---

### Accessing the Quick Menu

Click the right mouse button in any of the live channels to open a Quick menu of options for that channel.

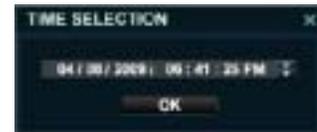
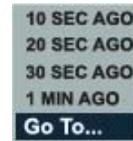
Figure 2-12 Quick Menu



**Note** You cannot access the Quick Menu if you are in a Display Sequence.

Table 2-3 Quick Menu

Function	Description
FREEZE ON/OFF	Stop or freeze the live display of your selected channel on your HREP8 or HREP16; stop or freeze all channels on your HREP4. Even though other channels show live display, this particular channel display is stopped. Right-click and then select <b>FREEZE OFF</b> to exit the freeze mode.
PTZ	See <a href="#">Controlling PTZ Cameras</a> on page 30.
ZOOM	See <a href="#">Using Digital Zoom</a> on page 31.
PLAYBACK	<p>You can select a go-back duration (10, 20, or 30 seconds ago, or 1 minute ago) or a specific time and date for immediate play back.</p> <p>If you select <b>go to...</b>, the TIME SELECTION window appears.</p> <p>Click <b>OK</b> after selecting your desired time.</p>
PANIC REC START	See <a href="#">Panic Recording</a> on page 32.



---

## System Setup

---

Navigate to **MENU**  on the control panel, then click . The SETUP window appears.

**Figure 2-13** SETUP Window



Click **SYSTEM SETUP** in the SETUP window. The MAIN menu window appears.

**Figure 2-14** MAIN Menu Window



Use the cursor keys and  (**ENTER**) and  (**RETURN**) to navigate the MAIN setup menu.

Use  to select and change a particular item. Use  to cancel a change or exit from a particular setup screen.

Select **SYSTEM SETUP** and then press  to set up all the main system functions.

## Configuring the Camera

### Configuring the Camera Setup

Select **CAMERA** in the Main system setup window, then click . The CAMERA setup window opens.

Figure 2-15 Camera Setup Window



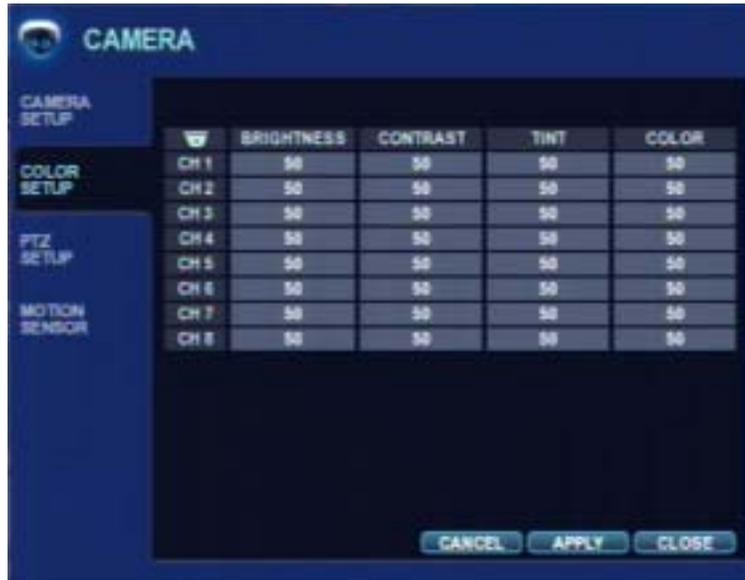
Highlight the camera you want to configure, then press . You can configure the following:

- **TITLE:** Enter the camera title (maximum 8 characters)
- **COVERT:** When COVERT is turned **ON**, the camera image is not displayed in Live display, but the DVR continues to record the video. When COVERT is turned **ON** and a Manager or User account is logged on, the live channel does not display in the Web Client display. But when an Admin account is logged on, the live channel displays.
- **AUDIO:** Choose the audio recording channel.

## Configuring the Color Setup

Click **COLOR SETUP** on the left side of the CAMERA window. The COLOR SETUP menu appears.

Figure 2-16 COLOR SETUP Menu



You can adjust the brightness, contrast, tint, and color for each channel. Select a channel and click  to select that channel for configuration. The selected channel displays full screen.

Figure 2-17 Example of Configuring the Color Setup Window



Click the Up/Down arrows  to configure the brightness, contrast, tint, and color.

Click  when all changes are complete and you want to escape this window.

## Configuring the PTZ Setup

Click **PTZ** on the left side of the CAMERA window. The PTZ Setup menu appears.

Figure 2-18 PTZ SETUP Menu



Click each value in the ADDRESS, PROTOCOL, and BAUD RATE columns to configure them. Use the  to change the following values:

<b>ADDRESS</b>	The unique ID of the PTZ device
<b>PROTOCOL</b>	The protocol of the PTZ device
<b>BAUD RATE</b>	The baud rate of the PTZ device
<b>DETAIL</b>	Detailed settings for the PTZ device. See <a href="#">Configuring Details for PTZ Cameras</a> below.
<b>TOUR</b>	

## Configuring Details for PTZ Cameras

Click **DETAIL** on the PTZ SETUP menu. The PTZ Property window appears.

Figure 2-19 PTZ Property Window



Use the  to change the values, then click **OK** to save the settings.

---

**Note** Some settings such as AUTO FOCUS might not be compatible with your particular PTZ equipment. If this is the case, then changing the value will not have an effect on the PTZ control.

---

### Configuring PTZ Presets in Live View

Configure PTZ presets for a preset tour. See [Configuring a PTZ Tour](#) on page 39.

1. Navigate to PTZ  in the Control bar, then click  to select. The PTZ window appears.

**Figure 2-20** PTZ Window



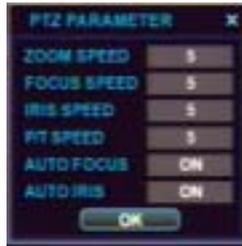
2. Select the camera by channel.
3. Select a preset number.
4. Use the arrow buttons to reposition the PTZ camera field of view.
5. Use **ZOOM**, **FOCUS**, and **IRIS** to change the current camera view.
6. Click **PARAMETER** to configure PTZ camera parameters.
7. Click **SET** to save the settings.

See [Table 2-1](#) on [page 23](#) for descriptions of front panel and remote controller controls for PTZ cameras.

### Configuring PTZ Camera Parameters

Click **PARAMETER** in the PTZ camera window, and the PTZ Parameter window appears.

Figure 2-21 PTZ Parameter Window



### Configuring a PTZ Tour

You can configure a PTZ tour for each PTZ camera that is connected to the HREP. Before you can configure a PTZ tour, you must configure the presets. See [Configuring PTZ Presets in Live View](#) on page 38.

1. Click **TOUR** on the PTZ SETUP menu (see [Figure 2-18](#)). The PTZ TOUR window appears.

Figure 2-22 PTZ TOUR Window



2. Click next to MODE to select **AUTO** to enable PTZ Tour setup.
3. Click on the up/down arrows under the **PRESET NO.** column to select a preset (from 1 to 16), then click on the up/down arrows under the **DWELL TIME** to select a dwell time (from 1 to 20 seconds).

---

**Note** Even though you can configure up to 255 presets using the PTZ menu, for configuring a PTZ tour, you can select from only presets numbered 1 - 16.

---

4. Click **OK** to save the settings or click **CANCEL** to exit without saving.

### Configuring the Camera Motion Sensor

Click **MOTION SENSOR** on the left side of the CAMERA menu. The Motion Sensor menu appears.

Figure 2-23 Motion Sensor Menu



Use the  to change the sensitivity level. The lowest level is 1, and the highest is 10. This setting determines the degree of motion required before recording is activated.

### Configuring the Motion Sensor Area

Click the **AREA SETUP** button next to your desired channel. A grid appears over the video image for the chosen channel.

Figure 2-24 Configuring the Motion Sensor Area



To quickly select or deselect the entire grid, right-click on the screen, then select **SELECT ALL** or **DESELECT ALL**.

### Configuring the Display

Select **DISPLAY** in the Main system setup window, and then click . The DISPLAY window appears.

Figure 2-25 DISPLAY Window



### Configuring the On-Screen Display (OSD)

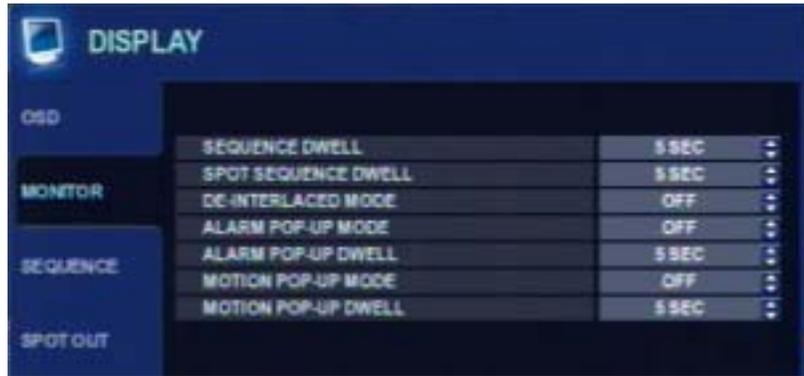
If it isn't already selected, click **OSD** on the left side of the DISPLAY window. See [Figure 2-25](#). Use the  to change the following values:

<b>STATUS BAR</b>	Choose how long the control bar displays before it disappears and the date/time displays.
<b>CAMERA TITLE</b>	Enable/disable the display of the camera title.
<b>RECORDING MODE ICON</b>	Choose whether the DVR recording status shows at the top right of each channel display window.
<b>BORDER</b>	Choose whether there is a border around each channel when in multi-screen display mode.
<b>MOTION SENSOR DISPLAY</b>	This function provides a visual indication when and where motion is sensed in the camera field of view. <b>OFF</b> = Normal display mode <b>ON</b> = areas where motion is detected are highlighted with a white grid
<b>MOTION COLOR</b>	Choose the color of the blocks that display when <b>MOTION SENSOR DISPLAY</b> is <b>ON</b> .
<b>LANGUAGE</b>	Choose the GUI language.

### Configuring the Monitor Display

Click **MONITOR** on the left side of the DISPLAY window. The MONITOR menu appears.

Figure 2-26 DISPLAY MONITOR Menu



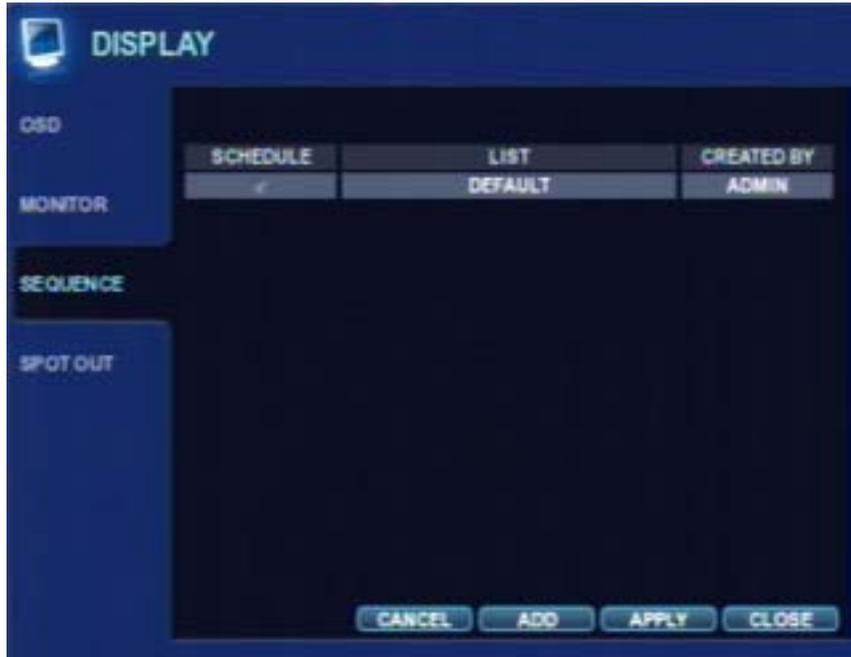
Use the  to change the following values:

<b>SEQUENCE DWELL</b>	Choose how long each screen is displayed in a sequence.
<b>SPOT DWELL</b>	Choose how long each screen is displayed on the spot monitor outputs.
<b>DE-INTERLACED MODE</b>	Set to <b>ON</b> when recording any channels in D1 resolution (704x576) to prevent shudder during playback.
<b>ALARM POP-UP MODE</b>	Set to <b>ON</b> so that the associated channel displays in full screen when an alarm is triggered.
<b>ALARM POP-UP DWELL</b>	Choose how long the full-screen popup displays after an alarm is triggered. If the alarm condition continues, then the popup screen displays constantly.
<b>MOTION POP-UP MODE</b>	When set to <b>ON</b> , motion detection causes the associated channel to display full screen.
<b>MOTION POP-UP DWELL</b>	Choose how long the full-screen popup displays after motion detection. If motion continues, the popup screen displays constantly.

## Configuring the Display Sequence

Click **SEQUENCE** on the left side of the DISPLAY window. The SEQUENCE menu appears.

Figure 2-27 SEQUENCE Menu



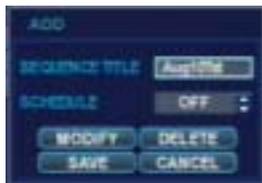
When the **SEQ** button is pressed, the default sequence cycles through all 16 channels, one by one.

Sequence setup allows you to define a custom sequence, using mixed multi screen views and any desired channels.

**Adding a Sequence**

1. Click **ADD** at the bottom of the SEQUENCE menu. The Add window appears.

Figure 2-28 Add Sequence Window



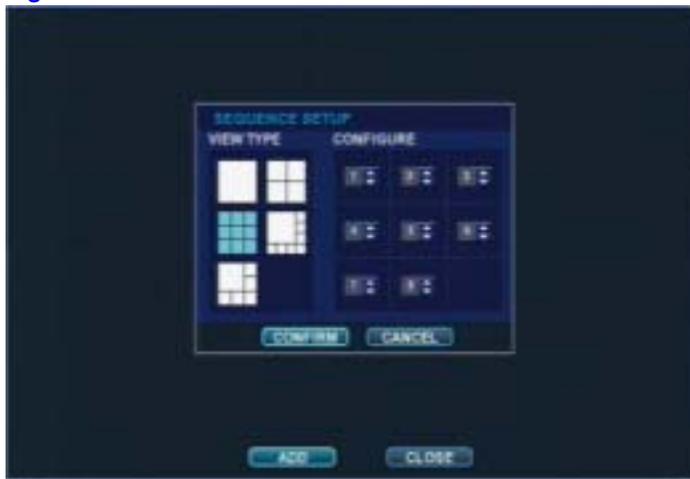
2. Click  to bring up the virtual keyboard to change the Sequence Title from **DEFAULT**. Use the virtual keyboard to enter a name or reference number for the new sequence.
3. Turn the **SCHEDULE ON** or **OFF**.
4. Select **SAVE**. The Sequence window appears.

**Figure 2-29 Sequence Window**



5. Click **ADD**. The SEQUENCE SETUP window appears.

**Figure 2-30 SEQUENCE SETUP Window**



6. Select a screen display layout from the VIEW TYPE, select the channels for the layout from the CONFIGURE panel, then click **CONFIRM**.

Click **ADD** to add another mode.

Double-click the current sequence to modify it. The SEQUENCE SETUP window reappears.

Click **CLOSE** when you are finished.

### Activating a Sequence

Press **SEQ** on the front panel or select Sequence  from the control bar when in live view. See [Figure 2-8](#) on [page 30](#).

### Modifying a Sequence

1. Double-click in the **List** column the sequence you want to modify. The EDIT window appears.

**Figure 2-31 Sequence EDIT Window**



2. Click **MODIFY**. The Sequence window opens.

**Figure 2-32 Sequence Window**

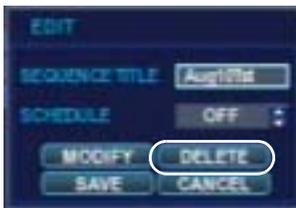


3. Right-click on a step in the sequence, then choose to modify it, to delete it, or to cancel this action.
4. Make the changes, then click **CONFIRM**. Click **CLOSE** to close that sequence.

### Deleting a Sequence

1. Double-click in the **List** column the sequence you want to delete. The EDIT window appears.

**Figure 2-33 Sequence EDIT Window**



2. Click **DELETE**. That sequence disappears from the list of sequences.

### Configuring the Spot-Out Display

This DVR has a single spot monitor output. You can assign the SPOT OUT display for each channel. Using this screen, you can configure which cameras are displayed at the spot output.

1. Click **SPOT OUT** on the left side of the DISPLAY window. The SPOT OUT menu appears.

Figure 2-34 SPOT OUT Menu



2. Click the camera channel to turn the monitor **ON/OFF**.
3. Double-click the spot-out channel that you want to assign. The Edit window appears.

Figure 2-35 SPOT-OUT Edit Window

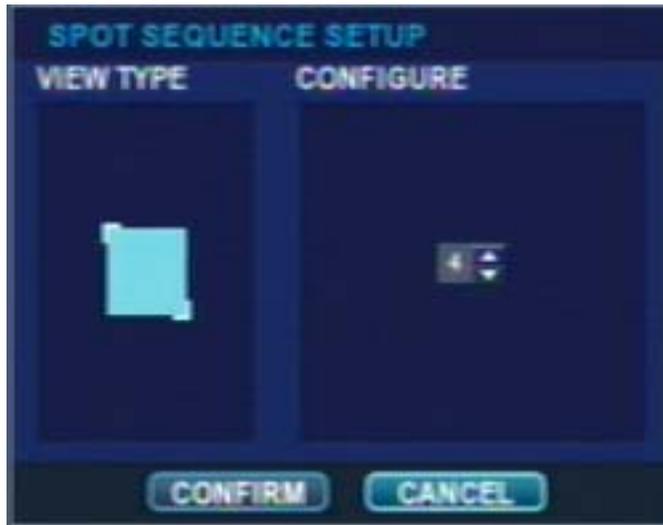


4. Click  to bring up the virtual keyboard to change the Spot Title from DEFAULT. Use the virtual keyboard to enter a name or reference number for the new sequence.
5. Turn the SCHEDULE **ON** or **OFF**.
6. Click **MODIFY**, then double-click the current display to modify it. This window appears.



7. Click **ADD**. The Spot Sequence Setup window appears.

Figure 2-36 Spot Sequence Setup Window



8. Select a screen display layout from the VIEW TYPE, select the channels for the layout from the CONFIGURE panel, then click **CONFIRM**.

---

**Note** You can choose from Single or Quad display only.

---

Click **ADD** to add another mode.

Double-click the current sequence to modify it. The SEQUENCE SETUP window appears.

Click **CLOSE** when you are finished.

The new sequence is now saved and can be started by pressing **SEQ** when in live view.

## Configuring Sound Settings

Select **SOUND** in the Main system setup window, then press . The SOUND setup window opens.

Figure 2-37 Sound Window



## Configuring Audio Settings

1. Click **AUDIO** on the left side of the SOUND window.
2. Use the  to configure the following settings:

<b>LIVE AUDIO</b>	When <b>ON</b> , the selected audio channel can be monitored on the AUDIO OUTPUT.
<b>DEFAULT AUDIO CHANNEL</b>	Specify which one of the four AUDIO INPUTS is routed to the AUDIO OUTPUT.
<b>NETWORK AUDIO TX</b>	When <b>ON</b> , live audio is transmitted to a remote PC connection. Recorded audio is transmitted with video to a remote PC for playback.
<b>NETWORK AUDIO RX</b>	When <b>ON</b> , a remote PC connection can send audio back to the DVR.

## Configuring Buzzer Settings

1. Click **BUZZER** on the left side of the SOUND window.
2. Use the  to turn the keypad buzzer **ON/OFF**.  
When the buzzer is on, each front panel button press is confirmed by a beep.

## Configuring System Settings

Select **SYSTEM** in the Main system setup window, then click . The SYSTEM setup window opens.

**Figure 2-38** System Setup Window



## Configuring the System Date/Time

1. Click **DATE/TIME** on the left side of the SYSTEM window.
2. Use the  to configure the following settings:

<b>DATE &amp; TIME</b>	Set the current date and time
<b>DATE FORMAT</b>	Determine how the date is displayed.
<b>TIME FORMAT</b>	Determine how the time is displayed.
<b>NETWORK TIME SERVER</b>	If the DVR is connected to the internet, the time and date can be accurately set by selecting <b>SYNC</b> and pressing  .
<b>TIME ZONE</b>	Set according to the region in which the DVR is used.
<b>D.S.T.</b>	When on, the DVR will automatically adjust the time by one hour on the relevant date in Spring and Autumn.

## Configuring System Management Settings

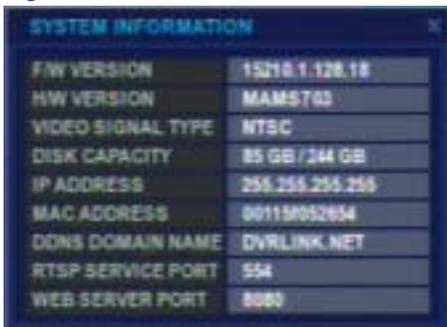
1. Click **SYSTEM MANAGEMENT** on the left side of the SYSTEM window. The SYSTEM MANAGEMENT window appears.

Figure 2-39 System Management Window



2. Click **INFO**. The SYSTEM INFORMATION window appears.

Figure 2-40 SYSTEM INFORMATION Window



The SYSTEM INFORMATION Window displays the following information:

<b>F/W Version</b>	Shows the firmware version of the DVR.
<b>H/W Version</b>	Shows the hardware version of the DVR.
<b>Video Signal Type</b>	PAL or NTSC according to the DIP switch setting on the rear panel of the DVR. See <a href="#">Table 2-2</a> on <a href="#">page 25</a> .
<b>Disk Capacity</b>	The first value shows the amount of hard drive capacity used by recorded footage. The second value shows the total hard drive capacity installed.
<b>IP Address</b>	Shows either the manual IP address entered in NETWORK setup or the IP address assigned by a DHCP server, if enabled.
<b>MAC Address</b>	Shows the MAC (Media Access Control) address of the DVR.  It is unique - no other network device has this MAC address.
<b>DDNS DOMAIN NAME</b>	If DDNS is enabled, the host DDNS server is specified here.
<b>RTSP SERVICE PORT</b>	The port number that the DVR uses to support remote connection from the client software.
<b>WEB SERVER PORT</b>	The port number that the DVR uses to support remote connection from Internet Explorer or other web browsers.
<b>SYSTEM NAME</b>	It is used so that notification e-mails can be identified.
<b>F/W UPGRADE</b>	Firmware updates might be released periodically to enhance system performance and add extra features. You can upgrade the firmware using a USB memory stick.

## Upgrading the Firmware

1. Download the firmware upgrade onto a USB memory stick or burn it to a CD/DVD.
2. Insert the USB memory stick or the CD/DVD into the DVR.
3. Click **UPGRADE**.  
The Firmware Upgrade window appears.

**Figure 2-41** Firmware Upgrade Window



4. Select the firmware from the firmware list, then click **UPGRADE**.  
The firmware upgrade begins.

<b>FACTORY DEFAULT</b>	Use to restore factory default settings.
<b>SYSTEM DATA</b>	System settings can be saved to a USB memory stick. The settings can be reloaded in case of accidental factory default or can be transferred to another DVR if multiple units need to be installed with the same settings. All information is saved apart from the network settings and the system name.
<b>PASSWORD</b>	Activates/deactivates the need for a password to enter specific menus

## Configuring for Controlling DVRs

You can configure your system to control up to 254 DVRs from the same keyboard.

1. Click **CONTROL DEVICE** on the left side of the SYSTEM window.  
The CONTROL DEVICE menu appears.

Figure 2-42 CONTROL DEVICE Menu



2. Use the to configure the following settings:

<b>SYSTEM ID</b>	If more than one DVR is connected on the same RS485 bus, each one must have a unique ID.  <b>Note</b> If you are using more than one DVR on a stack, then each DVR must have a unique ID for being controlled by a remote control.
<b>PROTOCOL</b>	Must be set by Control Device.
<b>BAUD RATE</b>	Must be set to match the baud rate of the PTZ controller.

## Configuring the Users

Select **USER** in the Main system setup window, then click . The USER setup window opens.

**Figure 2-43 USER Setup Window**



By default, the DVR is configured with a user ID of **ADMIN**, belonging to the ADMIN group and with a password of **1234**.

You can add up to seven new users (for a total of eight) and edit existing user details.

### Modifying User Details

1. Highlight the user with the green cursor, press . The Edit window appears.

**Figure 2-44 Edit User Window**



2. Double-click each of the following fields to configure them:

<b>USER ID</b>	Use the virtual keyboard to edit the user ID (up to ten characters).
<b>PASSWORD</b>	Use the virtual keyboard to change the password (up to eight characters).

<b>GROUP</b>	Assign the user to one of three groups: ADMIN, MANAGER, or USER.
<b>E-MAIL</b>	Enter the user's e-mail address (up to 64 characters) if e-mail notification is required.
<b>E-MAIL NOTIFICATION</b>	Enable or disable e-mail notifications for the specified user.

3. Click **OK** to save the settings.

### Adding a New User

1. Click **ADD** in the USER Setup window. The Add window appears.

Figure 2-45 Add User Window



2. Double-click each of the following fields to configure them:

<b>USER ID</b>	Use the virtual keyboard to edit the user ID (up to ten characters).
<b>PASSWORD</b>	Use the virtual keyboard to change the password (up to eight characters).
<b>GROUP</b>	Assign the user to one of three groups: ADMIN, MANAGER, or USER.
<b>E-MAIL</b>	Enter the user's e-mail address (up to 64 characters) if e-mail notification is required.
<b>E-MAIL NOTIFICATION</b>	Enable or disable e-mail notifications for the specified user.

3. Click **OK** to save the settings.

### Configuring User Authority

Click **USER AUTHORITY** on the left side of the USER window. The USER AUTHORITY setup menu opens.

**Figure 2-46 USER AUTHORITY Menu**



Select and click  to change the authority for the Manager and Users. Click **APPLY** after selecting each item.

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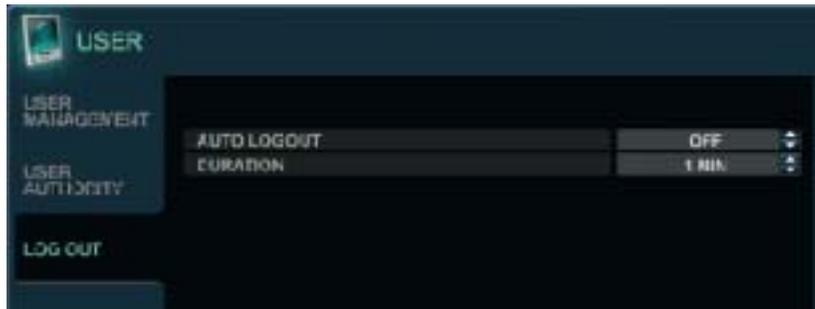
**Note** Any user can be deleted except the default ADMIN user. User authority is effective only when the PASSWORD is **ON** in the System Management Settings. See [Configuring System Management Settings](#) on page 49.

---

## Configuring User Log Out

1. Click **LOG OUT** on the left side of the USER window. The LOG OUT menu appears.

**Figure 2-47 LOG OUT Menu**



2. Use the  to configure the following settings:

<b>AUTO LOGOUT</b>	Enables/disables AUTO LOGOUT.
<b>DURATION</b>	Configure the length of time for the AUTO LOGOUT.

## Configuring the Network Settings

Select **NETWORK** in the Main system setup window, then click . The NETWORK setup window opens.

## Configuring Network IP Settings

Figure 2-48 IP NETWORK Setup Window



Click the **IP SETUP** menu tab if it isn't already selected, then configure the following:

<b>DHCP</b>	When enabled, the DVR will obtain an IP address automatically if it is connected to a DHCP server or router.
<b>IP ADDRESS</b>	If DHCP is not being used, then the IP address can be manually set.
<b>GATEWAY</b>	If DHCP is not being used, then the gateway IP address can be manually set.
<b>SUBNET MASK</b>	If DHCP is not being used, then the subnet mask can be manually set.
<b>1st DNS SERVER</b>	If DHCP is not being used, then the first DNS server can be manually set.
<b>2nd DNS SERVER</b>	If DHCP is not being used, then the second DNS server can be manually set.

<b>RTSP SERVICE PORT</b>	<p>If connected, then the router supports UPNP (Universal plug and play) function. When you click the AUTO PORT, the port forwarding is automatically set up.</p> <p>You can also delete a port and test a port's functionality from here.</p>
<b>WEB SERVER PORT</b>	<p>If connected, then the router supports UPNP (Universal plug and play) function. When you click the AUTO PORT, the port forwarding is automatically set up.</p> <p>You can also delete a port from here.</p> <p>This is the port number that the DVR uses to support remote connection from Internet Explorer or other web browsers.</p>
<b>ALIAS</b>	<p>When you enter the DDNS HOST NAME in DDNS setup (see <a href="#">Configuring Network DDNS</a> on page 56), you can see the information such as:</p> <p>1234.dvrlink.net:8080</p>

## Configuring Network DDNS

1. Click **DDNS** on the left side of the NETWORK window. The DDNS setup menu appears.

**Figure 2-49 DDNS Setup Window**



2. Turn **ON/OFF** the DDNS. When enabled, the DVR can be accessed through a Dynamic DNS server. This function is commonly used if your broadband connection does not have a static IP address.

- Caution** To use the DDNS function, you need to set up port forwarding:
- a. Default WEB SERVICE PORT: 8080
  - b. Default RTSP SERVICE PORT: 554

The default DDNS HOST NAME is your Mac address. You can connect in one of two ways:

(Mac address/Host name)

00115ff00213.dvrlink.net

1234.dvrlink.net (You can enter any DDNS Host name.)

## Configuring for E-mail Notifications

1. Click **E-MAIL** on the left side of the NETWORK window. The E-MAIL setup menu appears.

**Figure 2-50 E-MAIL Setup Menu**



2. Configure the following settings:

<b>SERVER</b>	The SMTP outbound e-mail server that should be used to send e-mail notifications.
<b>PORT</b>	The outbound e-mail port number.
<b>SECURITY</b>	Set to <b>OFF</b> if the SERVER does not require a user name and password to connect.
<b>USER</b>	Enter a user name to identify the DVR in e-mail messages.
<b>PASSWORD</b>	If SECURITY is set to <b>ON</b> , then enter the password.
<b>FROM</b>	Enter an e-mail address or any text. This is used only for a test e-mail from the e-mail sender.
<b>TEST E-MAIL</b>	You can send a test e-mail to check the settings.

## Configuring Event/Sensor Settings

Select **EVENT/SENSOR** in the Main system setup window, then click . The EVENT/SENSOR setup window opens.

**Figure 2-51** EVENT/SENSOR Setup Window



### Configuring for HDD Events

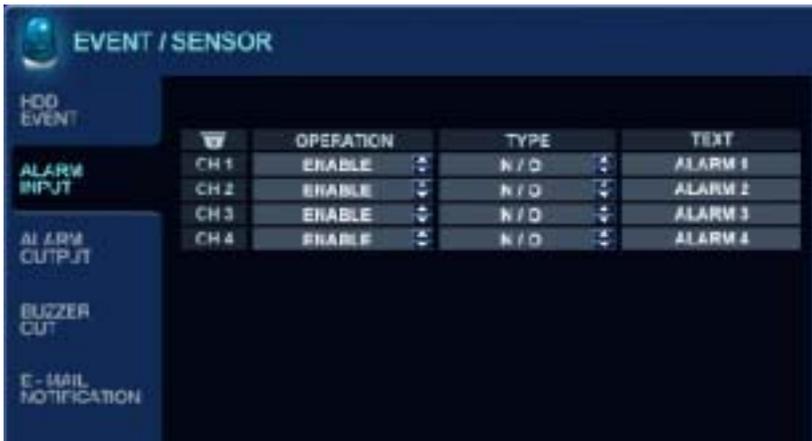
1. Click **HDD EVENT** on the left side of the EVENT/SENSOR window if it is not already selected.  
The HDD EVENT setup menu appears. See [Figure 2-51](#).
2. Configure the DVR to monitor the hard drives and detect problems:

<b>S.M.A.R.T. HDD ALARM</b>	Enables S.M.A.R.T. disk monitoring.
<b>CHECK INTERVAL</b>	Adjust the interval as desired.
<b>DISK FULL EVENT</b>	Select <b>ON/OFF</b> to enable/disable.

### Configuring Alarm Input

1. Click **ALARM INPUT** on the left side of the EVENT/SENSOR window.  
The ALARM INPUT setup menu appears.

Figure 2-52 ALARM INPUT Setup Menu



- Click **OPERATION** and **TYPE** to edit those settings to determine the behavior of each of the alarm inputs:

---

**OPERATION** Enable/disable alarm inputs.

---

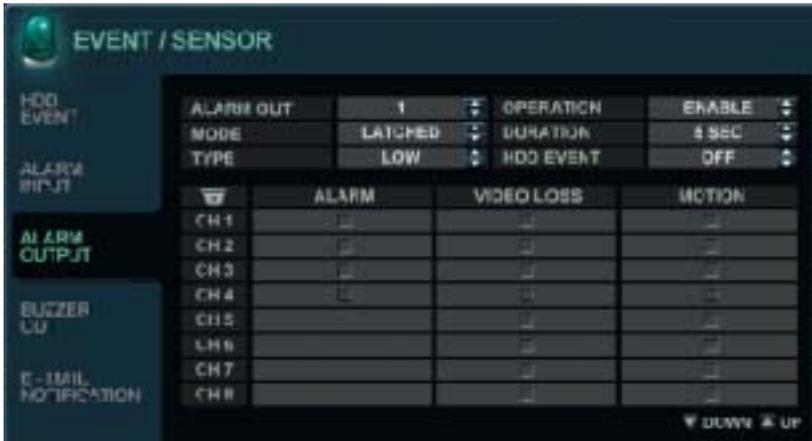
**TYPE** Set alarm inputs to N/O (normally open) or N/C (normally closed).

---

### Configuring Alarm Output

- Click **ALARM OUTPUT** on the left side of the EVENT/SENSOR window. The ALARM OUTPUT setup menu appears.

Figure 2-53 ALARM OUTPUT Setup Menu



The settings you choose for Alarm Output determine the behaviors and actions that will trigger each of the alarm outputs on your DVR.

2. Configure the following behavior settings:

<b>ALARM OUT</b>	Choose to configure a specific alarm output.
<b>OPERATION</b>	Enable/disable the selected alarm output.
<b>MODE</b>	Select from <b>TRANSPARENT</b> (the output is active only when the trigger criteria are present) or <b>LATCHED</b> (the output is active for a set period of time after a trigger).
<b>DURATION</b>	In <b>LATCHED</b> mode, this is the time that the alarm output remains active after it has been triggered.
<b>TYPE</b>	Select from <b>HIGH</b> (0V to +5V when activated) or <b>LOW</b> (+5V to 0V when activated).
<b>HDD EVENT</b>	Determines whether a hard drive event triggers the alarm output.

3. Configure the following action settings:

<b>ALARM</b>	Configure whether the alarm inputs trigger the alarm output.
<b>VIDEO LOSS</b>	Configure whether video loss on any of the selected channels triggers the alarm output.
<b>MOTION</b>	Configure whether motion detection on any of the selected channel triggers the alarm output.

---

**Note** Remember to select **APPLY** and click  to save all settings before exiting these menus.

---

## Configuring Buzzer Out Settings

1. Click **BUZZER OUT** on the left side of the EVENT/SENSOR window. The BUZZER OUT setup menu appears.

Figure 2-54 BUZZER OUT Setup Menu



These settings determine the behavior and actions that will trigger the internal buzzer.

2. Configure the following behavior settings:

<b>OPERATION</b>	Enable/disable the internal buzzer.
<b>HDD EVENT</b>	Determines whether a hard drive event triggers the buzzer.
<b>MODE</b>	Select from <b>TRANSPARENT</b> (the buzzer sounds only when the trigger criteria are present) or <b>LATCHED</b> (the buzzer sounds for a set period of time after a trigger).
<b>DURATION</b>	In <b>LATCHED</b> mode, this is the time that the alarm output remains active after it has been triggered.

3. Configure the action settings:

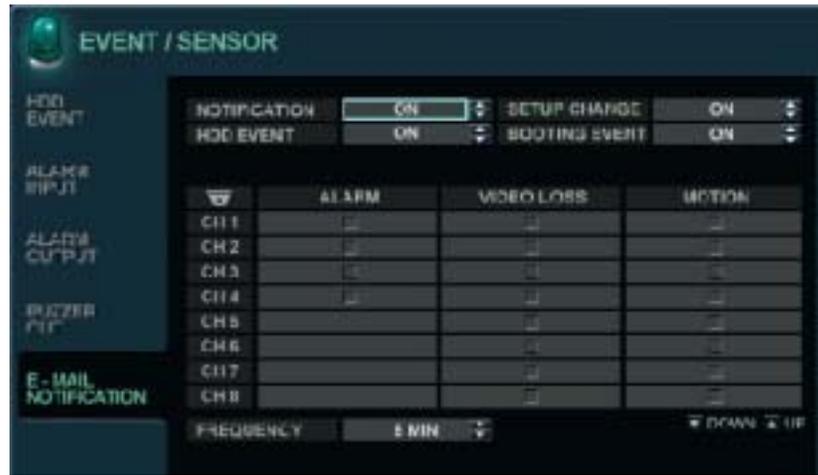
<b>ALARM</b>	Configure whether the alarm inputs trigger the buzzer.
<b>VIDEO LOSS</b>	Configure whether video loss on any of the selected channels triggers the buzzer.
<b>MOTION</b>	Configure whether motion detection on any of the selected channel triggers the buzzer.

**Note** Remember to select **APPLY** and click  to save all settings before exiting these menus.

### Configuring E-Mail Notification

1. Click **E-MAIL NOTIFICATION** on the left side of the EVENT/SENSOR window. The E-MAIL NOTIFICATION setup menu appears.

**Figure 2-55 E-MAIL NOTIFICATION Setup Menu**



These settings determine the behaviors and actions that will send an e-mail to a remote user.

2. Configure the behavior settings:

<b>NOTIFICATION</b>	Turn <b>ON/OFF</b> e-mail notification.
<b>SETUP CHANGE</b>	Configure whether a setup change triggers an e-mail notification.
<b>HDD EVENT</b>	Configure whether a hard drive event triggers an e-mail notification.
<b>BOOTING EVENT</b>	Configure whether a booting event triggers an e-mail notification.

3. Configure the action settings:

<b>ALARM</b>	Configure whether alarm inputs trigger an e-mail notification.
<b>VIDEO LOSS</b>	Configure whether video loss on any of the selected channels triggers an e-mail notification.
<b>MOTION</b>	Configure whether motion detection on any of the selected channels triggers an e-mail notification.
<b>FREQUENCY</b>	E-mail sending period (Maximum 60 minutes).

**Note** E-mail settings must also be configured in the [Modifying User Details](#) on page 52 and [Configuring E-Mail Notification](#) on page 61.

## Configuring Disk Management Settings

Select **DISK MANAGEMENT** in the Main system setup window, then click . The DISK MANAGEMENT setup window opens.

**Figure 2-56** DISK MANAGEMENT Setup Window



Highlight **DISK MANAGEMENT**, then press  to manage the internal hard drives.

<b>RECORD TIME LIMIT</b>	In certain circumstances, it might be necessary to limit the amount of footage stored on the DVR (to comply with data protection laws for example).  Recording can be limited to 12 hours, 1 day, 2 days, 3 days, 1 week, or one month.  When the DVR has this amount of footage stored, it will start to overwrite the earliest recorded footage.
<b>OVERWRITE</b>	When <b>ON</b> , the DVR starts overwriting the earliest recorded footage once the hard drive becomes full. In this case, the percentage of hard drive used shown in live display will always be 99%.  When set to <b>OFF</b> , the DVR continues recording from that time until the hard disk capacity is full. The DVR will Overwrite all video that was recorded before the time that Overwrite was set to <b>OFF</b> , and then the DVR will stop recording.
<b>FORMAT</b>	If necessary, use this option to erase all footage from the DVR.

**Note** When a **RECORD TIME LIMIT** is set, the **OVERWRITE** option cannot be changed.

## RECORD SETUP

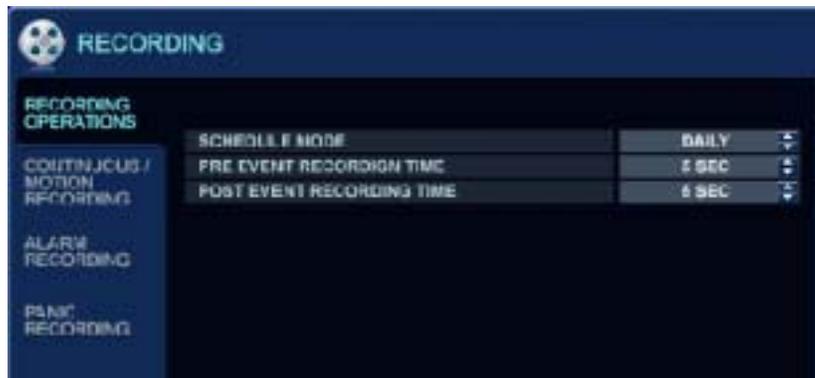
Click **MENU**  on the control panel.  
The SETUP window appears.

**Figure 2-57** SETUP Window



Click **RECORD SETUP** in the SETUP window.  
The RECORDING window appears.

**Figure 2-58** RECORDING Setup Window



## Configuring the Recording Behavior of your DVR

Use the  to configure the settings on the RECORDING OPERATION window. See [Figure 2-58](#).

<b>SCHEDULE MODE</b>	Select either <b>DAILY</b> (one schedule applies to every day of the week) or <b>WEEKLY</b> (each day of the week has its own schedule).
<b>PRE EVENT RECORDING TIME</b>	When the DVR is not in continuous recording mode, this setting determines the amount of time that is always recorded before an event (motion detection, alarm input, for example) occurs.
<b>POST EVEN RECORDING TIME</b>	When the DVR is not in continuous recording mode, this setting determines the amount of time that is always recorded after an event (motion detection, alarm input, for example) occurs.

## Configuring Continuous/Motion Recording

1. Click **CONTINUOUS/MOTION RECORDING** on the left side of the RECORDING setup window.  
The CONTINUOUS/MOTION RECORDING Setup window opens.
2. Press  to choose this window.

**Figure 2-59** CONTINUOUS/MOTION RECORDING Setup Window



3. Use this window to configure scheduled and motion detection settings. There are two tabs for configuration:

---

**SIZE/FPS/QUALITY** Recording settings for each channel can be defined across a 24-hour period, in blocks (for example between 09:00 and 18:00), or for each individual hour.

**Note** When SCHEDULE MODE is set to WEEKLY, each day of the week can also be selected.

---

**ACTIVATION** Use this tab to configure at what times the DVR records and whether it records continuously or as a result of motion detection.

---

### Configuring SIZE/FPS/QUALITY

1. If it is not already selected, select **SIZE/FPS/QUALITY** on the CONTINUOUS/MOTION RECORDING setup menu.  
The SIZE/FPS/QUALITY setup menu opens.

**Figure 2-60 Configuring SIZE/FPS/QUALITY Time Bar**

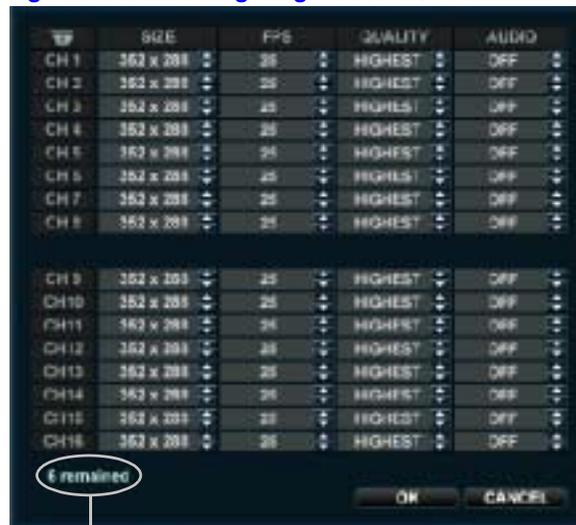


Each green cursor box represents one hour.

The table below the time bar shows the recording settings for this time period.

2. Select a length of time on the schedule. A new configuration window opens.

**Figure 2-61 Configuring SIZE/FPS/QUALITY Window**



Frames available

3. Configure the SIZE, FPS, QUALITY, and AUDIO for each channel. Click  to save a setting. Click  to cancel a setting and exit that setting.

**Table 2-4 Configurations for Continuous/Motion Recording**

Configuration	Description
<b>SIZE</b>	Select recording resolutions of 352x240, 704x240, or 704x460 (NTSC) can be selected for each channel.
<b>FPS</b>	Frame rates between 1 and 30 can be set for each channel.
<b>QUALITY</b>	Four different picture recording qualities can be set for each channel.
<b>AUDIO</b>	<p>If audio devices are connected to the DVR, you can turn the audio recording <b>ON/OFF</b>. Any audio channel can be assigned to any of the video channels. Please refer to your camera's setup menu.</p> <p>During playback, when a particular channel is selected in full screen, the assigned audio channel plays back at the same time.</p>

4. Select **OK**, then press  to save your settings. Press  or navigate to **CANCEL** then press  to exit without saving the changes.

When configuring 16 channels, the channels are divided into two groups of 8.

---

**Note** The maximum recording frame rate for each group is 240FPS at a resolution of 1 CIF (352x240).

---

Four channels can be recorded in full D1 (4CIF@704x480) resolution, with a maximum of 2 two channels from each group.

---

**Note** Remember that if the SCHEDULE MODE is set to WEEKLY, then the recording settings should be changed for each day as well as for each particular time.

---



---

**Note** This DVR supports a maximum recording rate across all channels of 480 frames per second at 352x240 resolution. As the settings are adjusted, the "frames available" at the bottom left displays the number of available frames still remaining and must always be zero or higher. See [Configuring SIZE/FPS/QUALITY Window](#) on page 66.

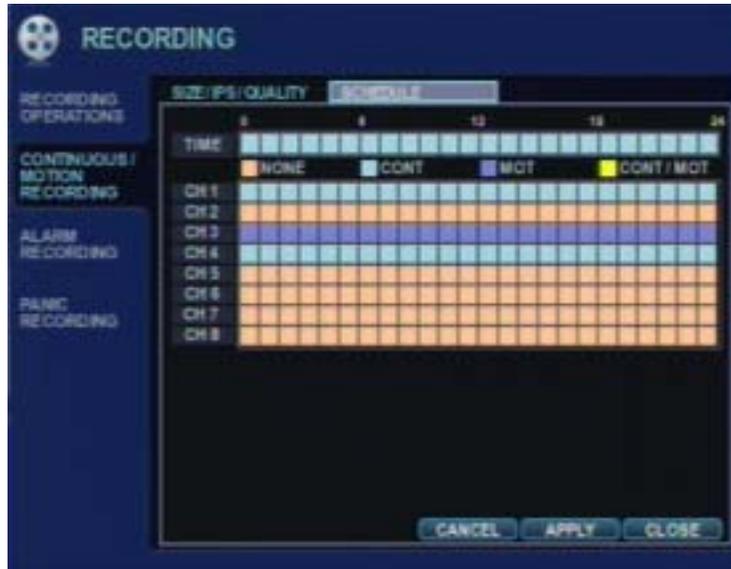
If, while changing recording settings, this figure becomes negative, then the recording resolutions and/or frame rates must be lowered to increase the "frames available" value to zero or above.

---

## Configuring the Schedule

1. Use the cursor keys to navigate to **SCHEDULE**, then press .

**Figure 2-62** Configuring the Schedule



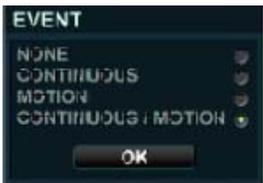
2. To change the SCHEDULE settings, press  again. The schedule box highlights in green.
3. Press and hold , then use the cursor keys to drag and select the recording time and the channels.

**Figure 2-63** Selected Channels and Time



4. Click  again when you have made your selection. The EVENT window opens.

Figure 2-64 EVENT Window



5. Select the type of event recording (NONE, CONTINUOUS, MOTION, CONTINUOUS/MOTION), then click **OK**. The EVENT window closes.

### Color Codes for the Schedule Screen

The schedule screen uses four differently colored blocks to indicate the different recording modes.

Table 2-5 Color Codes for the Recording Modes

Block Color	Recording Mode
PINK	No scheduled or motion recording.
SKY BLUE	Continuous recording.
BLUE	Recording triggered by motion detection.
YELLOW	Continuous recording and recording triggered by motion detection.

## Configuring Alarm Setup

Click **ALARM RECORDING** on the left side of the RECORDING setup window. The ALARM RECORDING Setup window opens.

Configure ALARM RECORDING in the same way you configure CONTINUOUS/MOTION RECORDING. See [Configuring Continuous/Motion Recording](#) on page 65 for more information.

### SIZE/FPS/QUALITY and SCHEDULE Configuration Fields

<b>SIZE/FPS/QUALITY</b>	Recording settings for each channel can be defined across a 24-hour period, in blocks (for example between 09:00 and 18:00), or for each individual hour.  <b>Note</b> When SCHEDULE MODE is set to WEEKLY, each day of the week can also be selected.
<b>SCHEDULE</b>	Use this tab to configure at what times the DVR records and whether it records continuously or as a result of motion detection.

---

**Note** Alarm-activated recording can be used in conjunction with Continuous/Motion Recording. For example, you can configure your DVR to record continuously at a low frame rate (set in Continuous/Motion Recording), and then to increase to a higher frame rate during an alarm input (set in ALARM SETUP).

---

## Configuring Panic Recording

Click **PANIC RECORDING** on the left side of the RECORDING setup window. The PANIC RECORDING Setup window opens.

**Figure 2-65 PANIC RECORDING Setup Window**



During Panic Recording, the DVR overrides all other recording settings and uses the settings configured here to record continuously on all channels.

Press **↔** to enable configuration of SIZE, FPS, QUALITY, and AUDIO for each channel during Panic Recording. A new configuration window opens. Use the cursor keys to navigate to the configurable fields. Press **←** to enable the configurable field for configuration. Press **→** to save a setting. Press **⊙** to delete a setting and to escape to a different configurable field.

Navigate to **OK** and press **↔** to save the settings. Navigate to **CANCEL** and press **↔** or press **⊙** to escape from this window.

## DVR Operation

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### Searching for Video

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Use the SEARCH function to search for a particular section of recorded footage.

To prevent unauthorized viewing of footage, only users with ADMIN or MANAGER user levels can play back footage.

### Searching for Video

1. Log on as ADMIN. See [Logging On](#) on page 28.
2. Navigate to **SEARCH**  on the control panel, then click . The SEARCH window appears.

**Figure 3-1** SEARCH Window



The DVR uses a calendar and timeline search method for quick access to recorded footage.

The calendar displayed on the left in *Figure 3-1* shows the current month. Days highlighted in blue have recorded footage.

The timeline on the right shows a 24-hour status of all channels for the selected day.

The recorded time displays with a different color for each recording type.

**Table 3-1 Recording Type Indicator Colors**

Recording Type	Color
Panic	White
Motion	Green
Timer	Sky blue
Alarm	Red
Pre-Recording	Pink

## Searching the Calendar

1. Press  to enable the SEARCH BY DATE/TIME window.
2. Use the cursor keys to highlight the calendar, then press  to select.
3. Use the cursor keys to navigate to a day.  
The timeline display changes to show recorded footage for the selected day.
4. Press  to select a day. The timeline field becomes active.
5. Use the cursor keys to drag the timeline to select the desired time segment, then press  to select.
6. Click **PANO**, then press  to play in Thumbnail mode; click **PLAY**, then press  to play in Multi View mode.

## Searching in PANO Mode

When you press  after selecting **PANO** mode, the PANO playback window appears.

Figure 3-2 PANO Playback Window



Each channel screen contains a 3-hour segment of recorded data.

Channel	Time frame
CH1	00:00 - 03:00
CH2	03:00 - 06:00
CH3	06:00 - 09:00
CH4	09:00 - 12:00
CH5	12:00 - 15:00
CH6	15:00 - 18:00
CH7	18:00 - 21:00
CH8	21:00 - 24:00

Select a channel, and you can play back the recorded video at a speed of up to 64x. See [Changing the Playback Speed](#) on page 74 for more information.

### Searching in MULTI VIEW Mode

Press  after selecting **PLAY**.  
The playback window appears.

**Figure 3-3 Playback Window**



This is the Multi View PLAY mode. The default playback mode is a 16-screen display.

**Figure 3-4 Playback Controls**



DISPLAY button

### Switching to Viewing a Single Channel

Press **DISPLAY** (See [Figure 3-4](#)) or use the **CHANNEL SELECTION** buttons on the front panel or the remote control to select a channel for displaying on a single screen, or to choose other multi screen formats.

### Changing the Playback Speed

During playback, turning the **SHUTTLE WHEEL** (see [Figure 2-1](#)) steadily clockwise increases the playback speed by up to 64 times.

During playback, turning the **SHUTTLE WHEEL** steadily counter-clockwise will reverse playback with an increasing speed up to 64 times.

### Viewing Footage Frame by Frame

When playback is paused, use the **JOG RING** (see [Figure 2-1](#)) or the fast forward or fast reverse buttons to accurately move the footage forward or backward frame by frame.

You can use a mouse or the DVR front panel controls to control playback speed and direction.

## Marking Recorded Video During Playback for Archiving

During playback, you can reserve recorded data that you want to archive.

1. Click  at the point in the recorded video when you want to start archiving. Video playback stops and the INFORMATION window appears.

**Figure 3-5** INFORMATION Window



2. Enter a TAG name, then click **START**. The display returns to playback format and playing recorded video.
3. Click  at the point at which you want archiving to end. The INFORMATION window appears again.
4. Click one of the following buttons:

Button	Function
<b>RESERVE</b>	Click to reserve the currently selected data. See note below.
<b>CONTINUE</b>	Click to reserve more data. The display returns to playback mode.
<b>START</b>	Click to start reserving data.
<b>STOP</b>	Click this button first to reserve current data. Then you can select <b>RESERVE</b> .
<b>CLOSE</b>	Click to exit without reserving recorded data.

---

**Note** You must reserve data so it can be retrieved later for Archiving.

---

**Note** Reserved data will be reserved on the hard disk drive. You can use the **RESERVED DATA MANAGEMENT** function on the **ARCHIVING** menu to see the reserved data. See [Using RESERVED DATA MANAGEMENT to See Archived Data](#) on page 79.

---

## Exiting Playback Mode

To exit the playback mode and return to the Search window (see [Figure 3-1](#)), press .

To exit the Search window and return to Live View, press  again.

## Searching for Events

The DVR event log stores events such as motion- and alarm-activated recording, and video loss.

1. Log on as ADMIN. See [Logging On](#) on page 28.
2. Navigate to **SEARCH**  on the control panel, then click . The SEARCH window appears.

**Figure 3-6** SEARCH Window



3. Navigate to **SEARCH BY EVENT**, then click . The SEARCH BY EVENT window appears.

**Figure 3-7 SEARCH BY EVENT Window**



4. Select a channel and a condition, and then use  to change the settings.
5. Click **SEARCH** to begin the search.

### Playing Event Footage

Use the cursor keys to navigate the search log (see [Figure 3-7](#)), then click  to select an event.

The playback window appears.

**Figure 3-8 Playback Window**



Playback begins with the time of the selected event, and continues until you stop playback.

You can use the SHUTTLE WHEEL, JOG RING, and playback buttons during playback.

To stop playback and return to Live View, press  repeatedly.

---

## Archiving Data

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Administrators can archive data to a USB memory stick or a CD/DVD. To protect unauthorized viewing and distribution of footage, only users with ADMIN level of authority (see *Configuring User Authority* on page 51) can archive data.

### Using NEW ARCHIVING to Archive Data

1. Press **BACKUP** on the front panel or use a mouse click **ARCH** on the control bar. The ARCHIVING window appears.

**Figure 3-9 ARCHIVING Window**



2. Query to find recorded video:
  - a. Select the channel(s) you want to query by clicking on the box to enable or disable the check mark.
  - b. Select a time by clicking on the time field you want to change, then using the up/down arrows  to find the desire value.
  - c. Click **QUERY**.

---

**Note** To reset the QUERY function, click **RELEASE**.

---

3. Enter a TAG name in the TAG field.
4. Click **RESERVE** or **BURN**.  
The BURNING window appears after you click **BURN**.

**Figure 3-10 BURNING Window**



5. Select a DEVICE and a BURNING TYPE, then click **START** in the BURNING menu.

## Using RESERVED DATA MANAGEMENT to See Archived Data

1. Press **BACKUP** on the front panel or use a mouse click **ARCH** on the control bar.  
The ARCHIVING window appears. See [Figure 3-9](#).
2. Click **RESERVED DATA MANAGEMENT** on the left side of the ARCHIVING window.  
The RESERVED DATA MANAGEMENT window appears.

**Figure 3-11 RESERVED DATA MANAGEMENT Window**



The AVI ARCHIVING LIST displays the AVI archiving data that was reserved from the NEW ARCHIVING menu or archived during a search/playback session. See [Marking Recorded Video During Playback for Archiving](#) on page 75.

**Table 3-2 AVI ARCHIVING LIST Functions**

<b>Button</b>	<b>Function</b>
<b>INFORMATION</b>	View the detailed information of reserved AVI data.
<b>DELETE</b>	Delete the reserved AVI data.
<b>BURN</b>	Backup the selected AVI data.

Select a clip by name in the AVI ARCHIVE LIST, then click **BURN**.

3. Select a **DEVICE** and a **BURNING TYPE**, then click **START** in the **BURNING** menu.

## Using the Web Remote Viewer

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### Preparing for an Internet Connection

---

#### Port Forwarding

For an internet connection, you should set ports 554 and 8080 in your Router for port forwarding.

Refer to your Router manual for port forwarding settings.

#### Minimum Internet Requirements

**Table 4-1 Internet RA Minimum PC Requirements**

CPU	P4 3.0 or higher
RAM	512MB or higher
VGA	<ul style="list-style-type: none"> <li>• Geforce MS 400, Radeon 7500 or higher</li> <li>• Geforce 8 series or higher</li> </ul>
VGA Memory	64MB
Monitor	1280x1024
OS	Microsoft® Windows® XP2
IE Version	IE6.0 or higher (other browsers, Firefox for example, might not operate properly)
Network	100Mbps
DirectX®	V7.0 or higher

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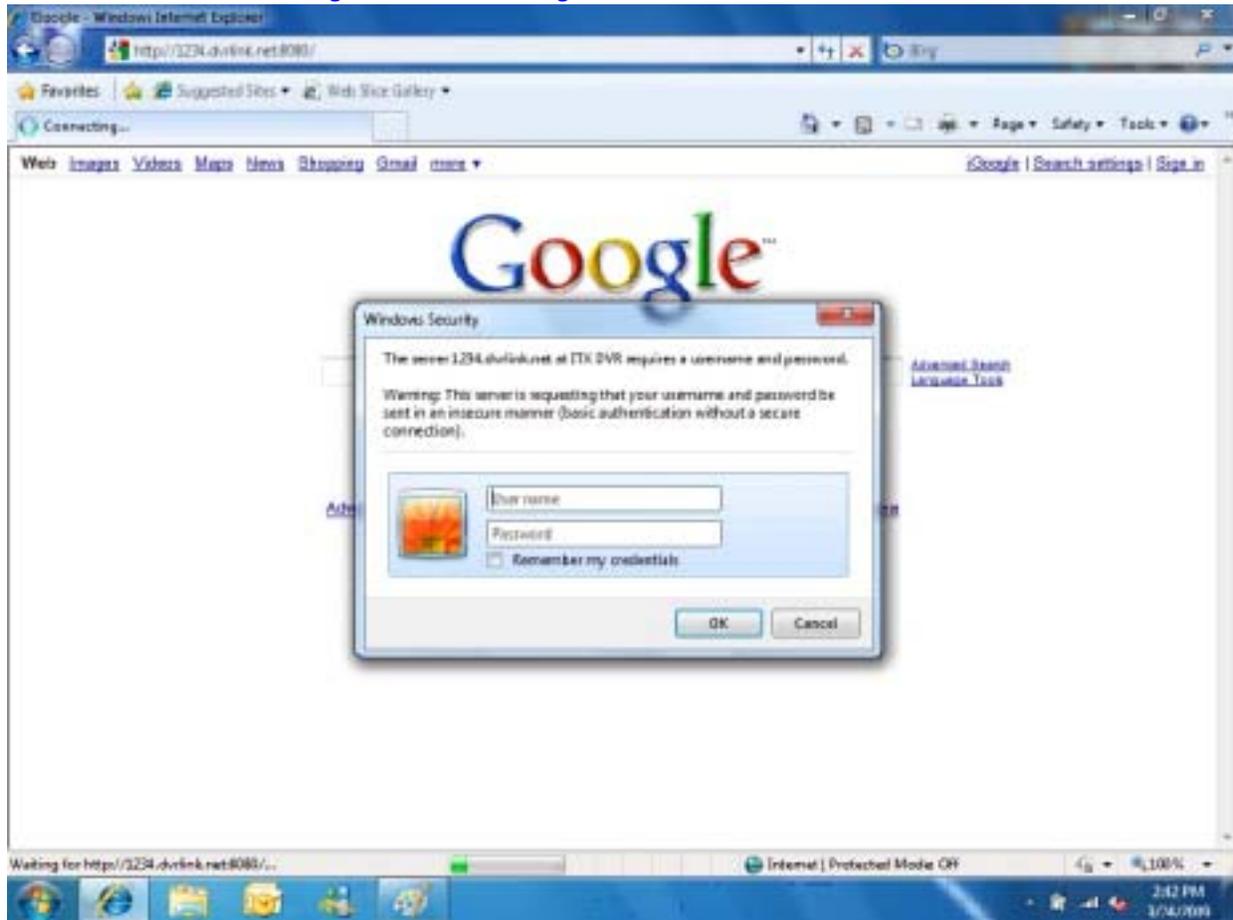
## Connecting to the Internet

---

1. Open IE.
2. Enter the IP Address or the URL of your DVR into the IE Explorer Address bar. When using the DDNS services, enter the URL as shown below:
  - `http://1234.dvrlink.net:8080` (webport:8080), or
  - `http://1234.dvrlink.net` (webport:80)

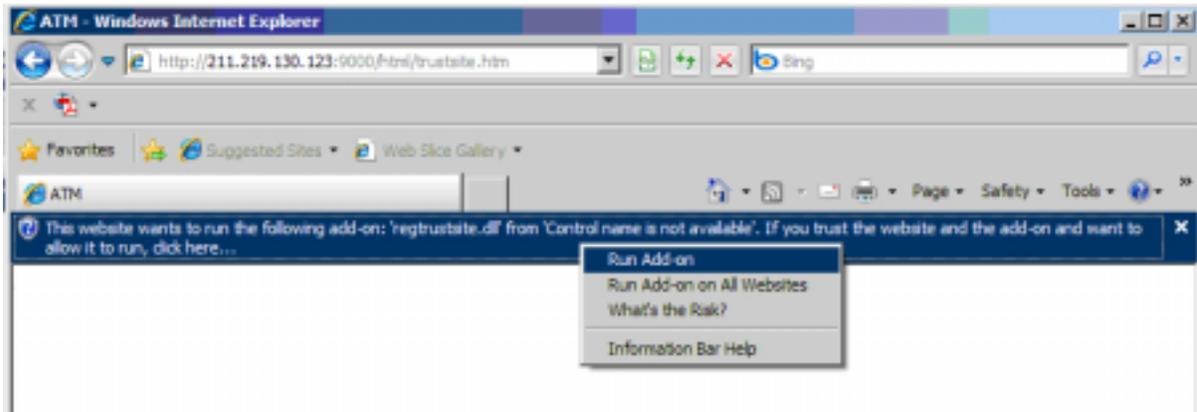
The Windows Security window opens.

**Figure 4-1** Entering the User Name and Password for Internet Connection



3. Enter the Default ID (**ADMIN**) and password (**1234**), then click **OK**. The ATM-Windows Internet Explorer Add-On option window opens.

Figure 4-2 ATM-Windows Internet Explorer Add-on Option Window



4. Select **Run Add on** to install ActiveX.  
An ActiveX Installation window opens.

Figure 4-3 ActiveX Installation Window

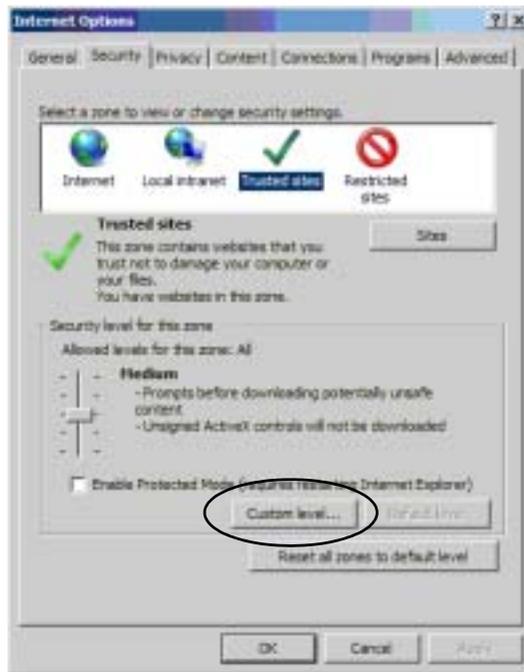


5. Click **Install** to install ActiveX.

## Enabling the Installation of ActiveX

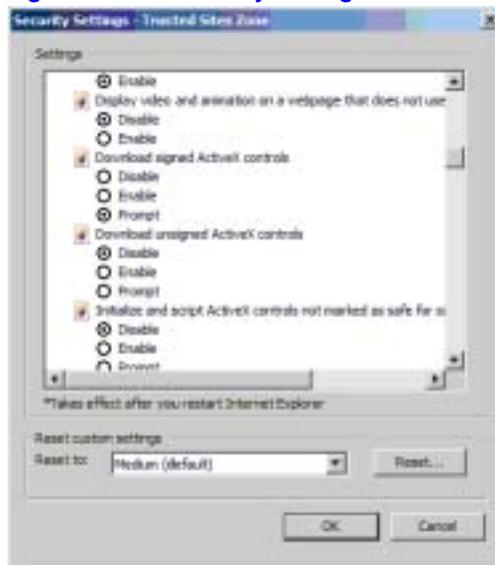
You might not be able to install ActiveX due to some Internet Explorer security settings. To change these security settings, go to **Tools > Internet Options > Security > Custom Level**. The Internet Options window opens.

Figure 4-4 Internet Options Window in IE



6. Click **Custom level...**. The Security Settings - Trusted Sites Zone window appears.

Figure 4-5 Security Settings - Trusted Sites Zone Window



7. Select **Enable** for all ActiveX-related options, then click **OK** to save the changes.

## Live Mode

Figure 4-6 Live Mode in an Internet Connection

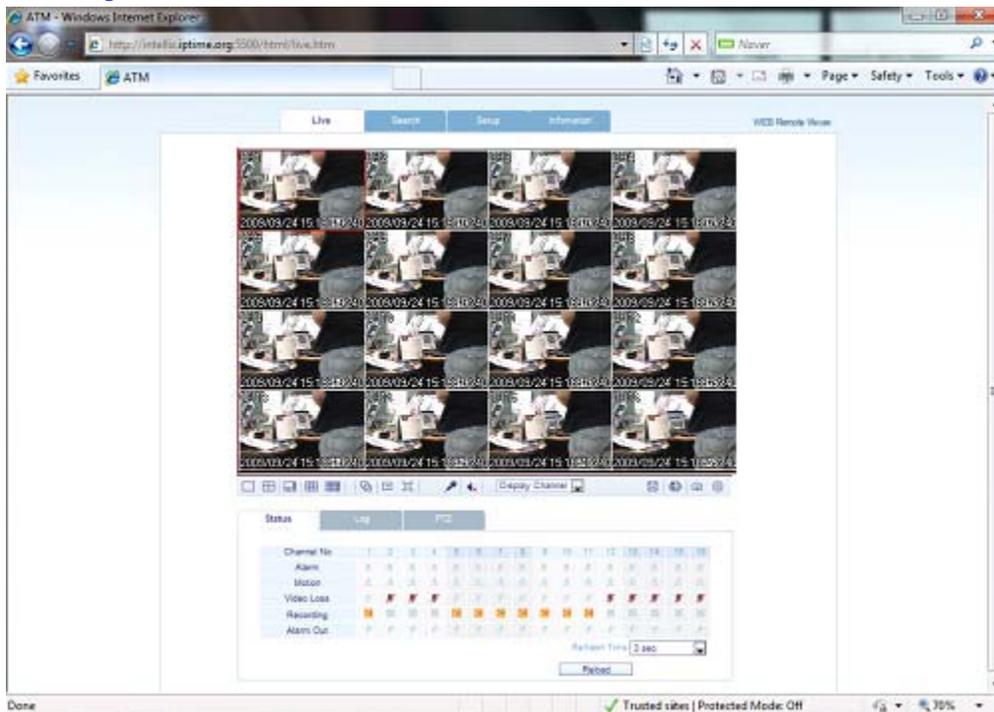
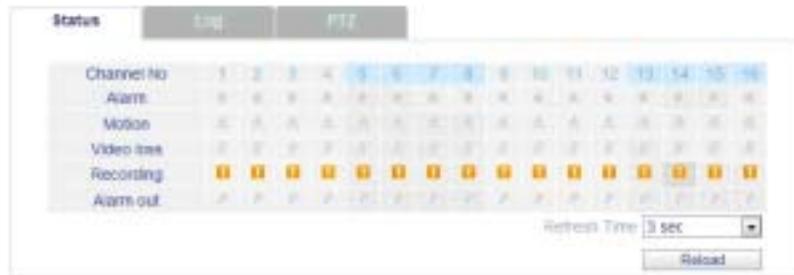


Table 4-2 Live Mode Functions

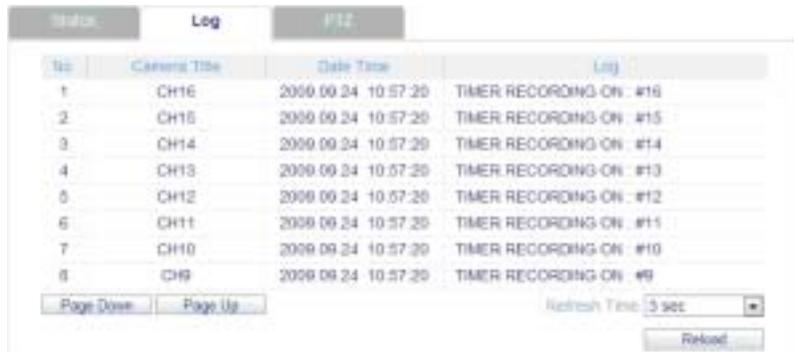
Live Mode Function	Description
	Select the division of the screen in Live view mode. Select from 1, 4, 8, 9, and 16 screens.
	<ul style="list-style-type: none"> <li>Move to next N cameras, for example from ch1-4 to ch5-8 in 2x2 view</li> <li>Move to the next camera</li> <li>Display Full Screen</li> </ul>
	Manually select the live channel.
	<ul style="list-style-type: none"> <li>Activate Mic to send sound to the DVR.</li> <li>Turn <b>On/Off</b> sound from the DVR.</li> </ul>
	<ul style="list-style-type: none"> <li>Save the live image.</li> <li>Print the current screen.</li> <li>Snapshot the current screen.</li> <li>Setup [Render] [Save Folder] and select which audio channel plays.</li> </ul>

**Table 4-2 Live Mode Functions**

Live Mode Function	Description
<b>Status</b>	Shows the active status of the DVR: <b>Alarm</b> - Indicates an Alarm input. <b>Motion</b> - Indicates detected Motion. <b>Video Loss</b> - Indicates when a Video Loss alarm is detected. <b>Recording</b> - Indicates the current recording mode (T=Continuous; M=Motion; A=Alarm recording) <b>Alarm Out</b> - Indicates when an Alarm Output is detected. <b>Refresh Time</b> - Set the interval of Refresh for the camera status and log. <b>Reload</b> - Instantly refresh the camera status and log.



**Log** Displays all system logs in real time.



**PTZ** Allows you to control connected PTZ cameras.



**Pattern** - Move a PTZ camera through several preset positions.  
**Preset** - Set the position of a PTZ camera view.  
**Swing** - Move a PTZ camera between two preset points.  
**Position Step** - PTZ camera pan distance refinement.

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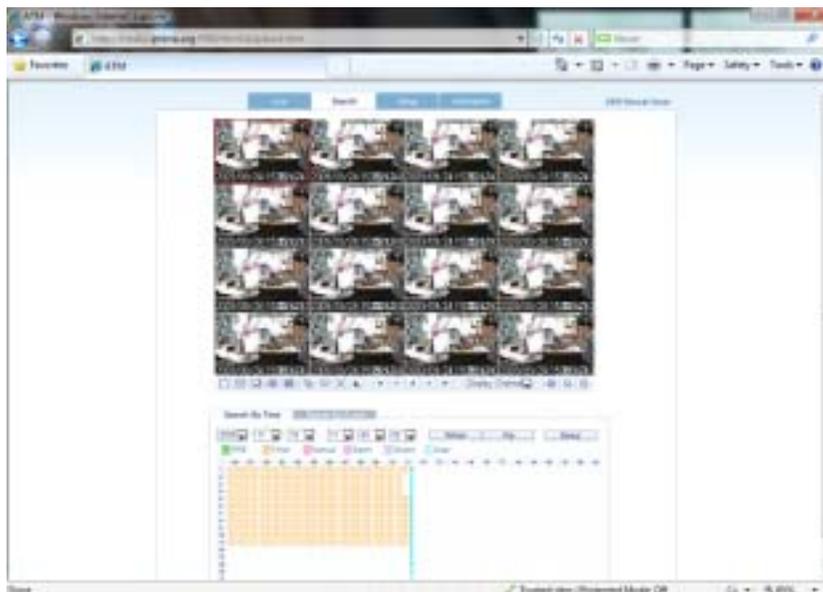
## Searching for Recorded Video

---

### Searching by Timeline

1. Click **Search** in the Live mode window.  
The Search window appears.

**Figure 4-7 Internet Search Window**

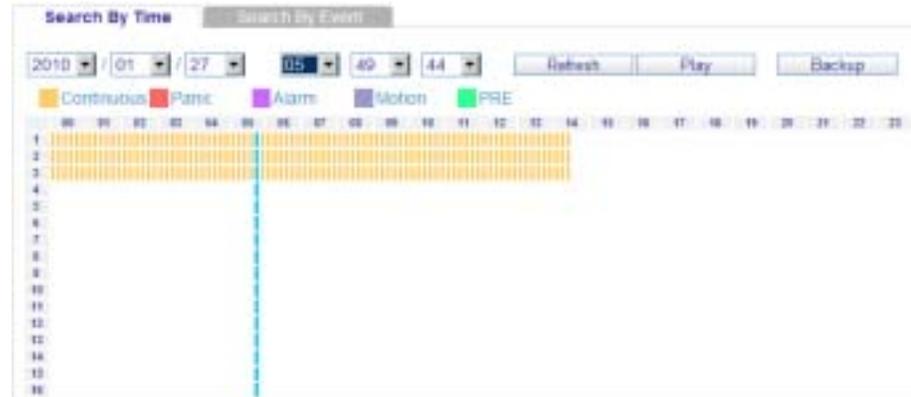


In this window, you can do the following functions:

Function	Description
<b>Refresh</b>	Refresh the data in the recording table.
<b>Play</b>	Play the data recorded from the system.
<b>Backup</b>	Save to the local computer an AVI video clip file from video that was recorded at the remote site DVR.

2. Click **Search By Time** if it isn't already selected.

**Figure 4-8 Searching By Timeline**



3. Select a timeline on the timetable, or set an exact time, then click **Play**.
4. Click **Backup**, and the Backup configuration window opens.

**Figure 4-9 Backup Configuration Window**



## Searching by Event

1. Click **Search By Event**. The Search By Event window opens.

**Figure 4-10 Search By Event Window**



2. Select the type(s) of event(s) you want to search.

- Configure a time frame for the search in the **From** and **To** fields for the Time Period, then click **Search**. The results of the search display.

**Figure 4-11 Event Search Query Results**

Date / Time	Log
2010-01-26 18:25:26	Local Log Off: Live Display: ADMIN
2010-01-26 18:25:25	Local Log Off: System Setup: ADMIN
2010-01-26 18:24:05	Local Log On: System Setup: ADMIN
2010-01-26 18:23:28	Local Log On: Live Display: ADMIN
2010-01-26 17:45:32	Local Log Off: Live Display: ADMIN
2010-01-26 17:44:30	Local Log Off: System Setup: ADMIN
2010-01-26 17:44:20	Local Log On: System Setup: ADMIN
2010-01-26 17:44:11	Local Log On: Live Display: ADMIN

---

## Setup Mode

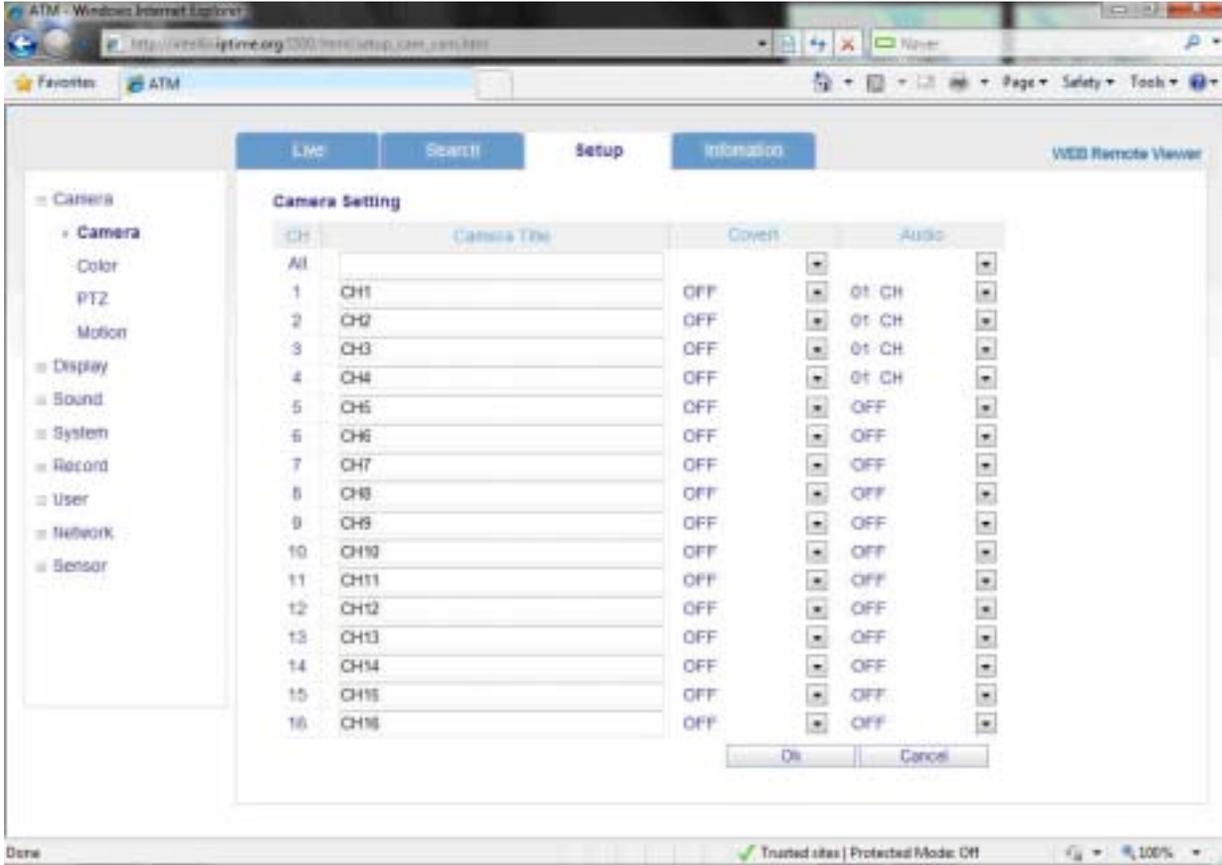
---

In the Setup window, in the field on the left, you can access configuration menus for configuring:

- Cameras
- The display
- Sound parameters
- System setup
- Recording parameters
- Users
- The network connection
- Sensors

Click **Setup** in the Live mode window.  
The Setup Camera Setting window displays.

Figure 4-12 Internet Connection Camera Setup Window



## Using an Internet Connection to Configure a Camera

You can configure a camera's title, live color display, PTZ setup, and motion detection settings.

1. Click **Camera** again under Camera in the field on the left. *Figure 4-12* appears.
2. Make your configuration selections, and then click **Ok** to save.

## Configuring Motion Detection

1. Click **Motion** under Camera. The Motion Setting window opens.

Figure 4-13 Motion Setting Configuration Window



2. Select a channel and a sensitivity level.
3. Drag your mouse on the image to select a detection area.
4. Click **OK**.

See [Configuring PTZ Camera Parameters](#) on page 31 for more information.

## Configuring the On-Screen Display

You can choose which text items display over the image.

Click **OSD** under Display in the field on the left. The OSD Setting window opens.

Figure 4-14 OSD Setting Window

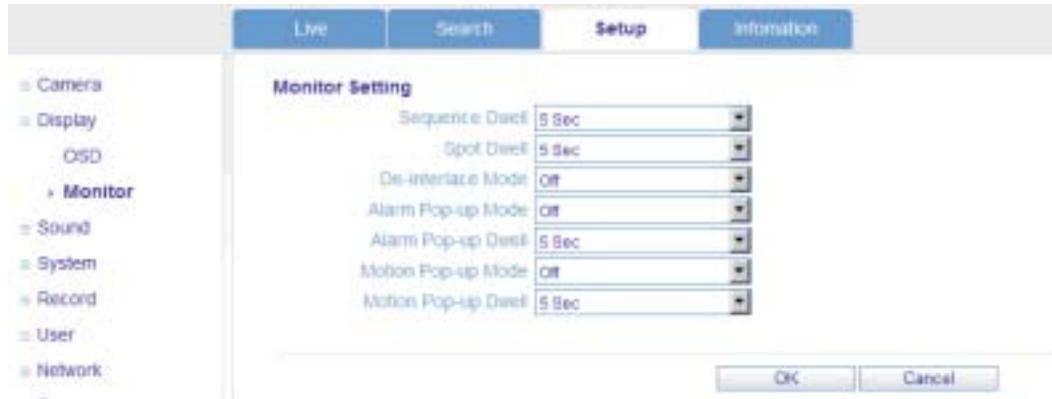


See [Configuring the Display](#) on page 39 for more information about configuring the display.

## Configuring the Monitor

Click **Monitor** under Display in the field on the left. The Monitor Setting window opens.

**Figure 4-15** Monitor Setting



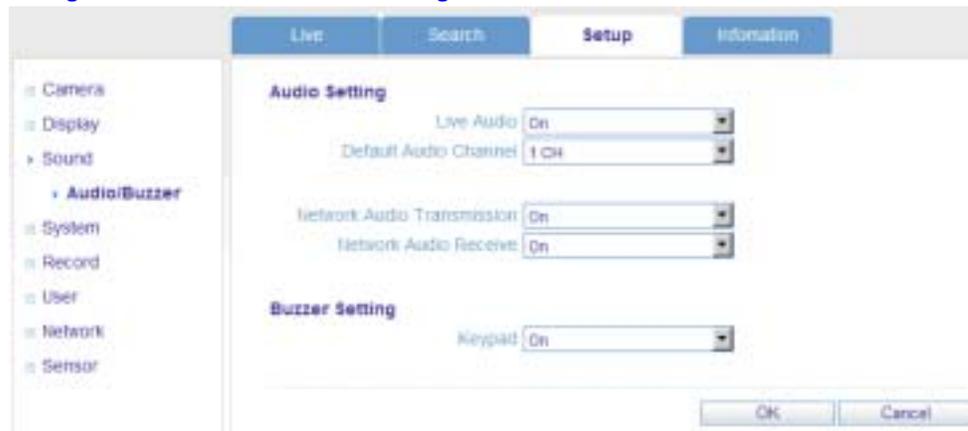
You can set the dwell time for a sequence or spot, and for the pop-up functions.

See [Configuring the Monitor Display](#) on page 40 for more information.

## Configuring the Sound Settings

Click **Audio/Buzzer** under Sound in the field on the left. The Audio and Buzzer Setting window opens.

**Figure 4-16** Audio/Buzzer Setting Window



## Audio Setting

Enable/disable Audio and select a default audio channel.

## Buzzer Setting

Enable/disable the buzzer for event notification.

See [Configuring Sound Settings](#) on page 45 for more information.

## Configuring the System Setup

Click **System** in the field on the left. The Date/Time Setting window opens.

**Figure 4-17** Date/Time Setting Window

The screenshot shows the 'Date/Time Setting' window. The left sidebar has a tree view with 'System' expanded to 'Date/Time'. The main content area has the following settings:

- Date Format: YYYYMMDD
- Time Format: 24 Hour
- Network Time Server Setup: PTCLNTP.ORG
- Time Zone Setup: GMT+00:00 Asia/Seoul
- D.S.T: OFF

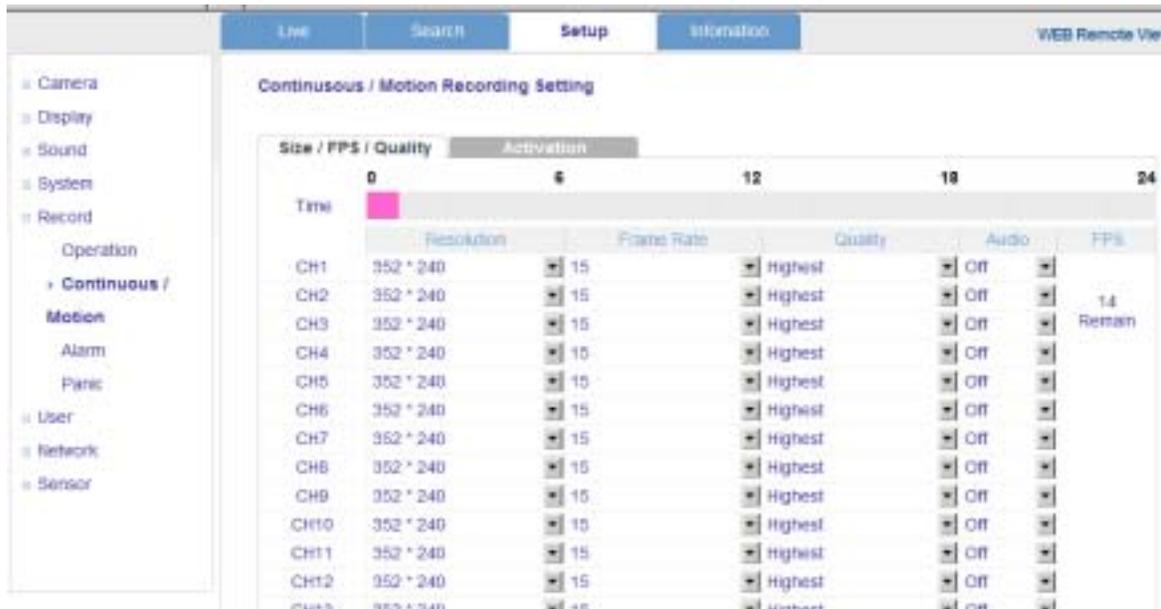
Buttons for 'OK' and 'Cancel' are located at the bottom right of the window.

You can configure the date and time for the system, check system information, and configure the system ID, serial port protocol, and baud rate for the control device. See [Configuring System Settings](#) on page 46 for more information.

## Configuring the Recording Settings

Click **Record** in the field on the left. The Continuous/Motion Recording Setting window opens.

**Figure 4-18 Continuous/Motion Recording Setting Window**



You can configure the recording settings. Configuring recording settings is similar to configuring system settings. See [Configuring the Users](#) on page 49 for more information.

## Configuring Users

Click **User** in the field on the left. The User Authority Setting window opens.

**Figure 4-19 User Authority Setting Window**



You can add a user, select a user's authority level, and configure the user's log-out time. See [Configuring the Users](#) on page 49 for more information.

## Configuring the Network

Click **Network** under Network in the field on the left. The IP Setup Setting window opens.

Figure 4-20 IP Setup Setting Window



You can check the system’s network information and selectable speed level. You cannot change IP settings. The network IP can be set only on the DVR. See [Configuring the Network Settings](#) on page 52 for more information.

## Configuring E-mail Notification

Click **E-mail** under Network in the field on the left. The E-mail Setting window opens.

Figure 4-21 E-mail Setting Window



You can enter the SMTP server details to set up for e-mail notification. See [Configuring E-Mail Notification](#) on page 59 for more information.

## Configuring Sensors

Click **Sensor** under Sensor in the field on the left. The Alarm Output Setting window appears.

Figure 4-22 Alarm Output Setting Window



Users with ADMIN privileges can set all device options for Alarm in/out and buzzer out for event notification (HDD event, alarm input, alarm output, buzzer out, and e-mail notification). See [Configuring Alarm Setup](#) on page 67 for more information.

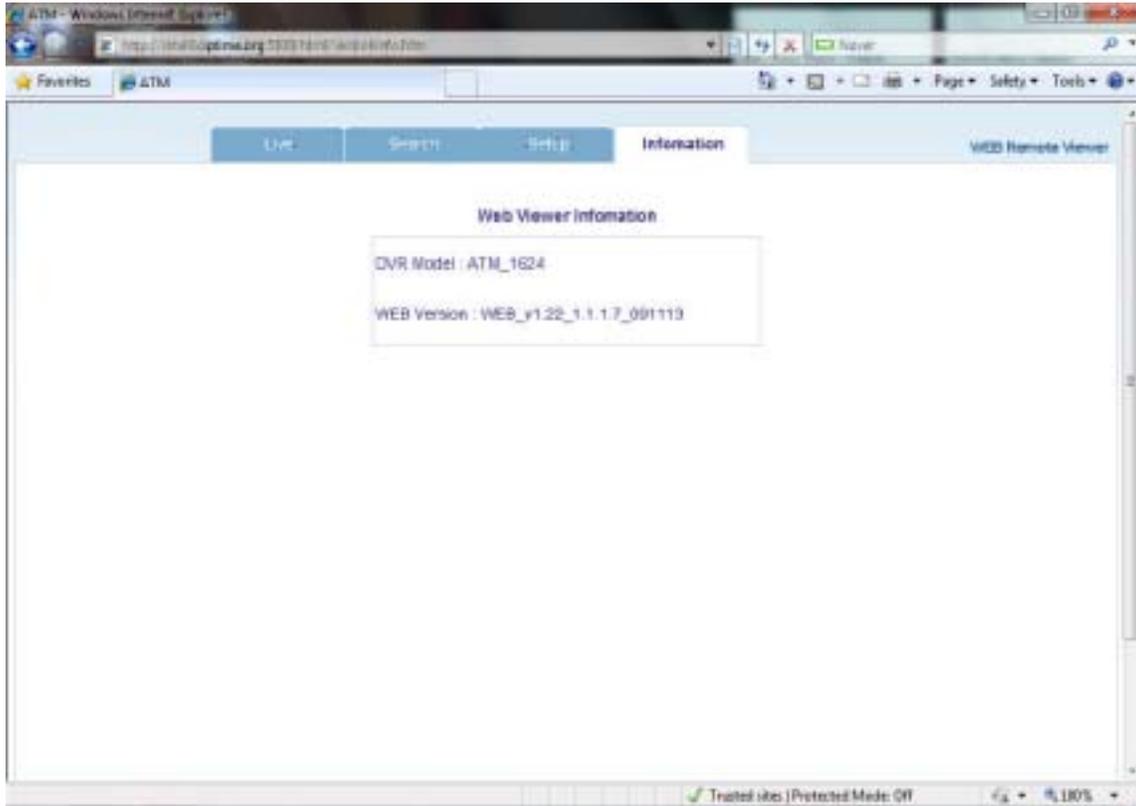
---

## Getting Information

---

Click on **Information**, and view the information about your DVR.

Figure 4-23 Information About Your DVR



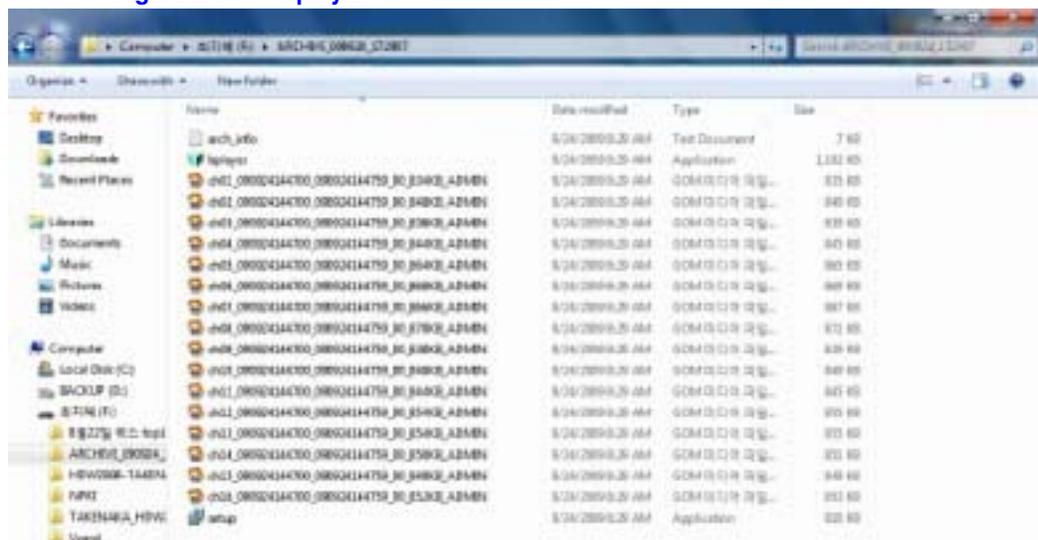


## Watermark Process

This process applies to video clips that were burned to CD/DVD or to USB media using the Backup/Archive/Burn process from the front panel of the DVR.

1. Open the backup data from the device and then run the **[bplayer]** which is included in the backup folder.

Figure 5-1 **bplayer**



2. Click the [Open file] button and open the backup file.

Figure 5-2 Opening the Backup File



3. Click **Yes** when the **Checking the watermark?** message appears after opening the backup file.

Figure 5-3 Checking the Watermark Message



The file opens.



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**Note** If the backed-up AVI file has been modified, a **Verification Failed** message appears.

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