DW · DIGITAL WATCHDOG

Everything's Digital

NEXUS

High Performance NVR

User Manual

Digital Watchdog® Nexus NVR™

User Manual

Manual Edition 022012– February 2012

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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.
- 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

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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Chapter 1: 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
- NVR HDD Hard Drive Health Check
- PTZ Control
- Automatic Backup to Internal or 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

1.1 CONTROLS AND CONNECTIONS

1.1.1 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.

8CH- Intel® Intel i3 2120 3.3Ghz Quad Core

16CH- Intel® Intel i5 2400 3.4Ghz Quad Core

32CH- Intel® Intel i7 2600 3.8Ghz Quad Core

10/100/1000 Gigabit Network Card

4 GB of System Memory

1 MG Video Card

DVD-RW Recorder

Full Duplex High-fi Sound Functionality

500 GB ~ 20TB Video Storage Drive

1.1.2 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

1.1.3 REAR PANEL CONNECTORS
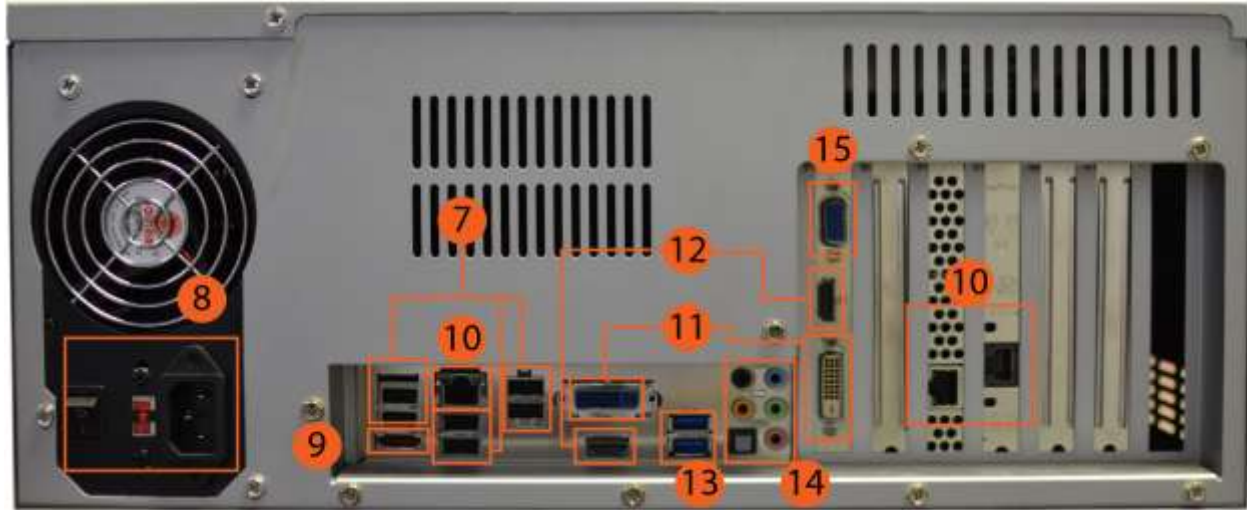
7.	USB Ports 2.0	10.	RJ-45 Network Jack & 2nd Network Card	13.	USB Ports 3.0
8.	IEEE AC Power Connector & 110V/ 220V Switch	11.	USB DVI-I & DVI-D Outputs	14.	Audio In/ Out
9.	E-SATA Port	12.	HDMI Outputs	15.	VGA Output

1.2   COMPONENTS

1.2.1 INCLUDED HARDWARE

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	

1.2.2 KEYBOARD SETUP

To attach the keyboard to the NVR unit, plug the end of the keyboard into one of the available USB ports in the back of the NVR. Refer to the Rear Panel Connectors image for more information.

1.2.3 MOUSE SETUP

To attach the mouse to the NVR unit, plug the end of the mouse into one of the available USB ports in the back of the NVR. Refer to the Rear Panel Connectors image for more information.

1.2.4 MONITOR SETUP

You can connect a monitor to the NVR using the HDMI or the DVI-I output. Attach the monitors to the back of the NVR unit using the cables supplied by the monitor manufacturer. Refer to your monitor manual for detailed information on how to setup and use it.

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

1.3   SETTING THE DATE AND TIME

1. Exit to Windows by clicking the red X button on the Display Screen. Select Restart in Windows Mode. (See the Screen Display and Live Options section.)

2. Double-click on the clock display (located on the bottom right corner of the screen).

3. Setup the time zone and adjust the date and time.

4. Click Apply. Click OK.

5. Close all open windows. Go to Start and select Restart to reboot the NVR.

1.4   ACCESSING THE NVR UTILITY

Export 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 can use the VFormat tool to update the time zone and select the TV out settings (16/32 Channels, enable/disable AGC mode, and log view).

You cannot use this function:

- On NVRs that are different models.

- When upgrading the software versions. (This feature cannot be used when upgrading from v2.x to v3.x.)

1.4.1 EXPORTING SETTINGS

1. Exit to Windows by clicking the red Exit button on the Display Screen. Select Restart in Windows Mode. (See the Screen Display and Live Options section.)

2. Click Start > Programs > Digital Watchdog > VFormat.

3. Click Export in the System Settings Tool section.

4. Select a location to save the settings file and click Save. The DVR settings will automatically be exported.

5. Click the OK button to close the VFormat Utility.
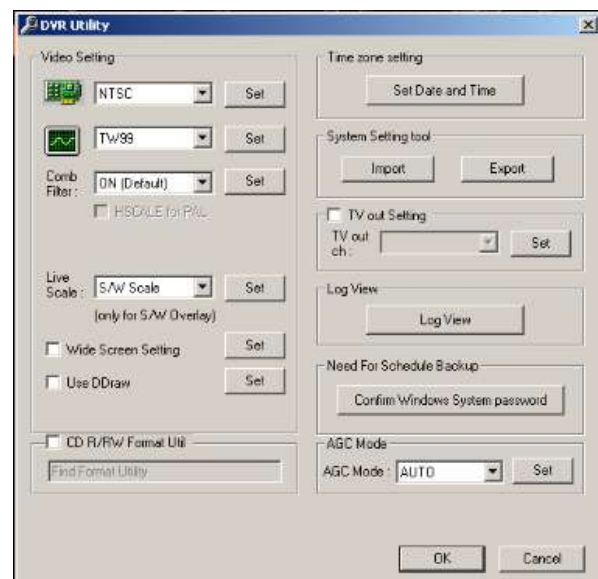
1.4.2 IMPORTING SETTINGS

1. Exit to Windows by clicking the red Exit button on the Display Screen. Select Restart in Windows Mode. (See the Screen Display and Live Options section.)

2. Click Start > Programs > Digital Watchdog > 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. Select the OK button to close the VFormat Utility.

1.4.3 CHANGING VIDEO SETTINGS

1. Exit to Windows by clicking the red Exit button on the Display Screen. Select Restart in Windows Mode. (See the Screen Display and Live Options section.)

2. Click Start > Programs > Digital Watchdog > VFormat.

3. In the Video Setting section, select the appropriate video setting from the list: NTSC or PAL.

4. Click Set.

5. Select the OK button to close the VFormat Utility.

1.4.4 SETTING THE NVR IP ADDRESS

1. Exit to Windows by clicking the red Exit button on the Display Screen. Select Restart in Windows Mode. (See the Screen Display and Live Options section.)

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 the 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 the 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.

1.5 SCREEN DISPLAY AND LIVE OPTIONS

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.
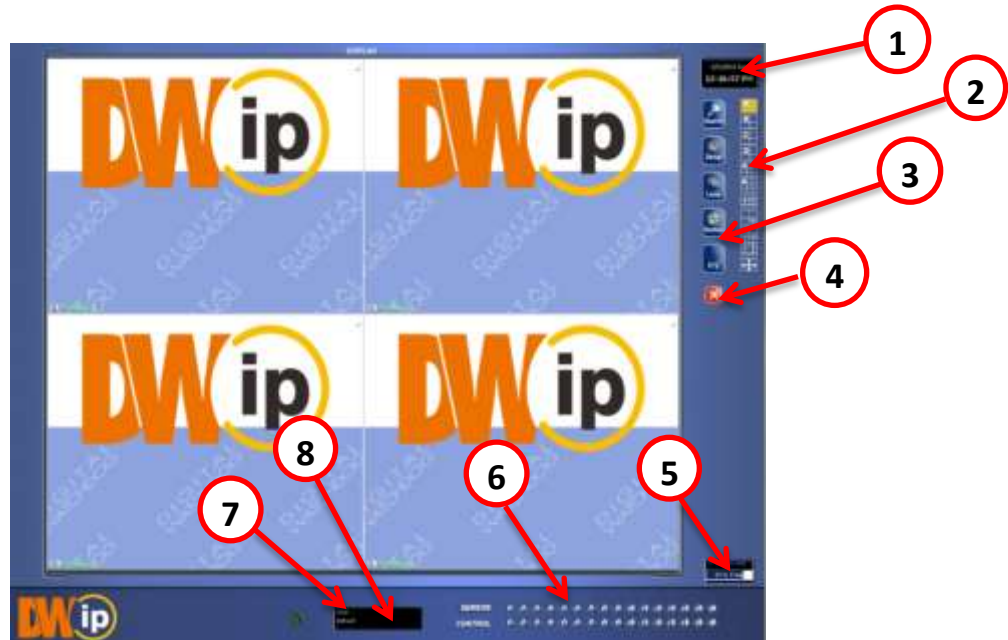
1.	Date / Time	Displays current date and time. This info is stamped onto the recorded video and is displayed whenever the video is played back.
2.	Screen Division Buttons	View cameras in groups such as 2 x 2, 3 x 3, and 4 x 4
3.	Options Menu	
4.	Exit	Exit software with one of the several options: Logout, Shut Down, Restart, and Restart in Windows Mode.
5.	Storage Capacity	Displays the total free space available in the NVR. When the storage capacity reaches 100%, NVR will begin rewriting new data over the older recorded videos. The % number indicates how much free space is available in the HDD.
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 the NVR.
8.	Remote Client Status	Displays users remotely connected to the NVR.

1.5.1 LOOP

Loop is an automated function that enables each Screen Division view to be seen consecutively on the Display Screen.

1. Go to the Display Screen.

2. Highlight the Loop button by selecting it with the mouse.

3. The Display Screen will automatically scroll through each Screen Division view consecutively.

4. To turn off this feature, un-highlight the Loop button by selecting it with the mouse.

1.5.2 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 (in Single Channel View Mode only)
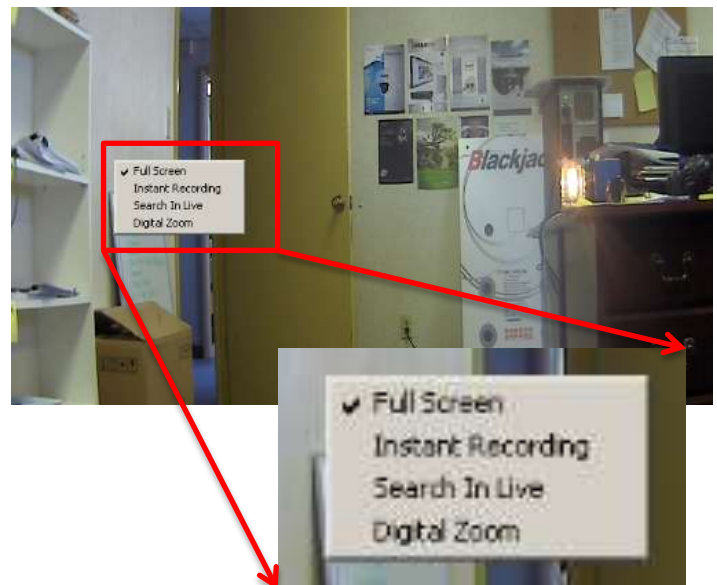
1.5.3 LIVE DIGITAL ZOOM

Zoom in on an image while watching live video. This feature is available only in single channel view mode.

1. Select a camera. Double-click on image until it goes to single channel view mode.

2. Right-click on the screen. Select Digital Zoom.

3. Using the mouse's wheel, scroll forward to zoom in or backwards to zoom out.

4. Select a Screen Division button to resume viewing multiple channels.

1.5.4 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. 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.

To activate Instant Recording:

1. Select a camera. Right-click on the screen and select Instant Recording.

2. To turn off the Instant Recording option, right-click on the screen and select Instant Recording again.

To Search Instant Recording:

1. From the Display Screen, click Search.

2. Select Index Search.

3. Select Instant Recording. See Chapter 3: Search Options for more information.

1.6 CAMERA VIEW

1.6.1 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.

1.6.2 SPECIAL RECORDING

There are two types of special recordings. When each of these is activated, a text will be displayed on the camera's video 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 manually activates recording for a selected camera. Regardless of the recording schedule, Instant Recording will start the camera recording and flag the video for future searches in the Index Search feature.

1.6.3 SCREEN DIVISION BUTTONS

•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 9-16 in the Video Display Area.

•4th Four Camera 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 10-16 in 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

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

•Full-Screen- View the Video Display Area using the entire viewable area on the monitor. When this is selected, no menu options will be visible. To exit, simply press the Esc button on the keyboard.

Chapter 2: SETUP OPTIONS

OVERVIEW

The Setup options allow the user to optimize the NVR by adjusting options such as camera names, reboot schedules, recording schedules, and more. It is extremely important that the NVR is 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.

NVR Access controls the type of access that other users may have. This ensures the security and integrity of the NVR unit.
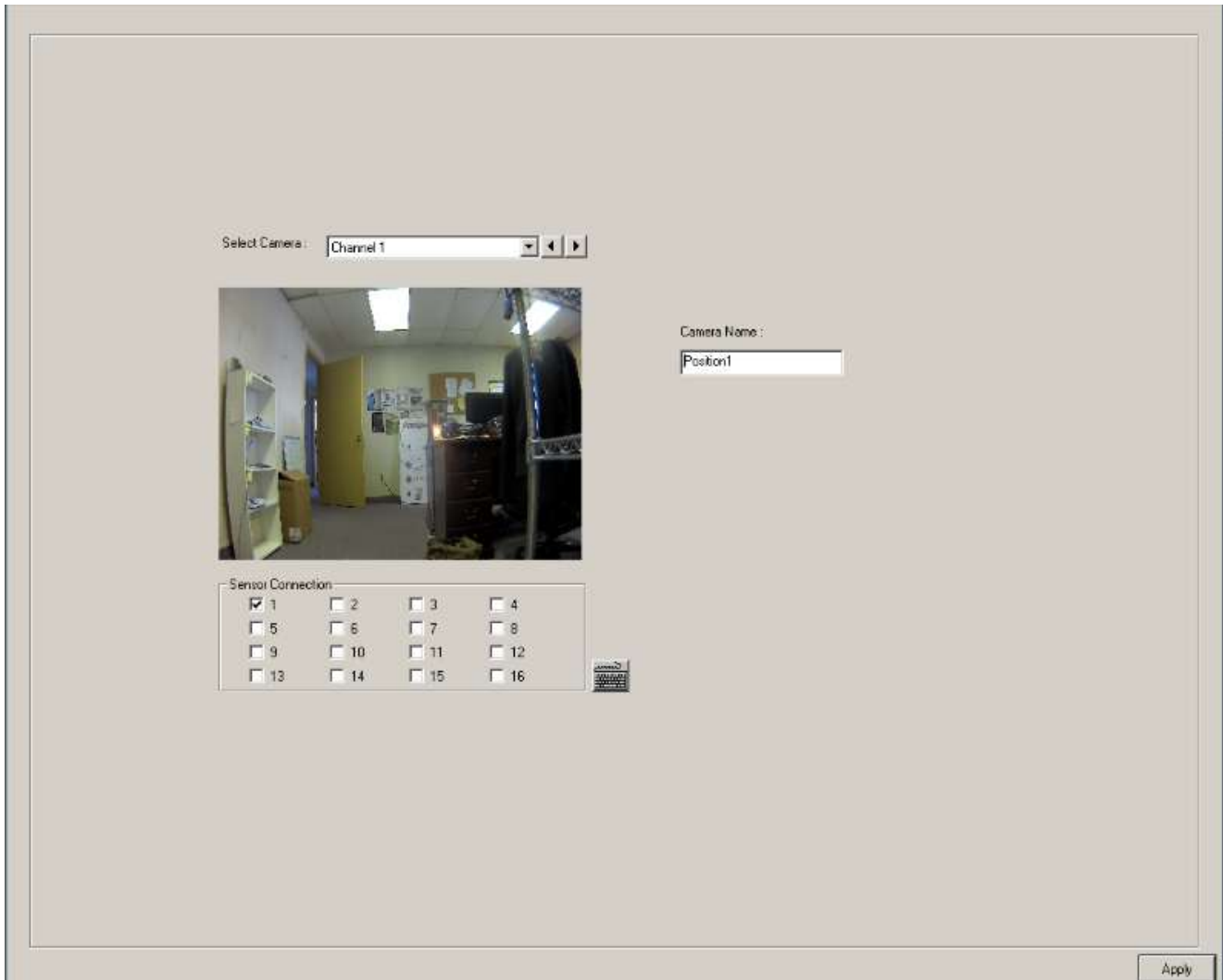
Camera Naming names each camera so the location can be easily identified and will include any other pertinent information that may be helpful when viewing it on the Video Display Area.

SETUP SCREEN
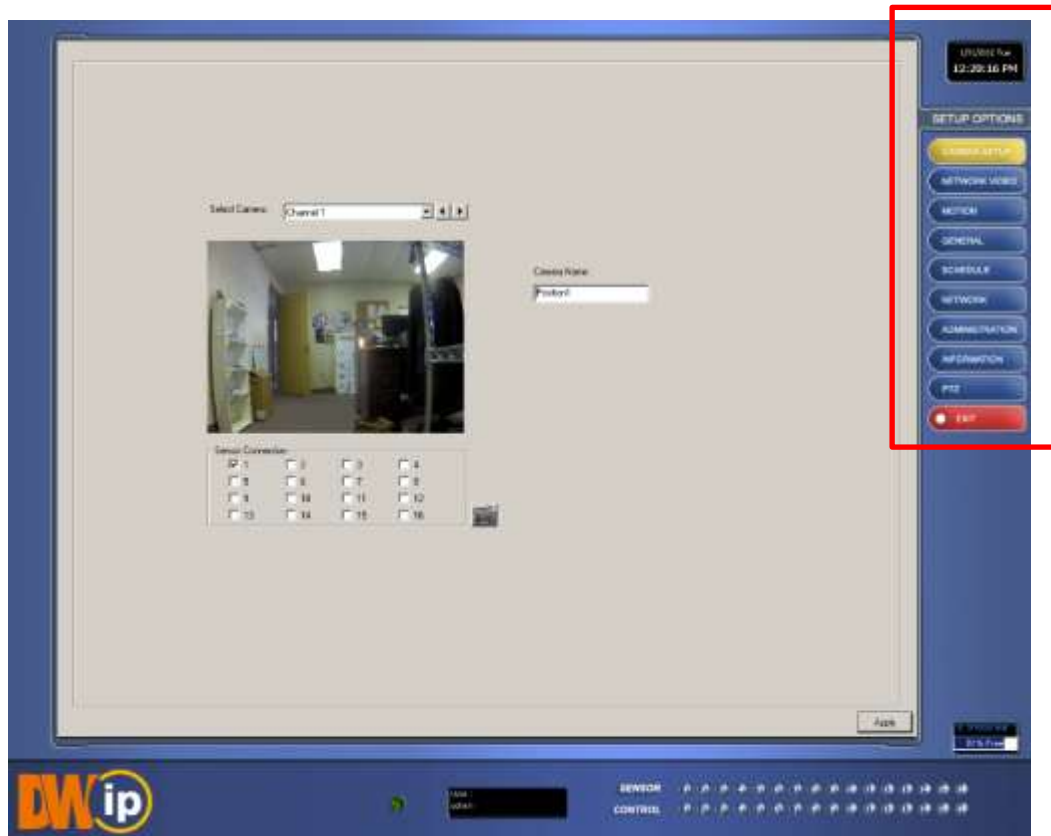
2.1 CAMERA SETUP

Use this Setup menu to adjust the camera's name and assign a specific sensor.

2.2   NETWORK VIDEO

In the Network Setup menu, you can add/edit/delete IP cameras. You can manually enter each camera's information or use the Find Cameras tool. This feature will enable the NVR to search and register every camera connected to the same network.

The Nexus NVR supports most major IP camera brands, including:

Digital Watchdog	Panasonic
ACTi	Piuxord
Arecont Vision	Samsung
Axis	Sony
D-Link	Toshiba
Lumenera	VivoTek
Mobotix	
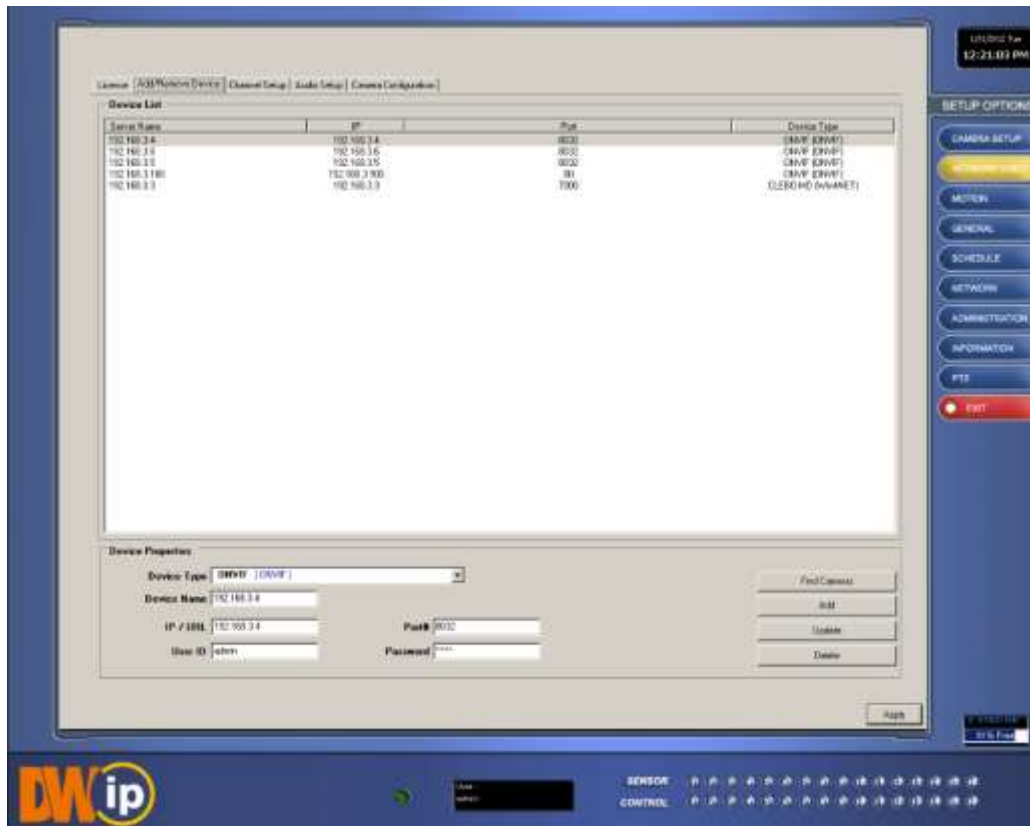
2.2.1 CONNECTING A NETWORK DEVICE MANUALLY

1. From the Display Screen, select Setup.

2. Click the Network Video tab.

3. Click the Add/Remove Device tab.

4. Select your network device from the Device Type list.

5. Under Device Properties, type a Device Name.

6. Type the IP/URL address, Port, User ID and Password of the device.

7. Click Add.

2.2.2 CONNECTING A NETWORK DEVICE USING CAMERA FINDER

1. From the Display Screen, select Setup.

2. Click the Network Video tab.

3. Click the Add/Remove Device tab.

4. Click Find Cameras to locate 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.

2.2.3 ASSIGNING A NETWORK DEVICE TO A CHANNEL

1. From the Display Screen, select Setup.

2. Click Network Video.

3. Click the Channel Setup tab.

4. Select an available channel on the Channel List.

5. Type the desired Position Name.

6. From the Select Device list, select the appropriate network device added previously.

7. If the device has PTZ capabilities, select the PTZ Camera checkbox to enable.
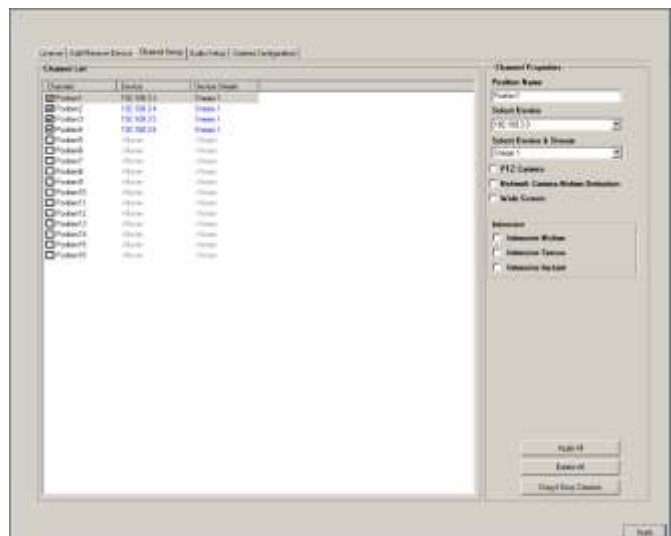
8. If supported, select the Use Network Camera Motion Detection checkbox.

9. Select Intensive Motion, Intensive Sensor, and/or Intensive Instant to increase the recording rate on an event.

10. Click Apply.

2.2.4 ASSIGNING AUDIO CHANNELS TO A NETWORK DEVICE

1. From the Display Screen, select Setup.

2. Click Network Video.

3. Select the Audio Setup tab.

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.
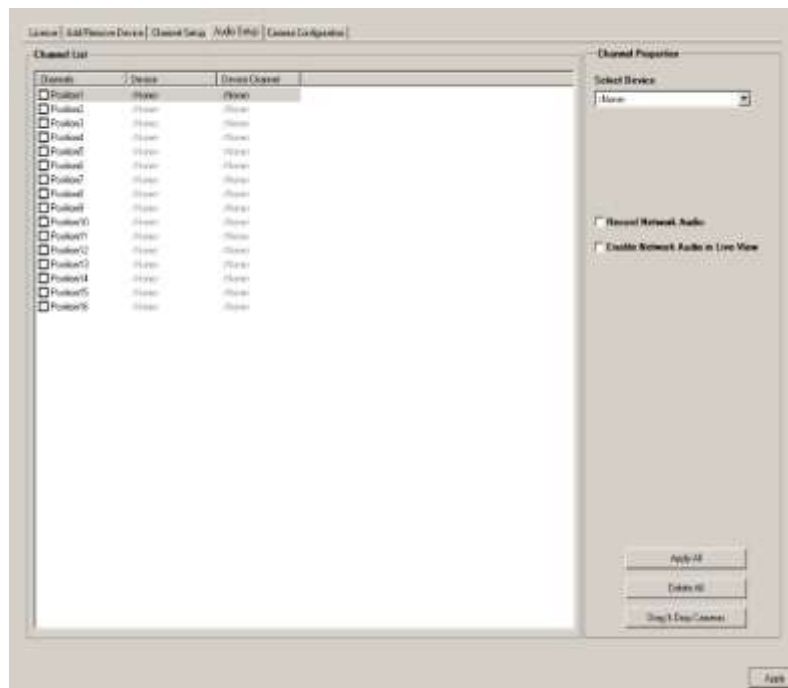
2.2.5 CAMERA CONFIGURATION

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

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

2.2.6 ACCESSING THE CONFIGURATION MENU

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

1. From the Display Screen, select Setup.

2. Click Network Video.

3. Select the Camera Configuration tab.

4. Highlight the desired camera.

5. Select the Setup Network Device button.

2.2.7 DISPLAYING MORE COLUMNS

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

2.3 MOTION

1.	Select Camera	Select the camera you wish to set to motion detection.
2.	Screen Display	Displays the camera's current view, and which regions are set to motion detection.
3.	Notification Options	Select which notifications will appear if motion is detected. Choose from Full Screen Pop-up on Motion/ Beep on Detect/ Full Screen Pop-up on Sensor.
4.	Motion Region Setup	Select the regions where camera will have motion detection enabled.
5.	Motion Sensitivity	Set the camera's sensitivity to motion in the selected region.
6.	Noise Filter	Modify the level of noise filter performed on the image.
7.	Pre/ Post Alarm Duration	Select the recorded time for pre- and post-alarm recording.

2.3.1 CREATING A MOTION AREA

1. From the Display Screen, click Setup.

2. Click Motion.

3. Choose 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. Select 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.

▶	Select Existing Motion Shapes
▨	Draw Square Motion Detection Area
⬡	Draw Polygon Motion Detection Area
◉	Draw Circle Motion Detection Area
▢	Draw Square Non-Motion Detection Area
⬠	Draw Polygon Non-Motion Detection Area
◯	Draw Circle Non-Motion Detection Area
[A]	Select All Motion Detection areas
✍	Delete All Motion Detection areas
OK	
Cancel	

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).

2.4   GENERAL
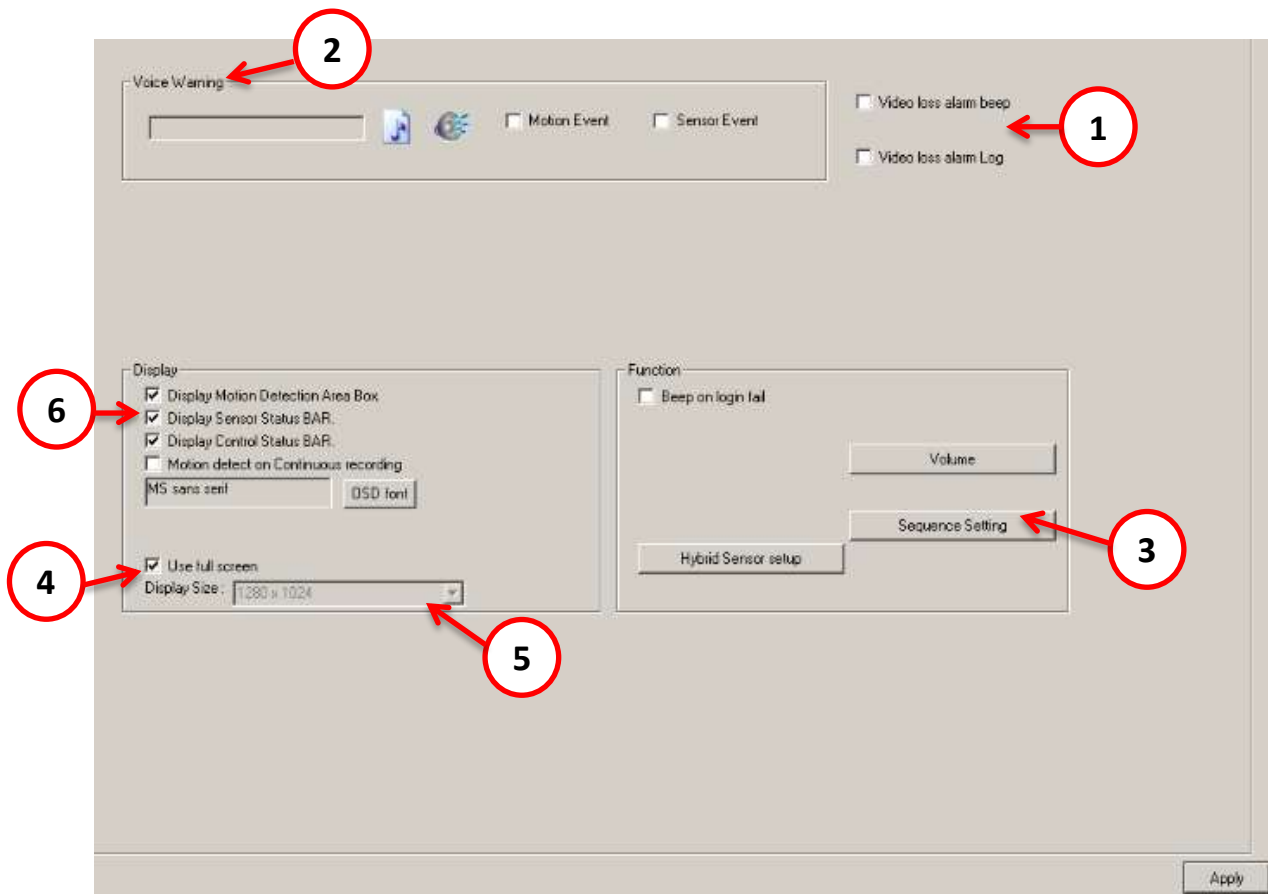
1. Beep on Login Fail   Enables the NVR to beep continuously in response to a failed login attempt. Only an authorized login will stop the beeping.

2. Voice Warning   Select the alarm voice you wish to have whenever an alarm is triggered. File must be in WAV form.

3. Sequence Setting   Allows the video-out picture to cycle through channels automatically at s set speed. For example, it can cycle through channels 1-6 at four seconds intervals.

4. Use Full Screen   Stretch the Digital Watchdog interface to use the full monitor screen.

5. Display Size   Select from available monitor display sizes. Use to correctly display video on wide screen monitors.

6. Display   Choose which information will be displayed in the video, including motion detection area box, sensor status bar, and control status bar. You can also modify the font size and style of the OSD menu text.

2.4.1 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.
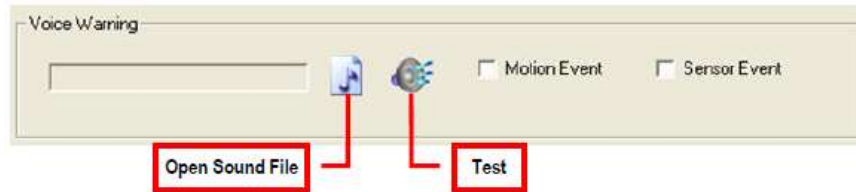
2.4.2 VOLUME

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.

2.4.3 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.
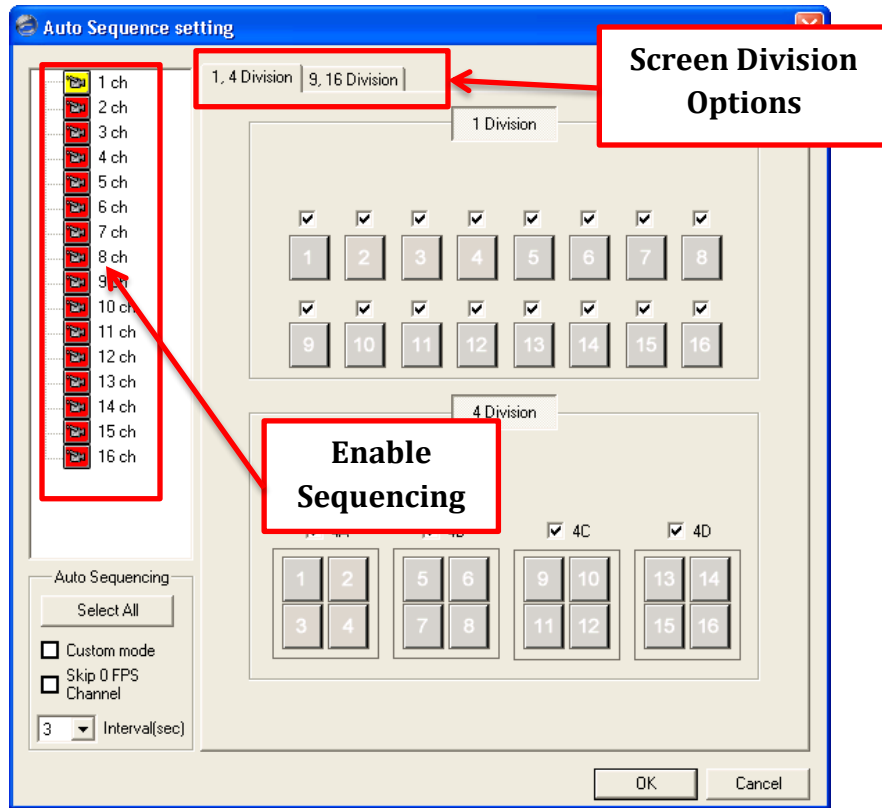
Select All	Enable all cameras for sequencing
Custom Mode	Create non-standard screen divisions
Skip 0 FPS Channel	Sequence skips cameras with no video signal
Intervals(sec)	Select interval between switching cameras

2.4.4 CREATING 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.

2.5   SCHEDULE

2.5.1 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.

2.5.2 CREATING A RECORDING SCHEDULE

1. On the Display Screen, select Setup.

2. On the Setup Screen, select Schedule.

3. Select a day to create the schedule for, or click the Single Day Selection button, enabling Multi Day Selection, to create the same schedule for multiple days.

4. Highlight the Time Blocks for the camera(s) within the Recording Schedule window.

5. 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
    a. Note: Leave cameras recording with Sensor Detection set to No Recording for the specified time block(s).

2.5.3 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 with sensors in the Camera Setup menu.

2.5.4 CREATING A SENSOR SCHEDULE

1. On the Display Screen, select Setup.

2. On the Setup Screen, select Schedule.

3. Select the Sensor option.

4. Choose a single day or click Single Selection Mode to include multiple days in the schedule.

5. Highlight the Time Blocks within the Recording Schedule window to enable or disable the sensor(s).

6. Click Enable. The time block will now appear in red.

2.5.5 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, though 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. On the Display Screen, select Setup.

2. On the Setup screen, select Schedule.

3. Select either Recording or Sensor.

4. Highlight time blocks 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.

5. Click Delete Alarm to cancel all changes.

2.5.6 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 Schedule 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.

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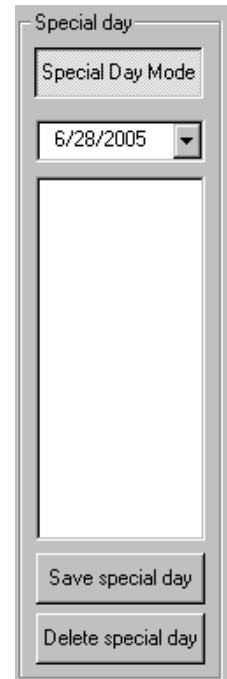
The user can create days that have a unique recording schedule, such as Holidays, Special Events, Vacations, etc.

To create/edit 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.

To delete a "Special Day" Schedule:
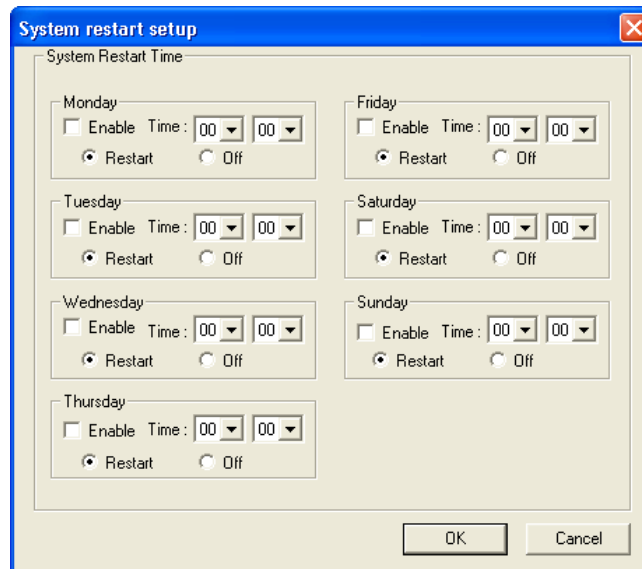
1. Select a date from the Special Days list.

2. Click Delete Special Day button.

2.5.8 SYSTEM RESTART SETUP

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

2.5.9 CREATING A SYSTEM RESTART SCHEDULE

1. On the Display Screen, select Setup.

2. On the Setup screen, select Schedule.

3. Click Restart Setup.

4. 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.

5. Specify the time of day to schedule the system restart.

6. Select the Restart option.
    Note: If Off is selected, the NVR will shut down at the specified time but not restart.

2.6 NETWORK

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

1.	Disable Remote Controls	Enable/Disable remote access and control of the NVR.
2.	View IP Address	View IP address, Subnet Mask, Default Gateway and DNS server address information of the NVR.
3.	Network Setup	View and modify all information necessary for setting remote access to the NVR:

<table>
<tr><td></td><td>a)</td><td>Time-Out Value</td><td>When attempting to connect to the NVR, the connection will be terminated if the connection does not succeed during the TimeOut Value (seconds).</td></tr>
<tr><td></td><td>b)</td><td>Emergency Port</td><td>Used to connect to the Alarm Monitor software.</td></tr>
<tr><td></td><td>c)</td><td>Center Port</td><td>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.</td></tr>
<tr><td></td><td>d)</td><td>Image Port</td><td>Used to transfer video(s) to the Digital Watchdog Remote Software.</td></tr>
<tr><td></td><td>e)</td><td>Search Port</td><td>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.</td></tr>
</table>

4.	PPPoE Setup	Recommended for Emergency Agent Setup.
5.	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.

6.   Web Function   Display and modify all port information necessary for accessing the NVR via the internet.

7.   Keyboard Control   Enable/disable controlling the NVR via a joystick controller.

8.   Two-Way Audio   Enable/Disable two-way audio. This will allow you to communicate with whoever is in the scene
                                      where the camera is located.

2.7 ADMINISTRATION

Use the Administration Setup menu to manage & modify users, file information, log reports, and disk management.
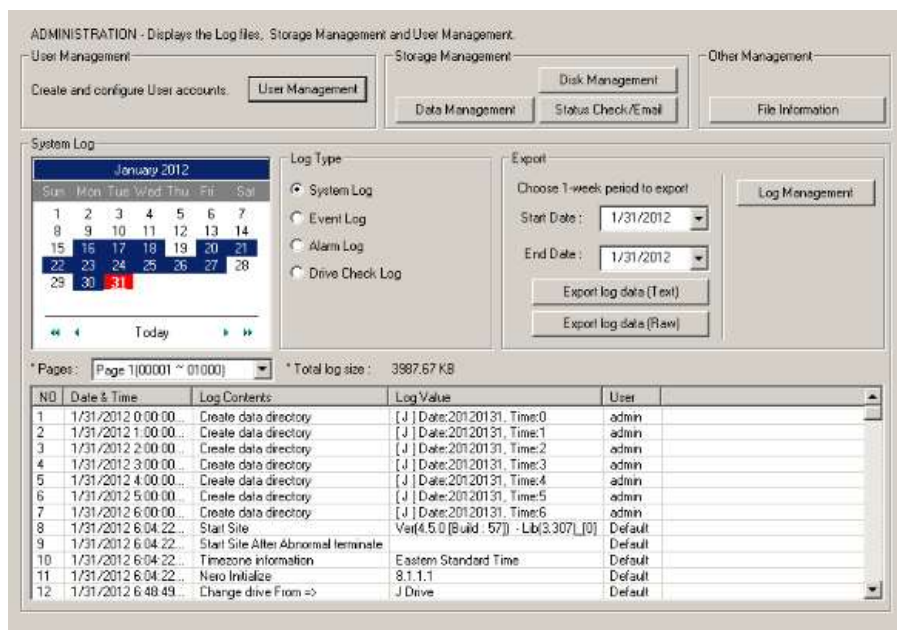
2.7.1 DISK MANAGEMENT

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 7 manual.
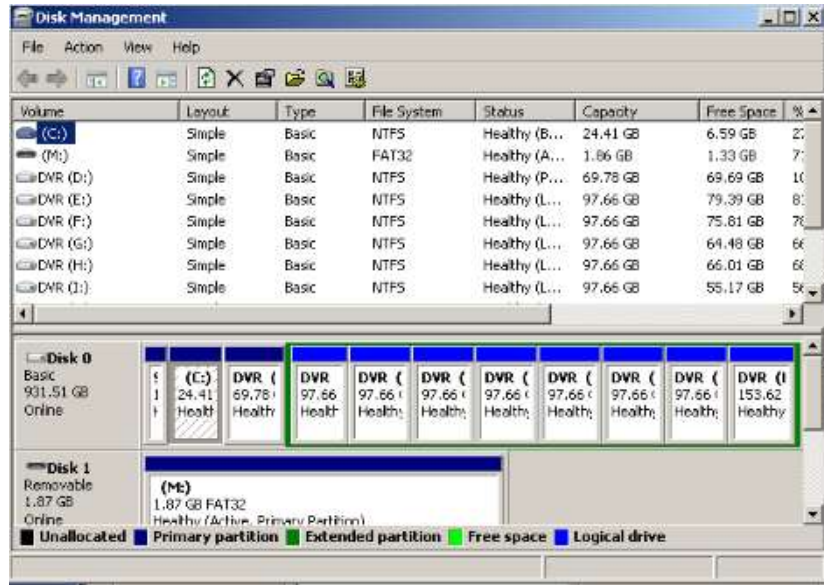
2.7.2 USER MANAGEMENT

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.
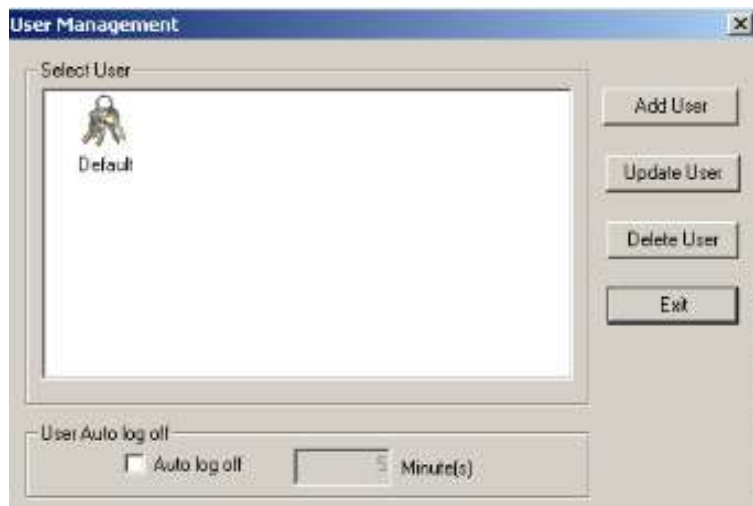
2.7.3 ADDING A NEW USER

1. Click Setup on the Display Screen.

2. Select Administration.

3. Click User Management.

4. Select 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. Click OK to save changes, and close the window.
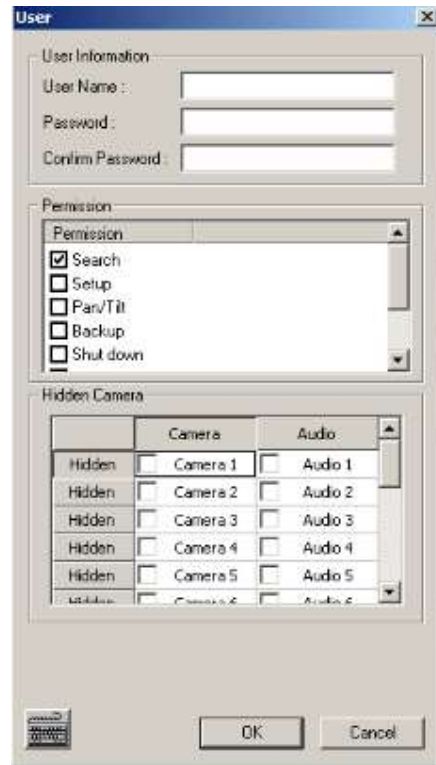
2.7.4 CHANGING ADMINISTRATOR PASSWORD

1. Inside Administrative setup, click User Management. When the prompt appears, select Change Password.

2. Enter the new password and click OK.

2.7.5 DEFAULT ADMINISTRATOR PASSWORD

The default administrator login is:

User: Administrator

Password: <blank>

2.7.6 SETUP LOG MANAGEMENT OPTIONS

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

1. From the Administration 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.

      -OR-

   b. Select Do Not Overwrite and define the number of day(s) to maintain log files.

   Manually Delete Log Files:

   a. Choose the type(s) of log file to delete: System Log, Event Log, Alarm Log, and Drive Check Log.

   b. Select the Delete All button.

3. Click the OK button to save the settings and close the window.
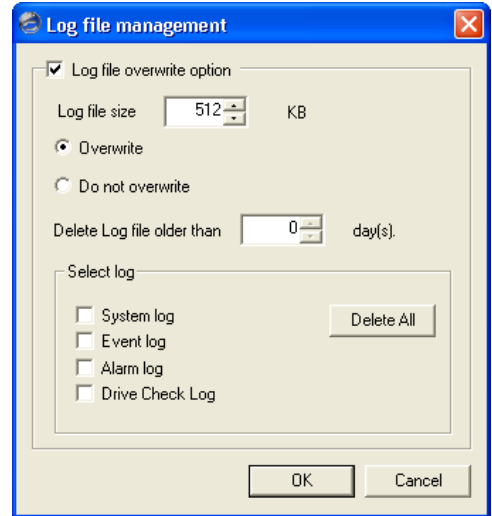
2.7.7 STATUS CHECK / EMAIL

GENERAL

1. On the Display Screen, select Setup.

2. Select Administration.

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. (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. Select the Test button to check settings.

10. Click Apply when finished.
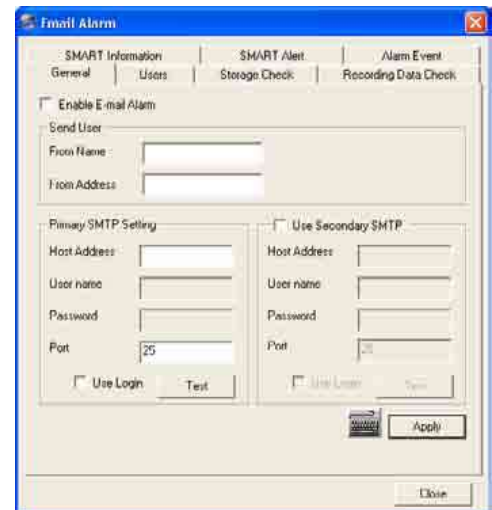
USER

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.

   a. 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.
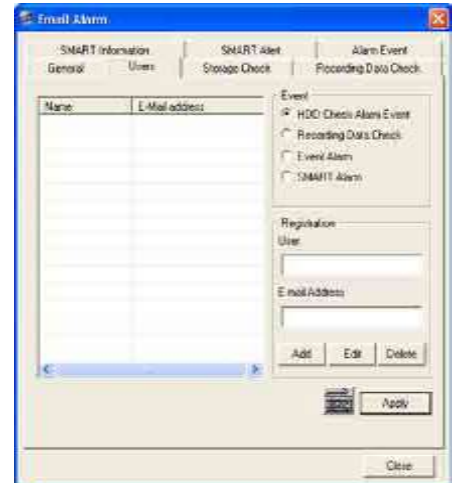
STORAGE CHECK

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.
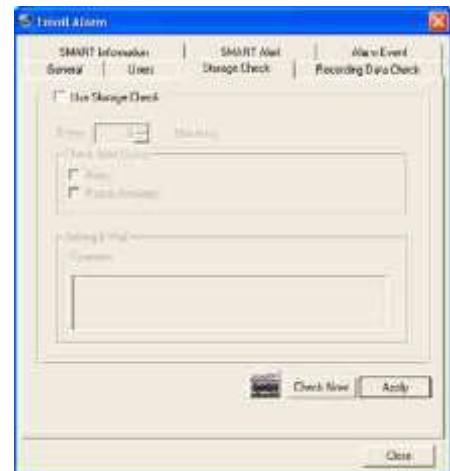
RECORDING DATA CHECK

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.
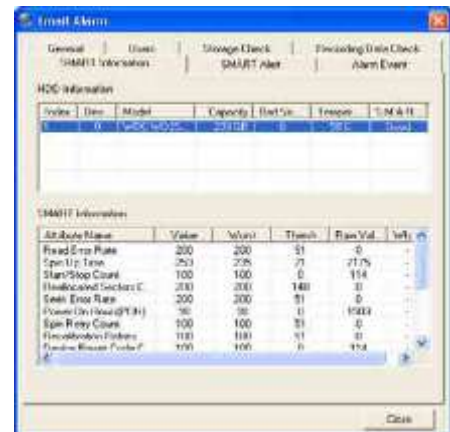
SMART ALERT

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.

2.8 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.
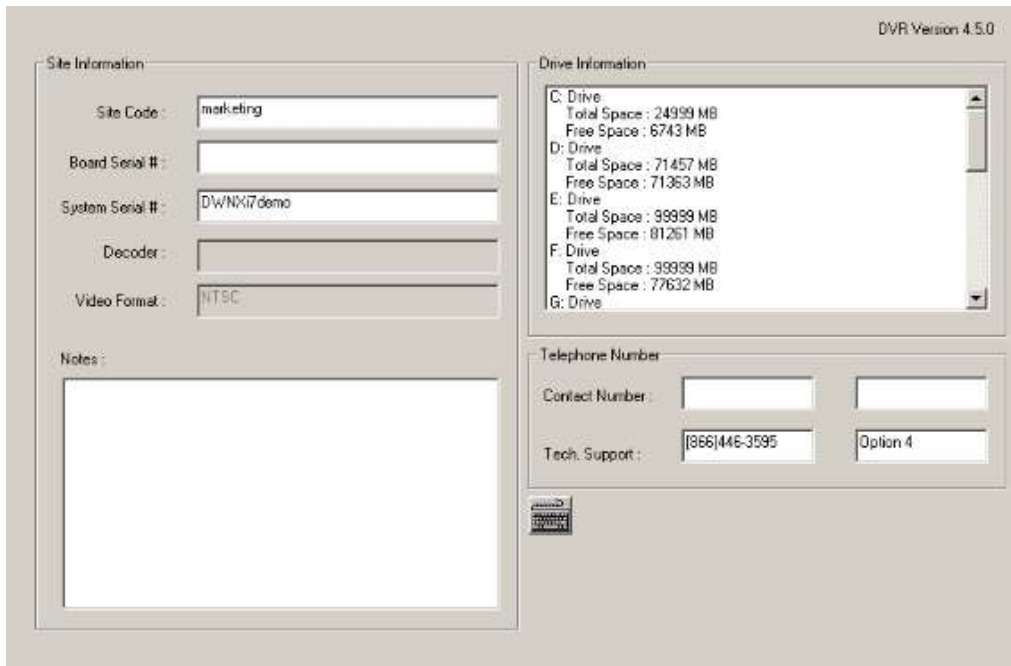
2.9 PAN / TILT / ZOOM (PTZ)

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 allow you to continuously sweep across large areas.

2.9.1 PTZ SETUP TAB

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.

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.

2.9.2 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 Camera in this chapter.) Note: The majority of major PTZ manufacturer 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.

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.

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

2.9.4 ADVANCED PTZ CAMERA
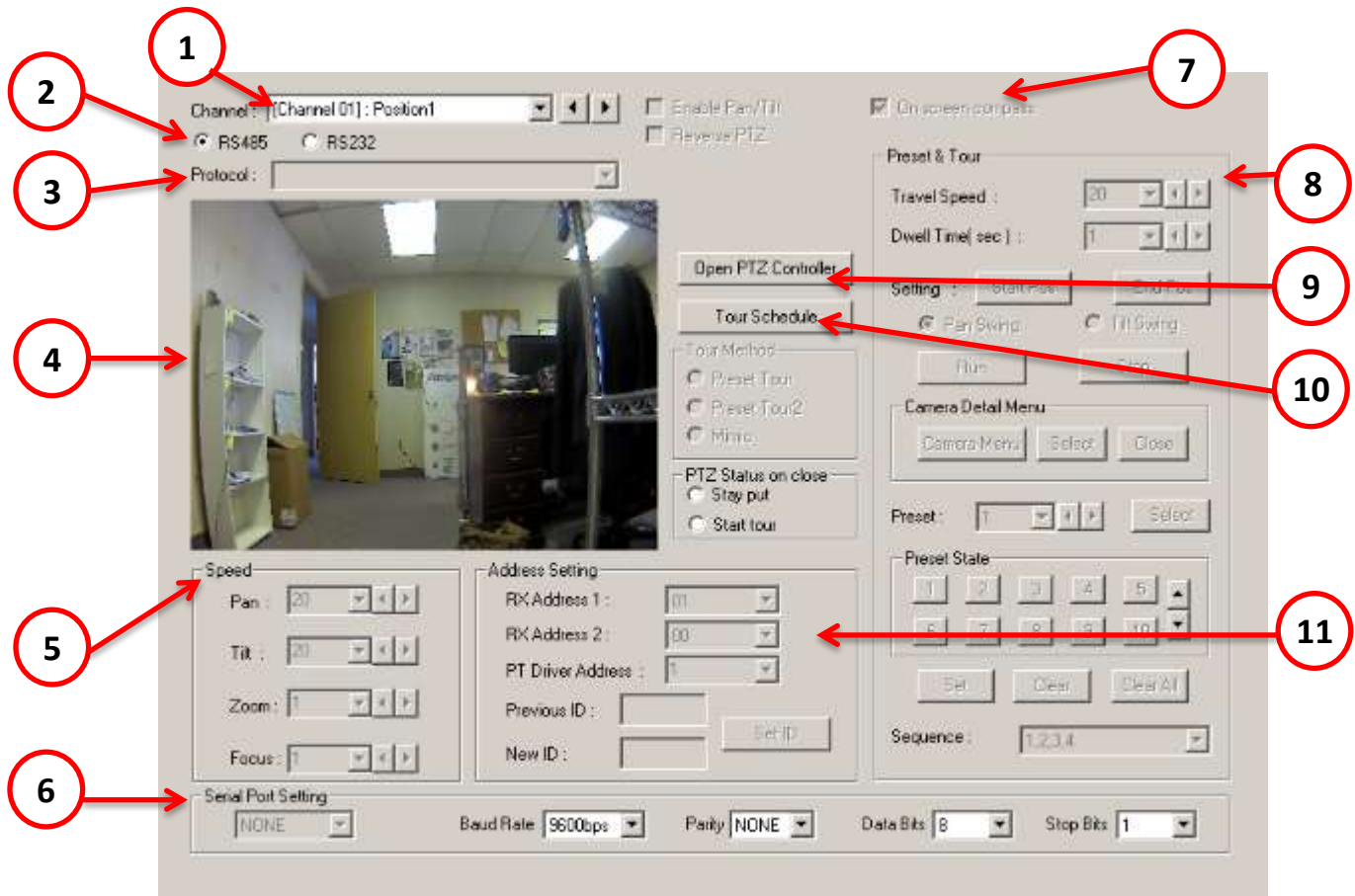
1.	Selected PTZ Channel	Displays the channel assigned to a PTZ camera.
2.	PTZ Signal Type	Select from RS-485 and RS-232.
3.	Protocol	Select the matching protocol to enable control of the PTZ camera.
4.	Camera view	Displays the camera's view and any changes in location and movement made by the PTZ setup.
5.	Speed	Modify the speed of the camera when being remotely controlled.
6.	Serial Port Setting	Modify the information, including Baud Rate, Parity, Data Bits and Stop Bits, to enable better control of the PTZ camera.
7.	On Screen Compass	Enable/Disable on screen compass.
8.	Preset & Tour	Use this section to setup, modify, or delete the camera's presets, sequence and tours.
9.	Open PTZ Controller	Opens the PTZ remote controller.
10.	Tour Schedule	Setup the camera to tour on specific dates & time.
11.	Address Setting	Modify the camera's ID and address.

Note: Preset Tour options may vary depending on camera model. For more information on setting up presets, tours, sequences, scans and patterns, please refer to the PTZ camera's manual.

2.9.5 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.

2.9.6 ACCESSING THE 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 camera's 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.

1.	X Button	Close the PTZ remote controller.
2.	Arrows	Use the arrow buttons to move the camera left, right, up, or down.
3.	CH number	The number in the center of the controller represents the channel number you are currently attempting to control.
4.	Zoom, Focus, Iris	Increase/decrease the camera's zoom, or adjust focus and iris remotely.
5.	Wiper, Light, Tour	Enable/Disable the camera's Wiper, Light and Tour.
6.	Presets	Select a preset to move the camera to that set location.
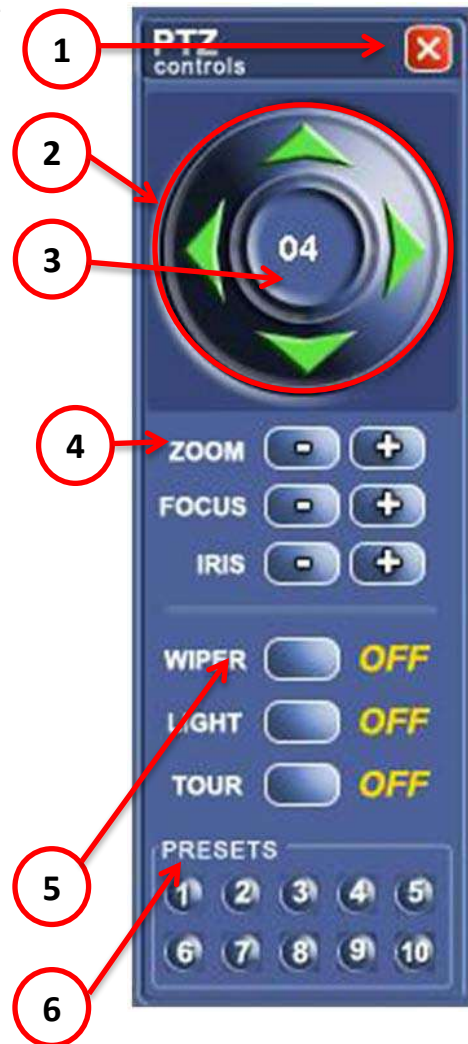
2.9.7 CONTROLLING A PTZ CAMERA

The Digital Watchdog NVR provides two 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 CAMERA

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.

USING THE NON-GRAPHICAL PTZ CONTROLLER

1. On the Display Screen, select Setup.

2. Click PTZ.

3. Select the On Screen Compass checkbox to enable the feature.

4. Click Apply.

5. Exit Setup menu to the Live Display Screen.

6. Select 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.

2.9.8 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.
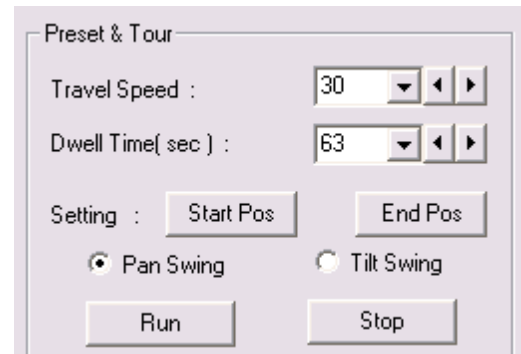
2.9.9 PTZ TOUR SCHEDULE
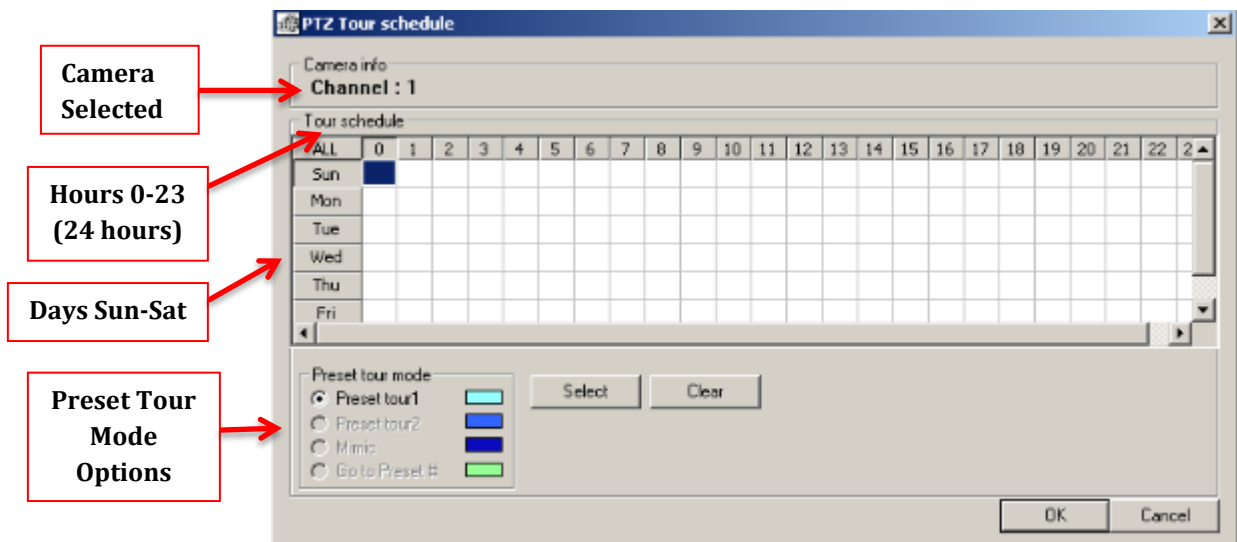
CREATING A PTZ TOUR SCHEDULE

1. On the Display Screen, select Setup.

2. Click PTZ.

3. Select the Tour Schedule button to open the PTZ Tour Schedule window.

4. Highlight the hours of the days you wish to setup a tour schedule for. You can select individual blocks of time, or click ALL to select all days and all 24 hours of the day.

5. Select the specific preset tour you wish to apply to the schedule.

6. Click the Select button.

7. When finished, click the OK button to save the changes and close the window.

8. To delete changes, select Clear.

Chapter 3: SEARCH OPTIONS

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.

3.1   SEARCH / PLAYBACK OVERVIEW
.
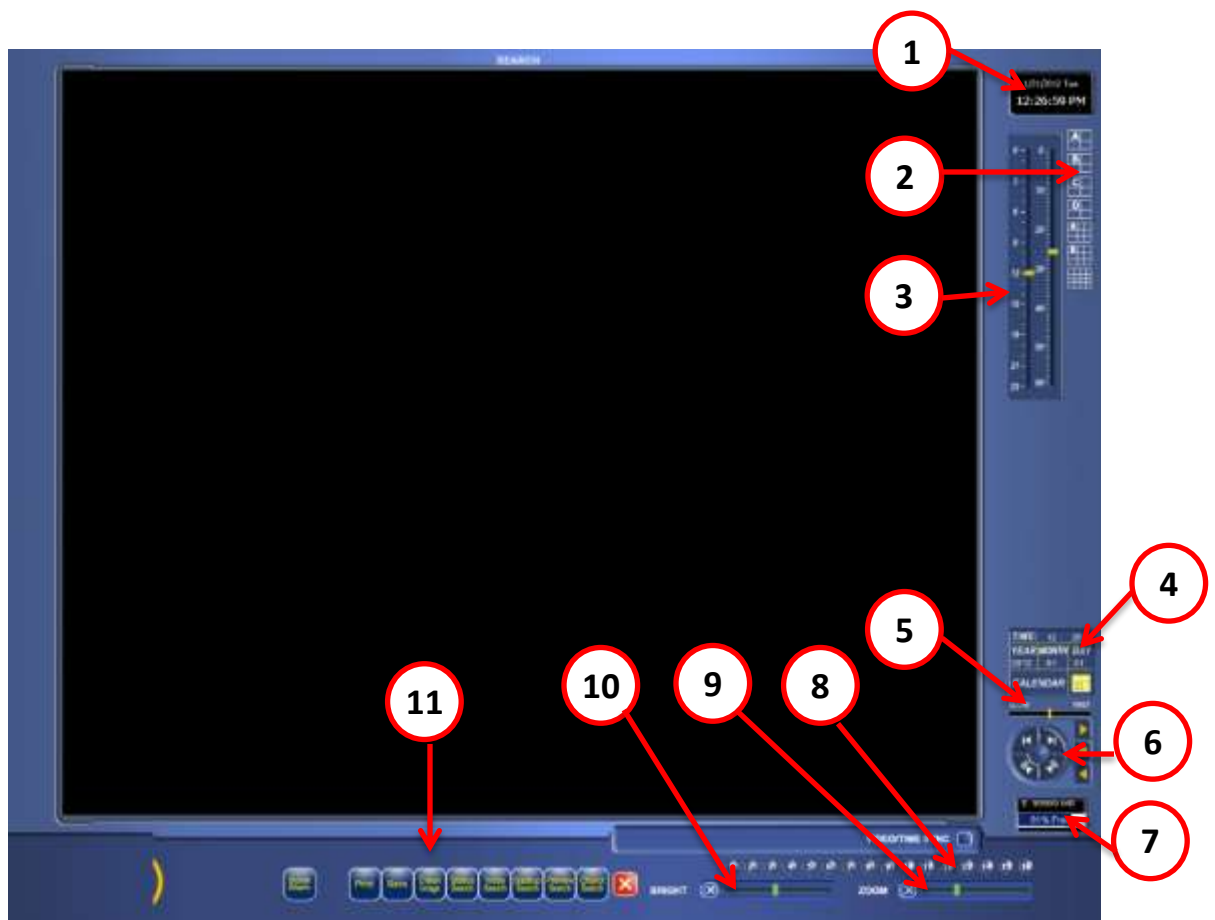
1. **Date/ Time**   Displays current date and time. The date and time is stamped onto the recorded video and is displayed whenever the video is played back.
2. **Screen Division Buttons**   View cameras in groups such as 2x2, 3x3, and 4x4.
3. **Time Control Bar**   Move the slide bar to select the time you wish to view.
4. **Date Box**   Displays the date and time of the current video being viewed, and Calendar 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.	**Playback 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.	**Options Buttons**	Select one of the options to find or save your video.

Note: Audio Channel buttons are only available when one camera is selected.

3.1.1 PLAYBACK CONTROLS

1.	**Back Frame**	Move video back one frame
2.	**Rewind**	Rewind video
3.	**Stop**	Stop video playback
4.	**Play**	Play video

3.1.2 PERFORMING A BASIC SEARCH

There are several different types of searches that can be performed on the NVR.

1. On the Display Screen, select Search.

2. Click the yellow Calendar button.

3. Select the date / time. Press OK.

4. Choose a Screen Division option, or select the corresponding number of a single camera on the bottom of the screen.

5. On the Playback Controls, click Play. User can play video forward, backward, or frame-by-frame.

To view the most recently recorded video, user may also follow these directions:

a. On the Display Screen, select Search.

b. Choose a Screen Division option, or select the corresponding number of a single camera on the bottom of the screen.

c. Select Play on the Playback Controls.

d. On the Playback Controls, click Play. User can play video forward, backward, or frame-by-frame.

3.1.3 BACKUP SEARCH

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

1. On the Display Screen, click Search.

2. Select the Backup Search button.

3. Choose a file from the list of saved clips and backup files or search by Start Hour.

4. Click OK to open the saved file.

5. Choose a Screen Division option, or select the corresponding number of a single camera on the bottom of the screen.

6. On the Playback Controls, click Play. User can play video forward, backward, or frame-by-frame.

3.1.4 ADJUSTING THE BRIGHTNESS OF AN IMAGE

1. Select an image: see Performing a Basic Search.

2. Move the Bright Sliding 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, or select the X on the left side of the Bright Sliding bar.

3.1.5 ZOOMING IN ON A RECORDED IMAGE

1. Select an image: see Performing a Basic Search.

2. Move the Zoom Slide bar to the right or left to zoom in or out of an image; or right-click the image and select Zoom.

    a. Repeat to zoom in further.

3. To reset the Zoom:

    a. Move the slider back to its original position on the bar, *or*

    b. Select the X on the left side of the Zoom Slide bar, *or*

    c. Continue to right-click the mouse button and select Zoom. The image will cycle back to its original size.

3.1.6 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 an image to synchronize. On the Display Screen, select Search.

2. Select the Calendar, followed by the desired date / time of the image. Select OK.

3. Click the Video / Time Sync button to highlight.

4. Press Play on the Play Controls. The video will now playback in real time.

3.1.7 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.

3.1.8 BOOKMARKS

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

1. Search for the desired video (see Perform a Basic Search).

2. Stop playback at the beginning of the desired clip.

3. Right-click the video and select Start Bookmark.

4. Select 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.
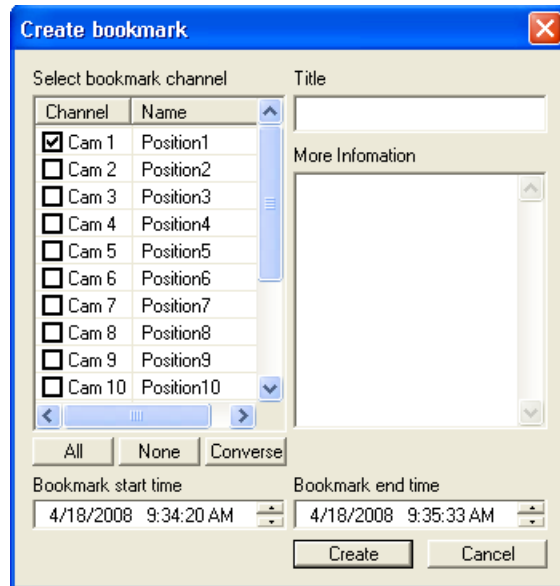
MODIFY BOOKMARKS

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. On the Display Screen, select Search.

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.
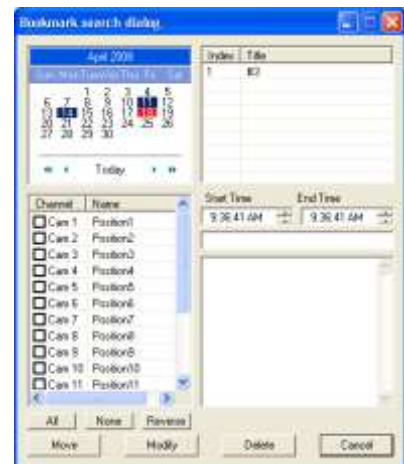
3.2   PRINTING AN IMAGE

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 Preview 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.

3.3   DAYLIGHT SAVINGS 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. On the Display Screen, select Search.

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.
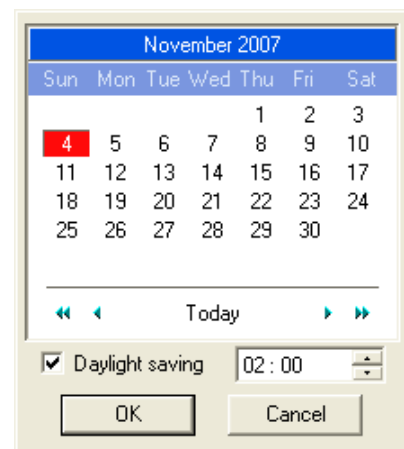
3.4   SAVE AS JPEG / AVI

The NVR can export single images in a JPEG 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.

JPEG: 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. On the Display screen, select Search.

2. Select a video (see Performing a Basic Search). Press Stop to freeze the desired frame.

3. Click the Save button.

4. 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.

   a. Select a Compression Codec. Each codec provides different levels of file size, quality, and compatibility.

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

5. Click the Export button to save the file. The Cancel button exits the window without exporting the file.

3.5 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 back-up 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. On the Display Screen, select Search.

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 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.
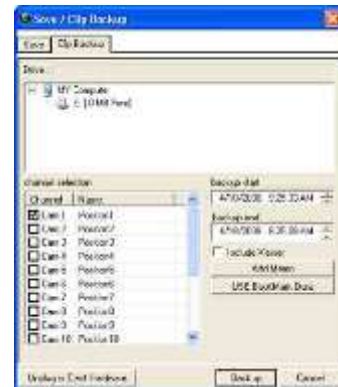
3.5.1 SINGLE CLIP BACKUP USING BOOKMARK DATA

1. On the Display Screen, select Search.

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.
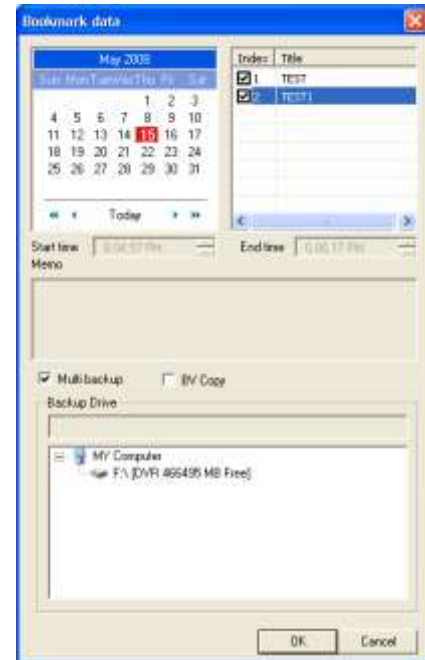
3.6   INDEX SEARCH

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.

3.6.1 PERFORMING AN INDEX SEARCH

1. On the Display Screen, select Search.

2. Click the yellow Calendar button to select a date.

3. Select the Index Search button.

4. Select the Camera(s) and Sensor(s) to include in the search.

5. Click the Select Time checkbox to define a specific period.

6. Select an event type (Sensor, Motion, and Instant Record) to search or select the
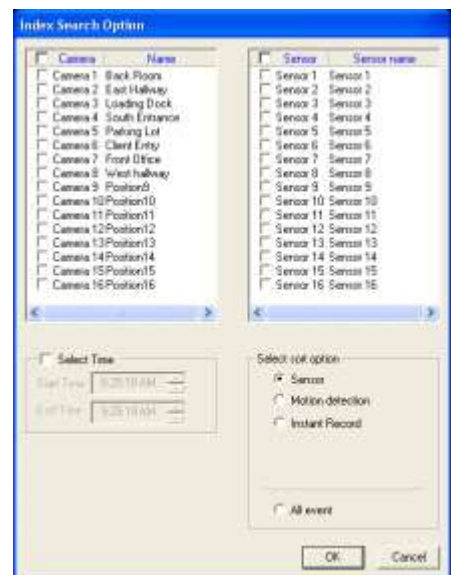
All Event option.

7. Click OK. Results will be displayed in a column that appears on the right 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 and press Play to view the associated video.

9. Once the desired image is found, apply it to the main search by selecting Close at the bottom of the results column.

INDEX SEARCH RESULTS DISPLAY
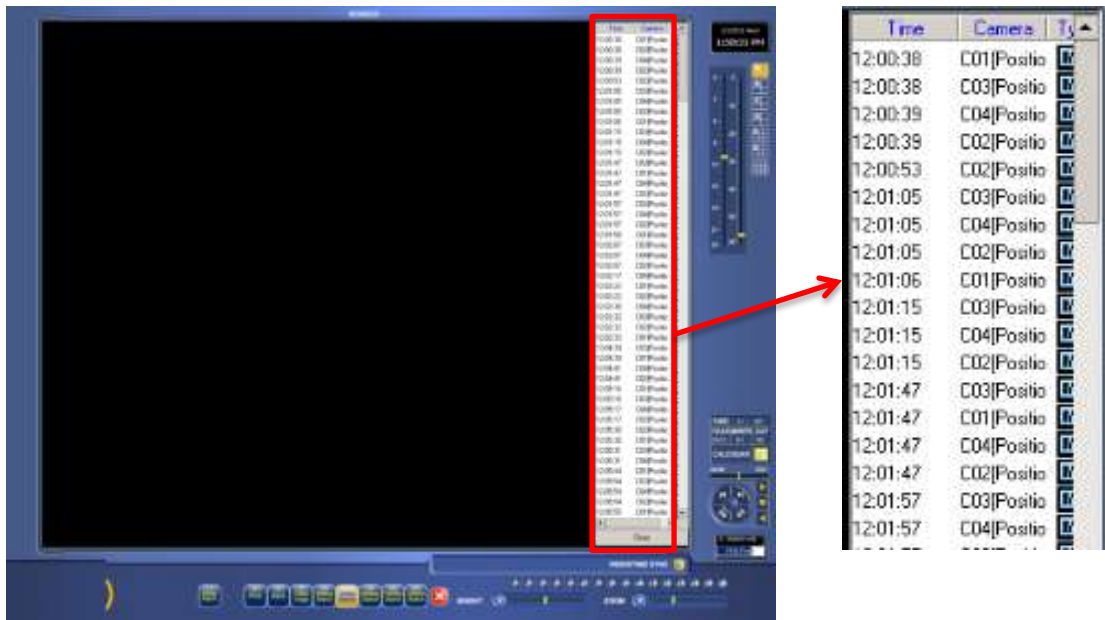
3.7 PREVIEW SEARCH

Preview Search 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. The search can then be further narrowed down into ten minute increments and one minute increments by selecting one of the displayed images.

3.7.1 PERFORMING A PREVIEW SEARCH

1. On the Display Screen, select Search.

2. Select a single camera either by turning off all cameras but one or by double-clicking a displayed image.

3. 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.

4. 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.

5. 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.

6. 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.

7. Use the Play Controls to play the video of the selected one minute segment.

8. To exit out of the Preview Search with the current image still selected, deselect the Preview Search button.
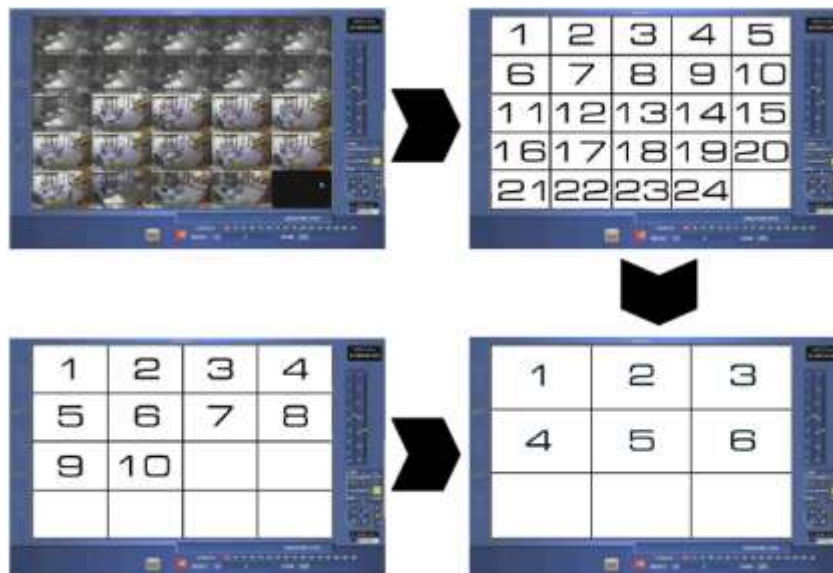
3.8   STATUS SEARCH

The Status Search option displays recorded video in graph format. Blue areas indicate that recorded data exists, and White areas indicate that recorded data does not exist.
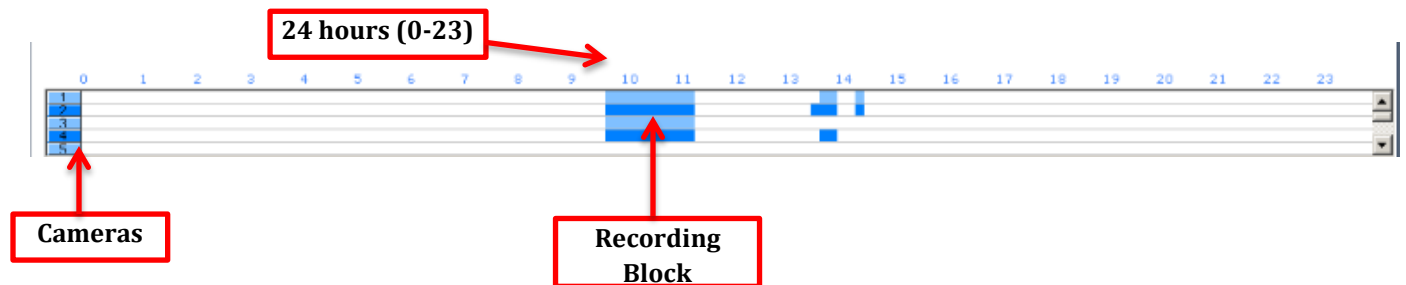
3.8.1 PERFORMING A STATUS SEARCH

1.   On the Display Screen, select Search.

2.   Click the Status Search button

3.   Select 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.

3.9 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.
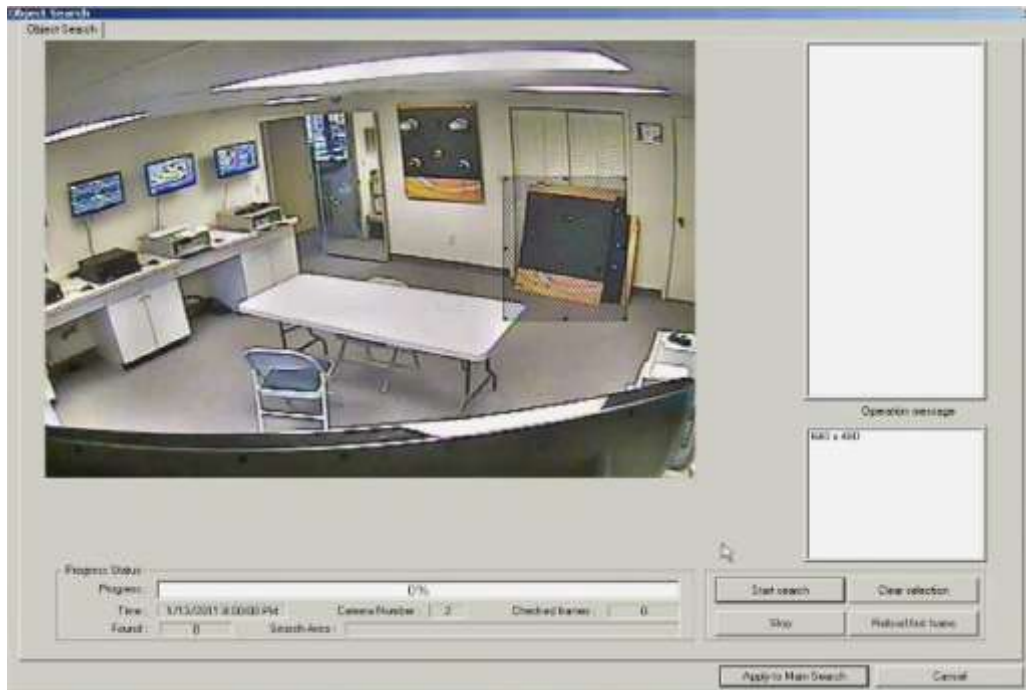
3.9.1 PERFORMING AN OBJECT SEARCH

1. On the Display Screen, go to Search.

2. Select a single camera either by turning off all cameras but one or by double-clicking a displayed image. See Performing a Basic Search.

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. Select 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 Object Search again and then click the Reload First Frame button.

13. To exit Object Search without selecting an image, click the Cancel button.
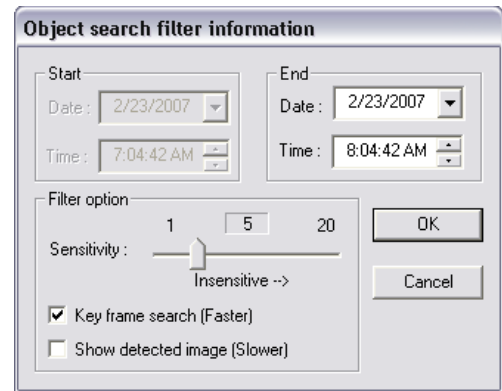
3.10 AUDIO PLAYBACK

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.

3.11 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.
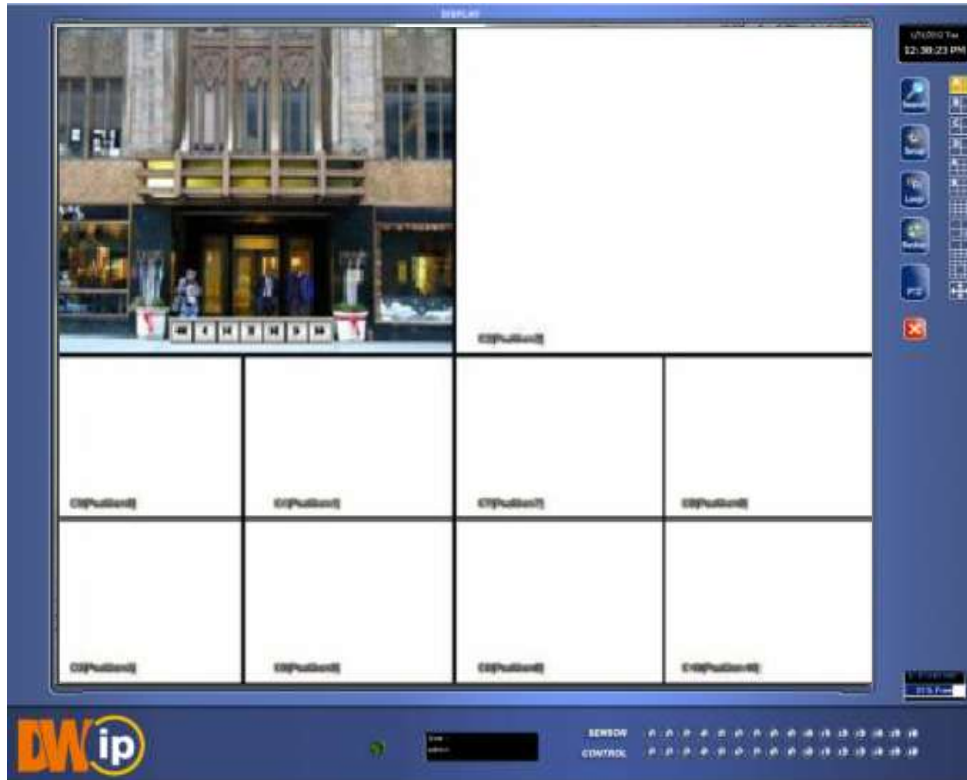
1. Move the mouse cursor over the desired live video display on the live Display Screen.

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.

5. To exit Search In Live mode, right-click on image and select Search In Live to remove checkmark.

3.12 BACKING UP VIDEO DATA

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.

3.12.1 NERO® EXPRESS

The NVR uses Windows 7® embedded Nero® Essentials 8 to write data to the DVD-RW Drive. Nero® Essentials 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.

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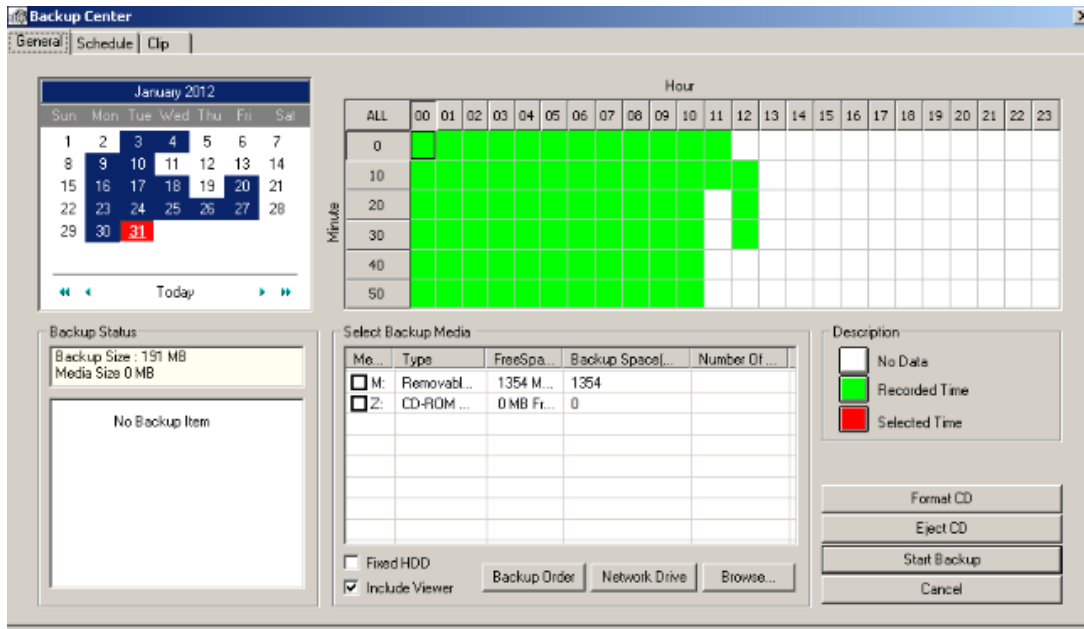
Hour/ Minutes	Records data displays in hourly (24 horizontal columns) and 10-minute (6 vertical rows) segments. GREEN cells indicate time with recorded video. RED cells indicate time selected for backup.
Backup Status	Displays the size of all video currently selected for backup, the available size of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

PERFORMING A GENERAL BACKUP

1. On the Display Screen, select Backup.

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.

3.12.3 CLIP SCREEN OVERVIEW

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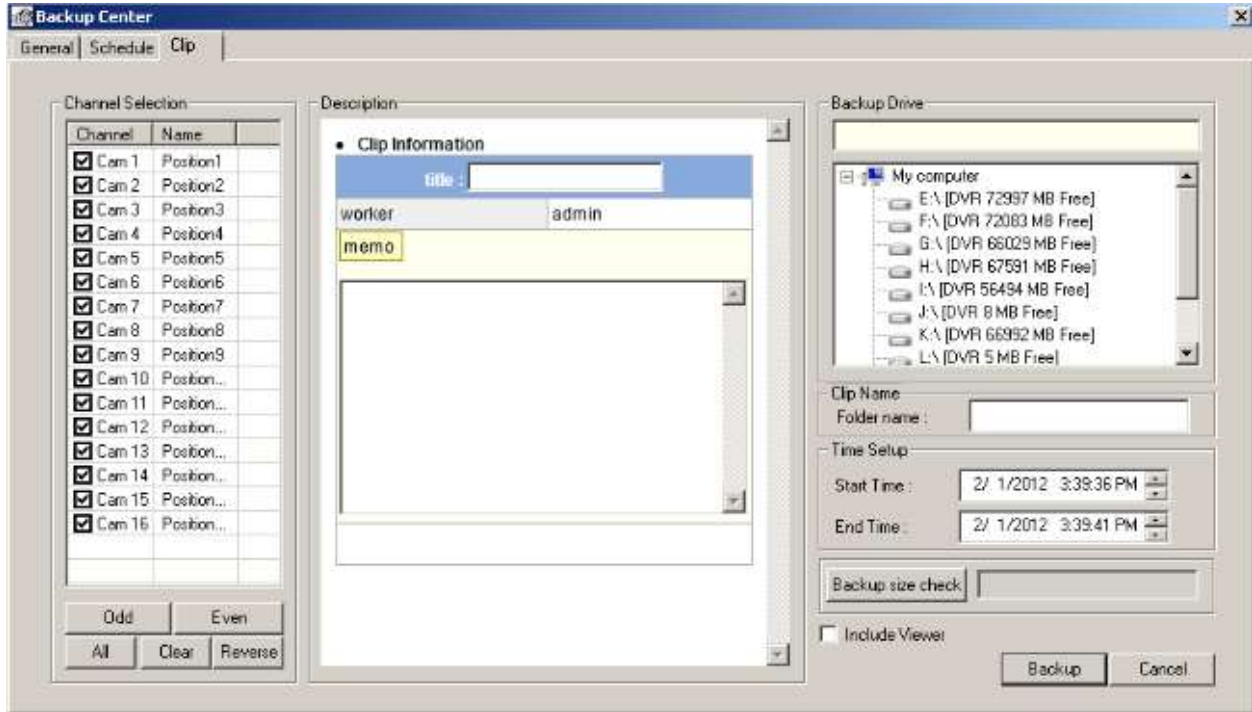
PERFORMING A CLIP BACKUP

1. On the Display Screen, select Backup.

2. Select 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.

Chapter 4: INCLUDED SOFTWARE

4.1 WEB VIEWER

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:

Seventy-five 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.
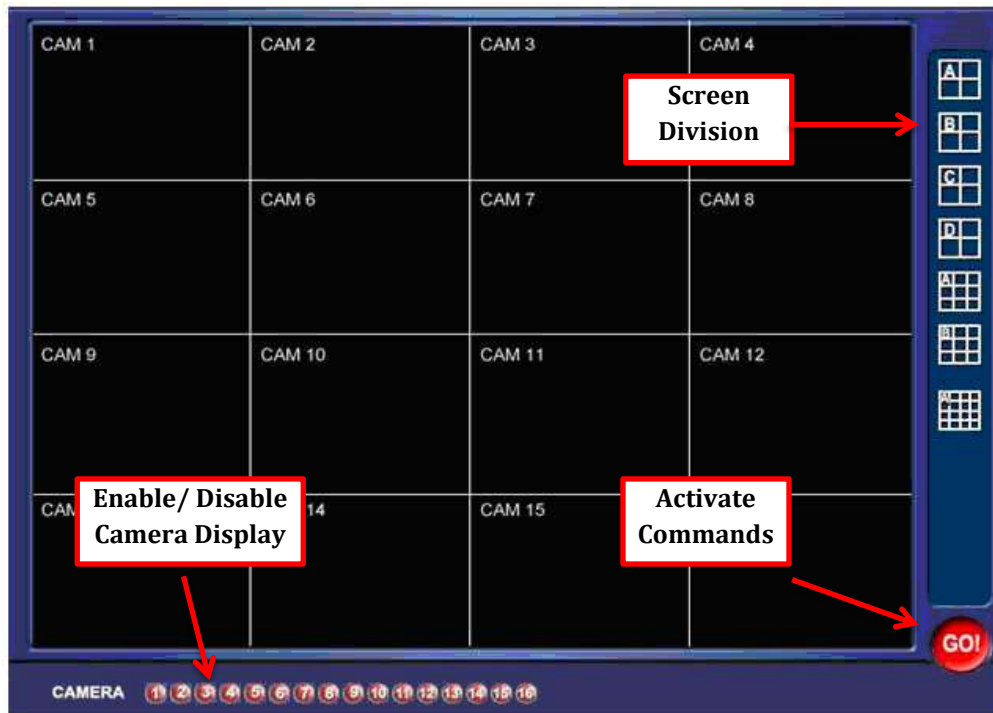
4.1.1 CONFIGURING SERVER

1. On the Display Screen, select Setup.

2. Click the Network Setup tab.

3. Clear the Disable Remote Control option. Select the Web Viewer box. 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 Chapter 2: Setup Options. 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.

4.1.2 CONNECT TO NVR USING WEB VIEWER

1. Open Microsoft Internet Explorer 6 or a later version.

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 the GO! button.

6. A login window will appear. Enter the Username and Password of an authorized user.

7. The cameras will now be displayed.

4.1.3 CLOSING THE WEB VIEWER

To exit the Web Viewer, close Internet Explorer.

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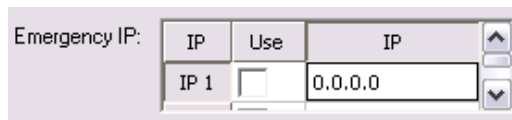
The Emergency Agent software is a utility that streams video across a Local Area Network to a Client PC, when an alarm is detected on the NVR. The video that streams across can be stopped or played forwards and backwards in slow motion or real speed.

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.

4.2.1 CONFIGURING THE NVR

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

1.   On the Display Screen, select Setup.

2.   Select the Camera Setup button.

3.   Select a Camera and then associate Sensor(s) to that camera, using the Sensor Connection checkboxes. Click Apply.

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.

Emergency IP:	IP	Use	IP	
	IP 1		0.0.0.0	

6.   Check the box next to the IP Address to enable it.

7.   Select the Sensor Radio button.

8.   Create a schedule for the appropriate sensor.

9.   Click Apply.

4.2.2 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.
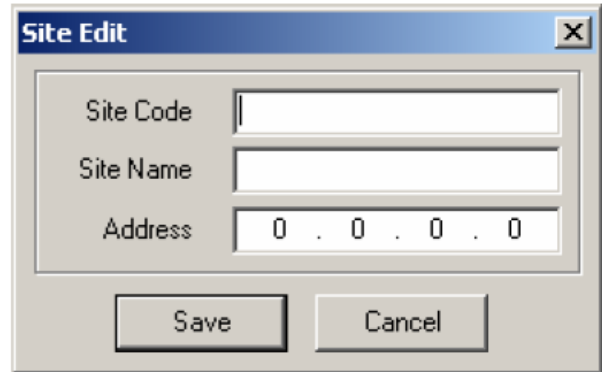
4.2.3 SETUP WINDOW

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.
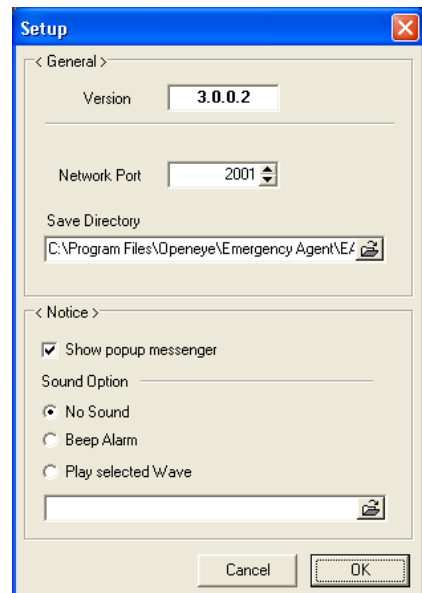
4.2.4 EMERGENCY AGENT WINDOW
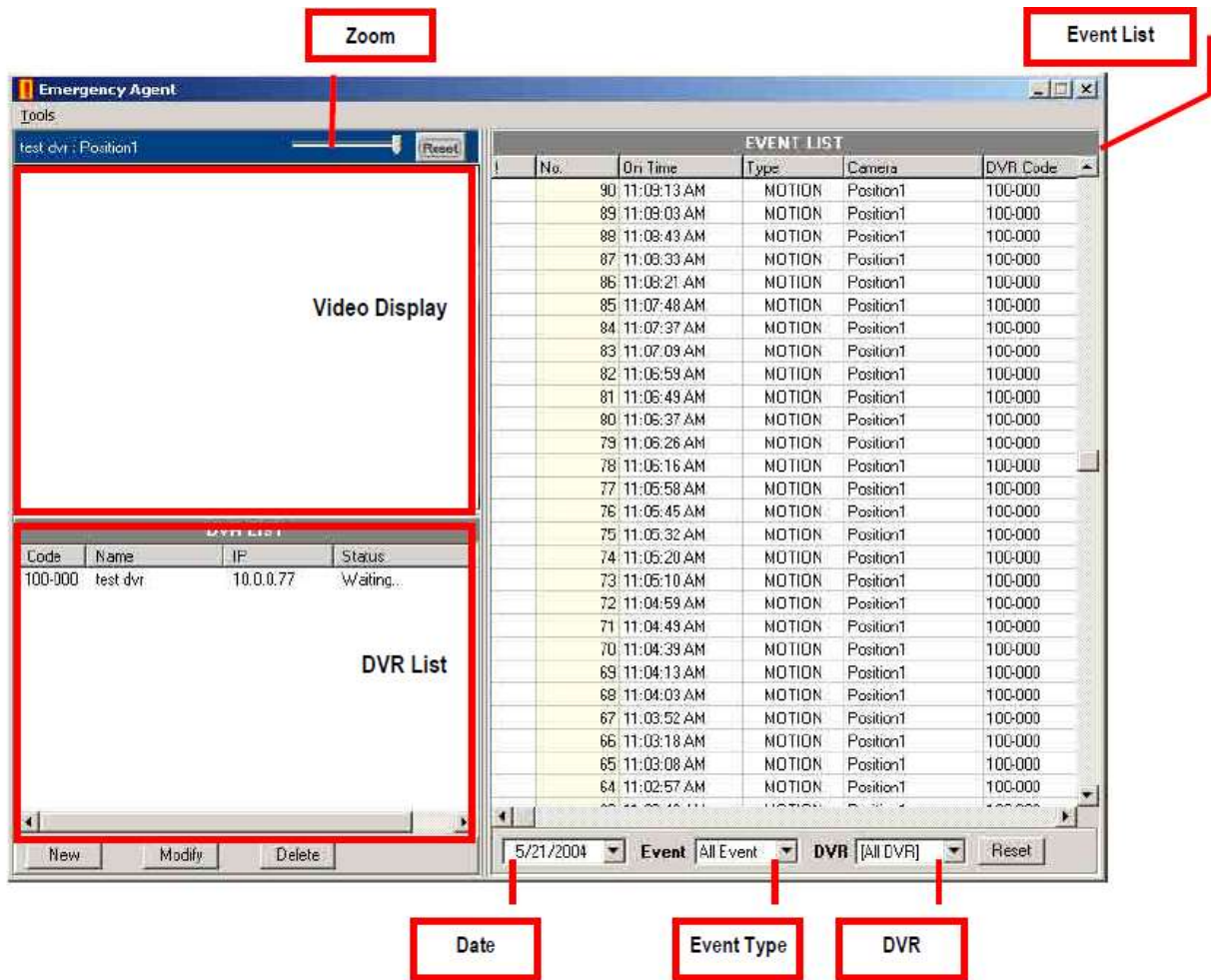
4.2.5 FILTER EVENT LIST

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.

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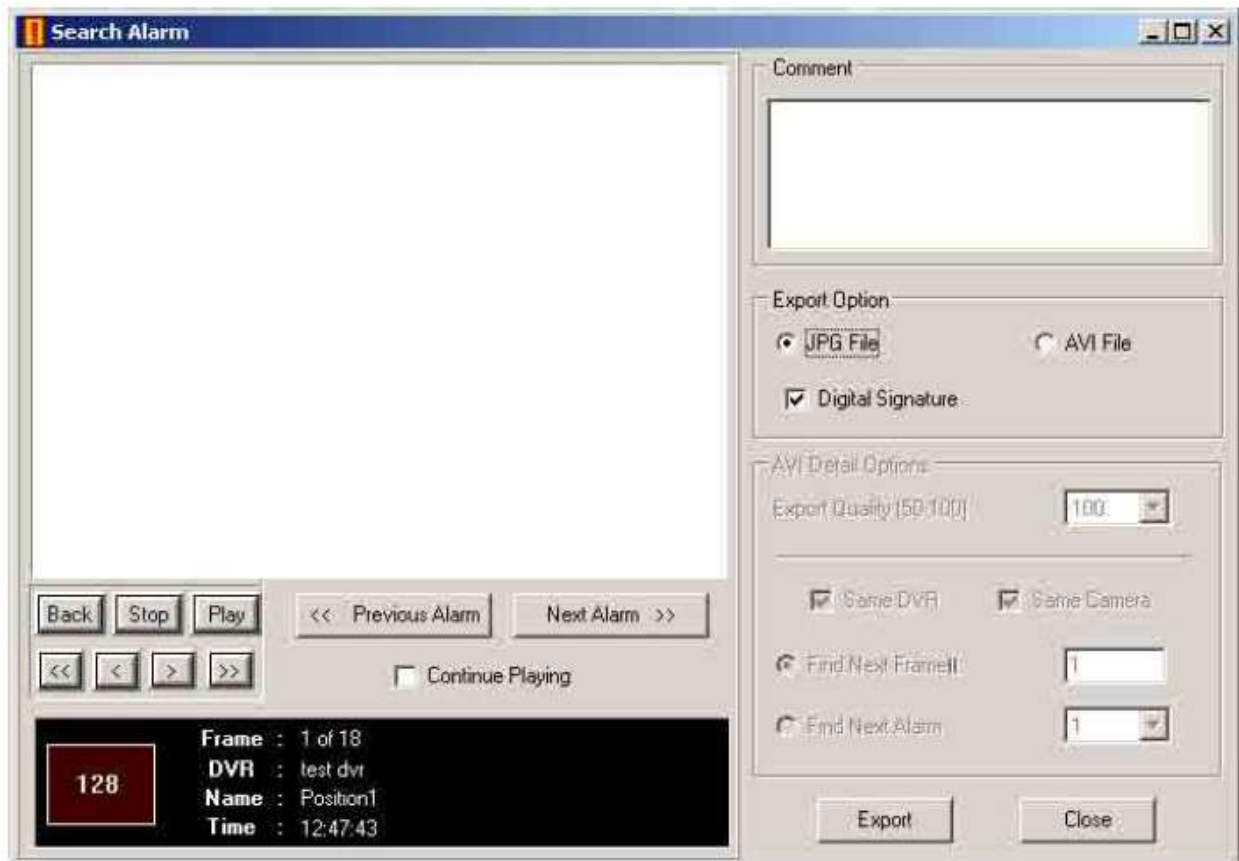
Export Quality- Reduces the overall size of an AVI file by reducing the image quality. However, reducing the image quality causes the AVI video to appear more pixilated. When size is not an issue, setting quality to 100 is highly recommended.

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.

4.2.7 VIEW RECORDED VIDEO

1. Double-click an event listing to open the Search Alarm window.

2. Use the Playback 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.

4.2.8 EXPORTING 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 as JPEG
   a. Select the Digital Signature checkbox to embed a digital signature in a JPG file.
   b. Click the Export button.

   Save as AVI
   c. Reduce Export Quality, only if it is necessary to reduce the size of the file.
   d. Click the Export button.

4.4   REMOTE SOFTWARE

The NVR was specifically designed to be fully operated and maintained remotely. It connects using the standard TCP/IP protocol thorough 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®, XP®, and Windows 7® 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 it 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.

4.4.1 REMOTE CLIENT MINIMUM REQUIREMENTS

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.

- 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

4.4.2 RECOMMENDED REQUIREMENTS

Note: The follow are minimum requirements for a system receiving data from an NVR using H.264 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

4.4.3 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.

CREATING A NEW REMOTE CONNECTION
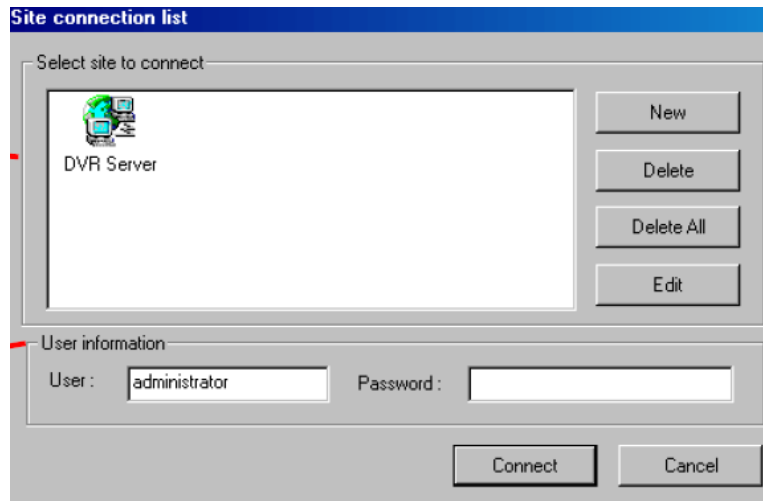
1. Select Start > Programs > Digital Watchdog > Remote > Digital Watchdog Remote Center. The Digital Watchdog Remote Software opens, and the Local Connection window opens.

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.

CONFIGURING THE SERVER FOR REMOTE CONNECTION

1. On the Display Screen, select Setup.

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.

4.5 DIGITAL VERIFIER

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.

4.5.1 INSTALLING 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.

4.5.2 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.

4.6 BACKUP VIEWER

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.

4.6.1 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.

4.6.2 LOADING VIDEO FROM DVD OR HARD DRIVE

1. Open the Backup Viewer program by selecting Start > Programs > Digital Watchdog > Backup Viewer > Backup Viewer.

2. Select Backup Search. 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. Select OK. Press Play on the Playback Controls. The video will now load in the Backup Viewer.

4.7 DW VIDEO MANAGEMENT SOFTWARE

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.

4.7.1 CONFIGURING THE SERVER

1. On the Display Screen, select Setup.

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.

4.7.2 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.

Chapter 5: LAN / ISDN / PTSN CONNECTIONS

5.1 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 are connected by a communications link that allows one device to interact with any other through the network.

There are many reasons why Microsoft® Windows® 7 Embedded is superior to other platforms when running on a LAN. The number one reason is security. Windows® 7 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.

5.2 CONNECTING TO A LAN USING TCP / IP

The networking options of the NVR can create and modify all standard networking options available on Windows 7 Embedded. The NVR comes equipped with a 10/100/1000 Network Interface Card (NIC). This card uses a standard RJ-45 connector.

5.2.1 CONFIGURING TCP / IP SETTINGS

1. Click the red Exit button on the Display Screen and select Restart in Windows Mode.

2. Right-click Network icon located on the desktop and select Properties.

3. Click Local Area Connections and select Properties. The Local Area Connection Properties window opens.

4. Select the Internet Protocol Version 4 (TCP/IPv4) 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.

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

6. If required, enter the DNS information by selecting the appropriate DNS options.

7. When finished configuring the TCP/IP settings, close the Internet Protocol (TCP/IP) Properties window by clicking OK.

8. Close the Local Area Connection Properties window by clicking OK.

9. You may be required to restart Windows for the changes to take effect. Restart windows by going to Start on the desktop and selecting Restart.

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