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WATCHDOG

Everything's Digital

NEXUS

High Performance NVR

User Manual



Digital Watchdog® Nexus NVR™

User Manual

Manual Edition 02012011– January 2011

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DIGITAL WATCHDOG INC

Tampa, FL • USA

SAFETY INFORMATION

- **Read User Manual.** After unpacking this product, read the user manual carefully, and follow all the operating and other instructions.
- **Power Sources.** This product should be operated only from the type of power sources indicated on the label. If you are not sure of the type of power supply to your home or business, consult your product dealer or local power company.
- **Ventilation.** Slots and openings in the cabinet are provided for ventilation. Proper ventilation ensures reliable operation of the product and protects it from overheating. These openings must not be blocked or covered. The product should not be placed in a built-in installation such as a bookcase or rack, unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- **Heat.** The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products that produce heat.
- **Water and Moisture.** Do not use this product near water. Do not exceed the humidity specifications for the product as detailed in the Appendix section of this manual.
- **Cleaning.** Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- **Power Cord Protection.** Power-supply cords should be routed so that they are not to be walked on or pinched by items placed against them. Pay particular attention to cords, convenience receptacles, and the points where they exit from the product.
- **Overloading.** Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electrical shock.
- **UPS (Uninterruptible Power Supply).** Highly recommended.
- **Object and Liquid Entry Points.** Never insert foreign objects into the NVR unit, as they may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Only insert the media types approved by Digital Watchdog. Never spill liquid of any kind on the product.
- **Accessories.** Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious damage to the product.
- **Burden.** Do not place a heavy object or step on the product. The object may fall, causing serious personal injury and serious damage to the product.
- **Servicing.** Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified personnel.
- **Replacement Parts.** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- **Safety Check.** Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine the unit is in proper operating condition.

WARNING

To reduce the risk of electrical shock, do not expose this appliance to rain or moisture.
Dangerous high voltages are present inside the enclosure.
Do not open the cabinet.
Refer servicing to qualified personnel only.

SYMBOLS

The following words and symbols mark special messages throughout this guide:



WARNING: Text emphasized in this manner indicates that failure to follow directions could result in bodily harm or loss of life.



CAUTION: Text emphasized in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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INTRODUCTION

PRODUCT DESCRIPTION

Nexus is a cutting-edge Network Video Recording (NVR) device that has been designed to support most major brands of IP cameras, megapixel cameras, and video encoders. It can record up to 32 IP cameras both locally and globally via the internet. Nexus enables you to configure, view, search, export, remotely upgrade, and monitor alarms simultaneously. Also, its unique Digital Signature Verification (DSV) can review the exported videos or stills for tampering, giving law enforcement greater confidence in the information supplied by the NVR.

The Nexus Network Video Recording Software is now available for purchase. Build your own computer and just load DW's software to begin recording up to 32 IP cameras. The Nexus NVR Software is a cost effective solution to your surveillance needs.

FEATURES

- Record up to 32 IP Cameras
- View and Record from Anywhere in the World
- Continuous, Motion Detection, and Sensor Recording Modes
- HDD Field Upgradeable
- Removable HDD Bays for Easy Maintenance
- DVR Health Check
- PTZ Control
- Automatic Backup to Internal and External Devices
- Multiple Levels of Security Access
- Network Bandwidth Control for Each Cameras
- Two-Way Audio (VMS to DVR)
- Megapixel Camera Support
- Remote Operation & Configuration
- Watermark Verification (Digital Signature Verification)
- E-mailing Service
- Hardware Watchdog
- Fully Compatible with Most Major IP Camera Brands
- Large Internal Storage up to 20 Terabyte



CONTROLS AND CONNECTIONS

SYSTEM SPECIFICATIONS

Digital Watchdog® state-of-the-art High Definition Network Video Recorders are housed in a high performance and versatile AU aluminum rack mount case allowing easy storage of multiple NVRs for enterprise applications. Every Digital Watchdog NVR unit comes equipped with the latest technology.

Intel® Pentium® IV Processor

10/100 Network Interface Card (NIC)

256 MB of System Memory

32 MB Video Card

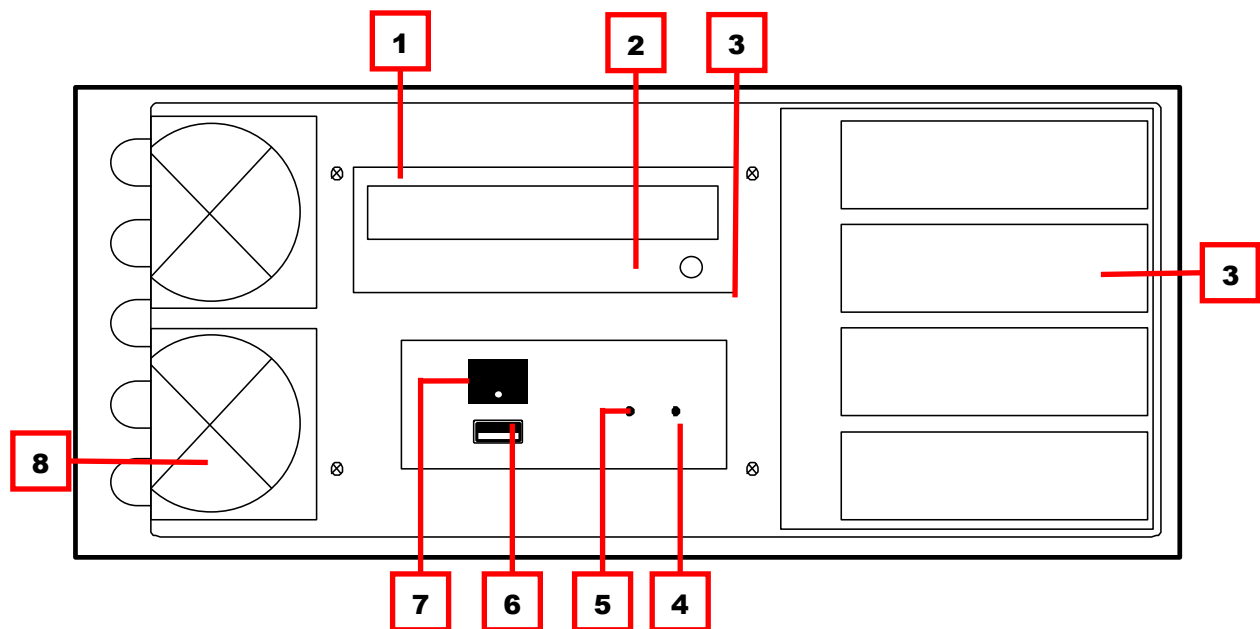
CD-RW Recorder

3.5" Floppy Drive

Full Duplex High-fi Sound Functionality

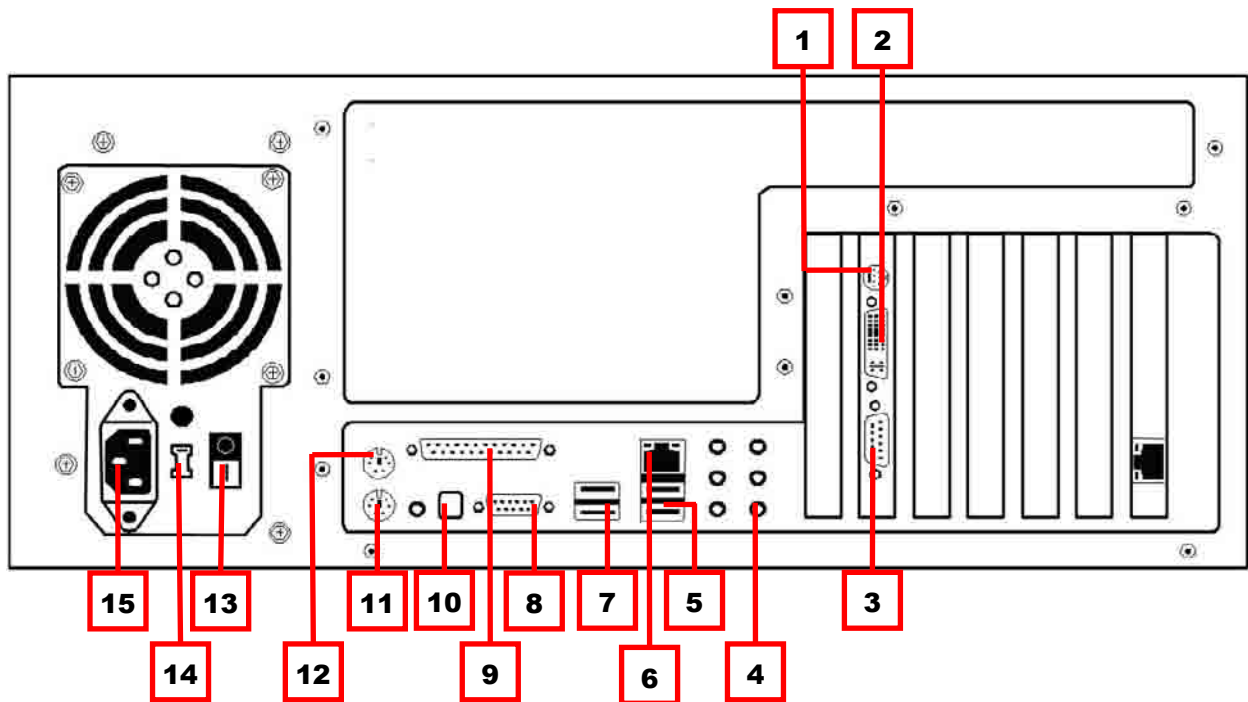
120 GB Video Storage Drive

FRONT PANEL CONTROLS AND LEDS



- | | |
|---|---------------------------------|
| 1 | DVD-RW Drive |
| 2 | DVD-RW Eject Tray Button |
| 3 | Lock to Access Hard Drive(s) |
| 4 | Hard Drive Activity LED Display |
| 5 | Power LED Display |
| 6 | USB Slot |
| 7 | ON/OFF Power Switch |
| 8 | Cooling Fan Air Intake |

REAR PANEL CONNECTORS

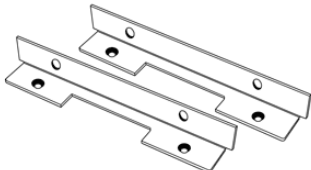
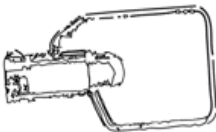
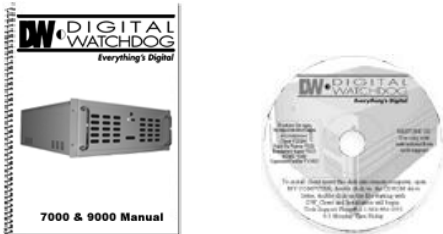


1	S-Video Output	9	LPT Parallel Printer Port
2	DVI-I Output	10	RS-422 Interface
3	DB-15 SXGA Monitor Output	11	PS/2 Keyboard Input
4	Audio In/Out	12	PS/2 Mouse Input
5	USB Ports	13	Secondary Power Switch
6	RJ-45 Network Jack	14	110V / 220V Switch
7	USB Ports	15	IEEE AC Power Connector
8	DB-9 Serial Input 1		

GETTING STARTED

INCLUDED COMPONENTS

Digital Watchdog® NVRs come with a mouse, keyboard, and select software and cables. Identify the following components to make sure everything has been included with your new NVR unit. If any of the following items are missing, contact your dealer to arrange a replacement.

NVR Unit	
Mouse	
Keyboard	
Rack Mount Attachments with Screws	
Power Adapter	
NVR Key	
User Manual NVR Repair Disc / NVR Software Disc	

OPTIONAL COMPONENTS

To fully utilize your NVR unit's potential, several optional DW components are listed below. Contact your dealer for more information about these products.

1. **DVD ROM Recordable Drive.** Stores large amounts of video data easily. Each DDVD can store up to 5 gigabytes of video data
2. **USB External Hard Drive.** An easy way to extract large amounts of video data from the NVR unit is to use a USB external Hard Drive. This drive connects to the USB port on the NVR unit and can be attached to any computer with a USB port.
3. **Fiber Network Interface Adapter.** Used to enterprise network environments where large amounts of data are transferred across the LAN. If large groups of people are logging in remotely across the LAN, the fiber adapter will speed the data transfer.
4. **Gigabit 10/100/1000 Network Interface Adapter.** Transfers data up to 10 times faster than standard fast Ethernet which comes standard with the NVR unit. This speed can be helpful if many people access the NVR remotely.
5. **Granite Rack (External Raid Storage Unit).** Offers the potential of over 100 terabytes of data storage. 1U and 3U models are available. The addition of extended storage to an NVR will allow longer periods of recording without overwriting the previously recorded data.

KEYBOARD SETUP

To attach the keyboard to the NVR unit, plug the end of the keyboard into the keyboard PS/2 Port located on the back of the machine. The keyboard PS/2 Port can be identified by the purple color. Refer to the Rear Panel Connectors diagram for more information.

MOUSE SETUP

To attach the mouse to the NVR unit, plug the end of the mouse into the mouse PS/2 Port located on the back of the machine. The mouse PS/2 Port can be identified by the green color.

The mouse uses a cursor called a pointer. Pointers come in many different shapes but are most commonly shaped like an arrow.

Your mouse has two buttons: a left button and a right button. Quickly pressing and releasing one of these buttons is called clicking. Sometimes you will need to double-click or quickly click the same button twice.

The ratchet wheel in between the two buttons is used for added navigation functionality by simply moving the wheel with your index finger (scrolling), you can quickly move through multiple pages, lines, or windows. The wheel may also function as a third button allowing you to click or double-click an icon or a selected item quickly.

MONITOR SETUP

There are up to three available connections for monitors which can be used individually or in tandem.

Attach the monitor or monitors to the rear of the NVR unit using the cable supplied by the monitor manufacturer. Refer to your monitor manual for detailed information on how to setup and use it.

Note: The monitor you use must be capable of having a screen resolution of 1024 x 768 and display colors of at least 32 bit.

NVR BASICS

SETTING THE TIME AND DATE

1. Exit to Windows by clicking the *Exit* button from the display screen and selecting *Restart in Windows Mode*. (See the Display screen section later in this chapter)
2. Open Windows Explorer. Do this by right-clicking the My Computer Icon (located on the top left hand corner of the Desktop) and select *Explore*.
3. Click on *Control Panel* to open it. If you do not see Control Panel listed, Click *My Computer* to expand the folder tree.
4. Double Click on *Date and Time* inside Control Panel window.
5. Adjust the Date and Time.
6. When finished, close all open windows and restart NVR. Do this by clicking the *Start* button (located on the lower left hand side of the Desktop) and selecting *Shut Down*.

ACCESSING THE NVR UTILITY

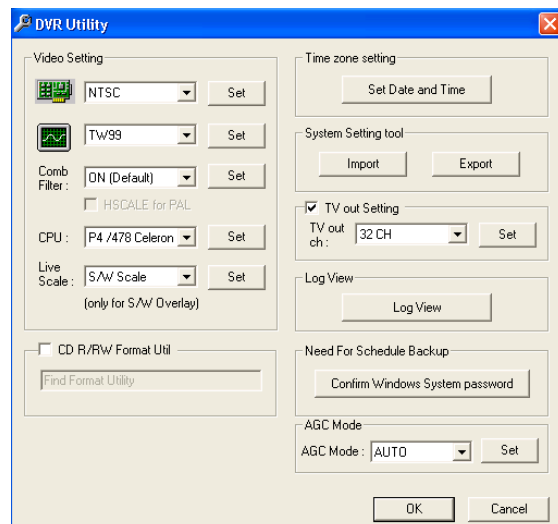
EXPORTING SETTINGS

Exporting settings can help configure multiple NVRs quickly or reconfigure a unit that has failed. Some things must be kept in mind when using this feature.

You cannot use this function on:

- NVRs that are different models.
- When upgrading from certain software versions. (This feature cannot be used when upgrading from v2.x to v3.x)

1. Exit to Windows by clicking the *Exit* button on the Display screen then and select *Restart in Windows Mode*. (See the Display screen section later in this chapter)
2. Click *Start > Programs > Digital Watchdog Server > VFormat*.
3. Click the *Export* button in the System Settings Tool section.
4. Select a location to save the settings file and click *Save*. The DVR Utility will export the DVR settings and automatically close.
5. Click the *OK* button to close the VFormat Utility.



IMPORTING NVR SETTINGS

1. Exit to Windows by clicking the *Exit* button on the display screen and selecting *Restart in Windows Mode*. See the Display Screen section later in this chapter.
2. Click *Start > Programs > Digital Watchdog Server > VFormat*.
3. Click the *Import* button in the System Settings Tool section.
4. Select the location of the settings file to import and click *Open*.
5. Click *Yes* to import the data file.
6. Click the *OK* button to close the VFormat Utility.

CHANGING VIDEO FORMAT

1. Exit to Windows by clicking the *Exit* button on the Display screen and selecting *Restart in Windows Mode*. (See the Display screen section later in this chapter).
2. Click *Start > Programs > Digital Watchdog Server > VFormat*.
3. Select the appropriate video setting from the list in the Video Setting section: *NTSC* or *PAL*.
4. Click *Set*.
5. Click the *OK* button to close the VFormat Utility.

DISPLAY SCREEN

Each time the NVR starts, the program defaults to the display screen. The following diagram outlines the buttons and features used on the display screen. You should become familiar with these options, for this is the screen that will be displayed the majority of the time.

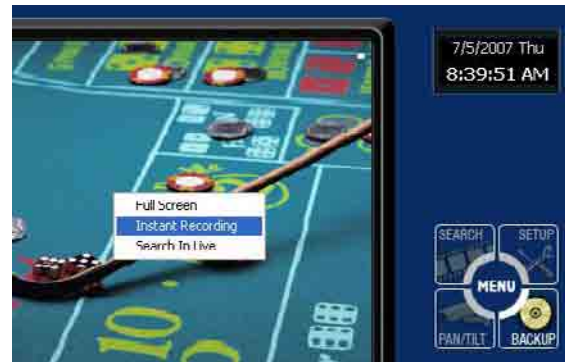


1	Date/Time	Displays current date and time. The date and time is stamped onto the recorded video and is displayed whenever the video is played back.
2	Screen Division Buttons	View cameras in groups such as 2x2, 3x3, and 4x4.
3	Options Menu	
4	Exit	Exit software with one of the several options—Logout, Shut Down, Restart, and Restart in Windows Mode.
5	Storage Capacity	Displays the total free storage space available to the NVR. When the Storage Capacity reaches 100%, NVR begins to rewrite over the older saved videos.
6	Sensor (Alarm Status) Bar Relay	Displays the Alarm Status for each sensor input. Fires the Output Relay. The output relays can be hooked up to external alarms, set to trigger a phone call, etc.
7	Current User	Displays the name of the user currently logged onto NVR.
8	Remote Client Status	Displays users remotely connected to NVR.

LIVE CAMERA OPTIONS

Select a camera on the display screen and right-click the mouse button to display the following options:

- Full Screen
- Instant Recording
- Search In Live
- Digital Zoom



Live Digital Zoom

Zoom in on an image while watching live video. This feature only works in the single camera screen display mode.

1. Move the mouse cursor to the live video feed, and double-click the left mouse button.
2. Click the right mouse button on the video, and then click *Digital Zoom*.
3. Use the mouse and the scroll wheel to control the direction and to zoom in / zoom out.

CAMERA VIEW



RECORDING STATUS INDICATOR

The camera status for each camera is displayed on the upper right corner of the Video Display Area. The following are the different status for each camera:

- | | | |
|--|-------------------------|--|
| | Recording | Displayed when the camera is currently being recorded to the NVR. |
| | Motion Detection | Displayed when a camera that is set for motion detection detects motion. |
| | Display | Displayed when the camera is currently not being recorded to the NVR. |

SPECIAL RECORDING

There are two types of Special Recording. Text is displayed on the camera display to indicate what type of Special Recording has been activated.

- | | |
|----------------|---|
| SENSOR | SENSOR is displayed, when a sensor associated with the given camera is activated. |
| INSTANT | Instant Recording is a manual activation of the recording for the selected camera. Regardless of the recording schedule, Instant Recording will start the camera recording and also flag the video for future searches using the Index Search feature. INSTANT is displayed when a user activates the Instant Recording option. Double right-click the video display to activate and deactivate the Instant Recording option. |

SCREEN DIVISION BUTTONS

The Screen Division menu allows you to view cameras in groups such as 2x2, 3x3, and 4x4. The options are shown below.

Note When Viewing live video from Network Cameras, only 4 Channels will display at a time.



1st Four Cameras View – Displays cameras 1-4 in the Video Display Area.



2nd Four Cameras View – Displays cameras 5-8 in the Video Display Area.



3rd Four Cameras View – Displays cameras 9-12 in the Video Display Area.



4th Four Cameras View – Displays cameras 13-16 in the Video Display Area.



1st Nine Cameras View – Displays cameras 1-9 in the Video Display Area.



2nd Nine Cameras View – Displays cameras 8-16 in the Video Display Area.



Multi-Camera View – Displays a group of cameras within the Video Display Area.



All Camera View – Displays all 16 cameras within the Video Display Area.



Multi-Camera View – Displays a group of cameras within the Video Display Area.



Multi-Camera View – Displays a group of cameras within the Video Display Area.



Full Screen – The Full Screen Option allows you to view the Video Display Area, using the entire viewable area on the monitor. When this is selected, no menu options are visible. You can activate the Full Screen Option by clicking on the Full Screen button in the Screen Division menu. You can deactivate Full Screen mode by right-clicking on the screen.



Auto Sequence – Sequences through the Screen Divisions sets. For example, selecting the 1A and then the Loop button will sequence through 1A, 2A, 3A, 4A and then repeat. This option is not available for the 7, 10 and 13 screen divisions.

DUAL MONITOR CAMERA DISPLAY MENU

When dual monitors are enabled, you can adjust the camera display for live view on the secondary display. Move the mouse to the top of the screen and the camera display menu will appear.



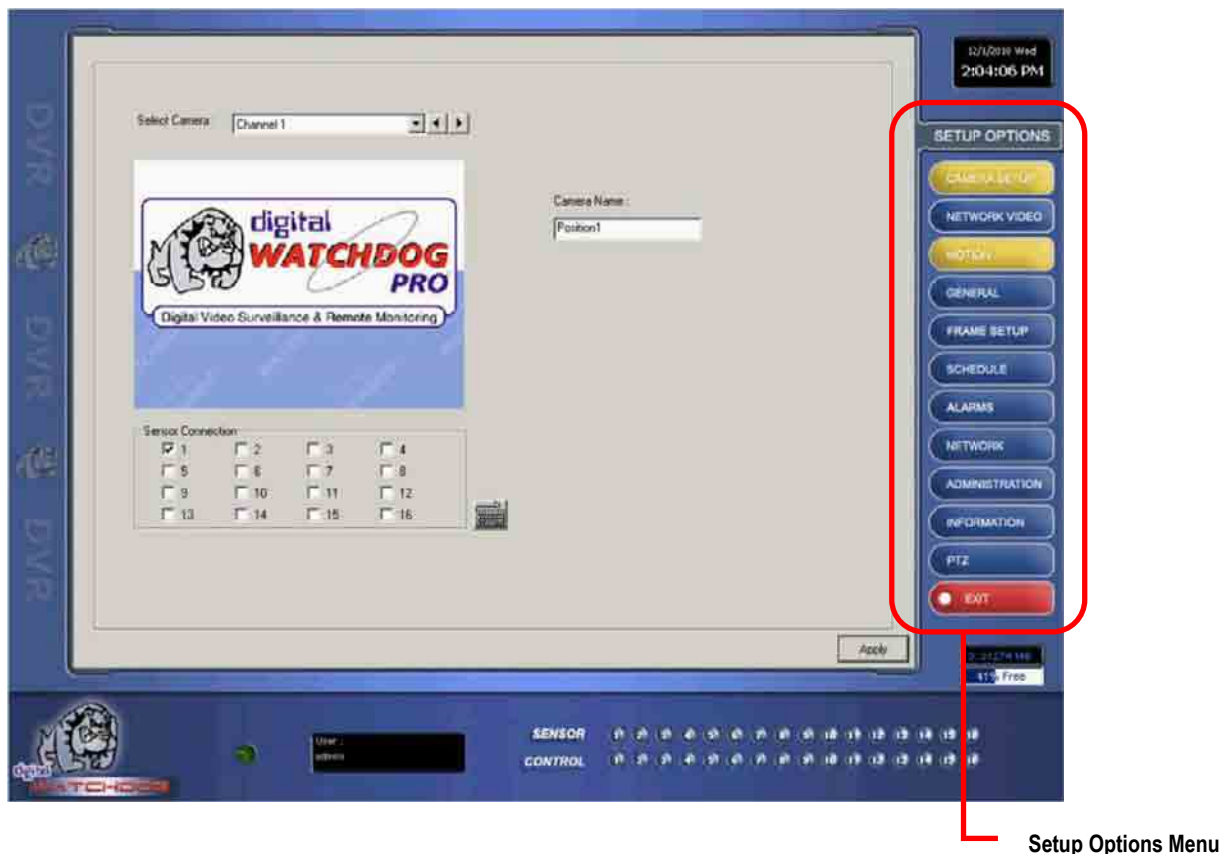
SETUP OPTIONS

SETUP OVERVIEW

The Setup options allow the user to optimize the NVR by adjusting things like camera names, reboot schedules, recording schedules, and more. It is extremely important that the NVR be set up correctly for several reasons.

- | | |
|-------------------------------|---|
| Recording Schedules | Increase the amount of pertinent recorded video that is saved on the NVR by optimizing the recording schedule. Optimize the type of recording done by adding motion detection to this as well, again increasing the amount of useful video. |
| Sensor Connections | Define the sensors associated with each camera. |
| DVR Access | Control the types of access that other users may have. This ensures the security and integrity of the NVR unit. |
| Camera Naming | Name each camera so the location can be easily identified and include any other pertinent information that may be helpful when viewing it on the Video Display Area. |
| Adjusting Camera Color | Optimize the clarity and detail that is recorded by adjusting each camera's color settings. |

SETUP SCREEN OVERVIEW



CAMERA SETUP

The screenshot shows the 'CAMERA SETUP' window. At the top, 'Select Camera:' is set to 'Channel 4'. Below this is a large white box labeled 'Selected Camera Display'. To the right of the display are three sliders for 'Bright', 'Hue', and 'Contrast', each with 'Min' and 'Max' labels and a value of 32. Below the sliders is a 'Sensor Connection' section with a 4x4 grid of checkboxes numbered 1 to 16; checkbox 4 is checked. To the right of the sliders are three buttons: 'Adjust Default', 'Adjust All Default', and 'Apply to all Channels'. On the far right, four red boxes with arrows point to specific elements: 'Define Camera Name' points to the 'Camera Name' text box (containing 'Position4'); 'Adjust Brightness, Hue, and Contrast' points to the three sliders; 'Apply System Defaults to Selected or All Cameras' points to the 'Adjust Default' button; and 'Apply System Defaults to Selected Camera' points to the 'Apply to all Channels' button.

Select Camera : Channel 4

Selected Camera Display

Sensor Connection:

☐ 1	☐ 2	☐ 3	☒ 4
☐ 5	☐ 6	☐ 7	☐ 8
☐ 9	☐ 10	☐ 11	☐ 12
☐ 13	☐ 14	☐ 15	☐ 16

Camera Name : Position4

Bright : 32

Hue : 32

Contrast : 32

☐ Use comb filter

Adjust Default

Adjust All Default

Apply to all Channels

Define Camera Name

Adjust Brightness, Hue, and Contrast

Apply System Defaults to Selected or All Cameras

Apply System Defaults to Selected Camera

SETUP NEW CAMERA

1. Attach camera to the rear of the NVR chassis.
2. Click *Setup* on the display screen.
3. Click *Camera Setup* to open the Camera Setup window.
4. Select the channel that corresponds with the new camera from the *Select Camera* list.
5. Enter a name for the camera in the *Camera Name* box.
6. Adjust the *Brightness*, *Hue* and *Contrast* if necessary.
7. Select the appropriate sensors to associate with the camera.
8. Click *Apply* when finished.

NETWORK VIDEO

License Add/Remove Device Channel Setup Audio Setup Camera Configuration

Device List

Server Name	IP	Port	Device Type
10.50.0.250	10.50.0.250	80	250CX 13N

Selected Camera Display

Device Properties

Device Type

Device Name User ID

IP / URL Password

Port#

Find Cameras Add Update Delete

Automatic Camera Finder

Supported IP Camera Manufacturers

Digital Watchdog	Panasonic
ACTi	Pixord
Arecont Vision	Samsung
Axis	Sony
D-Link	Toshiba
Lumenera	VivoTek
Mobotix	

CONNECTING A NETWORK DEVICE

Connecting Manually

1. From the display screen, click *Setup*.
2. Click *Network Video* tab.
3. Click the *Add/Remove Device* tab.
4. Select your network device from the *Device Type* list.
5. Type a *Device Name*.
6. Type the *IP/URL address*, *Port*, *User ID* and *Password* of the device.
7. Click *Add*.

Connecting with Camera Finder

1. From the display screen, click *Setup*.
2. Click the *Network Video* tab.
3. Click the *Add/Remove Device* tab.
4. Click *Find Cameras* to find all connected Network cameras automatically.
5. Select the check box next to the desired camera.
6. Click *Get Device*.
7. Type the *User ID* and *Password* of the device.
8. Click *Update*.

Assigning a Network Device to a Channel

1. From the display screen, click *Setup*.
2. Click *Network Video*.
3. Click the *Channel Setup* tab.

License | Add/Remove Device | **Channel Setup** | Audio Setup | Camera Configuration

Channel List

Channels	Device	Device Channel
☐ Position1	<None>	<None>
☐ Position2	<None>	<None>
☐ Position3	<None>	<None>
☐ Position4	<None>	<None>
☐ Position5	<None>	<None>
☐ Position6	<None>	<None>
☐ Position7	<None>	<None>
☐ Position8	<None>	<None>
☐ Position9	<None>	<None>
☐ Position10	<None>	<None>
☐ Position11	<None>	<None>
☐ Position12	<None>	<None>
☐ Position13	<None>	<None>
☐ Position14	<None>	<None>
☐ Position15	<None>	<None>
☐ Position16	<None>	<None>

Channel Properties

Position Name
Position1

Select Device
<None>

☐ **PTZ Camera**

☐ **Use Network Camera Motion Detection**

Intensive

☐ **Intensive Motion**

☐ **Intensive Sensor**

☐ **Intensive Instant**

Apply All

Delete All

Drag & Drop Cameras

Apply

4. Click an available channel on the *Channel List*.
5. Type the desired *Position Name*.
6. From *Select Device* list, select the appropriate network device added previously.
7. If the device has PTZ capabilities, select the *PTZ Camera* checkbox to enable.
8. If supported, select the *Use Network Camera Motion Detection* checkbox.
9. Select *Intensive Motion*, *Intensive Sensor*, and/or *Intensive Instant* to increase the recording rate on an event.
10. Click *Apply*.

Assigning Audio Channels to a Network Device

1. From the Live View screen, click *Setup*.
2. Click *Network Video*.
3. Click the *Audio Setup* tab.

The screenshot displays the 'Audio Setup' configuration window. At the top, there are tabs for 'License', 'Add/Remove Device', 'Channel Setup', 'Audio Setup' (which is active), and 'Camera Configuration'. The main area is divided into two panels. The left panel, titled 'Channel List', contains a table with three columns: 'Channels', 'Device', and 'Device Channel'. It lists four positions, each with an unchecked checkbox, and all device and device channel fields are set to '<None>'. The right panel, titled 'Channel Properties', features a 'Select Device' dropdown menu currently showing '<None>'. Below this are two checkboxes: 'Record Network Audio' and 'Enable Network Audio in Live View', both of which are unchecked. At the bottom of the right panel are three buttons: 'Apply All', 'Delete All', and 'Drag & Drop Cameras'. A single 'Apply' button is located at the bottom right of the entire window.

Channels	Device	Device Channel
☐ Position1	<None>	<None>
☐ Position2	<None>	<None>
☐ Position3	<None>	<None>
☐ Position4	<None>	<None>

4. Click an available audio channel on the *Channel List*.
5. From *Select Device* list, select a network device added previously.
6. To record the network audio select the *Record Network Audio* checkbox. The audio channel will be available on the search screen.
7. To access the audio channel from the Live View screen, select the *Enable Network Audio in Live View* checkbox.

CAMERA CONFIGURATION

The Camera Configuration tab displays information on all cameras (analog and network) connected to the NVR.

The screenshot shows the 'Camera Configuration' tab in the NVR interface. It features a table with columns: Camera Name, Device, Device Channel, Status, Model, IP, Port, and Resolution. The table lists 16 positions, all with 'None' for Device and Device Channel, and 'Not Connected' for Status. Below the table is a scrollable area with checkboxes for various settings: Capture FPS, Record FPS, Schedule, Manufacturer, Model, IP Address, Port Number, Resolution, Record FPS, Frame Rate, Codec, Quality, and PTZ. There are also buttons for 'Apply', 'Select Column', and 'Setup Network Device'.

Camera Name	Device	Device Channel	Status	Model	IP	Port	Resolution
Position1	<None>	<None>	Not Connected				
Position2	<None>	<None>	Not Connected				
Position3	<None>	<None>	Not Connected				
Position4	<None>	<None>	Not Connected				
Position5	<None>	<None>	Not Connected				
Position6	<None>	<None>	Not Connected				
Position7	<None>	<None>	Not Connected				
Position8	<None>	<None>	Not Connected				
Position9	<None>	<None>	Not Connected				
Position10	<None>	<None>	Not Connected				
Position11	<None>	<None>	Not Connected				
Position12	<None>	<None>	Not Connected				
Position13	<None>	<None>	Not Connected				
Position14	<None>	<None>	Not Connected				
Position15	<None>	<None>	Not Connected				
Position16	<None>	<None>	Not Connected				

Non-Decoding Mode Select to Disable Live Video of Network Cameras.

Note: Disabling Live Video on Megapixel Cameras will significantly improve the performance of the NVR.

Displaying More Columns

The Camera Configuration tab can be customized to display only the information you use most. Click *Select Column* button to add or remove specific columns. The following columns are available:

Capture FPS	IP Address	Codec
Record FPS	Port Number	Quality
Schedule	Resolution	PTZ
Manufacturer	Record FPS	
Model	Frame Rate	

Accessing the Configuration Menu

Use the Digital Watchdog interface to access basic network device menu functions.

1. From the display screen, click *Setup*.
2. Click *Network Video*.
3. Click the *Camera Configuration* tab.
4. Highlight the desired camera.
5. Click *Setup Network Device* button.

NVR UPGRADE AND REGISTRATION

Have the following information available before registering the NVR upgrade.

NVR Product Serial Number: The Product Serial Number is the unique number was provided by Digital Watchdog with the purchase software.

System ID: The System ID is a number that is generated by the Digital Watchdog unit. This is a unique code generated, using the MAC address of the computer that is running the software. The following steps illustrate how to obtain a unique System ID.

Locating the System ID

1. From the display screen, click *Setup*.
2. Click *Network Video*.

The screenshot shows a 'License Information' window. At the top, it says 'Trial Version - 28 days remaining.' in red. Below this, there are two input fields: 'System ID.' with the value '0A00F000AD0000' and 'License Key' which is empty. To the right of the System ID field is a 'Copy' button, and to the right of the License Key field is a 'Register' button. Below these fields is a section titled 'Channel Connection License' which contains a table with four columns: 'License Key', 'Total', 'Used', and 'Free'. The table is currently empty.

3. Click the *License* tab.
4. Click *Copy* to copy the System ID.

Obtaining the Unlock Code

1. Open an Internet browser and go to: <http://register.digital-watchdog.net>

The screenshot shows a web registration form. It has two input fields: 'Product Serial Number' and 'System ID'. Below these fields is a 'Submit' button.

2. Type the *Product Serial Number* that was provided by Digital Watchdog.
3. Type the *System ID* generated by the NVR.
4. Click *Submit*.

Software Registration

Product Name	01 Channel IP Camera Unlock
Product Serial Number	XXXXXXXXXX
System ID	XXXXXXXXXX
DVR Serial Number:	XXXXXXXXXX

Please verify the information and press NEXT to proceed.

[< Back](#) [Next >](#)

5. Verify the information.
6. Click *Next*, if the information provided is correct.
7. Once validated, you will be provided with the *Unlock Code*.
8. Print the page and save for future reference.

Software Registration

The following is your unlock code. Keep this number in a safe place as you will need it if you ever reinstall the software.

Unlock Code	XXXXXXXXXX-XXXXXX
Product	01 Channel IP Camera Unlock
Product SN	XXXXXXXXXX
DVR SN	XXXXXXXXXX

NOTE: This unlock code cannot be transferred to a different computer.

[Print this Page](#)

Unlocking the Upgrade

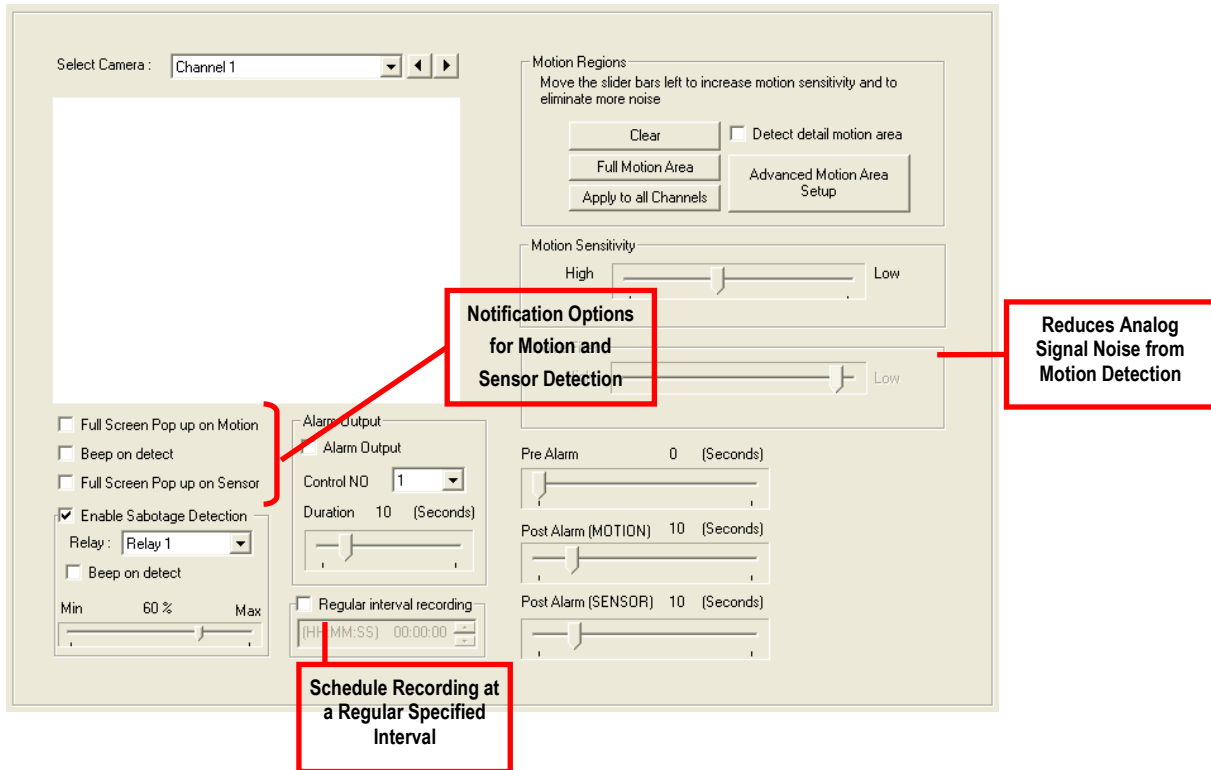
1. Go to *Setup > Network Video > License*.
2. Enter the *Unlock Code* generated by the Digital Watchdog Registration Site into the *License Key* box.
3. Click *Register* and confirm that the new License Key is listed in the *Channel Connection License* box.
4. Click *OK*.

UNLOCKING NEW NETWORK DEVICE

Follow the instructions above for registering the NVR upgrade to unlock any additional network devices.

MOTION SETUP

The NVR allows the User to adjust several different Motion Settings and create motion detection areas.



CREATE A MOTION AREA

1. From the display screen, click *Setup*.
2. Click *Motion*.
3. Select a camera from the *Select Camera* list.
4. Select the *Detect Detail Motion Area* checkbox.
5. Click *Clear*.
6. Click *Advanced Motion Area Setup*.
7. Click a Motion Detection Area shape button.
8. Drag the mouse over the camera image.

Note: To create a polygon shape, click the mouse at each point and double-click to close the shape.

9. Click *OK*.
10. Move the sliders to adjust motion sensitivity and the noise filter.
11. Define the pre-alarm and post-alarm recording time for a motion event.

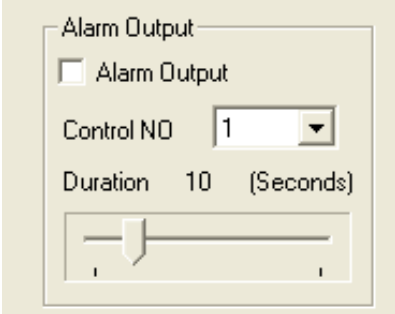
Pre Alarm: 0~50 Seconds; Number of seconds the NVR records before motion is detected.

Post Alarm: 0~50 Seconds; Number of seconds the NVR records after motion is detected.



ACTIVATING AN ALARM ON A MOTION EVENT

1. In the Motion Setup window, select a camera to edit from the *Select Camera* list.
2. Create a motion area.
3. Select the *Alarm Output* checkbox.
4. Select a *Control NO* (Output) to activate for the selected camera.
5. Select an alarm *Duration* (seconds) for when a motion event occurs.



The screenshot shows a window titled "Alarm Output". It contains a checkbox labeled "Alarm Output" which is currently unchecked. Below this is a "Control NO" dropdown menu showing the value "1". Underneath is a "Duration" field set to "10" with the unit "(Seconds)". At the bottom, there is a horizontal slider control with a handle positioned towards the left end.

REGULAR INTERVAL RECORDING

Regular Interval Recording allows users to record a single frame every few minutes or hours when there is no motion. This will prove that motion recording is working but there is no motion. Regular Interval Recording is only available when motion recording or sensor recording is selected in the recording schedule.

To enable Regular Interval Recording:

1. Select the *Regular Interval Recording* checkbox.
2. Specify how often to record a single frame when no motion is occurring. Users can go as little as one image per second.

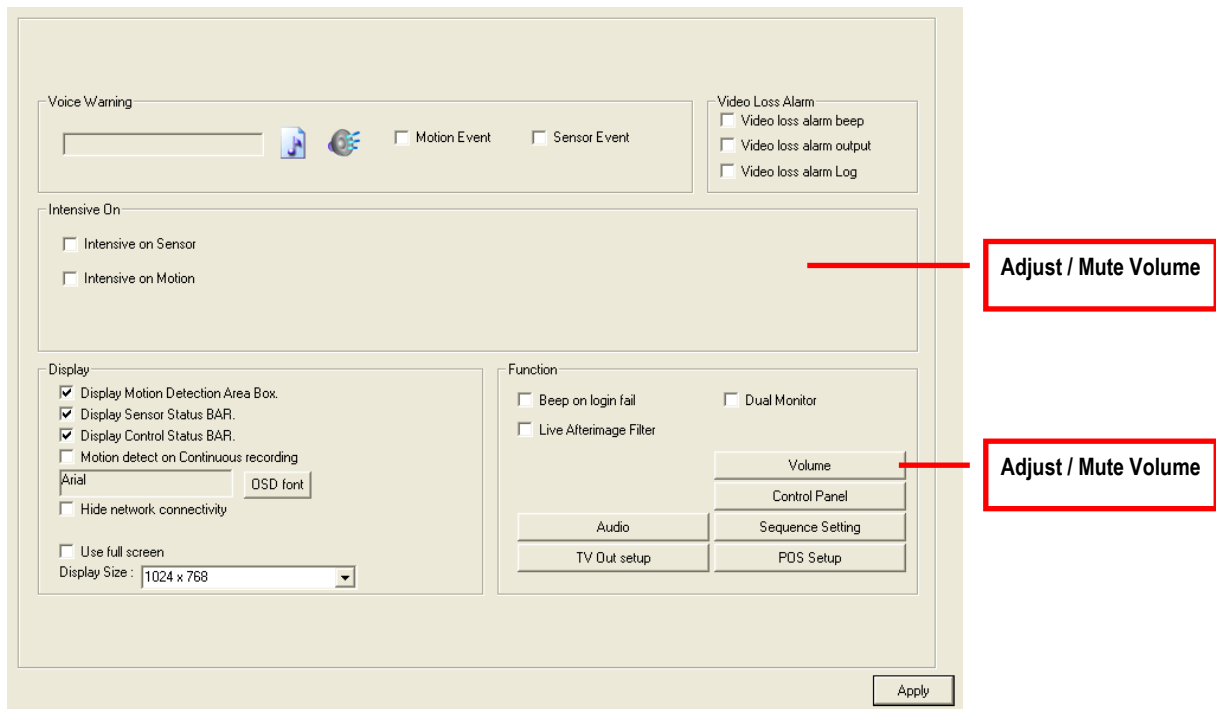
ENABLE SABOTAGE DETECTION

The Camera Sabotage Detection feature notifies users that the field of vision of a camera has been compromised or abruptly changed, or it detects significant vibrations.

To enable Sabotage Detection:

1. Select the *Enable Sabotage Detection* checkbox.
2. Set the threshold percentage to reduce false alarms.
3. Select the *Beep on Detect* checkbox, or select a *Relay* to activate on detection.

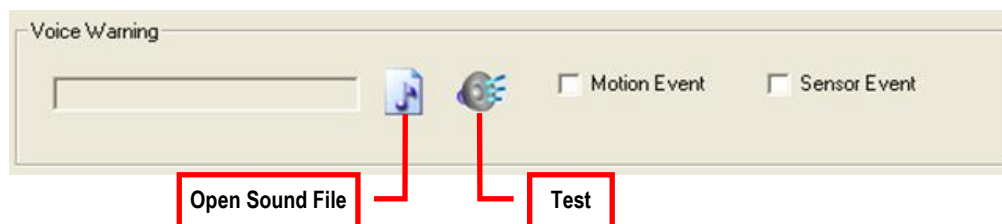
GENERAL SETUP



Beep on Login Fail	Enables the NVR to beep continuously in response to a failed login attempt. Only an authorized login will stop the beeping.
Sequence Setting	Allows the video-out picture to cycle through channels automatically at a set speed. For example, it can cycle through channels 1-6 at four second intervals.
Use Full Screen	Stretch the Digital Watchdog interface to use the full monitor screen.
Display Size	Select from available monitor display sizes. Use to correctly display video on wide screen monitors.

VOICE WARNING

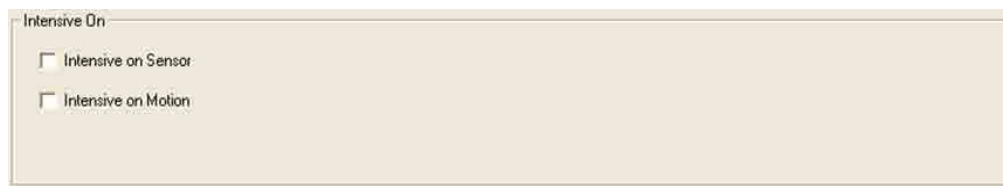
The NVR allows users to play a sound file when either a Motion event or Sensor event occurs. This file can be a custom created sound file that is unique to the application. The selected WAV file is played through speakers attached to the NVR.



1. Click the *Open Sound File* icon to browse for a WAV file. The selected file will display in the box on the left.
2. Click the *Test* icon to verify the audio file.
3. Select *Motion Event* and/or *Sensor Event* to trigger the audio file.

INTENSIVE RECORDING

The Intensive Recording option allows you to increase the Pictures Per Second of any camera, using sensor or motion activation. See *Frame Setup* for information on how to configure intensive recording. This feature guarantees that the Pictures Per Second and Resolution will be set correctly and will not exceed the NVR limitation.



Using Intensive Recording

The Intensive Recording option is set as "All or Nothing". For example, if *Intensive on Sensor* is enabled, all cameras associated with sensors will activate the Intensive Recording.

To activate the Intensive Recording option, follow these steps.

1. Inside Camera Setup, select the camera to use and enable the sensor to associate with it.
2. Click *General*. Select the *Intensive on Sensor* and/or *Intensive on Motion* checkboxes.
3. Open *Schedule* under Setup Options. Select the *Sensor* option.
4. Enable the sensor by creating a schedule for it.
5. Click *Apply* and exit setup.

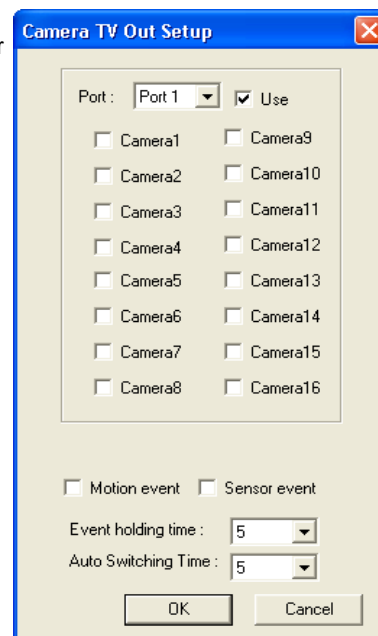
TV-OUT SETUP (ANALOG)

The NVR features an optional TV-Out which allows users to output video from any number of cameras, in sequence, to a television or monitor display.

1. Select *TV Out Setup* button.
2. Select the TV-Out *Port* to use.

Note Each Port must be configured individually, i.e. one after the other.

3. Select the *Use* checkbox to enable TV-Out for the selected port.
4. Select the camera(s) to display through the TV-Out port.
5. Select *Motion Event* or *Sensor Event* checkbox for an event popup.
6. Define the *Event Holding Time* (the number of seconds the camera displays after an event) for selected event types.
7. Define the *Auto Switching Time* (the number of seconds between switching of camera) for the selected TV-Out Port.



TV-OUT SETUP (MULTIPLEXER)

The Multiplexer TV Out card is an optional upgrade that allows users to output video in a sequence or a matrix display.

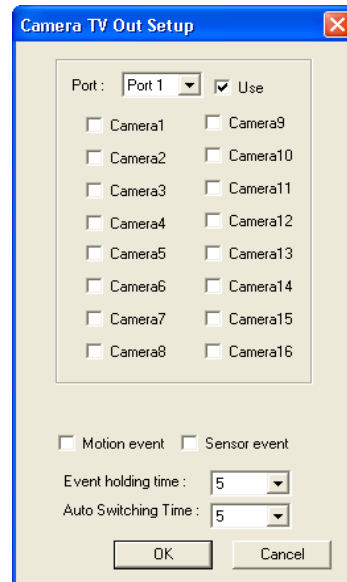
Note: IP cameras will not display on the Multiplexer TV Out card.

Configure Sequence Mode

Tip If no cameras are configured in the TV Out Setup, the sequence mode will cycle through all connected camera.

To configure settings for the TV Out sequence mode:

1. Click *TV Out Setup*, located in the General tab of Setup.
2. Select the TV Out *Port* to use from the Port list.
Note: Each Port must be configured individually, i.e. one after the other.
3. Select the *Use* checkbox to enable TV-Out for the selected port.
4. Select the camera(s) to display in the sequence.
5. Select an Event Popup checkbox if desired.
6. Define the *Event Holding Time* (the number of seconds the camera displays after an event) for selected event types.
7. Define the *Auto Switching Time* (the number of seconds between switching of camera) for the selected TV Out Port.
8. Click *OK* and then click *Apply* on the General Setup window.



Control Sequence Mode Display

1. Click TV Out on the Display screen.
2. To change the camera that is displayed on the monitor, click the desired camera number in the row that the monitor is connected to.

Tip Port 1 is the top port on the TV Out card.



Sequence Button

3. To stop the sequence, click *Auto*.
4. To close the TV Out controls, click *Close*.

Control Multiplexer Mode Display

1. Click *TV Out* on the Display screen.
2. Click *Multiplexer*.
3. To change the camera that is displayed on the monitor, click the desired camera number in the row that the monitor is connected to.

Tip Port 1 is the top port on the TV Out card.



Note Only Ports 1 and 2 can be configured in multiplexer mode. Channel 3 will mimic channel 1, and channel 4 will mimic channel 2.

4. Click the desired screen division to display in multiplex mode.
5. Click the *Sequence* button to start sequencing through cameras.

Tip When in Multiplexer mode, the display can only sequence through one type of screen division (e.g. 4 Channel divisions A – D or 9 Channel divisions A and B on a 16 channel NVR).

6. To close the TV Out controls, click *Close*.

CONNECTING TO A WIDE SCREEN DISPLAY

1. Click *Exit* on the Display screen and select *Exit in Windows Mode*.
2. Right-click the Desktop and select *Properties*.
3. Click the *Settings* tab.
4. Drag the Screen Resolution bar to the proper resolution of the connected display.
Tip Refer to the display documentation for the proper resolution settings.
5. Click *OK* and confirm the change.
6. Double-click the *Digital Watchdog Server* icon on the Desktop.
7. Click *Setup* on the Display screen and then click *General*.
8. Under Display Settings, select the *Use Full Screen* checkbox and then select the correct resolution from the Display Size list.
9. Click *Apply*.

CONNECTING A SECOND MONITOR

The NVR offers both VGA and DVI-D video outputs that can be used simultaneously. Live video will always appear on one output while a second can be used to display search or setup screens.

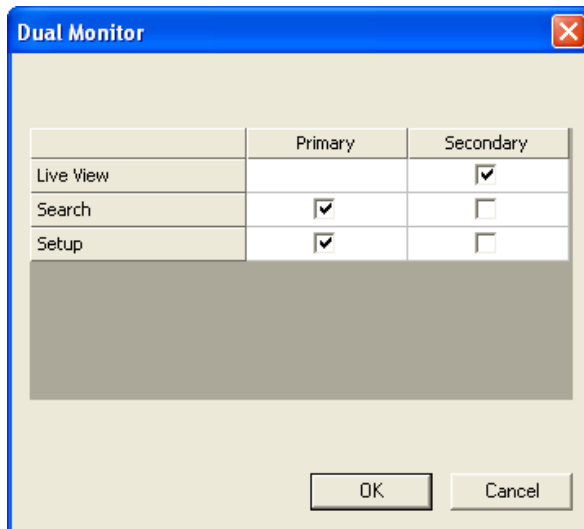
1. Click *Exit* on the Display screen and select *Exit in Windows Mode*.
2. Right-click the Desktop and select *Properties*.
3. Click the *Settings* tab.
4. Click the secondary display and click the *Extend my Windows desktop onto this monitor* checkbox.

Tip Refer to the display documentation for the proper resolution settings.

5. Click *OK* and confirm the change.
6. Double-click the *Digital Watchdog Server* icon on the Desktop.
7. Click *Setup* on the Display screen and then click *General*.
8. Under Function, select the *Dual Monitor* checkbox.
9. Click *Apply*.

Setting Up Dual Monitor Preferences

When using dual monitors on the NVR, you can set the Live View, Search, and Setup windows to open on either the primary or secondary monitor.



1. On the General screen of Setup, click *Dual Monitor Setup*.
2. Select the appropriate checkboxes to open Live View, Search, and Setup on the Primary or Secondary monitor.

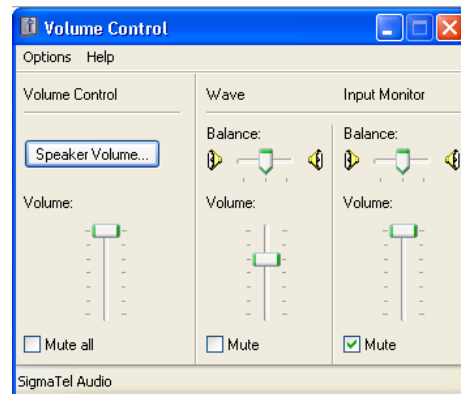
Note Live View will always default to the Primary monitor. When the Secondary monitor is selected for Live View, the cameras will display full screen on the secondary monitor.

VOLUME

The volume control allows fine tuning of the volume settings on the NVR.

Volume Options:

- **Slider Controls** – Used to adjust the literal volume for the respective devices listed.
- **Mute Checkbox** – Select the *Mute* checkbox to mute volume on any of the device columns or select the *Mute All* check box to mute all audio on the NVR.



AUDIO

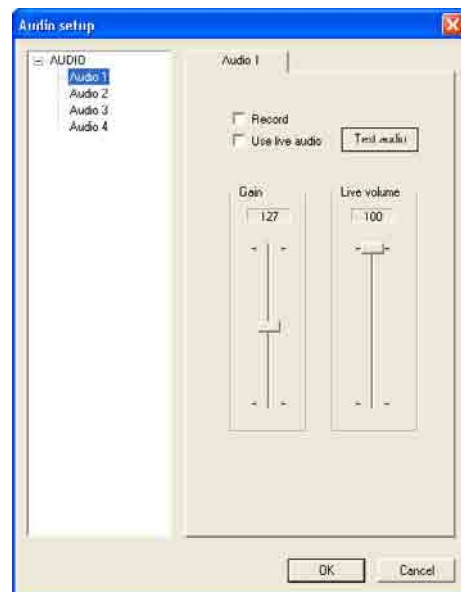
The Digital Watchdog NVR is capable of recording up to 16 channels of audio depending on the model.

AUDIO FEATURES:

- 8000 Hz playback in Live Mode
- Up to 48000 Hz playback in Search Mode
- Mono Sampling

DATA SIZE (Per channel):

- 1 Second: 1625 bytes
- 1 Minute: 97,500 bytes
- 10 Minute: 975,000 bytes
- 1 Hour: 5,850,000 bytes
- 1 Day: 140,400,000 bytes (Approx 140MB)



Enabling Audio Recording

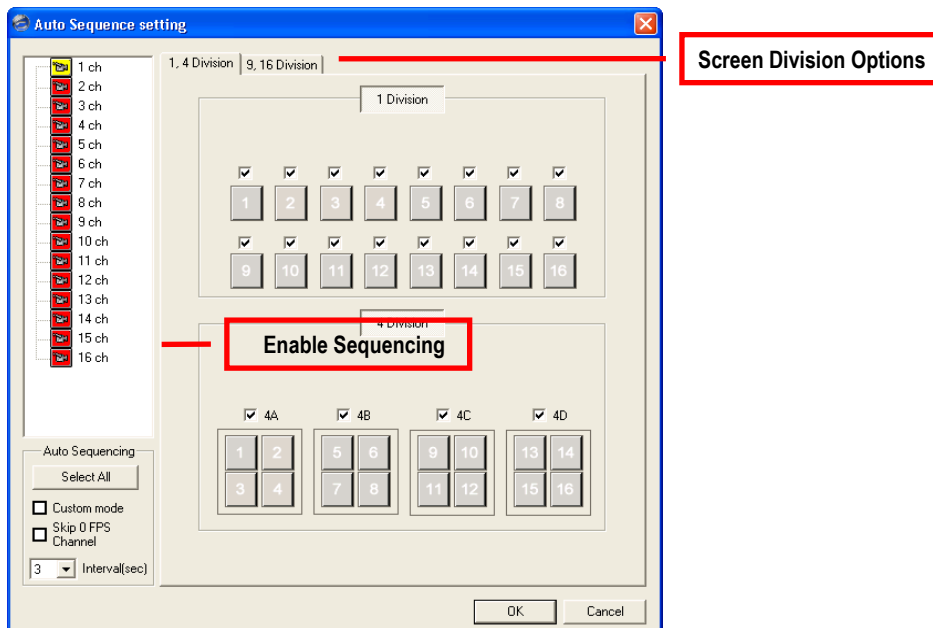
1. Click *Audio* on the General setup display.
2. Select an audio channel under *Audio*.
3. Select the *Record* checkbox.
4. Click *OK*.

Enabling Live Audio

1. Click *Audio* on the General setup display.
2. Select an audio channel under *Audio*.
3. Select the *Use live audio* checkbox.
4. Click OK.

AUTO SEQUENCE SETTING

Auto Sequencing is available either on the display screen when Auto Sequencing has been enabled or on a spot monitor when a Spot-Monitor out signal is used. Auto Sequencing conveniently displays video channels at a specified interval and sequences through each selected channel.



Select All	Enable all cameras for sequencing
Custom Mode	Create non-standard screen divisions
Skip 0 FPS Channel	Sequence skips cameras with no video signal
Interval(sec)	Select interval between switching cameras

Create Custom Auto Sequence

1. Open *General setup* and click *Sequence Setting*.
2. Click individual cameras in the left pane or click *Select All* to include all cameras in the sequence.
3. Select an *Interval* (in seconds) to display each screen in the sequence.
4. Select screen division options for appropriate cameras.

FRAME SETUP OVERVIEW

The Frame Setup menu allows configuration of the IPS, resolution, quality, and sensitivity of each camera channel. When configuring the IPS sliders, the BLUE slider represents the IPS the NVR will record during intensive recording and have available for transmitting to remotely connected systems. The RED slider represents the IPS that will be recorded by the NVR under normal recording conditions.

The total IPS of all blue sliders may not exceed the recording IPS of the NVR. The IPS of a red slider may not exceed that of the blue slider for the same channel. The dual sliders allow configuration of the NVR to record at a lower IPS while still being able to transmit at a higher IPS to remote connections.

Ex. If a camera channel is set to 25 IPS (blue) and 7 IPS (red), the NVR will record at 7 IPS, and users viewing live video remotely can receive up to 25 IPS.

Note The 4 Channel NVR only allows the user to select one frame rate for both recording and remote viewing.

FRAME SETUP (4 CHANNEL)

Frame Select	Sets the IPS recorded by the NVR and available for viewing on a remote client PC
Video Quality	Lower video quality has a smaller file size but appears more pixilated
Sensitivity	Sets the key frame refresh rate. Adjusting this setting can have negative effects on video quality NOTE: Do not change from default setting unless instructed by a system administrator.

STANDARD MODELS

Note The RED IPS record slider cannot exceed the BLUE IPS capture slider.

Note The software will not allow the maximum available frames to be exceeded.

Frame Select	Blue Slider: Sets the IPS recorded during intensive recording and available for viewing on a remote client PC. Red Slider: Sets the IPS recorded by the NVR during normal recording.
Resolution	Affects the total number of frames per second that are available.
Codec	Select the appropriate codec for each camera. CUBIC (MJPEG), MPEG-4, H.264
Video Quality	Lower video quality has a smaller file size but appears more pixilated.

Sensitivity

Sets the key frame refresh rate. Adjusting this setting can have negative effects on video quality.

Note: Do not change the default setting unless instructed by a system administrator.

Note The RED IPS record slider cannot exceed the BLUE IPS capture slider.

Note The Software will not allow the maximum available Frames to be exceeded.

Frame Select	Blue Slider: Sets the IPS recorded during intensive recording and available for viewing on a remote client PC. Red Slider: Sets the IPS recorded by the NVR during normal recording.
Resolution	Affects the total number of frames per second that are available.
Video Quality	Lower video quality has a smaller file size but appears more pixilated.
Sensitivity	Sets the key frame refresh rate. Adjusting this setting can have negative effects on video quality. Note: Do not change the default setting unless instructed by a system administrator.

Enable Video Out to Spot Monitor (4 Channel and H.264)

1. Click *Setup* on the Display screen.
2. Click *Frame Setup*.
3. Select the *Video Out* checkbox to enable the appropriate channels.
4. Define the *Video Out Time* (seconds to display each channel on spot monitor).
5. Click *Apply*.

MAXIMUM IPS TABLE

IPS Breakdown for Each Resolution

Resolution	CCTV	x480 Model	H.264 Model
360x240	1CIF	480 IPS	240 IPS/480 IPS
720x240 *	2CIF	240 IPS	240 IPS/480 IPS
720x480 **	4CIF	120 IPS	240 IPS/480 IPS (D1)

Resolution	CCTV	x120 Model	x240 Model
360x240	1CIF	120 IPS	240 IPS
720x240 *	2CIF	120 IPS	120 IPS
720x480 **	4CIF	60 IPS	60 IPS

Resolution	CCTV	x240E Model	
360x240	1CIF	240 IPS	
640x240	2CIF	240 IPS	
640x480	4CIF	120 IPS	

* Frames recorded in 720x240 are twice the size of the standard 360x240. When recording at 720x240, each frame assigned to the channel will use 2 of the total frames available.

** Frames recorded in 720x480 are four times the size of the standard 360x240. When recording at 720x480, each frame assigned to the channel will use 4 of the total frames available.

32 Channel Frame Allocation

32 Channel models utilize two capture cards. When configuring cameras and allocating frames, the total frame rate for the NVR is split between each capture card. Please reference the chart below for available frames in each grouping of channels.

Resolution	Channels	x240 Model	x480 Model
360x240	1 to 16	120 frames	240 frames
	17 to 32	120 frames	240 frames
720x240	1 to 16	60 frames	120 frames
	17 to 32	60 frames	120 frames
720x480	1 to 16	30 frames	60 frames
	17 to 32	30 frames	60 frames

SCHEDULE SETUP

RECORDING SCHEDULE

The Recording Schedule window allows the user to create different recording schedules based on the day, time, and type of recording desired. In addition, this window contains the System Restart options that allow the user to perform basic system maintenance by automatically scheduling the NVR to restart periodically.

SENSOR SCHEDULE

The Sensors will supersede all other types of recording modes (Motion and Continuous). Regardless of the recording schedule of a particular camera, if a sensor event occurs the associated cameras will begin recording as a Sensor Event. Sensor Recordings will be flagged and searchable using the Index Search Mode. Cameras are associated to sensors in the Camera Setup menu.

CREATE A RECORDING SCHEDULE

1. Select a day to begin creating the schedule for that day, or click *Single Day Selection* button, enabling *Multi Day Selection*, to create the same schedule for multiple days.
2. Highlight the Time Blocks for the camera(s) within the Recording Schedule window. Once the desired Time Blocks are highlighted, click a *Recording Mode* button. The Time-Blocks should now appear Blue for Motion, Yellow for Continuous, and White for No Recording
Note: Leave cameras recording with Sensor Detection set to *No Recording* for the specified time block(s).

CREATE A SENSOR SCHEDULE

1. Click *Schedule* and then select the *Sensor* option. Select a single day or click *Single Day Selection* to include multiple days in the schedule.
2. Highlight the Time Blocks within the *Recording Schedule* window to enable or disable the sensor(s). Once the time blocks are highlighted click *Enable*. The time block will now appear red.

Scheduling Alarm Events

There are three types of Alarm Events:

ALARM EVENT: This option logs the Alarm Events on the local server.

CENTRAL STATION: This option sends a Map Alarm to Central Station software such as DW VMS Multi-Site Management.

EMERGENCY AGENT: This option sends the Alarm Event to the Emergency Agent software.

Motion can be designated as an alarm event. Often motion does not need to be treated as an Alarm event. For example, during work hours, motion that occurs is expected and should not be treated as an alarm. However, after business hours, any motion that occurs should be treated as an alarm.

1. Click *Schedule* on the Setup screen.
2. Select either *Recording* or *Sensor*.
3. Highlight time block that have been set to Motion (or Sensor) and click the desired *Event* buttons (Alarm Event, Central Station, Emergency Agent). A corresponding letter will display in the selected time blocks.

Emergency Agent Schedule

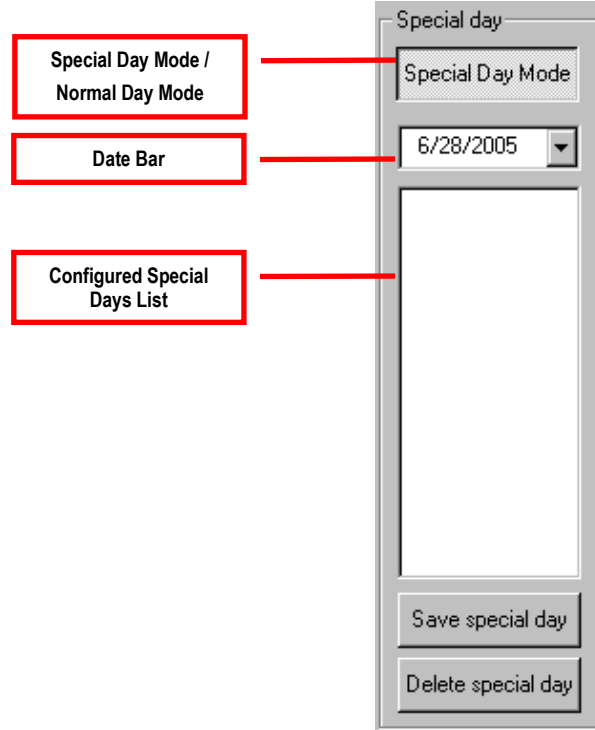
Video recording triggered by motion or sensor events can be sent to the Emergency Agent software.

1. Enable the Emergency Agent Event. (see Scheduling Alarm Events above).
2. Enter the IP Address of a PC running the Emergency Agent software under *Emergency IP*.
3. Select the checkbox next to the IP Address to enable it. Only one IP Address is supported at a time.
4. Enter the recording duration (in seconds) in the *Emergency Time* box.

Tip See the Emergency Agent chapter for more information on setting up the Emergency Agent software.

SPECIAL DAY SCHEDULE

The user can create days that have a unique recording schedule, such as Holidays, Special Events, Vacations, etc.



Creating/Editing a "Special Day" Schedule

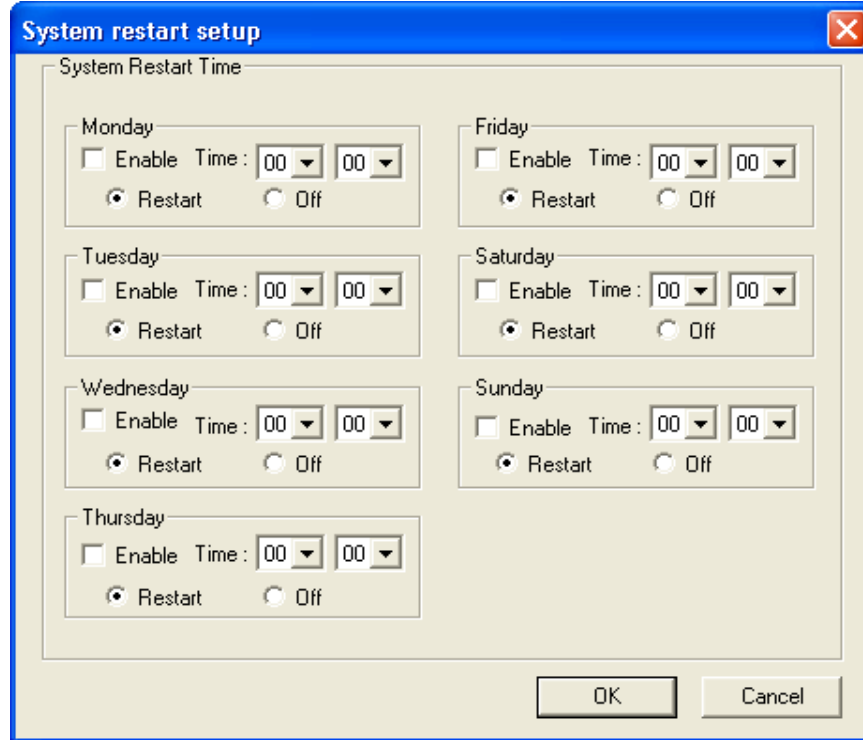
1. Click *Normal Day Mode* to enable the *Special Day Mode*.
2. Select a day by typing the date or clicking the arrow to the right of the Date Bar.
3. Highlight the time-blocks within the *Recording Schedule* window for the camera(s) selected. Once the desired Time-Blocks are highlighted, click a Recording Mode button.
4. When finished creating the schedule, click the *Save Special Day* button.
Note: The special day should now appear as a date in the Special Day Schedule.

Deleting a "Special Day" Schedule

1. Select a date from the Special Days list.
2. Click *Delete Special Day* button.

SYSTEM RESTART SETUP

System Restart Setup allows the user to define a schedule wherein the NVR automatically restarts according to specified parameters.



The image shows a 'System restart setup' dialog box with a blue title bar and a close button. The main area is titled 'System Restart Time' and contains seven sections for the days of the week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday. Each section has an 'Enable' checkbox, a 'Time' field with two dropdown menus (both set to '00'), and two radio buttons: 'Restart' (selected) and 'Off'. At the bottom right are 'OK' and 'Cancel' buttons.

Create System Restart Schedule

1. Click *Schedule* on the Setup screen.
2. Click *Restart Setup*.
3. Select the day(s) of the week to schedule an automatic system restart and select the *Enable* checkbox to enable shut down.
Note: This step alone does not trigger the NVR to restart, only to shut down.
4. Specify the time of day to schedule the system restart.
5. Select the *Restart* option.
Note: If *Off* is selected, the NVR will shut down at the specified time but not restart.

SENSOR SETUP

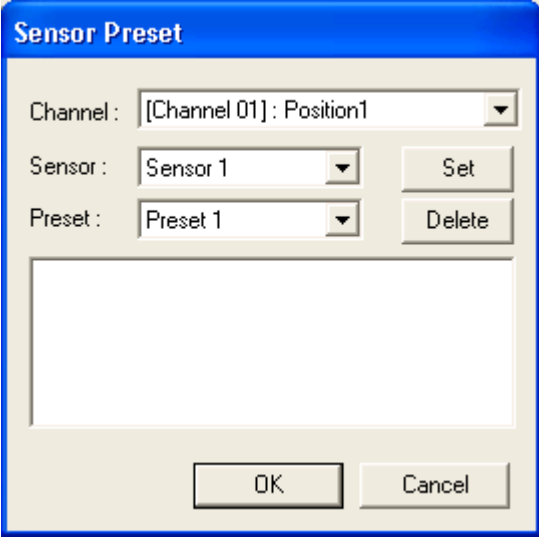
The Sensor setup window allows you to enable, disable, and configure Sensors and Relays (Control Outputs).

CONFIGURE SENSOR RESPONSE

1. Click *Setup* on the display screen.
2. Click *Sensor*.
3. Click the *NO* or *NC* checkbox to select Normally Open or Normally Closed for the desired sensor.
4. Enter the *Delay* time to define the number of seconds after the sensor is triggered of when the relay will be activated.
5. Enter the *Relays* you wish to associate with the sensor. One or more relays can be associated with a single sensor. Separate the relays with commas.
6. Click *Apply*.

ACTIVATE PTZ PRESET ON SENSOR

1. Create a PTZ Preset Position. See instructions in the PTZ Setup Chapter.
2. Click *Setup* on the display screen.
3. Click *Sensor*.
4. Click *Sensor Preset*.
5. Select the desired camera from the *Channel* list.
6. Select the appropriate *Sensor* from the list.
7. Select the preconfigured PTZ *Preset* from the list.
8. Click *Set*. A list of configured Sensor Presets will display in the box below.
9. Repeat for additional sensors.
10. Click *OK* to close the *Sensor Preset* window.



The screenshot shows a dialog box titled "Sensor Preset" with a blue header bar. Inside the dialog, there are three dropdown menus: "Channel:" with the value "[Channel 01] : Position1", "Sensor:" with the value "Sensor 1", and "Preset:" with the value "Preset 1". To the right of the "Sensor:" dropdown is a "Set" button, and to the right of the "Preset:" dropdown is a "Delete" button. Below these controls is a large, empty rectangular box. At the bottom of the dialog are two buttons: "OK" and "Cancel".

NETWORK SETUP

Network Setup allows the user to adjust settings such as ports and transport rate, setup PPP information for use with the emergency agent, and enable remote access.

The screenshot shows the 'Settings for Video Sent to Remote' window. Red annotations highlight specific settings:

- A red box labeled "Use with Remote Connections" points to the "Disable Remote Control" checkbox, which is unchecked.
- A red box labeled "Settings for Video Sent to Remote" is positioned at the top center of the window.
- A red box labeled "Use with Emergency Agent" points to the "Web Viewer(iDVR)" checkbox, which is checked.

Other visible settings include:

- Transport Setup:** Quality (Normal), Resolution (Original), Transport Rate (100).
- Network Setup:** TimeOut Value (60), Emergency Port (2001), Center Port (2000), Image Port (2002), Search Port (2003).
- PPP Setup(Emergency):** Use PPP (unchecked), Password, Confirm, Phone Number, Modem Select (N/A).
- Web Function:** Web Viewer(iDVR) (checked), HTTP Port (80), iDVR Port (3001), Live Port (3100).
- Two-way Audio Communication:** Enable Audio Communication (unchecked), Audio Port (3002).
- Keyboard Control:** Use Keyboard Control (unchecked), Setup Keyboard Control button.

TimeOut Value	When attempting to connect to the NVR, the connection will be terminated, if the connection does not succeed during the TimeOut Value (seconds).
Emergency Port	Used to connect to the Alarm Monitor software.
Center Port	Used to connect to the Digital Watchdog Remote Software. This port must be specified in the Remote Software to connect to the NVR. Note: Center Port 1025 is not available for remote connections. It is used by the ATI VGA Management Suite.
Image Port	Used to transfer video(s) to the Digital Watchdog Remote Software.
Search Port	Used to transfer search information to the Digital Watchdog Remote Software. Note: If connecting to the NVR through a firewall, the above ports must be open to incoming and outgoing traffic.
Resolution	Adjusts the resolution of the images being sent to remote clients. By setting the resolution to <i>Low</i> , the images will be sent faster; however, the image quality will be reduced considerably. By setting the resolution to <i>Low</i> , the images will be sent faster; however, the image quality will be reduced considerably.
Transport Rate	This is essentially a bandwidth throttle. The option is based on percentages of images sent or free network. These settings affect the quality and speed of the video that is sent to the remote clients.

ADMINISTRATIVE SETUP

Select Date

ADMINISTRATION - Displays the Log files, Storage Management and User Management.

User Management: Create and configure User accounts. **User Management**

Storage Management: **Disk Management**, Status Check/Email

Other Management: Program Management(ETC), File Information

System Log

Log Type: ☒ System Log, ☐ Event Log, ☐ Alarm Log, ☐ Drive Check Log

Export: Choose 1-week period to export. Start Date: 5/13/2008, End Date: 5/13/2008. **Export log data (Text)**, Export log data (Raw), Log Management

* Pages: Page 1(00001 ~ 01000) * Total log size: 19923.41 KB

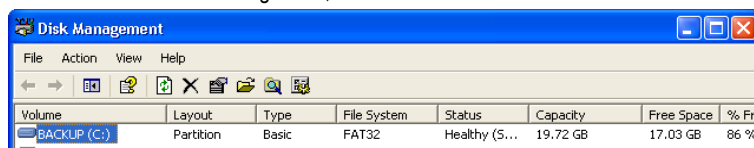
NO	Date & Time	Log Contents	Log Value	User
1	5/13/2008 8:54:48...	Current Work drive	D Drive	Default
2	5/13/2008 8:54:59...	Start Site	Ver(3.6.0 [Build : 7]) - Lib(3.516)_[5]	Default
3	5/13/2008 8:54:59...	Start Site After Abnormal terminate		Default
4	5/13/2008 8:54:59...	Nero Initialize	7.2.3.3	Default
5	5/13/2008 9:10:55...	Current Work drive	D Drive	Default
6	5/13/2008 9:11:01...	Start Site	Ver(3.6.0 [Build : 7]) - Lib(3.516)_[5]	Default
7	5/13/2008 9:11:01...	Start Site After Abnormal terminate		Default
8	5/13/2008 9:11:01...	Nero Initialize	7.2.3.3	Default
9	5/13/2008 9:21:21...	Terminate of Site		Default
10	5/13/2008 9:22:13...	Current Work drive	D Drive	Default
11	5/13/2008 9:22:18...	Start Site	Ver(3.6.0 [Build : 7]) - Lib(3.516)_[5]	Default
12	5/13/2008 9:22:18...	Start Site After Normal terminate		Default

Export Log Data (1 to 7 days)

Log Data Display

DISK MANAGEMENT

The Disk Management window is a native Windows feature that displays the partition scheme and health status of the Hard Disk Drives in the NVR. This window is often used to troubleshoot an NVR or verify the amount of Hard Drive storage installed. For more information about Disk Management, consult a Windows XP manual.



SETTING UP DDNS

Dynamic Domain Name System (DDNS) is a service that provides a static address to simplify remote connection to the NVR. This service is most useful for installations where the WAN (public) IP address is dynamic (changes from time to time). Most public IP addresses are dynamic unless a static address has been specifically ordered from the internet service provider.

Enable DDNS

To enable this function of the HVR, follow the steps below:

1. Click *Setup* on the display screen and log in as Administrator if prompted.
2. Click *Administrative*.
3. Click *Program Management (ETC)* and enter the Administrator password when prompted.
4. Click *Show*, which is to the right of the agent program for DDNS.
5. Select the *Enable DDNS* checkbox.
6. Enter the *ID*, *Password*, and *Hostname* specified on the DDNS document shipped with your NVR.

Note Ensure the NVR has an IP address by setting it statically. The Network settings may need to be changed. If you are not sure of the correct values, contact the individual or department responsible for network administration at the site.

Set the IP Address

To set the IP address of the NVR, follow the steps below:

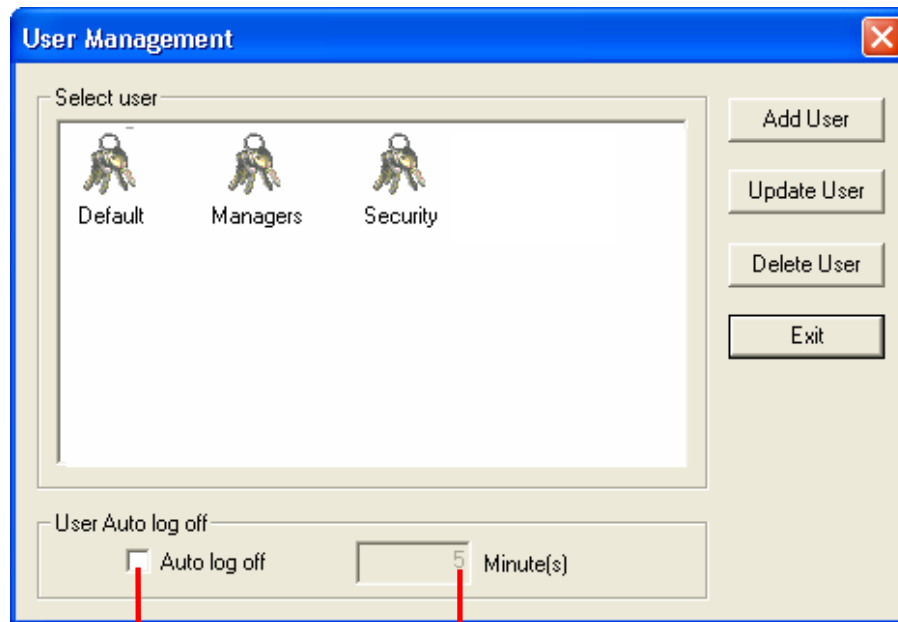
1. On the display screen, click *Exit* and choose *Restart in Windows Mode*.
2. Right-click *My Network Places* and click *Properties*.
3. On the *General* tab, click *Internet Protocol (TCP/IP)* and then click *Properties*.
4. Select *Use the following IP address*.
5. Enter the following values (or as specified by the department responsible for network administration).
 - a. *IP Address*: The first three sets of numbers should match the router's local IP address and the last set should be a unique number between 1-254.
 - b. *Subnet Mask*: This should match the router's setting. The common subnet mask is 255.255.255.0 for 192.X addresses and 255.0.0.0 for 10.X addresses.
 - c. *Default Gateway*: This is the router's internal IP address. Once DDNS is configured, the router the NVR connects to will need to be configured to forward ports 80 and 4000 to the IP address of the NVR.

For further instruction on this process, visit http://www.portforward.com/english/routers/port_forwarding/routerindex.htm.

Select the correct model of your router, and follow the instructions. Once DDNS and port forwarding have been configured, the NVR will be accessible from any remote site by entering the HOSTNAME into the address bar of Internet Explorer or the IP Address field in the Remote Software.

USER MANAGEMENT

The User Management Console allows the administrator to create, edit, and delete user accounts. Each user account can be assigned different privileges to limit the usage of the NVR system. Users can be given administrator privileges by enabling all rights. However, only the true administrator account can log into the User Management Console.



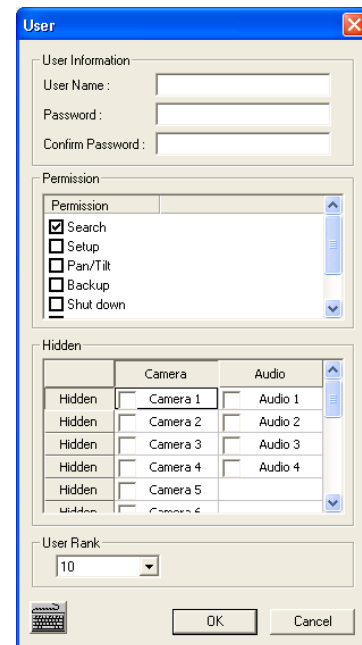
Enable
Auto Log Off

Auto Log Off enables after x
Minute(s) of Inactivity

Note The *Delete User* button immediately deletes the user. Use this button cautiously.
Auto Log Off affects all users.

Add a New User

1. Click *Setup* on the display screen.
2. Click *Administrative*.
3. Click *User Management*.
4. Click *Add User* to open the *User* window.
5. Enter a *User Name* and *Password*.
6. Enable appropriate *Permissions*.
7. Select *Camera(s)* and *Audio* channel(s) to hide from the user.
8. Assign a *User Rank*.
9. Click *OK* to save changes, and close the window.



User Rank

The User Ranking structure allows the user to assign a privilege system (1-10, where one has the most rights) to users of the NVR Software. For example, since only one user is allowed to use the PTZ controls at a time, an administrator with a higher rank can kick another user out and take control of the PTZ.

The User Rank option affects:

Setup Access - The NVR Software can only have one user accessing *Setup* at any given time. A user with a higher rank will kick another user out and then open *Setup*. **NOTE:** User settings will NOT be saved when a user with a higher ranking logs in.

PTZ Control - The NVR SOFTWARE can only have one user using the PTZ controls at any given time. A user with a higher rank will kick another user out and then open the PTZ controls.

1. From the display screen, click *Setup*.
2. Click *Administrative*.
3. Click *User Management*.
4. Enter the Administrator password and click *OK*.
5. Select a user from the *Select User* box and click *Update User*.
6. Set the user's rank using the *User Rank* list and press *OK* to save changes.

CHANGING THE ADMINISTRATOR PASSWORD

1. Inside Administrative setup, click *User Management*. When the prompt appears, click *Change Password*.
2. Enter the new password and click *OK*.

Default Administrator Password

The default administrator login is:

User: Administrator

Password: <blank>

LOG MANAGEMENT

The Log Management window provides the user the options to overwrite log files or schedule log deletion.

Setup Log Management Options

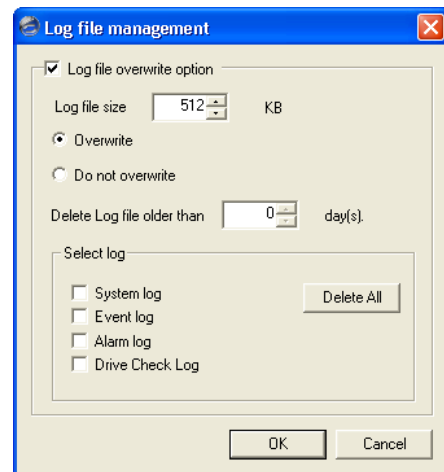
1. From the Administrative setup display, click the *Log Management* button.
2. Select the *Log File Overwrite Option* checkbox to enable the feature.

Set Log Options

- a. Select *Overwrite* and define the size of the log file cache,
- b. Or select *Do Not Overwrite* and define the number of day(s) to maintain log files.

Manually Delete Log Files

- a. Select the type(s) of log file to delete: System Log, Event Log, Alarm Log, and Drive Check Log.
 - b. Click the *Delete All* button.
3. Click the *OK* button to save the settings and close the window.



STATUS CHECK / EMAIL

General

1. Click the *Setup* button on the display screen.
2. Click *Administrative*.
3. Click *Status Check/Email* button.
4. Select the *General* tab.
5. Select the *Enable Email Alarm* checkbox.
6. Enter a From Name and From (Email) Address.
Note: This name and address will appear in the From line of the email alert message.
7. Enter the *SMTP* information for the "From" email account. If necessary, contact the email administrator for this information.
8. If using a secondary email account select the *Use Secondary SMTP* checkbox and complete the SMTP information.
9. Click the *Test* button to check settings.
10. Click *Apply* when finished.

The screenshot shows the 'Email Alarm' window with the 'General' tab selected. The 'SMART Information' section includes 'General', 'Users', 'Storage Check', and 'Recording Data Check'. The 'SMART Alert' section includes 'SMART Alert', 'Storage Check', and 'Recording Data Check'. The 'Alarm Event' section includes 'Alarm Event' and 'Recording Data Check'. The 'Enable E-mail Alarm' checkbox is checked. The 'Send User' section has fields for 'From Name' and 'From Address'. The 'Primary SMTP Setting' section has fields for 'Host Address', 'User name', 'Password', and 'Port' (set to 25). The 'Use Secondary SMTP' section has fields for 'Host Address', 'User name', 'Password', and 'Port' (set to 25). There are 'Use Login' and 'Test' buttons. An 'Apply' button is at the bottom right, and a 'Close' button is at the bottom left.

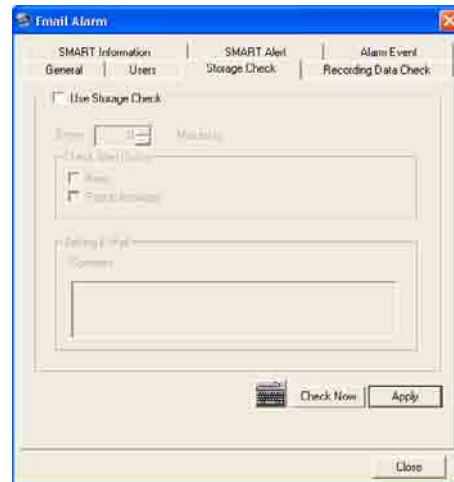
Users

1. Set the *General* tab first.
2. Click the *Users* tab.
3. Select the type of *Event* to send email on.
4. Enter the *User and Email Address* of an email recipient.
5. Click the *Add* button.
6. Repeat for additional recipients and/or types of events.
Note: A separate email notification for each type of event must be set for a single recipient to receive notifications for each type of event.
7. Click *Apply* when finished.

The screenshot shows the 'Email Alarm' window with the 'Users' tab selected. The 'SMART Information' section includes 'General', 'Users', 'Storage Check', and 'Recording Data Check'. The 'SMART Alert' section includes 'SMART Alert', 'Storage Check', and 'Recording Data Check'. The 'Alarm Event' section includes 'Alarm Event' and 'Recording Data Check'. The 'Event' section has radio buttons for 'HDD Check Alarm Event' (selected), 'Recording Data Check', 'Event Alarm', and 'SMART Alarm'. The 'Registration' section has fields for 'User' and 'E-mail Address'. There are 'Add', 'Edit', and 'Delete' buttons. An 'Apply' button is at the bottom right, and a 'Close' button is at the bottom left.

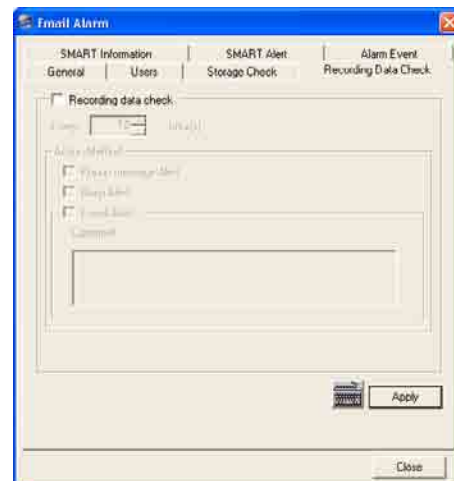
Storage Check

1. Set the *General* and *Users* tabs first.
Note: See previous page.
2. Select *Storage Check* tab.
3. Select the *Use Storage Check* checkbox.
4. Define the number of *Minute(s)*.
5. If desired, select an *Alert Option*—Beep or Popup Message.
6. Click *Apply*.



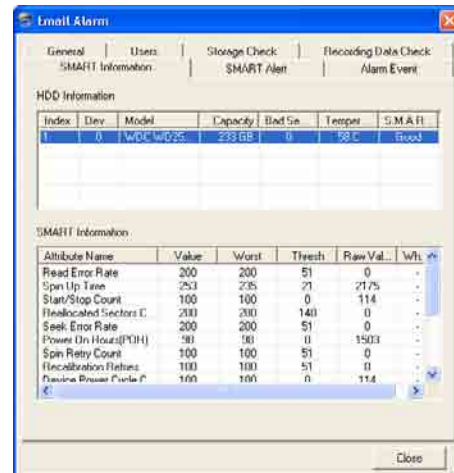
Recording Data Check

1. Set the *General* and *Users* tabs first.
2. Select *Recording Data Check* tab.
3. Select the *Recording Data Check* checkbox.
4. Define the number of *hours(s)* between data checks.
5. Select the *Action Method*.
6. Click *Apply*.



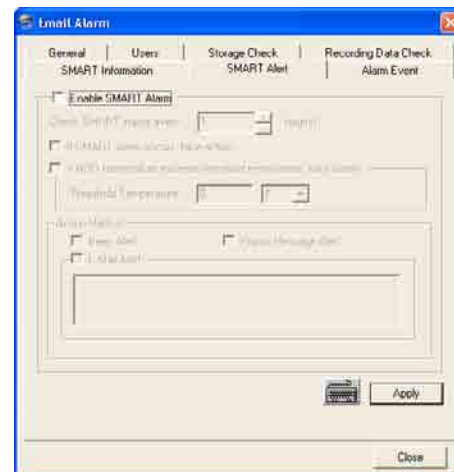
SMART Information

The SMART Information tab displays hard drive (HDD) information.



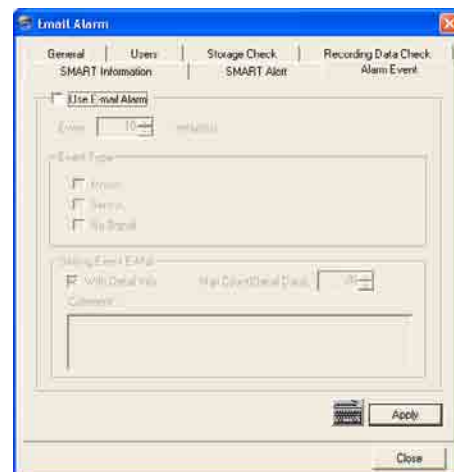
SMART Alert

1. Set the *General* and *Users* tabs.
2. Select *Smart Alert* tab.
3. Select the *Enable SMART Alarm* checkbox.
4. Define the number *hour(s)* between SMART checks.
5. Select the type of SMART event to trigger an action.
6. Define the maximum HDD *Threshold Temperature*.
7. Select an *Action Method*.
8. Click *Apply*.



Alarm Event

1. Set the *General* and *Users* tabs.
2. Select the *Alarm Event* tab.
3. Select the *Use Email Alarm* checkbox.
4. Define the number of *minute(s)* between recording data checks.
5. Select the *Event Type*, when you wish to receive an alert.
6. Click *Apply*.
7. Click *Close* to return to the Administrative tab.



INFORMATION

The Information tab allows users to define the site code necessary for connecting to remote software, save comments relative to the NVR, and store tech support and contact number information.

Total HDD / Available HDD Space

DVR Version 4.0.0

Site Information

Site Code :

Board Serial # :

System Serial # :

Decoder :

Video Format :

Notes :

Drive Information

C: Drive
Total Space : 20259 MB
Free Space : 16739 MB

D: Drive
Total Space : 219097 MB
Free Space : 219015 MB

E: Drive
CD Drive

Telephone Number

Contact Number :

Tech. Support :

User-Defined Contact Numbers

Enter Comments

Apply

Site Code

A user-specified unique identification name used by other NVR software to identify the NVR. (Remote, Emergency Agent, RADIUS, Digital Signature Verifier)

PTZ

The PTZ Setup tab allows users to enable PTZ cameras, create Presets, create Tours, and adjust camera speed settings. Some of the listed options are features only available on selected cameras. Refer to the PTZ chapter in this manual for further information on setting PTZ cameras and their options.

INSTANT RECORDING

The Instant Recording feature allows users to initiate recording manually on a specific camera, overriding the current schedule. When Instant Recording is activated, the NVR flags the clip as an event, so Instant Recording instances can be found using the Index Search.

Instant Recording can be used when a suspicious object or person is detected and the user wants to flag that section of video for easy retrieval in the future.

ACTIVATE INSTANT RECORDING

1. From the display screen, double right-click the camera on which to enable instant recording. An INSTANT label will be placed on the upper right corner of the video.
2. To turn off the Instant Recording option, double right-click the camera a second time.

SEARCHING “INSTANT RECORDED” VIDEO

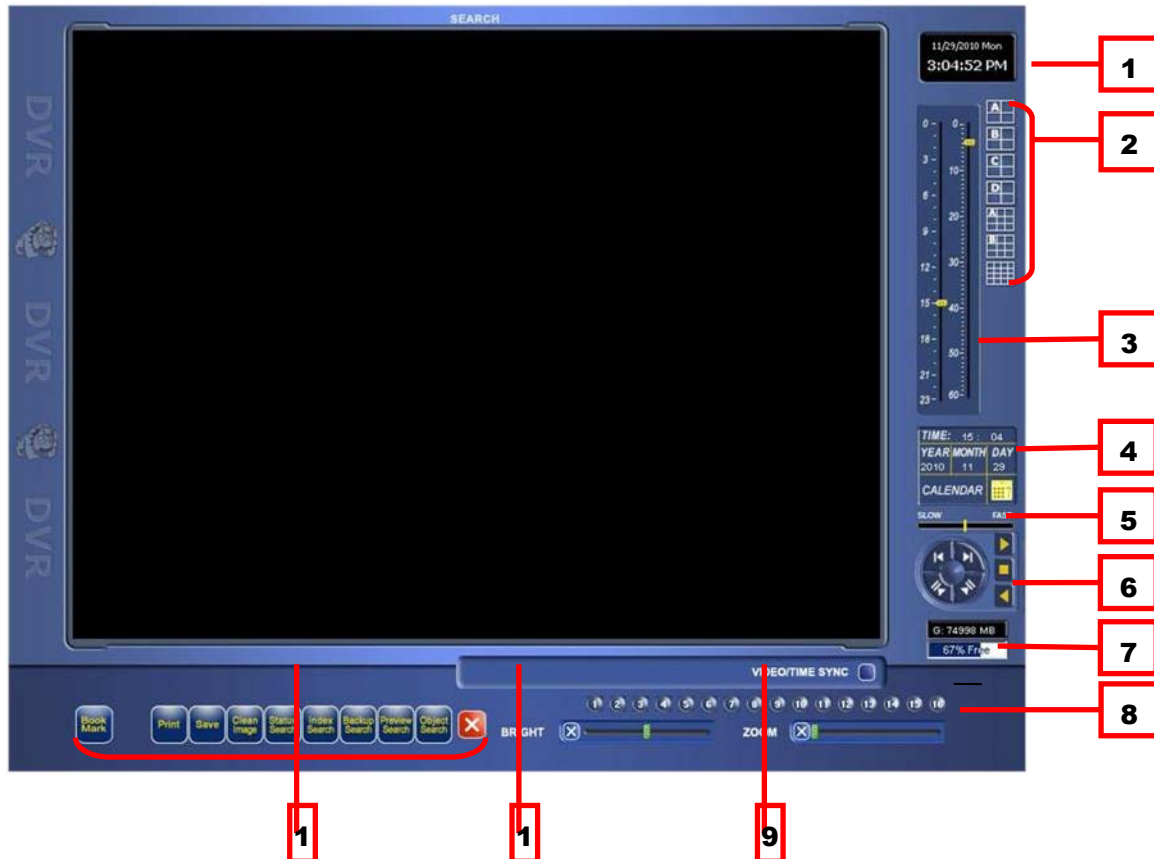
1. From the display screen, click *Search*.
2. Click *Index Search*.
3. Select the *Instant Recording* option. See the Search chapter for more information.

SEARCH OPTIONS

SEARCH OVERVIEW

The NVR has several options that allow the user to easily search through and find a particular section within your recorded video data. From indexing motion or sensor to highlighting days with recorded data, our NVR is equipped to help the user find a specific video or event quickly and easily.

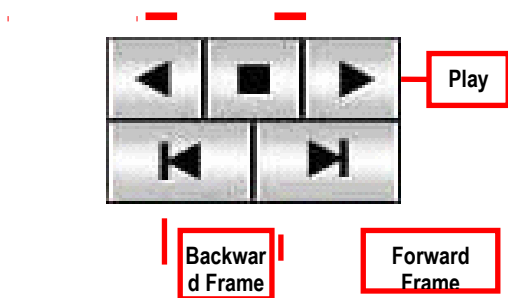
The following chapter describes how to use the NVR Search features.



1	Date/Time	Displays current date and time. The date and time is stamped onto the recorded video and is displayed whenever the video is played back.
2	Screen Division Buttons	View cameras in groups such as 2x2, 3x3, and 4x4.
3	Time Control Bar	Move the slide bar to select the time you wish to view.
4	Date Box	Displays the date and time of the current video being viewed, and <i>Calendar</i> button allows selection of a new date to be searched.
5	Speed	Move the slide bar to increase and decrease the playback speed of the video.
6	Play Controls	These buttons allow you to control the playback video being viewed.
7	Storage Capacity	The Storage Capacity Usage Indicator displays the total free storage space available to the DVR unit.
8	Camera	Enable /Disable selected cameras to perform searches on.
9	Zoom	Increase the size of the image.
10	Bright	Adjust the brightness of the selected camera.
11	Option Buttons	Select one of the options to find or save your video.

Note *Audio Channel* buttons are only viewable when one camera is selected.

PLAY CONTROLS



Back Frame	Move video back one frame
Rewind	Rewind video
Stop	Stop video playback
Play	Play video
Forward Frame	Move video forward one frame

ADJUST THE BRIGHTNESS OF AN IMAGE

1. Select an image to adjust by double-clicking on the desired image. Multiple images cannot be adjusted at the same time.
2. Move the *Bright* slide bar to the right or left to adjust the brightness.
3. Reset the brightness by moving the slider back to the center of the bar.

ZOOMING IN ON AN IMAGE

1. Select an image to adjust by double-clicking on the desired image. Multiple images cannot be adjusted at the same time.
2. Move the *Zoom* slide bar to the right or left to zoom in or out of an image.
3. Reset the *Zoom* by moving the slider back to its original position on the bar.

ZOOMING IN ON A PORTION OF AN IMAGE

1. Right-click the area of interest on the image and select *Zoom*, or double right-click the image.
2. Repeat the process to zoom in further.
3. Continue clicking the right mouse button, and the image zoom will cycle back to its original size.

OPEN VIDEO FROM A SAVED LOCATION

Previously saved video clips or backup files can be searched for content. Find the file by the date and time or by name.

1. Click the *Open* button to search for the saved file.
2. Select a file from the list of saved clips and backup files or search by *Start Hour*.
3. Click *OK* to open the saved file.

TIME SYNC

The Time Sync option synchronizes a single channel of video to playback in real time. The video may playback slower or faster depending on several factors, including how many IPS are recorded and the number of cameras playing at the same time.

1. Select a single image to synchronize, by double-clicking on the image.
2. Click the *Time Sync* button. The video will now playback in real time.

CLEAN IMAGE

The NVR is capable of recording video using one of three different resolutions. When using the D1 (720 x 480) resolution, de-interlacing feature is required for a smooth playback of the recorded video. The NVR allows the user to de-interlace the images. Just click the *Clean Image* button.

PERFORMING A BASIC SEARCH

There are several different types of searches that can be performed on the NVR. The most basic search involves selecting the date, time, and camera and then clicking play.

1. Click the *Calendar* button to select a date.
2. Select a time by clicking the up and down arrows of the Time Control Bar, located on the right of the screen.
3. Click *OK*.
4. Select the camera(s) to view.
5. Click *Play*. User can play video forward, backward, or frame-by-frame.

PRINTING AN IMAGE

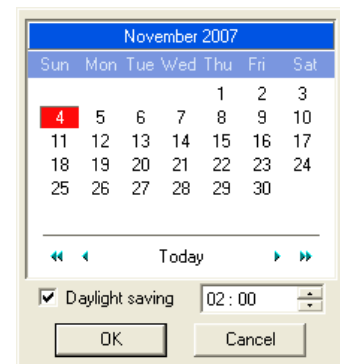
1. Using the Search screen, locate a frame to print.
Note: Only one camera can be selected at a time for this function to work.
2. Click the *Print* button. A *Print Options* window appears. Depending on the printer being used, there may be several printing options available. Refer to the printer manual for more information.
3. Click the *Print* button to print the selected images.
Note: The message "NO DEFAULT PRINTERS INSTALLED" will display if no printer is installed.

DAYLIGHT SAVING TIME

The NVR automatically adjusts for Daylight Saving Time (DST) changes. When the hour jumps forward, no video is lost because an hour is skipped. However, when the hour falls back, NVR records both hours and allows the user to select which hour to play.

To access the "lost hour,"

1. Click *Search* on the display screen.
2. Click the yellow *Calendar* button.
3. Select the date when DST lost an hour. The *Daylight Saving* checkbox appears.
4. To playback the lost hour, check the *Daylight Saving* box and enter the repeated hour in the time box.
5. Click *OK* to confirm the date and begin playing the video using standard search features.



SAVE AS JPG OR AVI

The NVR can export single images in a JPG file format and save video clips in an AVI format. Both JPG and AVI file formats are the most commonly used graphical formats today. Every computer offers some type of support for these file formats which make them the most ideal formats to use.

- JPG:** JPG images are 24-bit (16.7 million color) graphics that are optimized for compressing full-color or grayscale photographic images. Use JPG to export a single image or frame.
- AVI:** AVI data can be stored uncompressed but is typically compressed using a Windows-supplied or third party compression and decompression module called a codec. AVI is used to export a video clip.

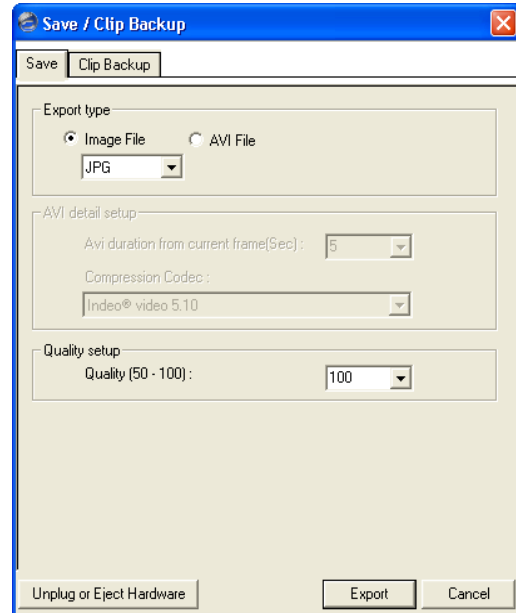
1. Click the *Search* button on the display screen.
2. Click the *Save* button.
3. Select the *Export Type: Image File (JPG) or AVI File*.
Note: Different image formats provide different file sizes, quality, and compatibility.

If Image File is selected for Export Type,

- a. Select the *Quality (50 – 100)*. If size is not an issue, set the quality to 100.

If AVI File is selected for Export Type,

- a. Enter the *AVI Duration (seconds)* to record. Although 100 is the longest time displayed, a longer duration may be entered manually.
 - b. Select a *Compression Codec*. Each codec provides different levels of file size, quality, and compatibility.
 - c. Select the *Quality (50 – 100)*. If size is not an issue, set quality to 100.
4. Click the *Export* button to save the file. The *Cancel* button exits the window without exporting the file.



BOOKMARKS

Use the Bookmark feature to mark a video clip during a search. Export the bookmarked data using the Clip Backup feature.

1. Perform a search for the desired video.
2. Stop playback at the beginning of the desired clip.
3. Right-click the video and select *Start Bookmark*.
4. Click the *Play* button to continue playback.
5. Click the *Stop* button at the end of the desired clip.
6. Right-click the video at the desired end point and select *End Bookmark*.
7. In the *Title* box, type a name to identify the bookmark.
8. In the *More Information* box, enter a memo or a note.
9. If you want, select additional channels you wish to bookmark for the same time frame.
10. Click *Create*.

Channel	Name
☒ Cam 1	Position1
☐ Cam 2	Position2
☐ Cam 3	Position3
☐ Cam 4	Position4
☐ Cam 5	Position5
☐ Cam 6	Position6
☐ Cam 7	Position7
☐ Cam 8	Position8
☐ Cam 9	Position9
☐ Cam 10	Position10

Title:

More Information:

All None Converse

Bookmark start time: 4/18/2008 9:34:20 AM Bookmark end time: 4/18/2008 9:35:33 AM

Create Cancel

Modify Bookmarks

Modify a previously created bookmark to change the start or end time of the clip, add additional comments, change the title, or add additional cameras.

1. Click the *Search* button on the display screen.
2. Click the *Bookmark* button.
3. On the calendar, select the date of the desired bookmark.
4. Select the desired bookmark from the list.
5. Make the changes. .
6. Click *Modify*.
7. When the modification is complete, click *Cancel* to close the window.

April 2008

Index	Title
1	#3

Start Time: 9:36:41 AM End Time: 9:36:41 AM

Channel	Name
☐ Cam 1	Position1
☐ Cam 2	Position2
☐ Cam 3	Position3
☐ Cam 4	Position4
☐ Cam 5	Position5
☐ Cam 6	Position6
☐ Cam 7	Position7
☐ Cam 8	Position8
☐ Cam 9	Position9
☐ Cam 10	Position10
☐ Cam 11	Position11

All None Reverse

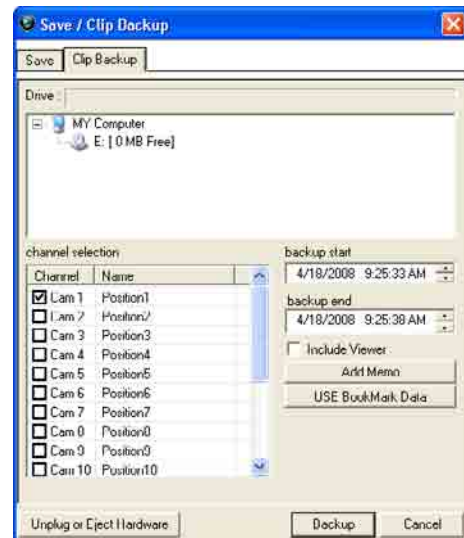
Move Modify Delete Cancel

SINGLE CLIP BACKUP

Along with the Save option, a single camera backup option is also included with the Digital Watchdog software. The single camera backup, also known as Clip Backup, allows the user to backup a single camera at a given time. The Clip Backup option allows the user to choose a backup time frame, choose a specific camera, add a memo, and even include the Backup Viewer if needed.

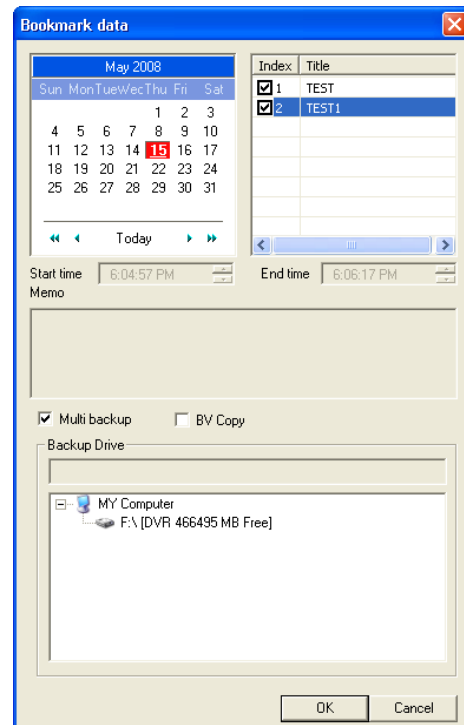
1. Click the *Search* button on the display screen.
2. Click the *Save* button.
3. From the file tree, select the *Drive* where you wish to save the data. The data can be saved to a hard disk drive, a USB drive, or a CD/DVD drive.
4. Select cameras from the *Channel Selection* list.
5. Define the *Backup Start* and *Backup End* time of the backup clip.
6. Select the *Include Viewer* checkbox to include a copy of the proprietary backup data viewer software. The Viewer enables user to view the backup clip on any windows machine.
7. Click the *Add Memo* button to include additional information.
8. Click the *Backup* button to begin backup.

Note: If backing up to a removable USB device, click the *Unplug or Eject Hardware* button after backup is complete to remove the device safely.



Single Clip Backup Using Bookmark Data

1. Click the *Search* button on the display screen.
2. Click the *Save* button.
3. From the file tree, select the *Drive* where you wish to save the data. The data can be saved to a hard disk drive, a USB drive, or a CD/DVD drive.
4. Click *Use Bookmark Data*.
5. On the calendar, select the date of the desired bookmark.
6. Select the desired bookmark from the list and click *OK*.
Note: To include multiple bookmarks in a clip backup, select the *Multi Backup* checkbox before selecting the desired bookmarks.
7. Select the *BV Copy* checkbox to include a copy of the proprietary backup viewer software. The Viewer enables user to view the backup clip on any windows machine.
8. Click the *Add Memo* button to include additional information.
9. Click the *Backup* button to begin backup.
Note: If backing up to a removable USB device, click the *Unplug or Eject Hardware* button after backup is complete to remove the device safely.

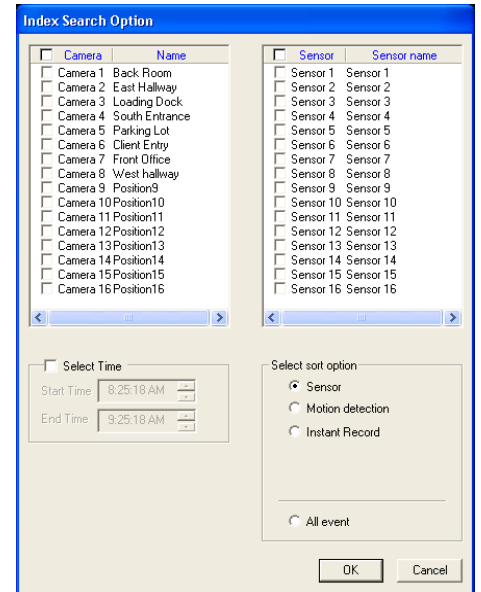


INDEX SEARCH

Using the Index Search can greatly decrease the amount of time spent searching through saved video. The Index Search allows a user to perform a search based on criteria such as Sensor, Motion, and Instant Record events

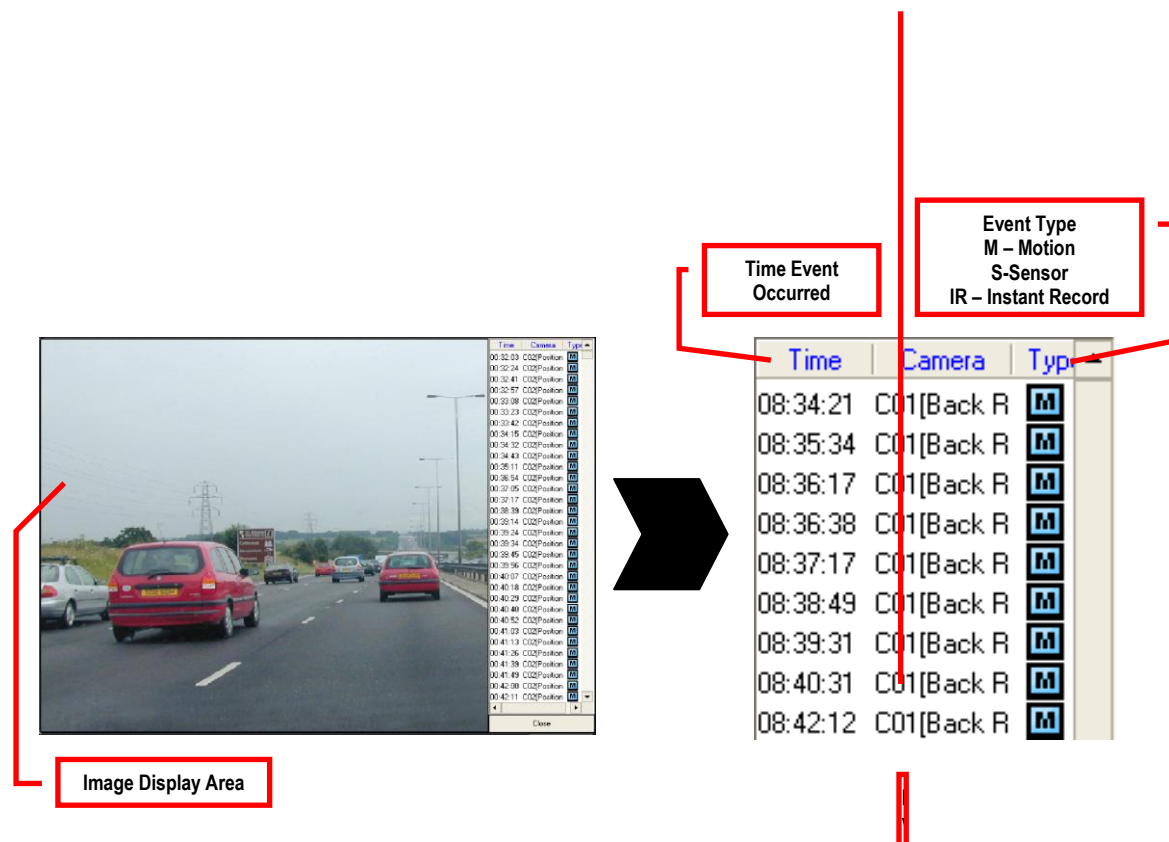
PERFORMING AN INDEX SEARCH

1. Click the *Search* button on the display screen.
2. Click the yellow *Calendar* button on the Search Screen to select the date to search.
3. Click the *Index Search* button.
4. Select the *Camera(s)* and *Sensor(s)* to include in the search.
5. Select the *Select Time* checkbox to define a specific period.
6. Select an event type (*Sensor*, *Motion*, *And Instant Record*) to search or select the *All Event* option.
7. Click *OK*. Results will be displayed in a column that appears on the left side of the screen. There may be a delay when the NVR searches for the results. Each line represents a segment of video. If no results are found, "NO IMAGE FOUND" will appear in the column.
8. Once the results are displayed, double-click any one of the results to play the associated video.
9. Once the desired image is found, apply it to the main search by selecting the *Close* button at the bottom of the results column.



The dialog box titled "Index Search Option" contains two lists of checkboxes. The left list, under the "Camera" header, includes items like "Camera 1 Back Room", "Camera 2 East Hallway", "Camera 3 Loading Dock", "Camera 4 South Entrance", "Camera 5 Parking Lot", "Camera 6 Client Entry", "Camera 7 Front Office", "Camera 8 West hallway", "Camera 9 Position3", "Camera 10 Position10", "Camera 11 Position11", "Camera 12 Position12", "Camera 13 Position13", "Camera 14 Position14", "Camera 15 Position15", and "Camera 16 Position16". The right list, under the "Sensor" header, includes "Sensor 1 Sensor 1" through "Sensor 16 Sensor 16". Below these lists are two sections: "Select Time" with "Start Time" and "End Time" fields (both showing 8:25:18 AM), and "Select sort option" with radio buttons for "Sensor" (selected), "Motion detection", "Instant Record", and "All event". At the bottom are "OK" and "Cancel" buttons.

INDEX SEARCH RESULTS DISPLAY



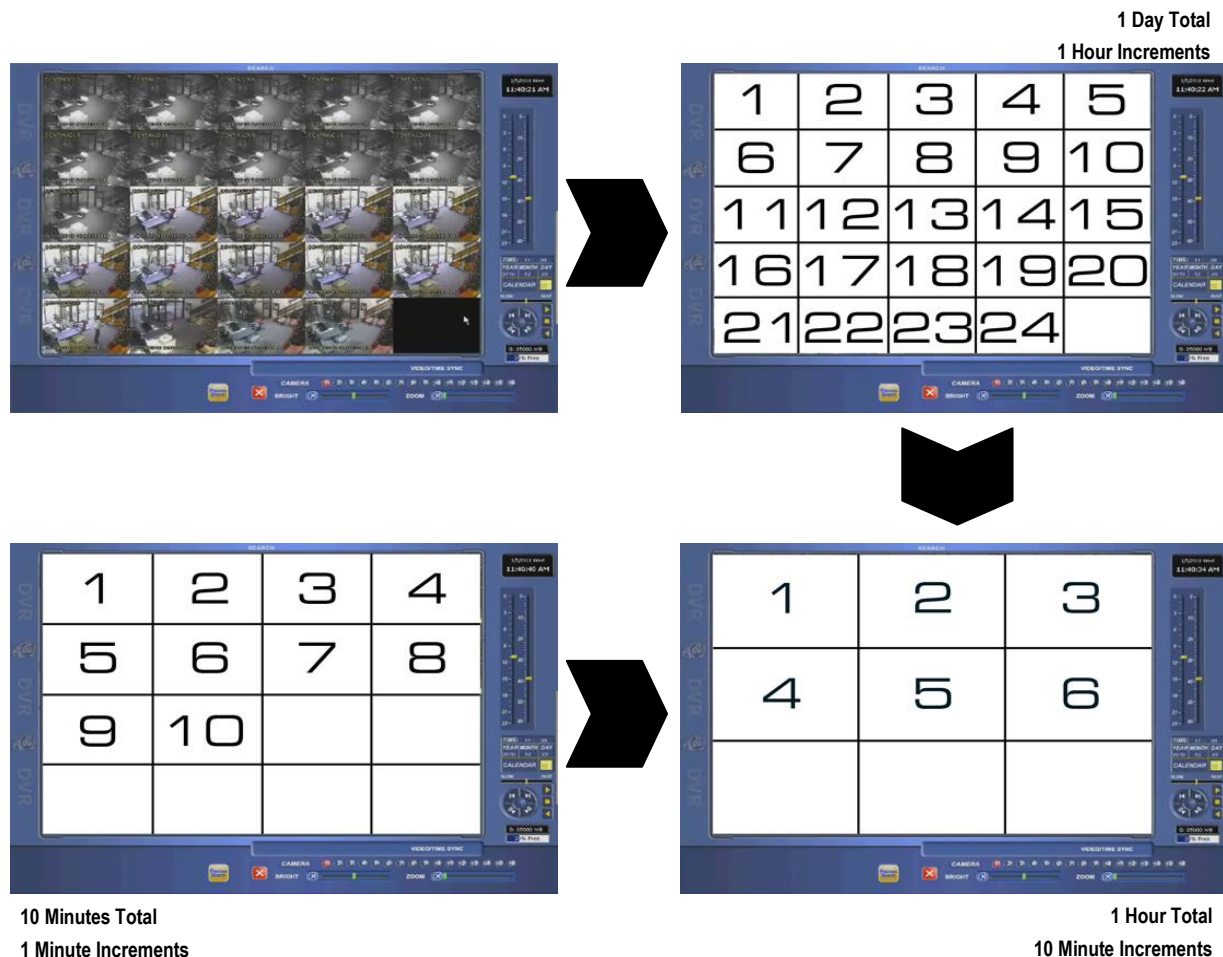
The interface shows a video feed on the left and a results table on the right. A red box labeled "Image Display Area" points to the video feed. A large black arrow points from the video feed to the results table. A red box labeled "Time Event Occurred" points to the "Time" column of the table. Another red box labeled "Event Type M - Motion S-Sensor IR - Instant Record" points to the "Type" column. The results table has columns "Time", "Camera", and "Type".

Time	Camera	Type
08:34:21	C01[Back R	M
08:35:34	C01[Back R	M
08:36:17	C01[Back R	M
08:36:38	C01[Back R	M
08:37:17	C01[Back R	M
08:38:49	C01[Back R	M
08:39:31	C01[Back R	M
08:40:31	C01[Back R	M
08:42:12	C01[Back R	M

PREVIEW SEARCH

Preview Search can be used in a number of circumstances. The feature is effective in finding an exact moment where an event, such as a theft, occurred. Preview Search gives a 24 hour visual overview of a single camera by displaying 24 images, an image for each hour of the day. The search can then be further narrowed down into ten minute increments and one minute increments by selecting one of the displayed images.

The image below shows how Preview Search works.



The first screen that appears displays 24 images. Each image represents the first second of every hour. If there is no video recorded during that period, nothing will be displayed.

When an hour is selected by double-clicking on the image, a new screen that displays 6 images appears. Each of the six images represents a 10 minute segment of video within the selected hour.

When a ten minute segment is selected by double-clicking on the image, the final screen that displays 10 images appears. This screen breaks down the 10 minute segment into 1 minute increments.

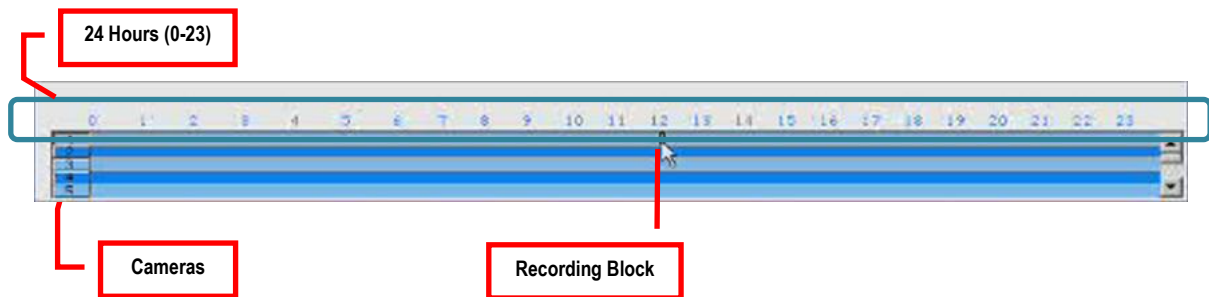
When a one increment segment is selected by double-clicking on the image, the video will begin playing from that frame.

PERFORMING A PREVIEW SEARCH

1. Select a single camera either by turning off all cameras but one or by double-clicking a displayed image.
2. Select the *Preview Search* button. 24 images will display. If there is no recorded video during a period of the day, nothing will be displayed on the screen where the image should be.
3. Break down an hour into ten minute increments by double-clicking on one of the twenty four images. 6 images will display. If needed, return to the previous 24 image view by right-clicking on an image.
4. Break down a ten minute video into one minute increments by double-clicking on one of the six images. 10 images will display. If needed, return to the previous 6 image view by right-clicking on an image.
5. Double-click one of the ten images to play the 1 minute segment of video. The image will appear alone.. If needed, return to the previous 10 image view by right-clicking on the image.
6. Use the *Play Controls* to play the video of the selected one minute segment.
7. To exit out of the Preview Search with the current image still selected, deselect the *Preview Search* button.

STATUS SEARCH

The Status Search option displays recorded video in graph format. Blue areas indicated that recorded data exist, and White areas indicate that recorded data does not exist.

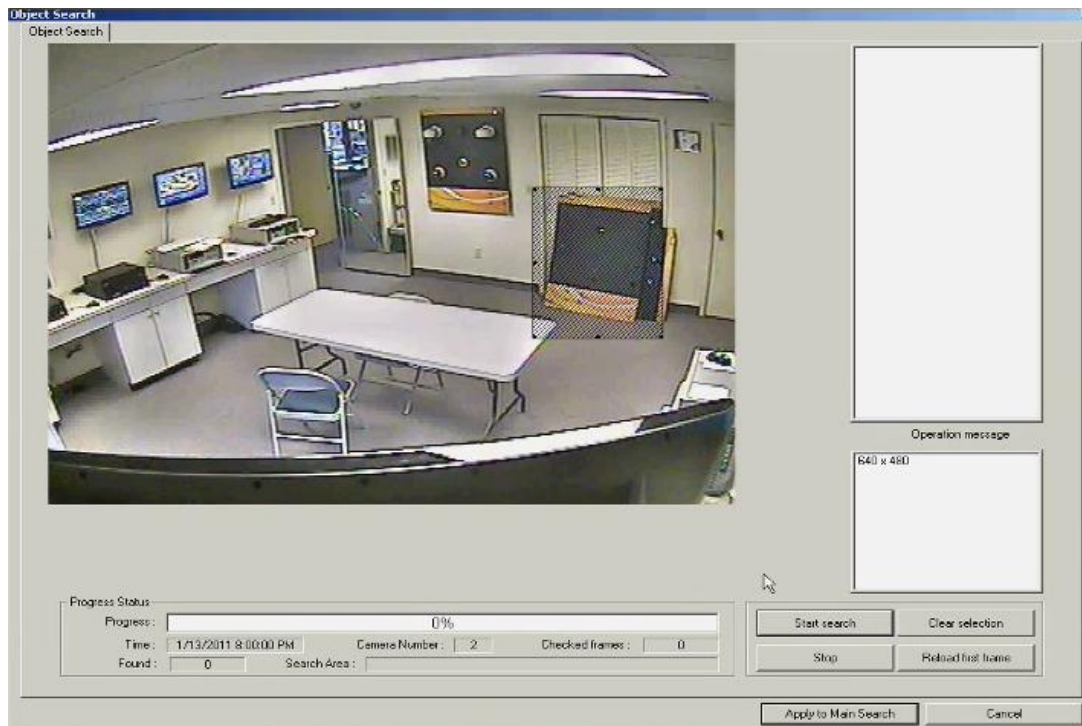


PERFORMING A STATUS SEARCH

1. Click the *Search* button on the display screen.
2. Click the *Status Search* button
3. Click the yellow *Calendar* icon to select a day.
4. Click a Blue area in the graph. *Only one camera can be displayed at a time.
5. Recorded video from the corresponding camera and time block will display on the screen located above the graph.
6. Use the mouse or arrow buttons to move through the recording blocks and to view the video.

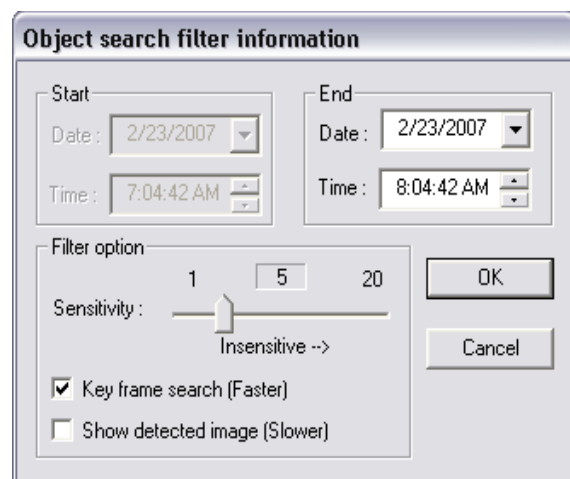
OBJECT SEARCH

Object Search is a powerful search utility that is used to search a region on the video for any motion changes. Results are neatly displayed and can be viewed quickly.



PERFORMING AN OBJECT SEARCH

1. Perform a Basic Search. See the instructions on *Performing a Basic Search*.
2. Select a single camera either by turning off all cameras but one or by double-clicking a displayed image.
3. Click the *Object Search* button.
4. Click and drag the mouse on the video display to define a motion region area. Resize by pulling on the small square boxes located around the border.
5. Click the *Start Search* button. The *Object Search Filter Information* window will open
6. Select an *End Date/Time*. One hour is the default setting.
7. Adjust the *Sensitivity* if necessary.
8. Click the *OK* button
9. Select a motion event from the search results list displayed on the right.
10. Click the *Apply to Main Search* button to display the selected image in the main search screen.
11. Use the *Play Controls* to view the video.
12. To start a new object search using the original image, click the *Reload First Frame* button
13. To exit object search without selecting an image, click the *Cancel* button.



AUDIO PLAYBACK

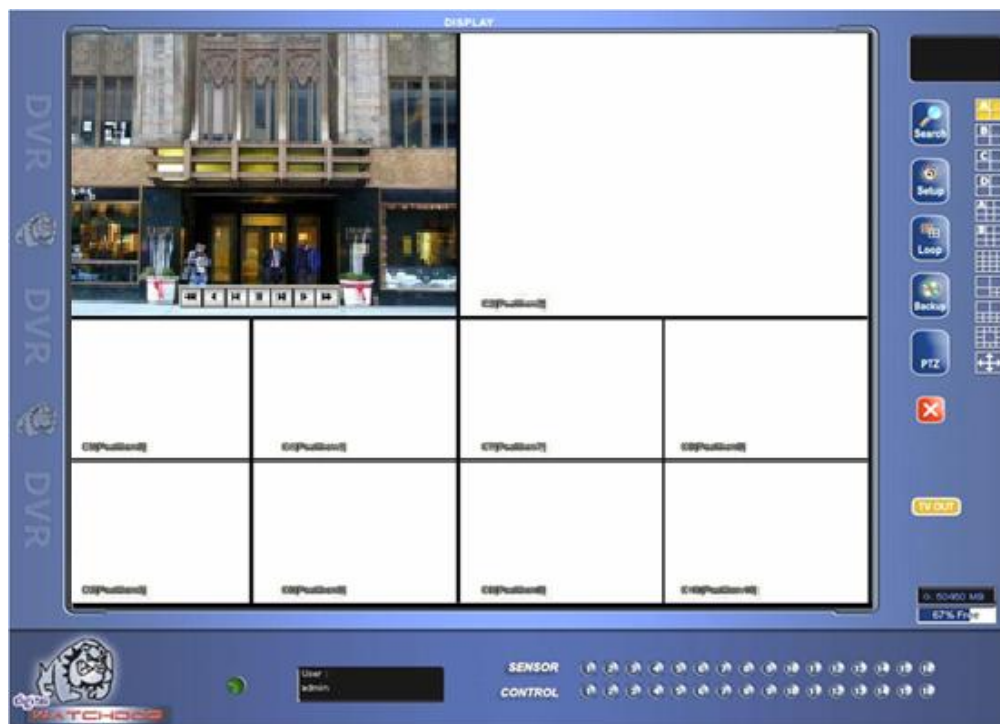
Audio is played back at 48,000Hz.

To play audio with your recorded video,

1. Use the *Camera Select* buttons to select a single camera. Turn off all cameras but one. The audio buttons will appear once a single camera is selected.
2. Select a single audio channel to play. When an audio channel is selected, the *Time Sync* button will be automatically selected.
3. Click *Play*.

SEARCH IN LIVE

The Search in Live feature allows the user to monitor live video and review events simultaneously. Pause, rewind, and resume live video within seconds of an alarm event or suspicious activity.



1. Move the mouse cursor over the desired live video display on the live display screen.
2. Press the *Scroll* button on the mouse.
3. The *Search in Live Controls* will display at the bottom of the image.



4. Use the controls to pause, rewind, fast forward, move frame-by-frame, or resume playing.

PAN / TILT / ZOOM

PAN / TILT / ZOOM OVERVIEW

The PTZ controls within the NVR are extremely beneficial by increasing the usefulness of the recorded video. With the PTZ Controls, user can create custom preset configurations that can you can continuously sweep across large areas.

SETTING UP A PTZ CAMERA

The NVR comes preassembled with an internal PTZ adapter. The cabling can run up to 4,000 ft using 22 Gauge Twisted Pairs.

It is important to understand how the PTZ connects to the NVR. The NVR outputs an RS-232 signal and converts it to an RS-485 signal that is sent to the PTZ camera.

Refer to the Connections section of this manual for information on how to connect the PTZ camera to the NVR.

ENABLE THE PTZ SETTINGS

1. Click the *Setup* button on the display screen.
2. Click the *PTZ* tab.
3. Select the PTZ camera, using the camera *Channel* list.
4. Enable the PTZ functions of the camera by placing a check in the *Enable Pan/Tilt* box.
5. Select the appropriate *Protocol* and set the *Address Setting* and *Serial Port Setting*. (See Advanced PTZ Setup in this chapter.)
Note: The majority of major PTZ manufacture protocols are included in this software. Refer to the Supported Protocols List in this manual.
6. Click *Apply* and exit setup.
7. Click the *PTZ* button on the display screen. The PTZ Controller will open. (See the NVR Basics chapter.)
8. Select the PTZ camera you wish to control by selecting it on the display screen. The camera number will appear inside the *PTZ Controls*.
9. Use the PTZ Controls to move the PTZ around.

SUPPORTED PTZ PROTOCOLS

Protocols are added frequently. The supported list may contain new protocols that are not listed below.

The current supported protocols are:

ADEMCO RAPID DOME	MERCER
AMERICAN DYNAMICS	MERIT LI-LIN
BOSCH AUTODOME	MERIT LI-LIN V6
CBC (GANZ)	MIC1-300
C-BEL	MOLYNX
CHIPER CPT (V9KR SERIES)	NICECAM
CNB-AN102	NIKO
CNB-PTZ100	OPENEYE OPTIX 500
COMPUTAR	OPENEYE OPTIX 510
COVI EVQ-1000	OPENEYE OPTIX-PELCO-D
DENNARD RS485	ORX-1000 (KRE-303)
DMP23-H2	PANASONIC
DONG YANG DSC-230/240	PANASONIC V2
DONG YANG SPEEDDOME	PELCO (P PROTOCOL 4800BPS)
DONG YANG UNITECH (DRX-502A)	PELCO DRD08/DRD14 SERIES
DONGYANG (255RXC)	PHILIPS (TC8560 & TC700)
DVRX-1000	SAE
ERAEEEDS (CRX-1401)	SAMSUNG (DRX-502A)
ERNITEC	SAMSUNG (MRX-1000)
EVERFOCUS EPTZ1000	SAMSUNG (SCC-641)
FASTRAX II	SAMSUNG (SCC-C6407)
FASTRAX IIE	SAMSUNG (SPD-3300P)
FILLTECH (DSC-230/PT-201)	SANTACHI
FINE SYSTEM (CRR-1600)	SENSORMATIC SPEEDDOME-AD DELTADOME
FOCVISION (KD1602)	SONY BRC-300
GANZ ZC - PT SERIES	SPD-2500P
HONEYWELL (GC-655P)	SUNGJIN (SJ2819RX)
HONEYWELL (HSD-250)	SUNGJIN (SJ3000RX)
HONEYWELL (HSD-251)	T TIAT TRX-100
HONEYWELL (KDEC-300)	T TIAT TTR-100
HONEYWELL HD6	TAMRON
HMC-250	TELEEYE DOME
HSCP	TOA SPEED DOME
INTER-M (VSD-640)	TOSHIBA (P PROTOCOL 4800BPS)
INTER-M(VRX-2101)	ULTRAK (KD6)
JAVELIN (ORBITOR)	VCL
JVC TK-C676/C655	VCL- OLD
KALATEL (CYBER DOME)	VICON
KDC	VICON SURVEYOR 2000
KODITEC	VIDEOALARM
LG (LPT-A100L)	VIDEOTREC
LG (LVC-A70X'S)	VISION TECH
LG (LVC-M300/310)	WONWOO
LG MULTIX	YUJIN SYSTEM EPT6000
LG SPEED DOME	

ADVANCED PTZ SETUP

The screenshot shows the 'digital WATCHDOG PRO' PTZ setup window. A red line with arrows points from three text boxes to specific areas of the interface:

- PTZ Signal Type** points to the 'Channel' dropdown menu.
- Adjust Speed Settings** points to the 'Speed' section containing 'Pan', 'Tilt', 'Zoom', and 'Focus' sliders.
- Connection Settings** points to the 'Serial Port Setting' section, specifically the 'Port' dropdown menu.

Other visible settings include:

- Channel:** [Channel 01]: Position1
- Protocol:** RS485 (selected), RS232
- Enable Pan/Tilt:** ☐ (unchecked)
- Reverse PTZ:** ☐ (unchecked)
- On screen compass:** ☐ (unchecked)
- Travel Speed:** 20
- Dwell Time (sec):** 1
- Setting:** Start Pos, End Pos
- Pan Swing:** ☒ (selected), Tilt Swing: ☐ (unchecked)
- Run:** Run, Stop
- Camera Detail Menu:** Camera Menu, Select, Close
- Preset:** 1, Select
- Preset State:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, Set, Clear, Clear All
- Sequence:** 1,2,3,4
- Serial Port Setting:** COM1
- Baud Rate:** 9600bps
- Port:** NONE
- Data Bits:** 8
- Stop Bits:** 1
- Apply:** Apply

Note Preset and Tour options may vary depending on the camera.

PTZ ADDRESS SETTINGS

Some protocols support software address settings.

The *RX Address* and *ID* settings are compatible with a particular line of receivers that support 2 ID addresses.

The *PT Driver Address* is associated with the PTZ ID address set on the camera. The addresses must match for the NVR to communicate with the proper PTZ camera. This is especially important when a large number of PTZ cameras are connected to the NVR.

Note: To select a *PT Driver Address* of 129-254, manually enter the ID in the box.

This is a close-up of the 'Address Setting' section of the PTZ setup window. It contains the following fields and controls:

- RX Address 1:** 01
- RX Address 2:** 00
- PT Driver Address:** 0
- Previous ID:** [Empty box]
- New ID:** [Empty box]
- Set ID:** Set ID button

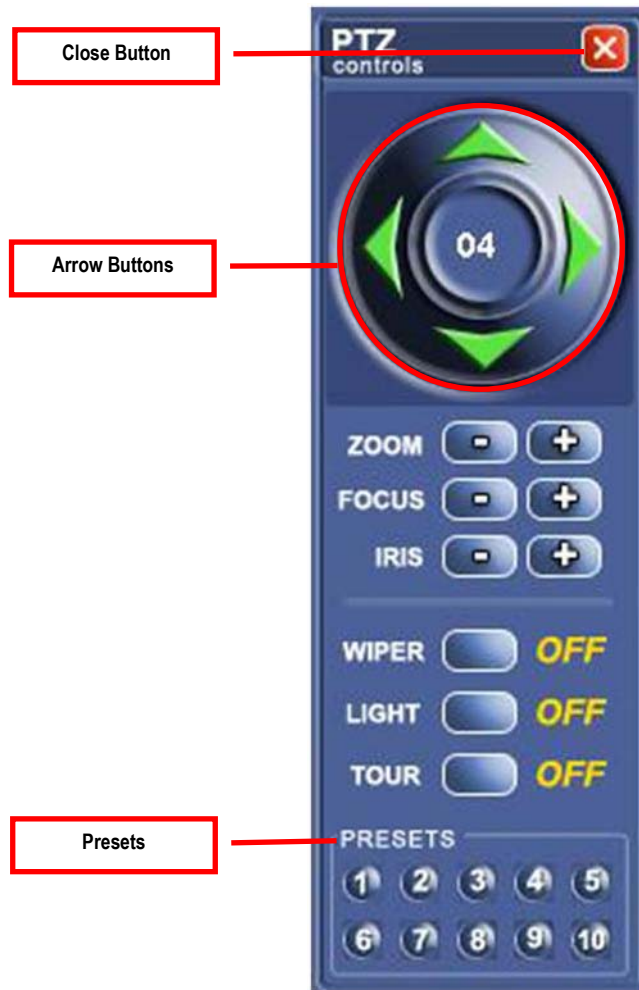
ACCESSING PTZ MENUS

Some protocols support the ability to access the Internal PTZ Onscreen menu.

Since every PTZ camera is different, the functions of these options can vary slightly.

The NVR provides an easy way to access the cameras options. For explanations on those camera options, please refer to your camera manual.

Note: Use the arrow buttons on the PTZ Controller to move through the PTZ Menu options or highlight the options.



CONTROLLING A PTZ CAMERA

The Digital Watchdog NVR provides to different ways of controlling a PAN/TILT/ZOOM camera.

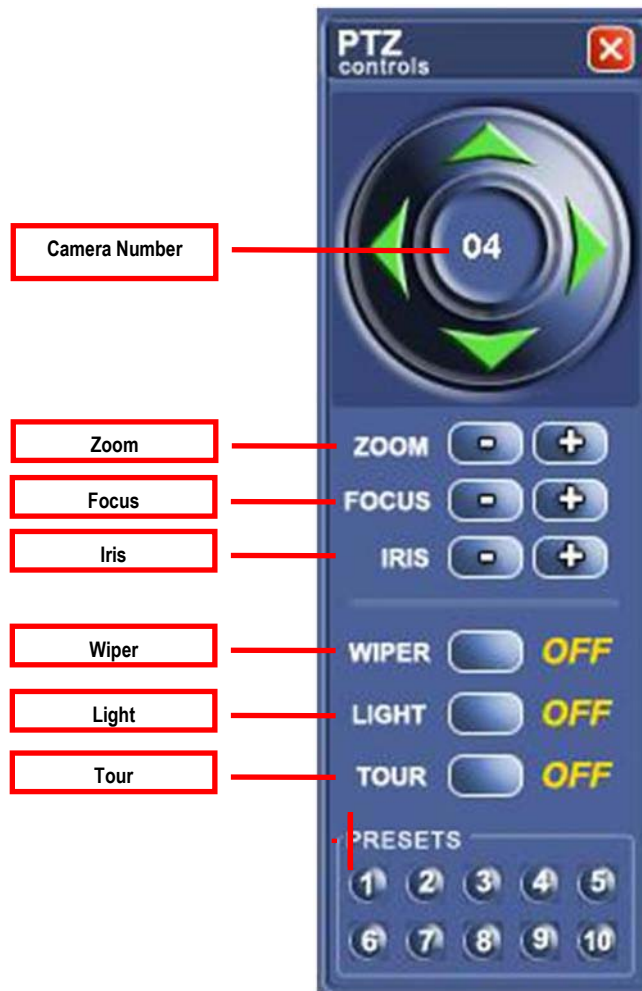
The first method is to use the Graphical PTZ Controller that appears when the *PTZ* button is clicked on the live display screen.

The second method is to use the mouse to control the camera directly from the live display screen. This is called the On-Screen Compass.

USING THE GRAPHICAL PTZ CONTROLLER

1. Use the *Arrow* buttons to control the direction of the PTZ camera.
Note: Eight directions are available only for select protocols. Only four of the PTZ Arrow buttons work for all protocols (UP, DOWN, LEFT, RIGHT).
2. To select a new camera, click the video display of a different camera on the live display screen.

Camera Number	The number of the camera that is currently being controlled.
Zoom	Zoom In (+) and Out (-)
Focus	Focus the camera.
Iris	Adjust the Iris of the camera.
Wiper	Activate a wiper on the camera.
Light	Activate the Light on the PTZ
Tour	Activate the Tour function.
Presets	Activate the corresponding PTZ preset.



USING THE ON-SCREEN COMPASS

1. Click the *Setup* button on the display screen.
2. Click *PTZ* tab.
3. Select the *On Screen Compass* checkbox to enable the feature.
4. Click the *Apply* button.
5. Click the *Exit* button to return to the live display screen.
6. Click the *PTZ* button.
7. Control the PTZ by dragging the mouse on the screen in the desired direction.
Note: A green line will appear to show the direction the PTZ will move. The shorter the line the less the PTZ will move. The PTZ will travel in the direction the green line specifies.



UNDERSTANDING TOURS

Travel Speed	The speed at which a PTZ moves from one preset position to the next.
Dwell Time	The length of time (in seconds) that a PTZ Tour displays a preset position.
Setting: Start Pos	Defines a Mimic Tour. The Start Position button begins the recording process.
Setting: End Pos	Defines a Mimic Tour. The Stop Position button ends the recording process.
Pan Swing	Enables the Horizontal (Pan) Guard Tours.
Tilt Swing	Enables the Vertical Guard Tours
Run	Runs the selected Pan or Tilt Tour
Stop	Stops the selected Pan or Tilt Tour.

Preset & Tour

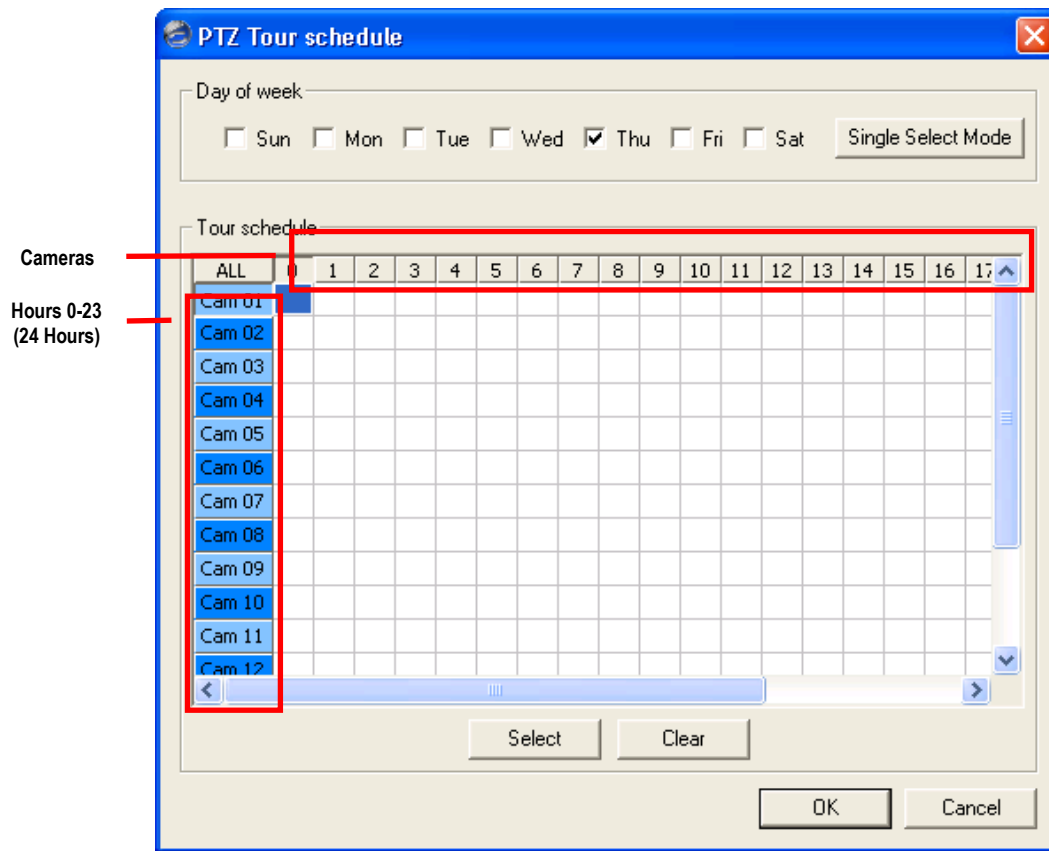
Travel Speed : 30

Dwell Time(sec) : 63

Setting :

☒ Pan Swing ☐ Tilt Swing

PTZ TOUR SCHEDULE



Create PTZ Tour Schedule

1. Click the *Setup* button on the display screen.
2. Click the *PTZ* tab.
3. Click the *Tour Schedule* button to open the PTZ Tour Schedule window.
4. In Single Select Mode, select one day of the week to create a schedule for a single day of the week. Click *Single Select Mode* button to toggle to Multi Select Mode and select multiple days with the same schedule.
5. In Tour Schedule, click and drag the mouse cursor to select the blocks for the corresponding cameras and time (0-23 Hours).
6. Click the *Select* button.
7. When finished, click the *OK* button to save the changes and close the window.

BACKING UP VIDEO DATA

BACKUP OVERVIEW

The Backup Center allows you to back up recorded video data from multiple dates and times to one or more locations including the DVD-RW drive, Network Storage Locations, and External Hard Drives.

The NVR can easily backup important video data to an internal or external media location. The most commonly used devices or locations are CD-R/RWs, External USB or FireWire Hard Drives, and Network Drives. Every NVR comes equipped with a DVD-RW drive, USB port, and Network Adapter.

The NVR is capable of performing a back up to multiple CDs or DVDs when the file size exceeds the capacity of a single disk. You may also specify multiple locations for backup as well as the order they are recorded to.

The NVR backs up video data using a proprietary compression format that can only be read by the NVR Backup Program. This ensures the integrity of the data.

Throughout the backup process the NVR will continue recording without interruption. This is the result of the tremendous multiplexing power of the NVR, which allows it to perform virtually all functions without interrupting the recording process.

NERO® EXPRESS

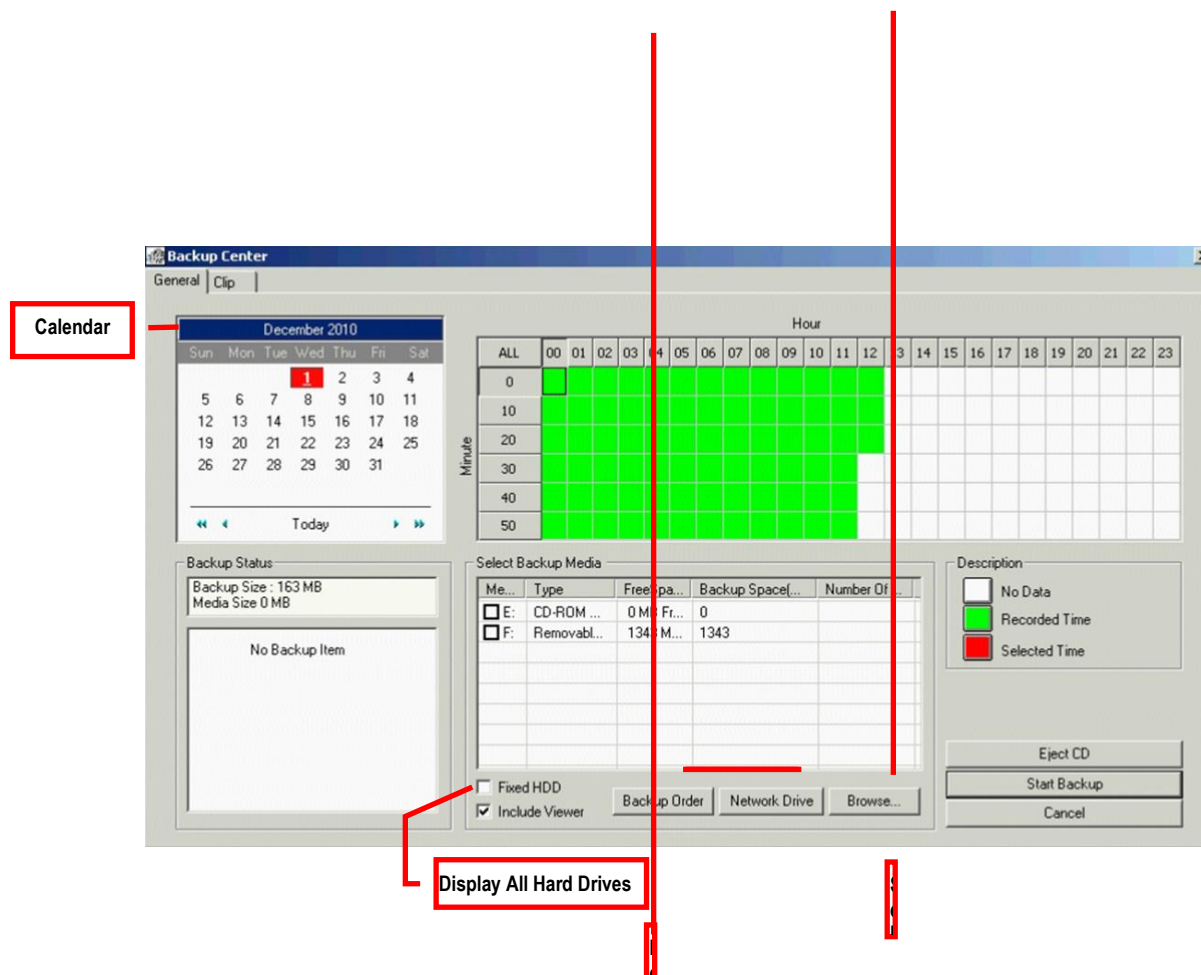
The NVR uses Windows XP® embedded Nero® Express 7.0 to write data to the DVD-RW Drive. Nero® Express allows the NVR software to read and write data to the DVD-RW drive without formatting the disk first.



CAUTION: Although many features are available within Nero, it is highly recommended that you do NOT use any features other than those necessary for the standard backup of video data as outlined in this section. Loss of information or software instability can result from using the other unnecessary features.

GENERAL SCREEN OVERVIEW

The General Backup window is where a bulk of videos recorded by all cameras for a selected period of time is copied to a specified storage location.



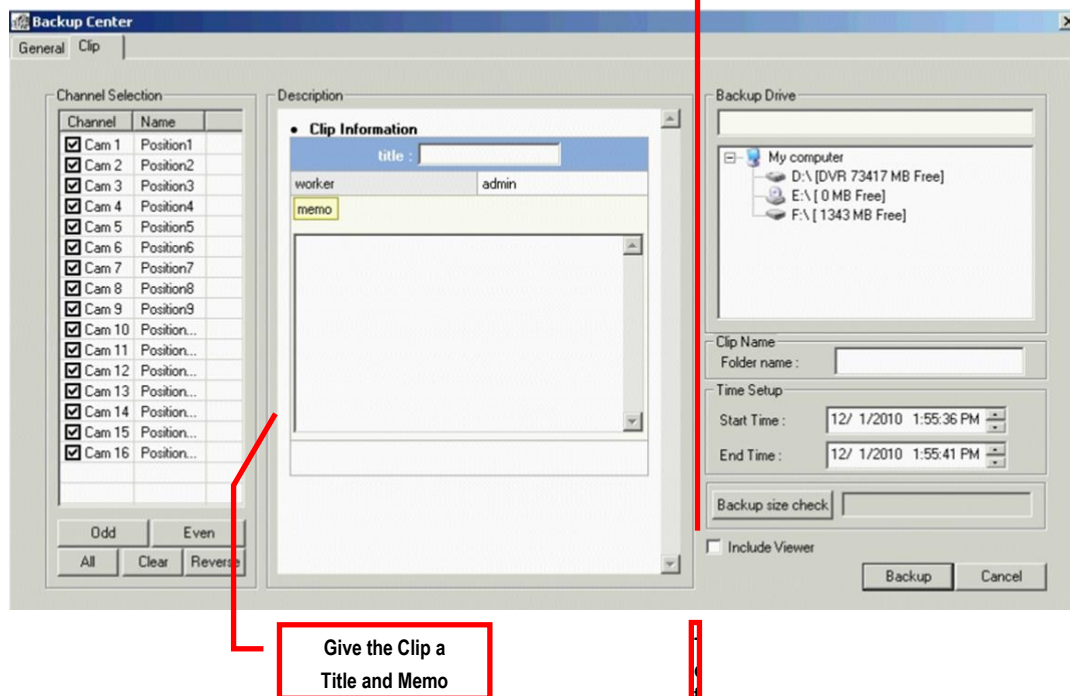
Hour / Minutes	Recording data displays in hourly (24 horizontal columns) and 10-minute (6 vertical rows) segments. GREEN cells indicate time with recorded video. RED cells indicate time selected for backup.
Backup Status	Displays the size of all video currently selected for backup, the available size of the current selected backup media, and the dates and times of video currently selected for backup.

Performing a General Backup

1. Click the *Backup* button on the display screen.
2. Use the calendar to select the date(s). Dates highlighted in BLUE contain recorded data.
3. Select the blocks of time to back up using the Hour/Minute Grid. Blocks of time with recorded video are highlighted in GREEN. Blocks of time selected for backup are highlighted in RED.
4. Select the backup drive(s), using the *Select Backup Media* list, *Network Drive* button, or *Browse* button. When selecting the CD-ROM Drive, you must specify the number of CDs to use for backup.
5. Use the *Backup Order* button to set the order of the backup.
6. Check the *Include Viewer* box to include the Backup Viewer Application.
7. Click the *Start Backup* button to begin the backup process. A progress bar will display in the lower right corner of the display screen.

CLIP SCREEN OVERVIEW

The Clip Backup window is where video recorded by individual cameras is copied to a specified storage system.



Performing a Clip Backup

1. Click the *Backup* button on the display screen.
2. Click the *Clip* tab at the top of the Backup Center window.
3. Set the backup *Start Time* and *End Time* in the Time Setup box.
4. Select the Cameras to back up in the Channel Selection box.
5. Select the *Backup Drive* to save the backup video to.
6. Check the *Include Viewer* box to include the Backup Viewer Application.
7. Enter any relevant clip information into the *Clip Information* section in the Description box.
8. Click the *Backup* button to begin the backup process. A progress bar will display in the lower right corner of the display screen.

LAN / ISDN / PSTN CONNECTIONS

LAN OVERVIEW

The NVR can be easily connected to a Local Area Network (LAN). A LAN is a group of computers and other devices dispersed over a relatively limited area but connected by a communications link that allows one device to interact with any other through the network.

There are many reasons why Microsoft® Windows® XP Embedded is superior to other platforms when running on a LAN. The number one reason is security. Windows® XP Embedded is based on NT technology, which has been boasted as the most reliable and secure operating system in the world. Running the NVR on a secure network is important to prevent unwanted users from gaining access to confidential information. Unwanted users can jeopardize the integrity of the confidential data being stored and viewed, and in extreme circumstances, they can cause irreparable damages to the network.

Since connecting the NVR to a network can be extremely complex (depending on the network), this Digital Watchdog NVR manual will cover only the basics. It is suggested that the NVR administrator consult the Vendor or IT Administrator before attempting to create or connect to a LAN.

CONNECTING TO A LAN USING TCP/IP

The networking options of the NVR can create and edit all Network settings available on Windows XP Embedded. The NVR comes equipped with a 10/100 Network Interface Card (NIC). This card uses a standard RJ-45 connector.

CONFIGURING TCP/IP SETTINGS

1. Click the *Exit* button and select *Restart in Windows Mode*.
2. Right-click on the *My Network Places* icon located on the desktop and select *Properties*. The Network Connections window opens.
3. Right-click *Local Area Connections* and select *Properties*. The Local Area Connection Properties window opens.
4. Select the *Internet Protocol (TCP/IP)* by clicking on it once. Once it is highlighted, select the *Properties* button. The Internet Protocol (TCP/IP) Properties window opens.
5. Select *Use the Following IP Address* option. Enter the *IP Address* and *Subnet Mask* appropriate for the network. It is recommended to contact the Network Administrator for appropriate IP settings.

Example:

- a. Common IP addresses are 10.0.0.25
- b. Common Subnet masks are 255.255.255.0

Note In order to connect to the NVR through a remote LAN connection, a static IP address must be assigned. Contact the Network Administrator for assistance in assigning a static IP address, if your network does not assign the IP address automatically (DHCP).

6. If the network requires you to specify the *DNS* information, enter it now by selecting the appropriate *DNS* options.
7. When finished configuring the TCP/IP settings close the Internet Protocol (TCP/IP) Properties window by clicking the *OK* button.
8. Close the Local Area Connection Properties window by clicking the *OK* button.
9. You may be required to restart Windows for the changes to take effect. Restart windows by selecting *Start* on the desktop and selecting *Restart*.

NOTES:

ACTIVE DIRECTORY INTEGRATION

FEATURES

The instructions below are for Active Directory Integration with Server Software version 3.6.36 and above.

- NVR server does not need to be joined to the Domain. The NVR server will query the Active Directory server for accounts and authorization levels.
- The NVR server creates groups within Active Directory for each of the permissions on the NVR. Simply add a domain user to these groups to grant access to that function of the NVR.
- NVR access within Active Directory is based on the Site Code within the NVR software. This allows an administrator to group NVRs with the same Site Code.
- Remote and Multi-Site Management Software work with Active Directory logins.

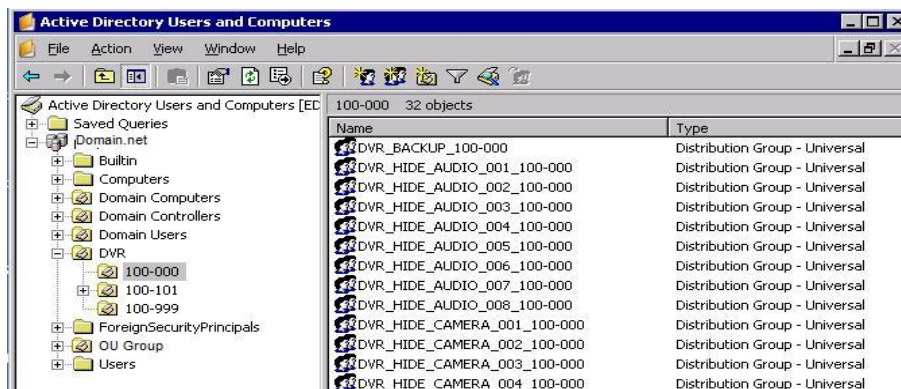
INSTALLING ACTIVE DIRECTORY

Required Items

- Name of Active Directory server.
 - Account in Active Directory server that has Domain Admin rights. This user will be used initially to create the OU's and Groups within Active Directory.
1. Verify that the NVR server is connected to a network that has a valid Active Directory server.
Ensure that the TCP/IP settings are configured correctly for DNS resolution and gateway if needed.
Check to verify that you can ping the Active Directory server without issues.
 2. Set up NVR Site Code to be used for Active Directory authorization. The default will be *100-000*. This site code can be used to group NVRs together within Active Directory.
 - a. Log in to the NVR using the local NVR administrator account (non-Active Directory).
 - b. Navigate to the *Setup > Information* tab and change the *Site Code*.
 3. Log on to the NVR server with the domain account with administrator privileges (see above required items).
If successful, the NVR will log the administrator user on without any error messages. You may log off the NVR once this is completed without errors.
- Note:** If you encounter an error please verify that the above required items are correct.



8. Go to the Active Directory Users and Computers application. You should now see an OU called NVR with an OU inside of it named the same as the Site Code above (example 100-000).



9. You can now add users within Active Directory to the groups the NVR has created. When a user belongs to a group, he or she will be granted access (or be denied access in the case of Audio or Camera channels) to that permission on any NVRs with that site code.

Group	Description
DVR_BACKUP_100-000	Backup access to NVRs with Site Code 100-000
DVR_HIDE_AUDIO_0XX_100-000	Hides Audio Channel XX for Site Code 100-000
DVR_HIDE_CAMERA_0XX_100-000	Hides Camera XX for Site Code 100-000
DVR_INSTANT_100-000	Instant Recording Access to NVR
DVR_PTZ_100-000	PTZ Access to Site Code 100-000
DVR_PTZEX_100-000	Access to Advanced PTZ Control
DVR_RELAYOUT_100-000	Access to Toggle Relays from Live View
DVR_SEARCH_100-000	Access to Search on Site Code 100-000
DVR_SETUP_100-000	Access to setup on Site Code 100-000
DVR_SHUTDOWN_100-000	Grants the Ability to Shut Down the NVR Server

Note The above site codes may be different depending on what site code the NVR server had when it was logged into Active Directory.

10. You can now log into the NVR server using any of the Active Directory users who belong to one of the above groups.

WEB VIEWER

WEB VIEWER OVERVIEW

The web viewer is the ideal way to connect to the NVR for anyone who only needs to view live cameras. It is compatible with Internet Explorer 6.0 and later.

Highlights:

View Live Video from Most Computers

Username and Password Protected

Easy to Use Graphical Interface

Basics:

75 users can access the Web Viewer simultaneously. The Web Viewer is an easy secure way to view live video from virtually any computer with an internet connection using Microsoft Internet Explorer.

To login to the NVR server, a user account must be made for the user. This ensures that only authorized personnel are able to log in. In addition, each user can be assigned different privileges that allow or deny access to different functions. For example, a user can be granted access to view only cameras 4, 8 and 16.



CONFIGURING THE SERVER FOR REMOTE CONNECTION

1. Enter *Setup* on the NVR.
2. Click the *Network Setup* tab.
3. Clear the *Disable Remote Control* option. You should now be able to adjust the port settings.
Note: If you are using a Firewall, it may be necessary to adjust the port settings on both the NVR and the Firewall. Contact the Network Administrator for more information.
4. Click *OK*.
Note: Make sure a user account is created. See *Creating a New User* section in the *Setup* chapter. The Administrator account must be used if a user account has not been made.
5. The NVR server is now ready to receive incoming connections.

CONNECTING TO AN NVR USING WEB VIEWER

1. Open *Microsoft Internet Explorer 6*.
2. Enter the *IP Address* of the NVR into the Address Bar.
3. When attempting this for the first time on a Computer, a window will open, and you will be asked to accept an Active X installation. Select *Yes*.
Note: If you receive a message saying "Internet Explorer security settings do not allow you to download Active X components," you will need to adjust the browser security settings. One way to do this is to add the IP address of the NVR to the trusted sites list inside Internet Explorer® settings. Contact the system administrator for additional help with adjusting Internet Explorer® settings.
4. When the Web Viewer finishes loading, select one or more cameras or select a screen division button.
5. Click *GO!* button.
6. A login window will appear. Enter the *Username* and *Password* of an authorized user.
7. The cameras will now be displayed.

CLOSING THE WEB VIEWER

To exit the Web Viewer, close Internet Explorer.

INCLUDED SOFTWARE SETUP

EMERGENCY AGENT OVERVIEW

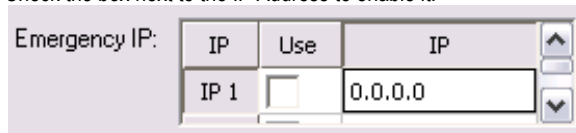
The Emergency Agent software is a utility that streams video across a Local Area Network to a Client PC, when an alarm is detected on the NVR. The video that streams across can be stopped or played forwards and backwards in slow motion or real speed.

The utility is loaded at startup and placed in the taskbar. It constantly monitors for a signal from the NVR. When an alarm signal is detected, the Emergency Agent Image Viewer window opens and starts playing the video from the camera associated to the alarm.

CONFIGURING THE NVR

To enable the Emergency Agent on the NVR follow these steps:

1. Enter *Setup* on the NVR display screen.
2. Confirm you are in the *Camera Setup* tab.
3. Select a *Camera* and then associate *Sensor(s)* to that camera, using the *Sensor Connection* checkboxes.
4. Click the *Network Setup* tab and make sure that *Disable Remote Control* is cleared.
Note: The Emergency Agent uses one port to transfer the data through the Emergency Port. The port can be adjusted inside the Network tab, if necessary. It is recommended that the default setting be used, unless the port must be changed.
5. Click the *Schedule* tab. Enter the *IP Address* of the computer running the Emergency Agent software.
6. Check the box next to the IP Address to enable it.



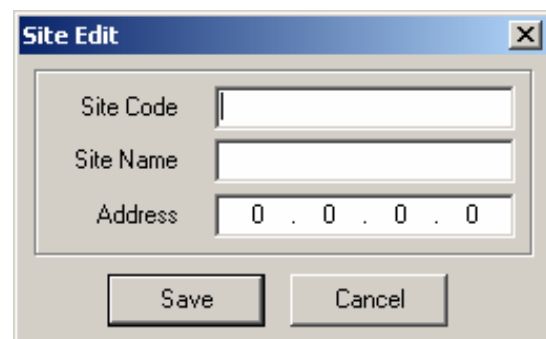
Emergency IP:	IP	Use	IP
	IP 1	☐	0.0.0.0

7. Select the *Sensor Radio* button.
8. Create a schedule for the appropriate sensor.
9. Click *Apply*.

CONFIGURING THE CLIENT PC

All configurations take place in the Emergency Agent window on the Client PC. For descriptions and locations of the Emergency Agent window buttons and features, refer to the Emergency Agent window section in this chapter.

1. Open the Emergency Agent window on the Client PC. *Start > All Programs > Digital Watchdog > Emergency Agent > Emergency Agent*
2. Right-click in the NVR list and select *New*. Enter the *Site Code*, *Site Name*, and *IP Address* of the NVR you wish to connect to in the Site Edit window that opens. Click *OK*
3. Click the *Options* menu and select *Setup*.
4. Confirm that the *Network Port* in the Setup window is set to the same number as the Emergency Port in Network tab on the NVR. If the numbers are different adjust the Network Port on the client PC to match the NVR.
5. Click the *OK* button.
6. Restart the Client PC.

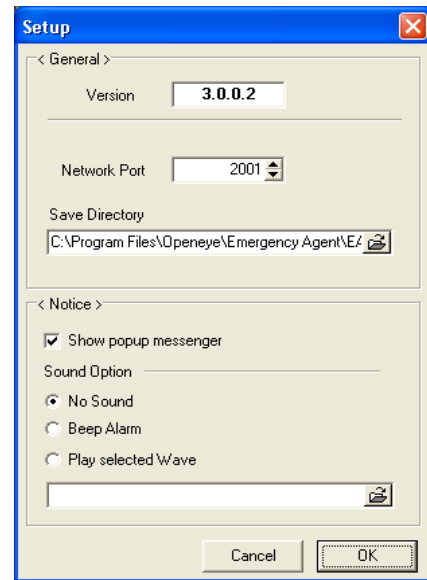


Site Code	
Site Name	
Address	0 . 0 . 0 . 0

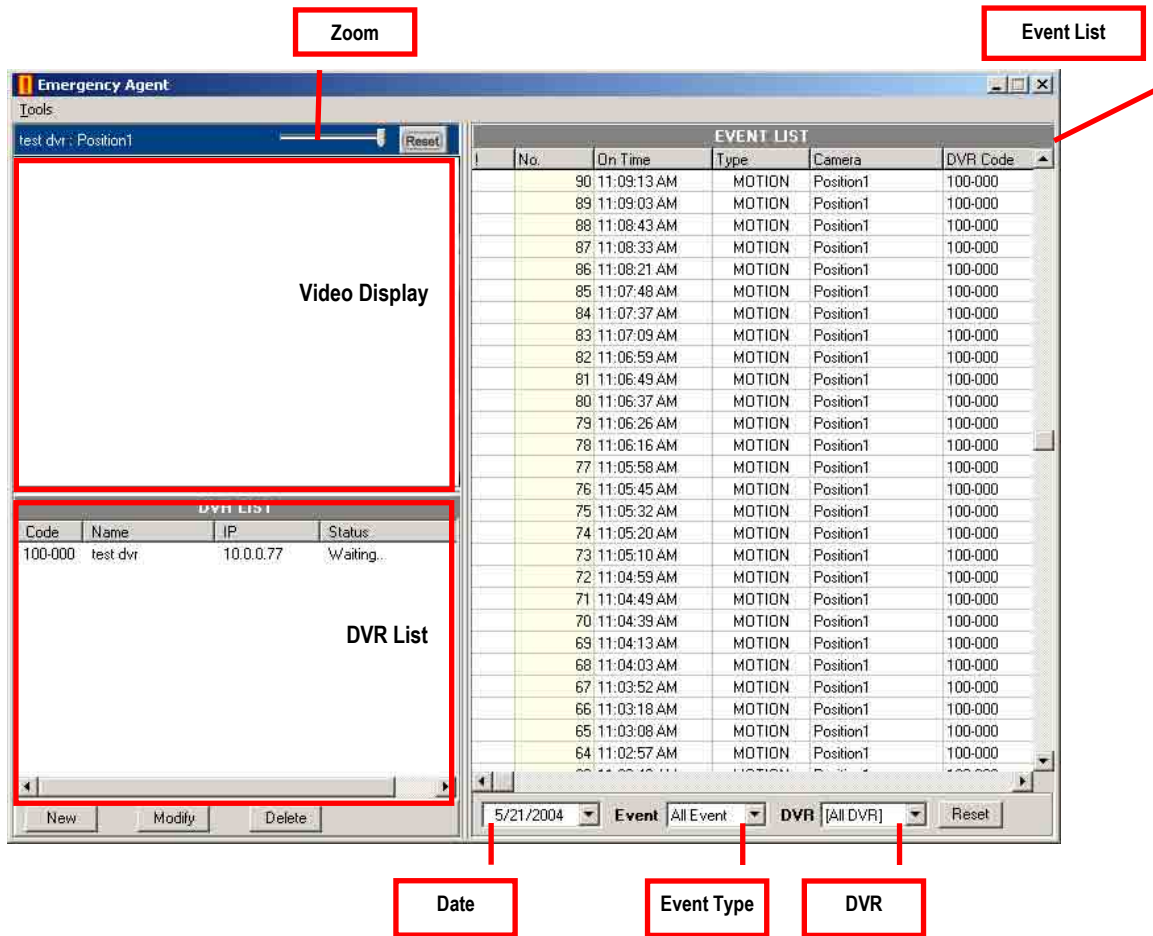
Save Cancel

SETUP WINDOW

Network Port	Listens for incoming events. This number should be changed to the same number that is set in the Emergency Port in the Network tab on the NVR.
Save Directory	Sets the location where recorded video is saved to.
Notice Options	Configuration settings for activating an audible indicator or popup window when the Emergency Agent receives an event.



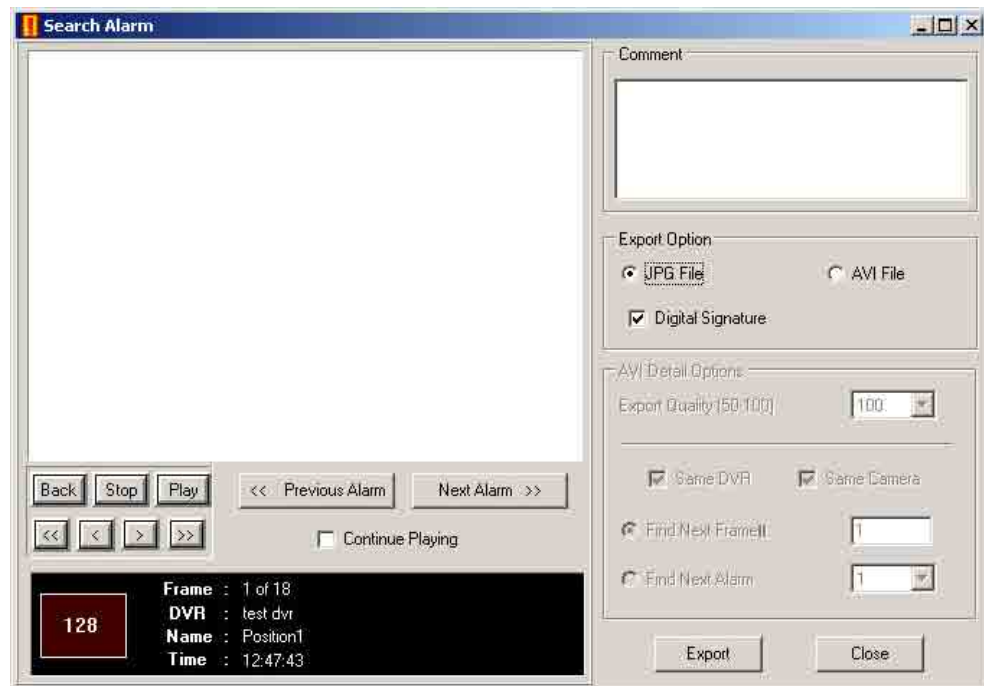
EMERGENCY AGENT WINDOW



FILTER EVENT LIST

1. Select an NVR from the NVR list in the Filter Options section.
2. Select the *Date* to include.
3. Select the type of *Event(s)* to include.
4. Select the event status type (*Read, Unread, All*) from the Read list.
5. Click the *Filter* button to display filtered event listings.

SEARCH ALARM WINDOW



Export Quality

Reduces the overall size of an AVI file by reducing the image quality. However, reducing the image quality causes the AVI video to appear more pixilated. When size is not an issue, setting quality to 100 is highly recommended.

Digital Signature

Adds a digital signature to the exported JPG image. With the Digital Signature Verifier, user could verify integrity of these exported images and prevent tampering.

VIEW RECORDED VIDEO

1. Double-click an event listing to open the Search Alarm window.
2. Use the *Play Controls* to locate the desired video.
3. Select the *Continue Playing* checkbox to watch all recorded events. When cleared, playback stops at the end of the alarm event.
4. Select the *Same Camera* checkbox to watch all events recorded by a single camera.
5. Click the *Apply* button to save changes.

EXPORT VIDEO

1. Double-click an event listing to open the Search Alarm window.
2. Use the *Play Controls* to locate the desired video.
3. Click the *Rewind* button to return to the beginning or desired spot in the video.
4. Click the *Stop* button.
5. Select the Export Type – *JPG* or *AVI*.

Save JPG

- a. Select the *Digital Signature* checkbox to embed a digital signature in a JPG file.
- b. Click the *Export* button.

Save AVI

- a. Reduce *Export Quality*, only if it is necessary to reduce the size of the file.
- b. Click the *Export* button.

REMOTE SOFTWARE OVERVIEW

The NVR was specifically designed to be fully operated and maintained remotely. It connects using the standard TCP/IP protocol through connection types such as DSL, Cable Mode, T1, ISDN, 56K Modem, LAN, and more. The Digital Watchdog Remote Software allows you to view live video, search through archived video, export images and video clips, and have full Setup control. Digital Watchdog Remote Software is Microsoft Vista® compatible.

Highlights:

Search Archived Video

View Live Video

Export Images and Video Clips

Control Relay Outputs

Setup Administration

Basics:

The NVR can support up to five simultaneous remote connections. Each user can perform functions on the NVR and will not affect the other users. The only exceptions are accessing Setup and controlling a PTZ camera. Only one user is allowed to access setup or control a PTZ camera at any given time. The pictures per second passed to the Remote Client vary greatly depending on the connection type and speed.

In order to log in to the NVR server, a user account must be made for the user. This ensures that only authorized personnel are allowed to login. In addition, each user can be assigned different privileges that allow or deny access to different functions. For example, a user can be denied Searching and Setup privileges but can be granted access to view cameras 4, 8, and 16.



It is highly recommended that users not be granted Setup privileges since this can pose a security risk. Only properly authorized Administrators should have access to Setup.

The Remote Software operates virtually the same way as the NVR itself. The appearance of it matches the NVR almost identically; however, there are a few minor differences. Some Search features, such as the Index and Object Search, and some Setup features are not available.

REMOTE CLIENT MINIMUM REQUIREMENTS

- Pentium Dual Core or Equivalent
- 512MB System Memory
- DirectX 9.0c or Higher
- 256MB Video Card (ATI or Nvidia Preferable)
- Internet or LAN Connection (512k or Faster Preferable)
Slower connection may work with reduced performance and frame rates.
- TCP/IP Installed
- Microsoft Windows 7, Vista, or XP Operating System
- 1024 x 768 Display Resolution
- 32 Bit Color Depth or Better

REMOTE CLIENT RECOMMENDED REQUIREMENTS

Note The follow system requirements are the minimum requirements for any system receiving data from an NVR that uses H.264 hardware compression.

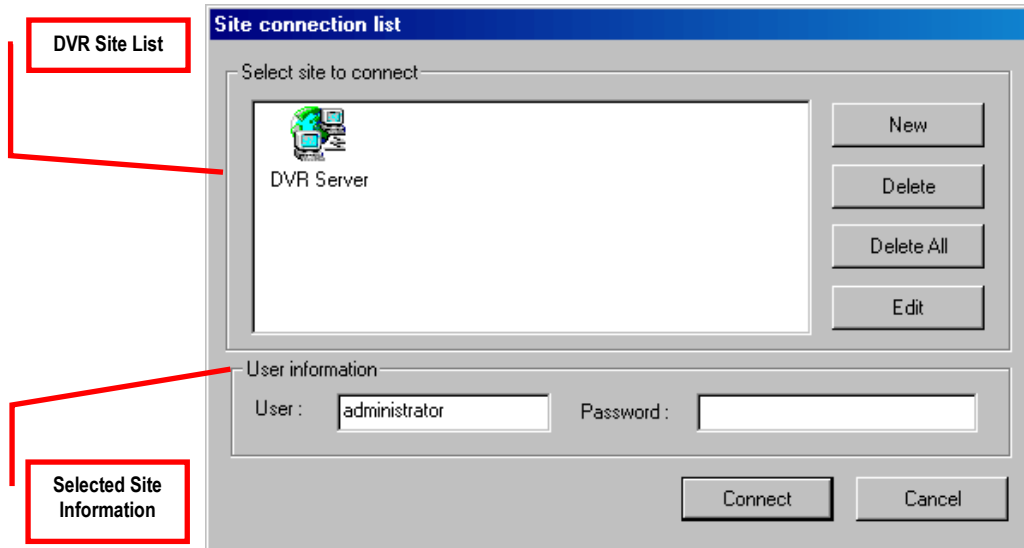
- Pentium Core2 Duo or Equivalent
- 1GB System Memory
- DirectX 9.0c or Higher
- 512MB Video Card (ATI or Nvidia Preferable)
- Internet or LAN Connection (512k or Faster Preferable)
Slower connection may work with reduced performance and frame rates.
- TCP/IP Installed
- Microsoft Windows 7, Vista, or XP Operating System
- 1024 x 768 Display Resolution
- 32 Bit Color Depth or Better

REMOTE SOFTWARE SETUP

Installing Remote Software

1. On the client computer, insert the Digital Watchdog Software CD into the CD-ROM. The CD should play automatically.
2. When prompted, select the *Install Remote Software* option. Follow the installation instructions carefully.
3. When the software finishes installing, close any open installation windows.

Create a New Remote Connection



1. Select *Start > Programs > Digital Watchdog > Remote > Digital Watchdog Remote Center*. The Digital Watchdog Remote Software opens, and the Local Connection window opens.
2. Click *New* to open the Site Info window.
3. Select the *Site Type* and enter a *Site Name*. The Site Name will be the name displayed inside the connection box to help identify the unit.
4. Enter the *IP Address* of the NVR server. By default, the NVR is set to connect using DHCP.
5. Enter the *Center Port*. This setting is specified on the server.
6. Click *OK*.
7. Click on the newly created Site and enter the login *Username* and *Password* (case sensitive).
8. Click *Connect*.

Configuring the NVR

To access the NVR remotely, the NVR Server must be setup to allow remote connections.

Time Out Value	Specifies a time (in seconds) to wait for a signal from the Digital Watchdog Remote Client. If a signal is not received by that time, the connection is dropped.
Center Port	Transfers the connection data.
Image Port	Transfers the image data.
Search Port	Transfers the search data.

The screenshot shows the 'Network' configuration window. At the top, there is a checkbox labeled 'Disable Remote Control' which is currently unchecked. Below this is the 'Transport Setup' section, containing two dropdown menus: 'Quality' set to 'NORMAL' and 'Resolution' set to '360*240'. The 'Network Setup' section follows, containing several input fields: 'Emergency IP' with the value '0 . 0 . 0 . 0', 'TimeOut Value' with '60', 'Center Port' (1024 - 5000) with '2000', 'Image Port' (1024 - 5000) with '2002', 'Search Port' (1024 - 5000) with '2003', and 'Emergency Port' (1024 - 5000) with '2001'.

Configuring the Server for Remote Connection

1. Enter *Setup* on the NVR display screen.
2. Click the *Network* tab.
3. Clear the *Disable Remote Control* option. You should now be able to adjust the port settings.
Note: If you are using a Firewall, it may be necessary to adjust the port settings on both the NVR and the Firewall. Contact the Network Administrator for more information.
4. Click *OK*.
5. Make sure a user account is created. See *Creating a New User* in the Setup section of this manual. The Administrator account must be used, if a user account has not been created.
6. The NVR server is now ready to receive incoming connections.

DIGITAL VERIFIER OVERVIEW

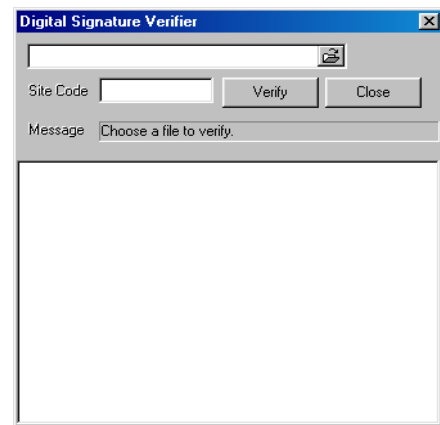
JPG images and AVI video files that are exported from the Digital Video Recorder are automatically embedded with a digital signature. Digital Signatures are a way to verify the authenticity of the images to ensure that they have not been tampered with or edited in any way. Included on the Software Installation DVD supplied with the NVR is the Digital Signature Verification program. This program can be installed on any computer.

INSTALLING THE DIGITAL VERIFIER

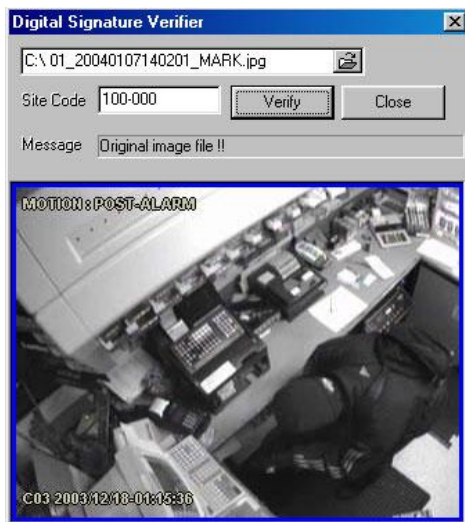
1. Insert the Software Installation CD into the CD-ROM. (Do not install on the NVR.)
2. Select the *Digital Verifier* option to begin installation.
3. When the Welcome screen appears, click *Next*.
4. When the Setup Complete window appears, click *Finish*. Installation is complete.

USING THE DIGITAL VERIFIER

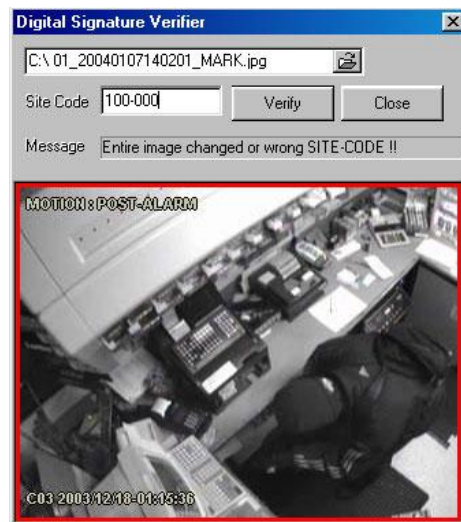
1. Open the Digital Verification program, by selecting *Start > Programs > Digital Watchdog > Digital Verifier > Digital Signature Verifier*.
2. Click the *Browse* button to load the JPG image.
3. Enter the *Site Code* of the NVR that the image was originally extracted from. The Site Code is specified in the Information tab.
4. Click the *Verify* button to continue or *Close* button to close the window without verifying.



If the image has not been tampered with, a blue square will appear around the image with the message "Original image file!!"



If the image has been tampered with, a red square will appear around the image with the message "Entire image changed or wrong SITE-CODE!!"



BACKUP VIEWER OVERVIEW

The Backup Viewer allows you to playback the exported video in its proprietary format. A video saved in this format cannot be read by any other viewer so is extremely difficult to tamper with. Therefore, these videos are the ideal solution when law enforcement and the legal department are involved.

The Backup Viewer operates essentially like the Search portion of the NVR.

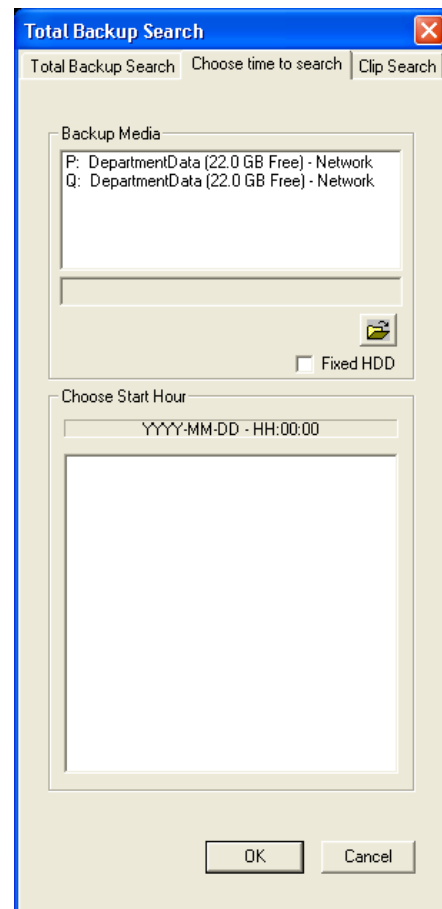
For detailed explanations of these functions, refer to the Search chapter in this manual.

INSTALLING BACKUP VIEWER

1. Insert the Software Installation DVD into the DVD-ROM. Do not install on the NVR.
2. Select the *Backup Viewer* option to begin installation. When the Welcome screen appears, click *Next*.
3. Read the License Agreement and select the appropriate *Accept* button to accept the terms of the license agreement. Click *Next*.
4. Select Yes to install the POS component or select *No* for a basic installation. Click *Next*.
Note: The POS component is only necessary when connecting to a server running the POS Upgrade.
5. When the Choose Destination Location window opens, click *Next*. This will install Backup Viewer in the default destination folder.
6. Select the shortcuts you wish to install or clear all boxes for no shortcuts. Click *Next*.
7. When the Install Shield Wizard Complete window appears, click *Finish*. Setup is now complete.

LOADING VIDEO FROM DVD OR HARD DRIVE

1. Open the Backup Viewer program by selecting *Start > Programs > Digital Watchdog > Backup Viewer > Backup Viewer*.
2. Click the *Open* button. The Total Backup Search window will appear.
 - a. For DVD-ROM data, select the appropriate DVD-ROM drive letter from the *Backup Media* box.
 - b. For hard drive data, select either an attached hard drive from the *Backup Media* box or select the *Open Folder Icon* to browse to a specific directory.
Note: Once selected, available video data will be displayed in the *Choose Start Hour* box.
3. Click on the desired time to select it.
4. Click *OK*. The video will now load in the Backup Viewer.



DW VIDEO MANAGEMENT SOFTWARE OVERVIEW

Video Management Software is a Network NVR Management Software, a powerful utility that allows 100 or more NVRs to be controlled using one computer. This software allows you to view live video, search saved video, edit and configure setup for each NVR, and import maps of buildings and other locations.

The Video Management Software was specifically designed as an Enterprise software solution.

Highlights:

View Live Video from Most Computers

Username and Password Protected

Easy to Use Graphical Interface

Basics:

To log in to the NVR server, a user account must be made for each user. This ensures that only authorized personnel are allowed to log in. In addition, each user can be assigned different privileges that allow or deny access to the different functions.

CONFIGURING THE SERVER FOR REMOTE CONNECTION

1. Click *Setup* on the NVR display screen.
2. Click the *Network* button
3. Clear the *Disable Remote Control* option. You should now be able to adjust the port settings
Note : If you are using a Firewall, it may be necessary to adjust the port settings on both the NVR and the Firewall. Contact the Network Administrator for more information.
4. Click *OK*.
5. Make sure a User account is created. The Administrator account must be used, if a user account has not been created.
6. The NVR server is now ready to receive incoming connections.

CONNECTING TO AN NVR

Refer to the Setup section of the Video Management Software Manual for information on how to use the Video Management Software. The Video Management Software Manual can be found on the Digital Watchdog Software CD or the Digital Watchdog website..

www.Digital-Watchdog.com
1-866-446-3595

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