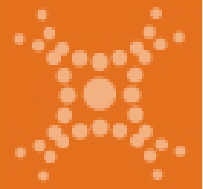


# G3 User Guide



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Find out more about DIGIOP at <http://www.digiop.com>

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This user guide provides usage and background information for the DIGIOP G3 Recorder. The documentation is available as a PDF file on the DIGIOP website at [www.digiop.com](http://www.digiop.com)

## About This Guide



**WARNING:** Text set off in this way indicates that failure to follow directions in the warning could result in bodily harm or loss of life.



**CAUTION:** This symbol indicates that failure to follow directions in the Caution could result in damage to the equipment or loss of information. Important operating and maintenance instructions are included in the literature with this unit.

**IMPORTANT:** Text set off in this way presents information or instructions that should be followed or information of particular interest.

**NOTE:** Text set off in this way presents information or instructions.

## Safety and Regulatory Information

For safety information, see the *DIGIOP Safety Guide* packaged with your product or go to the support page of the DIGIOP website at [www.digiop.com/support](http://www.digiop.com/support)

For regulatory information, see the *Dell Regulatory Notices* insert provided with your system.

**IMPORTANT:** This installation should be performed only by a qualified service person; it should conform to all municipal codes.

## Introduction to Digital Video Recording

Rapid economic growth and commercial sophistication in recent years has made protection of major facilities and intellectual property a critical issue for businesses and individuals. The demand for the centralized management of security systems and controls, as well as protection of property from fire hazards and other natural disasters, using remote surveillance systems, is growing at an accelerating rate.

This guide is intended for administrators, service providers, installers, and others who set up and configure the DIGIOP® Technologies LTD system.

## Features

- Records and stores digital images for longer periods of time than competitive technologies
- Produces four times the efficiency of conventional compression methods through the use of an enhanced MPEG-format, file-compression algorithm
- Innovative Enhanced MPEG Compression Technology — Previously, only Motion-JPEG or MPEG were used. The Motion-JPEG has a disadvantage of having large image files, so the image blurs with a lot of movement. DIGIOP improves both compression and image quality by making use of enhanced MPEG formats.
- DIGIOP provides Triplex on Remote — The main digital security functions are:
  - Image recording
  - Multiplexing
  - Data transmission for remote surveillance
- Highly reliable, maintenance-free digital security system — Eliminates the disadvantages of stored videotape images, which are often distorted from prolonged use, making the production of clear still images virtually impossible. DIGIOP stores digital images on the hard drive resulting in clear, printed still images. Digital storage reduces maintenance costs by continuously recording images on the same drive.
- Fully-compatible with existing CCTV cameras and equipment with NTSC or PAL signals, which helps eliminate the costs for replacing existing VCR, multiplexer, or other hardware.
- Includes high-speed search functions, recorded data manipulation, post-recording image enhancement, and Smart-Search as standard features across all commercial DIGIOP systems.
- Records up to 32 CCTV cameras at the same time with expandable hard disk capacity, allows recording of multiple channel images for longer periods
- Uses proprietary image authentication that prevents recorded images from being manipulated and changed. Conventional systems, on the other hand, typically use a storage method that does not prevent access and manipulation of stored data.
- Proprietary encryption ensures that video is authentic for file protection and forensic purposes. Images can only be viewed using the DIGIOP decoder in DIGIOP Viewers or the DIGIOP plug-in for the Microsoft® Windows® Media Player. Images can also be converted to other standard video formats.

Real-time image transmission through the Internet—DIGIOP uses a unique, enhanced, and encrypted MPEG compression algorithm and supplies the DIGIOP “Remote Manager” software to transmit encrypted, real-time images through the Local Area Network or over the Internet.

***What is DIGIOP Remote Manager?***

(Provided with all DIGIOP systems) A DIGIOP-developed, client-based, remote surveillance software application that lets you monitor DIGIOP camera images from a number of remotely located DIGIOP systems using TCP/IP transmissions. You have full access to camera and system-wide setup without having to be at the system location. This provides centralized monitoring and flexibility/mobility. Remote Manager lets you view up to 24 individual camera images at a time, pick and choose which cameras are to be displayed, where onscreen they are displayed, and connect and disconnect cameras from view.

***What is DIGIOP Enterprise Surveillance Portal (ESP)?***

(Provided with all DIGIOP systems Series 7 Software) This DIGIOP-developed, web-based, surveillance application lets you manage DIGIOP systems and IP devices remotely using TCP/IP transmission. Like the Remote Manager, ESP allows full access to camera and system set-up without having to be at the system location and provides centralized monitoring and flexibility. ESP lets you view up to 36 camera images at a time, pick and choose which cameras are to be displayed, where onscreen they are displayed, and connect and disconnect cameras from view.



## Unpacking the contents

The following items are included with your DIGIOP system. If any of these are missing or damaged, notify your DIGIOP Dealer immediately. Keep the packaging for transportation or storage:

- Mouse (standard USB)
- Keyboard
- Video input cables (except on the DIGIOP S30)
- Power cord
- PTZ control cable (on some systems)
- PTZ RS-232 cable (on some systems)
- VGA/DVI monitor splitter cable (on some systems)
- DIGIOP Recovery DVD
- DIGIOP Client CD
- Nero® CD
- *Quick Start Guide*
- Surge protection and anti-virus warning document

Tower system



Dell T-3400



Desktop system



Rack mount system



## Installing the hardware

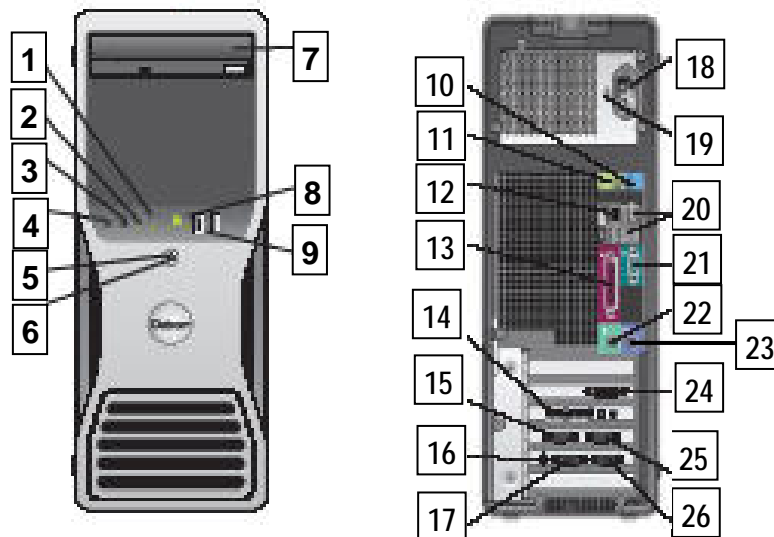
DIGIOP camera, audio, and other inputs are generally built into the back of the system. However, they may also be comprised of flexible, multi-connection cables terminated with a multi-pin DIN plug and BNC connectors. Table 1 describes the system ports and connectors.



**CAUTION:** Multi-connection cables come in many varieties and are typically suited to a specific DIGIOP system model.


- When installing these cables, be very careful not to bend the interconnecting pins on the cable plug and system.
- Do not pull or place undue stress on the cables or connectors when installing or disconnecting any cables. Make sure the cables are long enough so they do not create cable tension when connected to the system.
- Multi-connection cables may include both video and audio inputs. The connectors are labelled V = Video or A = Audio.
- Do not plug video sources into audio inputs or vice versa.

**Table 1.**  
**System ports and connectors**



**NOTE:** This example shows main components only. Components may vary between models. See the *Quick Start Guide* that came with your system for more complete information.

	Component	Description
1	Network link LED	Displays a network connection.
2	Diagnostic LEDs	Display various statuses of the unit. See the <i>DIGIOP G3 Service Guide</i> for descriptions of the diagnostic LEDs.

3-4	Headphone/ Microphone jacks	Not used
5-6	Power button & Power LED	Powers the system on and off. To manually turn power off, press and hold the button for at least 10 seconds. A System Shutdown message is displayed and the system shuts down. May be also used as described in case of abnormal system operation.
<b>IMPORTANT:</b> The DIGIOP auto-recovery restores the system with the last system backup. Before powering down the system or after each system change, back your system up. This ensures that the system is restored with the most current configuration and settings.		
 <b>WARNING:</b> Before connecting the power, double check that the power switch (AC110V ~ 120V ->115, AC220V~240V->230V) is switched to 115VAC.		
7	DVD-RW slot	Media slot for the DVD/CD
8	Hard drive activity LED	Displays activity on the HDD
9	USB port	Connects exterior USB interface devices including hard drives, CDRW, memory stick adapters, etc.
10	Line in	Not used
11	Speaker out	(Optional; only if equipped for audio) Connects to a “line level” amplified device or amplified speaker
12	Local Area Network (LAN) port (RJ-45)	(For remote monitoring) Connects an Ethernet LAN, Internet, or exclusive-line, TCP/IP-based 10/100/1000Base-TX Ethernet to the DIGIOP system.
13	PC Monitor output	Connects a standard VGA-type monitor. For best viewing, we recommend a 17" or larger monitor (for 4- to 16-camera installations) or a 19" monitor (for 32-camera installations)
14	I/O Board	<p><b>Sensor Inputs/Relay Outputs</b> (Optional when Sensor/Relays are used) — Connects sensor inputs to the DIGIOP system, for example, external alarm devices can be made directly to this I/O board.</p> <p><b>PTZ Controller</b> (see the <i>Quick Start Guide</i> for diagrams) — Connects a PTZ controller to the I/O board. Most PTZs use RS-422 or RS-485 connectors. Use the supplied cables and follow the instructions in the documentation that came with the PTZ controller.</p>
15	Audio In (See also 25)	(location and operation vary with model; see the <i>Quick Start Guide</i> for diagrams) Most camera/audio inputs use a multi-pin, sub-D connector with “flying” leads and pre-terminated connectors. The plugs are typically marked “V” for video/camera connections and “A” for audio inputs. For 16- and 32-channel systems, you need two or more sets of cables (not provided).
16	Spot Monitor Output(s)	(Not on S240) Connects an analog CCTV monitor to the RCA “spot out” jack. The spot monitor screen layout is always the same as the PC layout. For some systems, an output is not supplied; you can install an option card for viewing.

<b>17</b>	<b>Video In (Camera inputs)</b> (See also connector 26)	Same as Audio In (15)
<b>18</b>	<b>Power plug</b>	Connect the provided power cord
<b>19</b>	<b>Voltage Selector</b>	Lets you set the voltage on the unit (110VAC to 220VAC). Make sure the unit is set to 110VAC before connecting it to external power.
<b>20</b>	<b>USB port (2)</b>	Connects exterior USB interface devices including hard drives, CDRW, memory stick adapters, etc.
<b>22</b>	<b>Mouse port</b>	Connects the provided mouse or a Windows-compatible mouse to the system
<b>23</b>	<b>PS2 keyboard port</b>	Connects the provided keyboard
<b>24</b>	<b>Graphics adapter</b>	VGA or DVI connector (required)
<b>25</b>	<b>Audio In</b>	Same as Audio In (15)
<b>26</b>	<b>Video In (Camera inputs)</b> (See also connector 17)	Same as Audio In (15)

## About the installed DIGIOP Server software

As a standard package, DIGIOP systems come with the DIGIOP Server software already installed. This includes the basic application to view live and archived video, configure users, etc.

**IMPORTANT:** Ensure that the version numbers of each piece of software are compatible. Incompatibility may result in less than optimal performance. For information about software versions, see the DIGIOP website at [www.digiop.com/support](http://www.digiop.com/support). Click on Servers from the drop-down list to locate the minimum requirements for each software version.

## Starting the system software



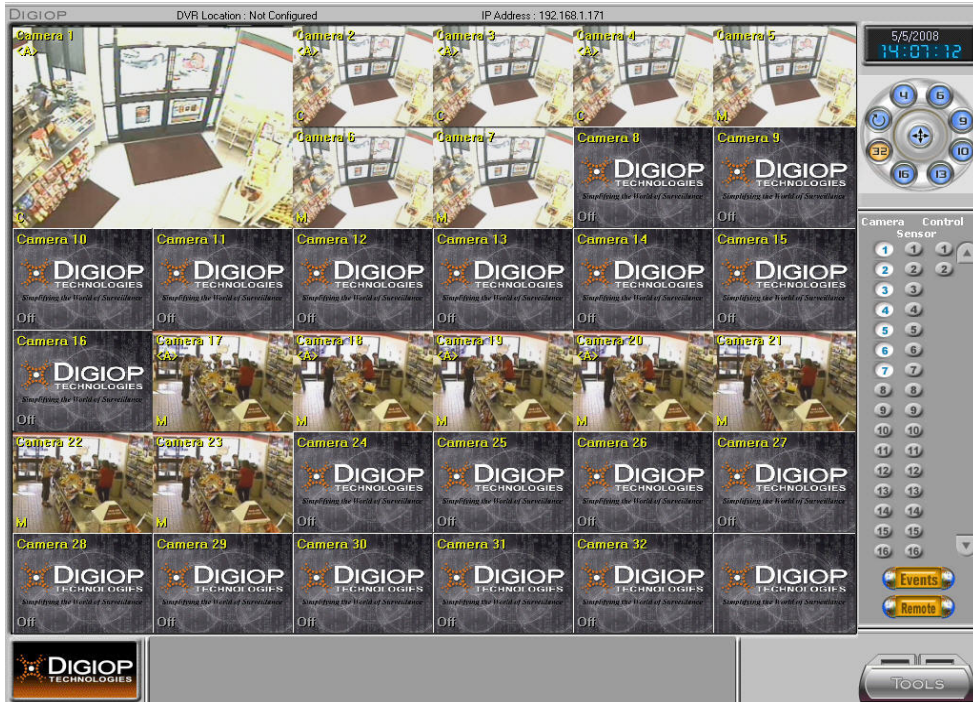
**WARNING:** Make sure the power sources are reliable earth grounded. This helps prevent personal injury or damage to the equipment.

1. Before connecting the power, ensure that the power switch (AC110V ~ 120V ->115, AC220V~240V->230V) is switched to 110VAC.
2. Make sure all cables are firmly attached.
3. Ensure all cameras are powered on and operating properly.
4. When all connections are correct and secure, turn on the main power to the DIGIOP system.

You should see the Windows XPE software load, and then the DIGIOP software. This should only take a few moments.



The DIGIOP multi-image screen appears and displays the connected cameras. (This is for example purposes only. Your display may vary, depending on the DIGIOP model you purchased.)



## Logging In

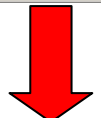
1. Click LOG IN (bottom right of screen).

**NOTE:** After you successfully log in, the TOOLS button replaces the LOG IN button.



2. Using either an external keyboard or the small, on-screen keyboard, enter a username and password.

**NOTE:** The default Administrator username is **admin**. Default Password is **dg2ad33**



**NOTE:** The on-screen keyboard is found beside many fields and can be used for data entry. As you click on the alphanumeric symbols, the data appears in the small text field below the keys. Click the Input key (not the Enter key) to confirm what you type. Click the X to close this keyboard.

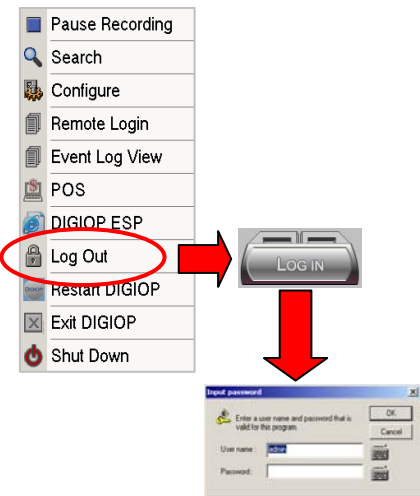


## Logging Out

- From the Tools menu, click Log Out.

The application shuts down and the LOG IN button replaces the TOOLS button.

- Click LOG IN and enter a username and password.



## User Accounts

DIGIOP systems contain a default administrator (or “admin”) account to let you access the system once it is powered on. The admin account cannot be deleted or renamed, making it is always available for system access. You can, however, change the admin password and we recommend that you do this for security purposes. If you change the password, write it down and keep it in a safe place for reference, as needed.

When you log in the first time, enter the following information in the Login dialogue:

- Username — admin
- Password — dg2ad33

**IMPORTANT:** If you forget your password or it is not working, see Appendix K in this guide, which provides steps for resetting a lost password.

Table 2 contains a list of user accounts and the default permissions assigned to each:

Name	Password (Case sensitive)	Description
<b>admin</b>	dg2ad33	Access to all functions
<b>Manager</b>		Access to all functions except System Users accounts, including adding Remote Users; restricted search functions: access only to Hour Backup, but no access to Configure, Smart Search, Sensor Events, or Still Image/Minute Backup
<b>Installer</b>	dg2in23	Access to all functions except search and POS
<b>Security User</b>	dg2seclv1	Access only to PTZ, Search, and POS

## Exiting and Shutting Down

### Exiting DIGIOP system application

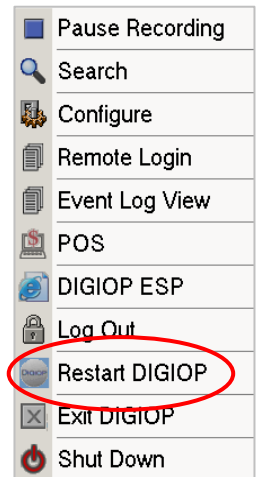
To exit the application (without shutting down the system), click **TOOLS > Exit DIGIOP**. This stops the system completely and no recording or system updates will occur. This does not completely shut down the system, however.



The Server software stops and the DIGIOP desktop background appears.

**CAUTION:** A number of system-related applications are still running. Tampering with these can cause severe damage or irreversibly affect the system. Do NOT tamper with these settings unless directed to do so by DIGIOP Technical Support.

After you shut down the software, you can continue to access many Microsoft Windows programs, features, and functions, including network connections, printer setup, search, DOS prompts, and any external storage devices, such as USB memory, CDs, etc.



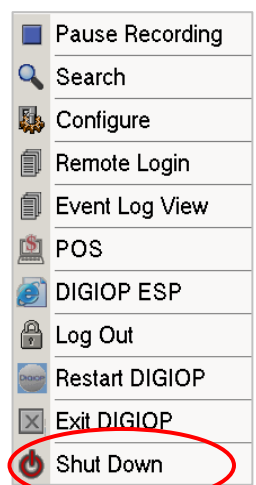
### Shutting down the system

This operation completely shuts down the system.

**NOTE:** Shutting down the system through the Shut Down option can only be performed by someone with administrator privileges. However, the system can still be shut down with the power button.

1. Click the **LOG IN** button.
2. Enter the username and password (default username = **admin**; password=**dg2ad33**)
3. Click the **TOOLS** button
4. From the menu select **Shut Down** – the system will shut down.

**IMPORTANT:** The menu option **Log Out** simply logs out the current user. A new user needs to log in to access the system. **Exit DIGIOP** stops the system functions and returns to the **WINDOWS XPE**. **Shut Down** turns the system completely off. If you select **Shut Down**, be sure to back up the system first. If you do not, any changes you have made will be lost when you restart.





## Abnormal shut downs and restarts

The DIGIOP software contains a number of safety systems that ensure the system integrity under abnormal operating conditions.

- **Operating System (OS) failure (lock up)** — The DIGIOP internal watchdog circuit monitors the operation of the Windows XPE operating system. If the system fails for any reason, the internal watchdog restarts the system. This takes about 10-15 minutes to restart.
- **Pressing the Power button on the front of the system** — The DIGIOP system shuts down and then closes Windows XPE correctly. When the system boots back up, it will attempt to recover from the last backup point.
- **Disconnecting main power (assuming no UPS)** — Once the main power is restored, the system restores the OS from the internal backup and then restarts the system.

## Auto log off

If you leave the system running for more than 10 minutes, it automatically logs you out. A Warning Message similar to the one shown here appears for a short time. This is a notification that an automatic log-off is about to occur.

**NOTE:** This message disappears automatically. You do not have to click OK to start the log off.

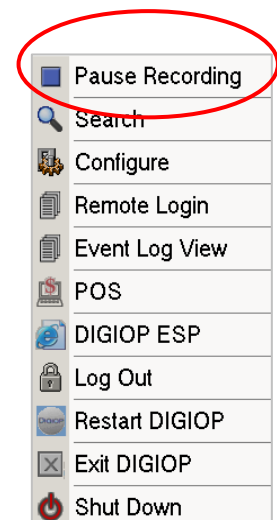


## Pausing Recording

You must always pause the recording to change recording type parameters, e.g., FPS, resolution, schedule, etc.

Click Pause Recording stops the recording of all camera video to the hard drive. If no actions have been performed on the system, it resumes recording after 15 minutes.

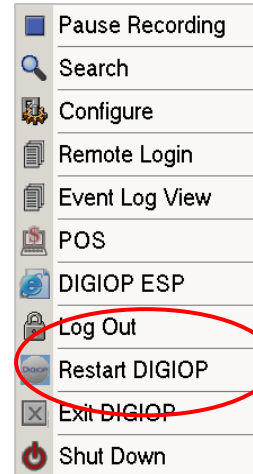
**IMPORTANT:** If for any reason an option is unexpectedly disabled (i.e., “greyed out”), pause recording and try it again.



## Restarting DIGIOP from the TOOLS menu

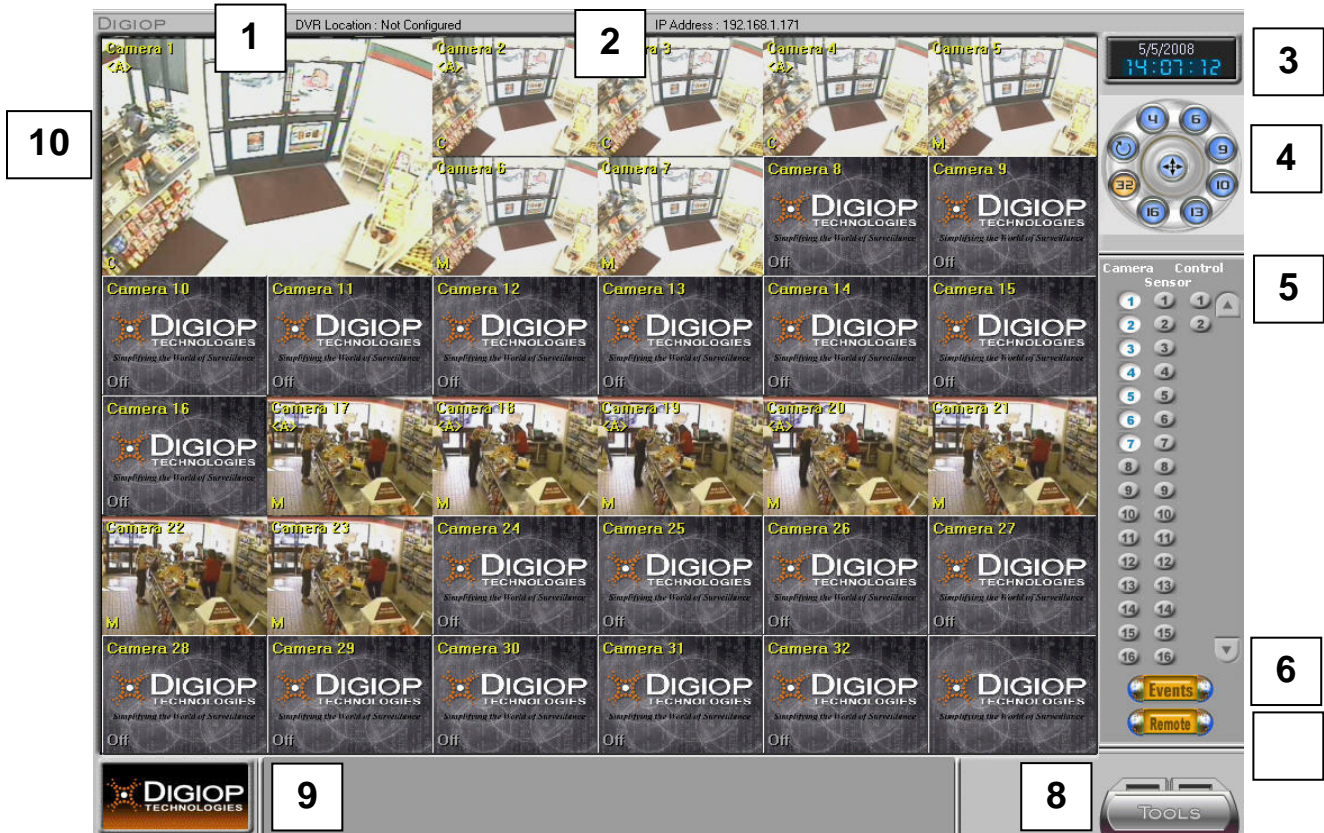
You can restart the DIGIOP system directly from the TOOLS menu while the application is running by clicking Restart DIGIOP.

You might want to restart in this way to refresh the system, such as when adding cameras. For related information, see the section “Adding IP and Analog cameras” in this guide.



## DIGIOP Main screen






The main DIGIOP screen contains many configuration tools, menus, and other on-screen information, which are described in this section. This example shows one variation of the possible layouts, showing 32 “channels,” or panes. In these channels, you can simultaneously view live and archived camera video and perform other functions.





**Table 3.  
Main Screen**

Item	Name	Description
1	Site Name	User-defined description of this system. To configure, double-click the screen area and a text entry option appears. Or, go to TOOLS >Configure>System.
2	IP Address	If the system is connected to a LAN, a static IP Address can be defined. To set the IP address, go to TOOLS>Configure> Network. Contact your system administrator about setting up this address.
3	Clock	Displays the current time and date of the DIGIOP system. This can be edited by double-clicking this area.

**Table 3.  
Main Screen**

Item	Name	Description	
4	<b>Round control dial cluster</b> 	Controls from which you can select the multi-screen (split-screen) mode and the sequence in which images are displayed  The numbered buttons represent the number of images displayed on screen (4-32).	
	<b>Split-Screen Selection</b> 	The number currently highlighted in yellow is the current selection for the split screen (e.g., 4 images). By clicking this highlighted button, the next set of images is displayed. For example, if you are watching images 1-4, and click the “4” button, the next sequence of 4 images is displayed. <b>NOTE:</b> To configure the split screen sequences, go to TOOLS>Configure> Display >Display Division. For more information, see the section “Tools” in this guide.	
	<b>Sequence Images</b> 	Causes the images to automatically rotate or cycle through the images in a defined order. Stopped by clicking the same button again or by selecting a camera. <b>NOTE:</b> To change the dwell time (amount of time each image is displayed), go to TOOLS>Configure> Display. Settings are 1-60 seconds. For more information, see the section “Tools” in this guide.	
	<b>Full Screen Mode</b> 	Hides the controls so the image fills the entire screen. Click or right-click and the controls are re-displayed.	
5	<b>Camera, Sensor, and Control</b>		
		<b>Camera</b>	When camera video is recording, the associated camera button is highlighted. In “motion” record mode, this button appears normal (not highlighted).
		<b>Sensor</b>	Each time a sensor is activated, the associated button is highlighted (indicator only).
		<b>Control</b>	Interactive buttons connected to the available relay outputs. If a sensor triggers an output relay, the associated button is highlighted. You can override the relay status by clicking the appropriate button.
6	<b>Events</b>	Blinks red to indicate that events are being recorded	
7	<b>Remote</b>	Turns red to indicate someone is connected remotely. Can click to see who is connected.	
8	<b>Tools</b>	See the section “Tools” in this guide.	

**Table 3.  
Main Screen**

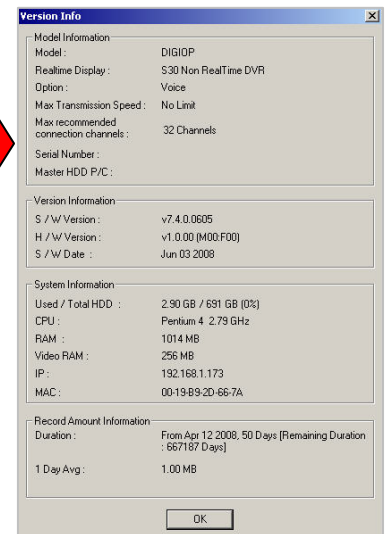
Item	Name	Description
9	DIGIOP logo	Double-click the logo to view the Version Information, including Model, Version, and System Information, as well as Record Amount Information. 
10	On-image Information	Displays the current status of the camera recording mode, the sensor input, and the control relay outputs. 
	Camera Name	Indicates the name of the camera, which is set up from TOOLS > Configure > Camera.
	Audio recorded <A>	Indicates audio is recorded with this video.
	Record Mode M	Indicates the mode for camera recording, e.g., motion M, continuous record C, sensor record S, no record F, etc. Set up from either TOOLS > Configure > Camera or Tools > Configure > Schedule.
	PTZ available	Opens the PTZ control panel. PTZ is defined from TOOLS > Configure > PTZ.

### Viewing version information

Click the DIGIOP logo to view the system Version Info.

This includes:

- Model
- Version
- System
- Record Amount



## Setting the Clock

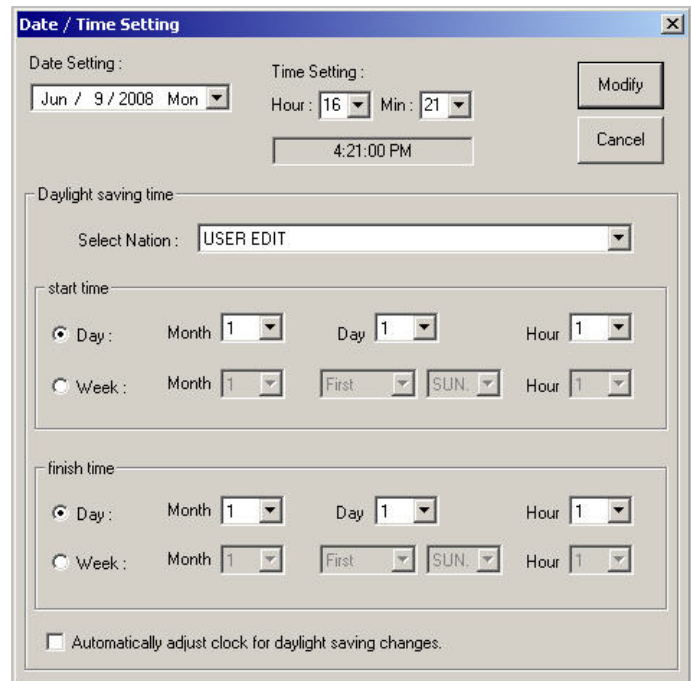
System clocks can be manually set or set by a “time server” application. The DIGIOP software uses a time server that synchronizes all the DIGIOP clocks on a network to a single time.

1. If the system is not on a network, simply double-click the clock on the screen.



**NOTE:** For how to set the clock if the system is on a network, use the Network tab. For information about this setting, see the section “Time Synchronization settings” in this guide.

The Date / Time Setting window appears.



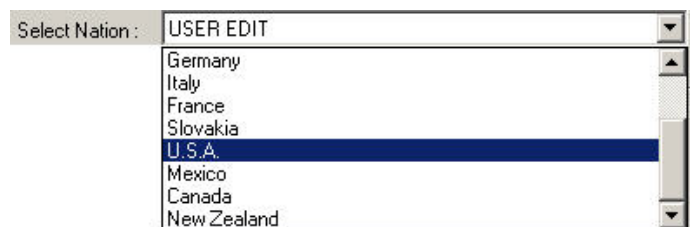
The dialog box is titled "Date / Time Setting". It contains the following fields and controls:

- Date Setting:** A dropdown menu showing "Jun / 9 / 2008 Mon".
- Time Setting:** Two dropdown menus for "Hour" (set to 16) and "Min" (set to 21). Below them is a text field showing "4:21:00 PM".
- Buttons:** "Modify" and "Cancel" buttons are located on the right side.
- Daylight saving time:** A section with a "Select Nation:" dropdown menu currently set to "USER EDIT".
- start time:** Two radio buttons: "Day" (selected) and "Week". The "Day" option has dropdowns for Month (1), Day (1), and Hour (1). The "Week" option has dropdowns for Month (1), First, SUN., and Hour (1).
- finish time:** Similar to the start time section, with "Day" (selected) and "Week" radio buttons and corresponding dropdowns.
- Checkbox:** "Automatically adjust clock for daylight saving changes." (unchecked).

The default is USER EDIT, which lets you manually change the Daylight saving time options.

2. Choose a region from the drop down menu by Select Nation.
3. Set the time manually.

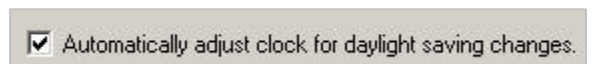
**IMPORTANT:** After you set the time, recording pauses briefly while the system resets.



The dropdown menu is titled "Select Nation:" and contains the following list of countries:

- Germany
- Italy
- France
- Slovakia
- U.S.A.** (highlighted)
- Mexico
- Canada
- New Zealand

4. Or, automatically set Daylight savings time by checking “Automatically adjust for daylight savings changes.”



The checkbox is checked and labeled "Automatically adjust clock for daylight saving changes."

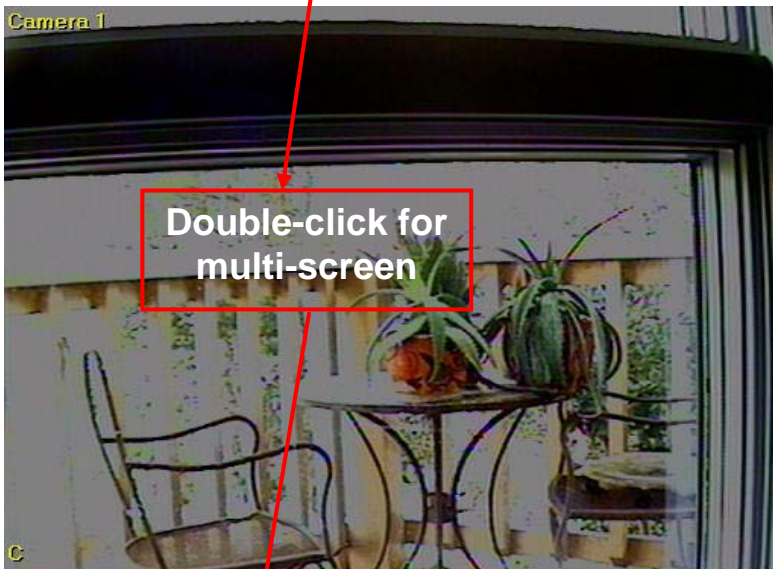
## Switching between multi-image screen and single-image screen

1. From a multi-image screen, double-click the image you want to view as a full screen.














The image expands to fill the entire screen.

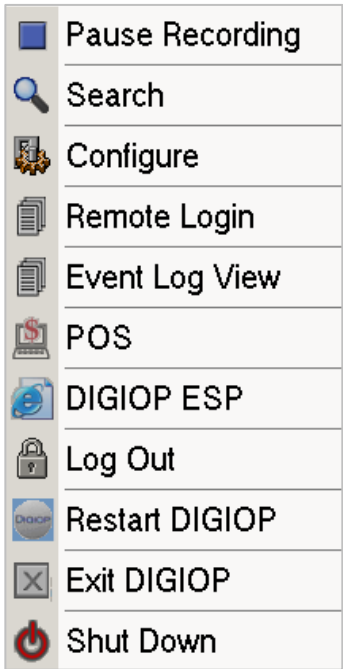
2. Double-click again to return to the multi-image.



## TOOLS menu

The TOOLS menu runs the dialogues and menus to configure DIGIOP Server software. Table 4 describes the Tools options. The Search option is discussed in detail in the next section. For information about the other options, see the *DIGIOP G3 Service Guide*.

<b>Table 4. Tools menu</b>		
<b>Icon</b>	<b>Name</b>	<b>Description</b>
	<b>Pause Recording</b>	Pauses all camera recording. In most cases, you must pause the recording to change recording parameters, e.g., FPS, resolution, schedule, etc.
	<b>Search</b>	Opens the Search application. Also includes video backup (video clips, entire records) and still image save/print.
	<b>Configure</b>	Opens the main system configuration and settings menu.
	<b>Remote Login</b>	Opens a real-time log of logins to the system from Remote devices (can include Remote Manager and integrated software).
	<b>Event Log View</b>	Opens a real-time log of the operational and alarm events generated by the system.
	<b>POS (Point of Sale)</b>	A separately licensed software package that records transactions (e.g., cash register) with video clips; not activated until licensed. Also called DTM (DIGIOP Transaction Manager).
	<b>DIGIOP ESP</b>	(Provided on all systems) Web-based IP configuration, management, and viewing application. See the <i>ESP User Guide</i> on the CD with your system.
	<b>Log Out</b>	Logs out the current user. The system automatically logs out after 5 minutes of inactivity.
	<b>Restart DIGIOP</b>	Closes and reinitializes the DIGIOP system software.
	<b>Exit DIGIOP</b>	Shuts down the DIGIOP system software and exits to Windows XPE environment.
	<b>Shut Down</b>	Completely turns off the DIGIOP system, both software and hardware.



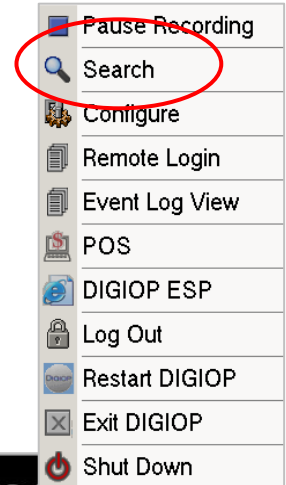


## Search Menu


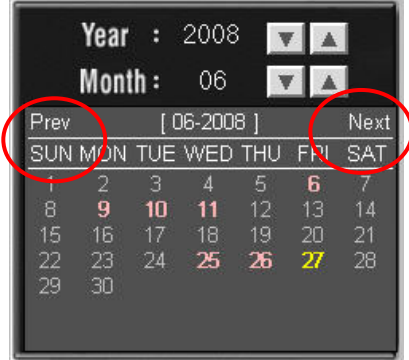





**IMPORTANT:** The *DIGIOP G3 User Guide* only describes the Search menu option. For information about all the menu options, see the *DIGIOP G3 Service Guide*.

The Search menu lets you view, analyze (reprocess), manipulate, and export in different modes/formats. You can access it from Tools > Search.





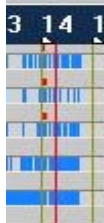
**IMPORTANT:** By default, the Search mode takes you to the end of the current recorded files. No new recording occurs while the Search is running.



**Table 5.  
Search Preferences**

	Name	Description	
1	<b>Current Date &amp; Time</b>	Displays the PC date and time	
2	<b>Record calendar</b>	Use the calendar to find recorded video on the desired search date. Use Prev(ious) or Next links to move the months forward or backward in time. Use the Up/Down arrows to adjust the Year and Month.  Date codes: Pink — recordings available on that date Yellow — currently selected date Grey — no recordings on that date	
3	<b>Time Line (Hour/Min)</b>	Displays the current system time. Clicking anywhere on the time line causes the Scan Bar to jump to that position/time. Use the Hour and Minute up/down arrows to locate known records. This option is synchronized with the Scan Bar so any change to the Scan Bar position will be reflected here.	
4	<b>Playback Controls</b>	Play, Stop, Pause, FWD, Step Forward, Step Backwards. See the section "Playback Controls" in this guide for more information about these controls.	
5	<b>Screen division display</b>	Switches from 1, 4, 9, or 16 images. Individual images can be removed from the split screen by clicking the camera button (left of the graphical record log). The selected Screen Mode is highlighted.	
6	<b>Tools (Search)</b>	Provides access to tools for doing searches, which include Image Processing, Smart Search, Hour Search, Search, Configuration, POS, and Image. For information about each of these tools, see the section "Search Tools" in this guide.	
7	<b>Playback speed</b>	Lets you choose forward or playback at speeds of 1/8X, 1/4X, 1/2X, 1X, 2X, 4X, and 8X real-time speed. To adjust the playback speed, either drag the slide control or click on the slide control bar. The speed is displayed in the playback window.	
8	<b>Print, Zoom, De-interlace, Image/Video BackupControls</b>	Print — Prints the image	

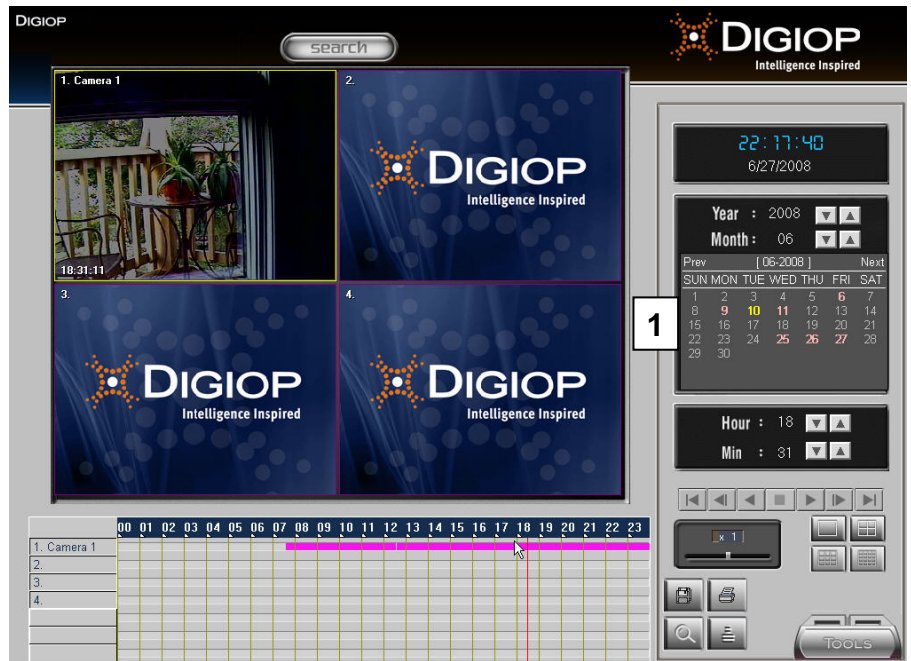
**Table 5.  
Search Preferences**

	Name	Description
		<p>Image Zoom — Magnifies the image in 48 incremental steps. Right-click with the mouse. When you place the mouse over the image, the cursor changes to the +/- magnifying glass. Clicking the left mouse button zooms out to 1:1 ratio. By moving the mouse to different areas of the image, you can zoom in on parts on the image that you need to look at in more detail. This means that the zoom does not need to be centralized in the middle of the screen to work. See the section “Zoom” in this guide to see a zoomed image.</p>  <p>Image/Video Backup — Lets you access several options for copying images (other than HOUR BACKUP), including: Video Backup (DSF format and viewer); Still Image Backup; Standard format (MPEG format)</p>  <p>Interlace/Deinterlace (4CIF) — (Only applies to the S-Class systems when processing 4CIF recorded data) When printing the interlaced fields 4CIF images where the source was a dynamic (moving) image, the DVR captures “Even” and “Odd” fields to create the frame. Greater clarity may be gained by viewing the images separately. Option normally used while processing images for printout. See the section “Viewing Interlaced/Deinterlaced images” in this guide for information about this option.</p> 
9	<b>Graphical record log</b>	<p>Displays a 24-hour time period for the time and date selected. Double click to zoom in on the time line. The time zooms in from 24 hours to single hours. By double-clicking the time line, the time line zooms in for searches in smaller time increments.</p> <p>Different colors represent different recording modes: pink=continuous; blue=motion; red=sensor.</p> <p>See the section “Manipulating the Graphical Record Log” in this guide for more information about how to use the timeline features.</p>
10	<b>Cameras selector and scroll bar</b>	<p>Displays camera images in multi-screen divisions of 1, 4, 9, and 16 cameras. Cameras not selected are not visible. For single images, use the camera selection buttons to move the displayed image from one camera to the next. For multi-screen divisions, use the camera selection buttons to select or de-select each camera from the search/display. The scroll bar can be used to access the other cameras not shown.</p> 
11	<b>Scan bar (cursor)</b>	<p>Lets you slide a scan bar along the time line and quickly select and view video. A preview pane displays the images as soon as the files are accessed. By double-clicking the time line, the time line zooms in for searches in smaller time increments.</p> 

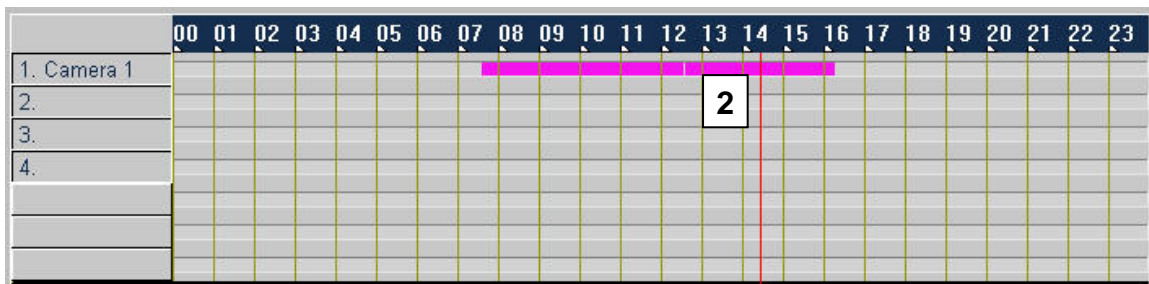
## Searching for recorded video

The Graphical Record Log is used to search for the video record you need. The following procedure describes the steps to take to do a search.

1. Open the Search Dialogue.
2. Select a camera whose video you want to search. The selected camera is outlined in yellow in the viewer.
3. Look at the calendar [1] to see when recorded video for the camera is available. Dates in pink indicate video was recorded on that day.



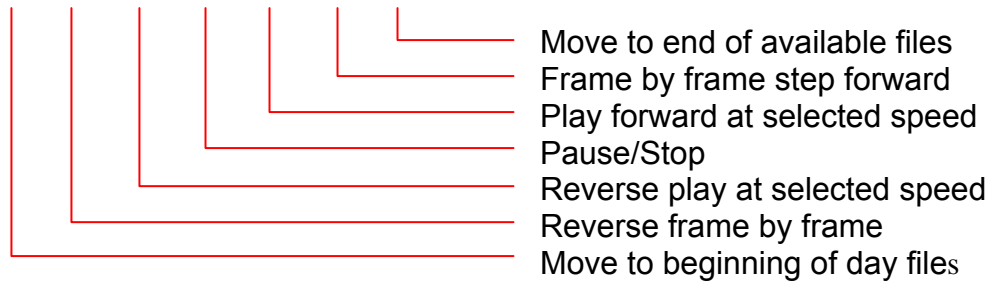
4. Select an approximate date from the calendar of the video event you want to see. The video begins to run in the viewing window.
5. The timeline is first displayed in 24-hour intervals. Click somewhere on the timeline to select an hour [2].



You can also select the date from the calendar [1, above] and change the hour or minute with the up and down arrows on the Hour/Min clock [3].



- Use the video controls [4] to control the video play. Be prepared to stop and rewind the video, fast forward, etc. to locate the segment you want.



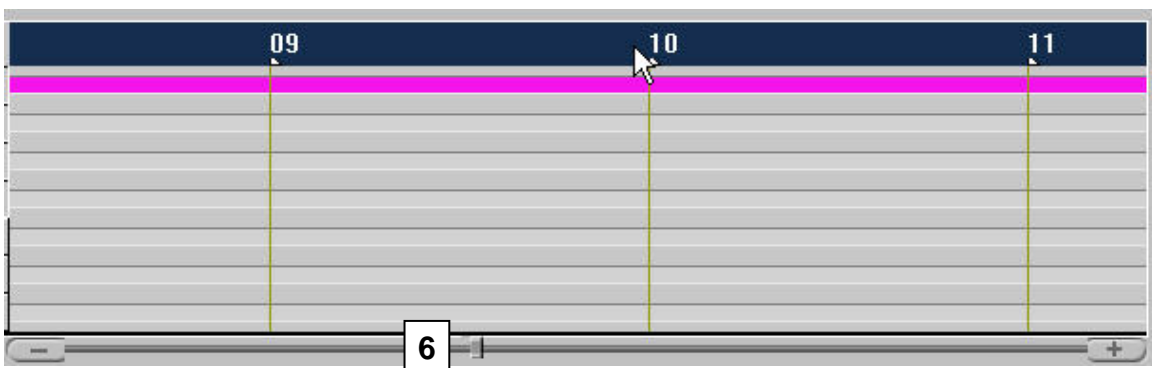
Speed up or slow down the Playback Speed of the video [5] using the slide control. The maximum playback speed is 8x.



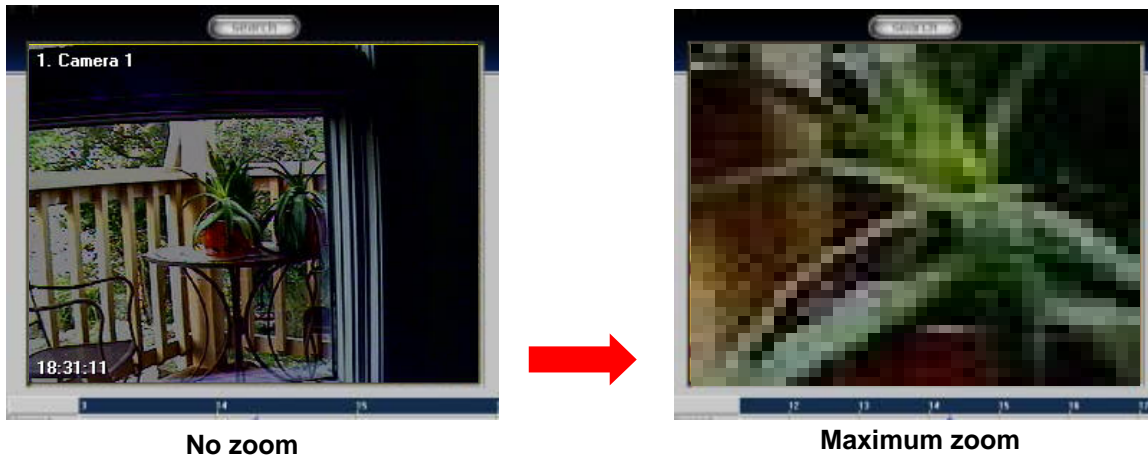
- Double-click once on the dark bar at the top of the time line to zoom in to a shorter time interval. The time zooms in (expands) from 24 hours to approximately six hours, with the selected time roughly in the center of the time line.



- Slide the vertical Scan bar along the time line to another time. You can also move the slide control below the time line [6] to the right or left to change the time.



- Double-click a second time to zoom to a shorter time interval. The time line now shows slightly more than three hours. (The next time you Double-click, the time line returns to the 24-hour time period.)



10. When you locate the section of video you want, you can zoom in to see more details. Here is an example of how the video can look at maximum zoom. Zoom magnifies the image in 48 incremental steps

You may now want to copy the video or snapshots from the video. See the next sections “Copying video,” “Copying still images,” and “Copying Standard images” in this guide.

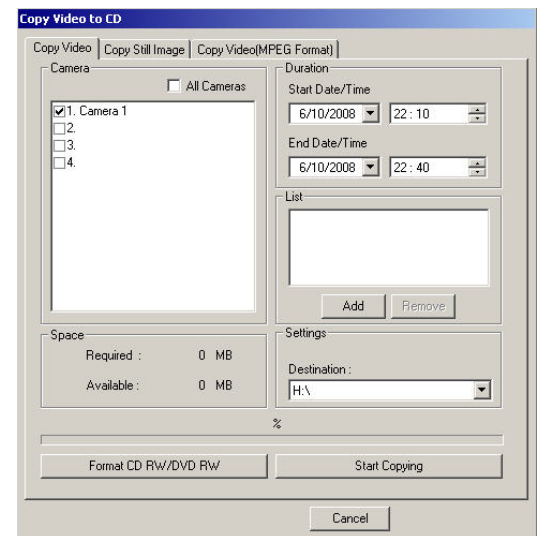
## Copying Video

1. From the Search window, click Video Backup.



The Copy Video to CD window appears.

2. Click the Copy Video tab.
3. Place a checkmark beside the camera(s) whose video you are copying.
4. Select the Start Date/Time and the End Date/Time. Use the drop arrows to open the calendar.
5. Click the Add button to add this selection to the List of video segment times to copy.
6. Repeat Steps 2 and 3 for other selections. Each time, click Add.
7. Browse to the Destination for the copied file. Backup must be to a CD/DVD, removable drive, or network device. The system will scan the selected drive and display the available free space. From the Backup Period List, select one or more periods to back up on the media you have available. The file size of the selected cameras and dates/times will be displayed under the Space information.
8. (Optional) If the CD requires formatting, click the Format CD RW/DVD RW option.
9. Click Start Copying. The file is in encrypted .DSF format.

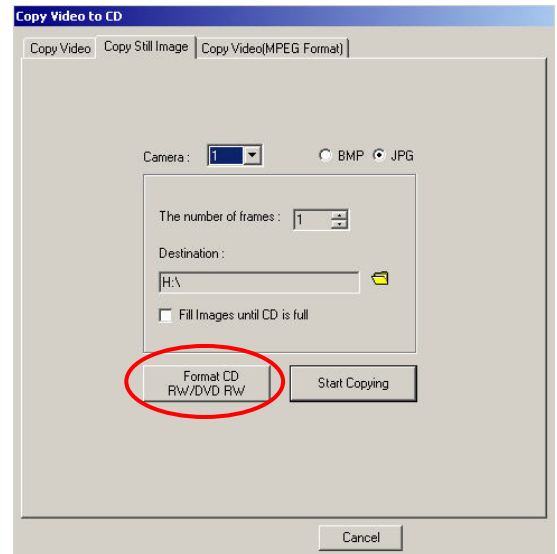


## Copying Still Images (.BMP or .JPEG)

This option saves still images.



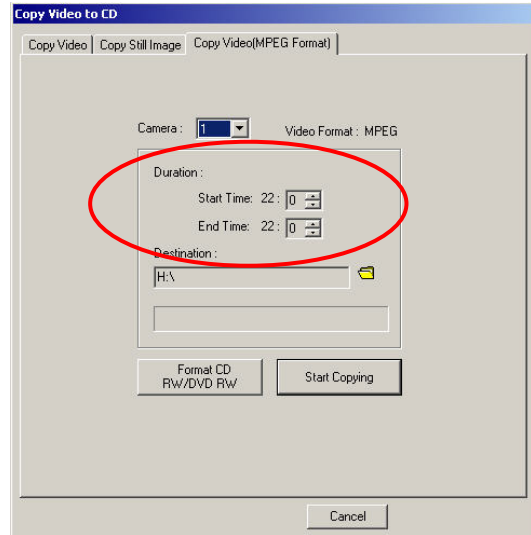
1. From the Search window, click Video Backup.
2. Select the Copy Still Image tab.
3. Pause the playback.
4. Place a checkmark beside the camera(s) whose still image you are copying.
5. Select the format in which you want the image (.BMP or .JPEG).
6. Browse to the Destination for the copied file. Backup must be to a CD/DVD, removable drive, or network device.
7. From the number of frames selector, select how many frames to save (1-100) using the up and down arrows.
8. If the CD requires formatting, click the Format CD option.
9. Click Start Copying. The image is copied in the selected format to the media.



## Copying Standard Video – MPEG Format

This option saves standard, MPEG video.

1. From the Search window, click Video Backup.
2. Select the Copy Video(MPEG Format) tab.
3. Pause the image at the approximate point where the video sequences should start.
4. Place a checkmark beside the camera(s) whose video you are copying.
5. Browse to the Destination for the copied file. Backup must be to a CD/DVD, removable drive, or network device.
6. Using the Up/Down arrows, select the Duration: Start Time and End Time.
7. If the CD requires formatting, click the Format CD RW/DVD RW option.
8. Click Start Copying. The video is copied in MPEG format to the selected media.





## Viewing Interlaced/Deinterlaced images

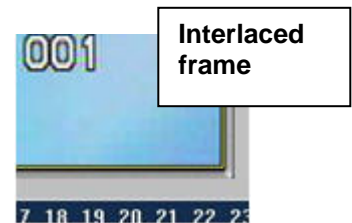
As an enhancement feature, you can run the Interlace/Deinterlace option.

**NOTE:** The Interlace/Deinterlace option is only applicable on the S-Class systems when processing 4CIF recorded data. It is normally used when processing images for printing.

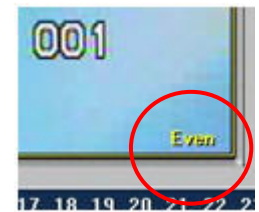
1. Click Deinterlace on the Search window to display the interlaced frames.



The default image is the interlaced image. The Deinterlace option lets you view the EVEN and ODD fields of a frame.



2. Click the Deinterlace button once to access the Even fields.

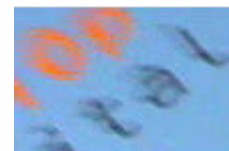


3. Click it again to access the Odd fields.

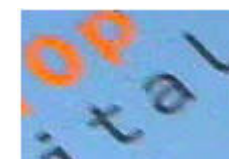


4. Click it again to return to the default Interlaced image. The selected field can be viewed during playback or while an image is still.

**NOTE:** 4CIF images are interlaced. When printing an image where the source was a dynamic (moving) image, the system captures “Even” and “Odd” fields to create the frame. Greater clarity can sometimes be gained by viewing these fields separately.



Interlaced fast moving image (zoom)



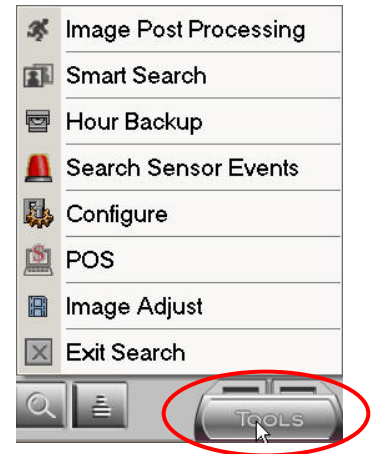
Odd field of the same fast moving image (zoom)

## Search >Tools Menu

The Search option provides its own individual set of Tools for enhancing images (Image Post Processing), doing Sensor Event searches, and other functions.

1. To access this set of tools, from the Search window, click the Tools button. This opens the menu shown here.
2. Select a tool.

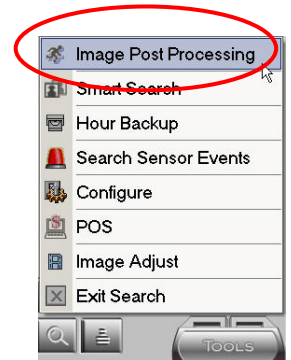
These Search Tools are described in the following sections.



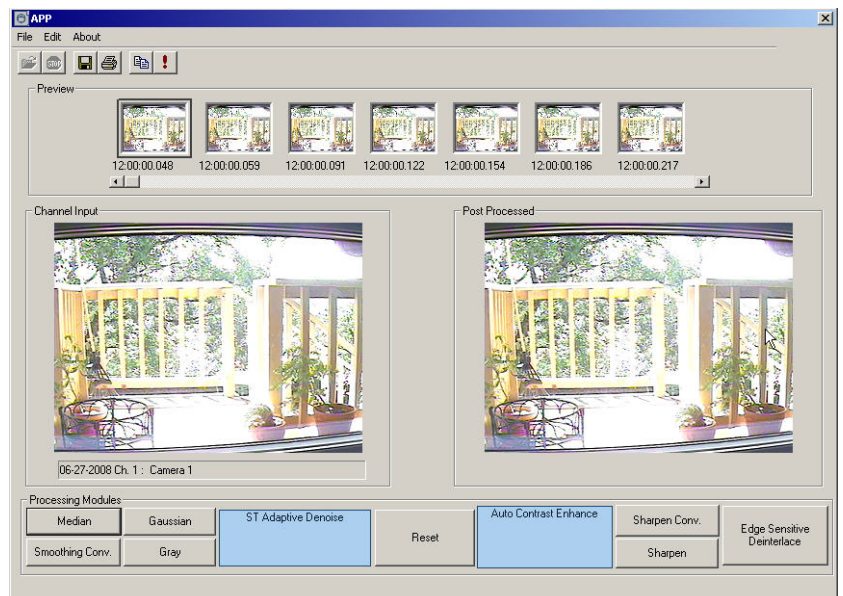
## Enhancing images with the Image Post Processing Tool

After a search is completed, you can enhance single images through the Image Post Processing feature of the Search Tools menu.

1. From the Search window, select a date from the calendar and begin a video search for an image you want to enhance (i.e., “post process”).
2. Click on the Search timeline to display recorded video for the date.
3. When you locate an image you want to enhance, click the Tools menu. The Search > Tools menu appears.
4. Click Image Post Processing.



The APP window appears. It contains the archived video from the selected camera.



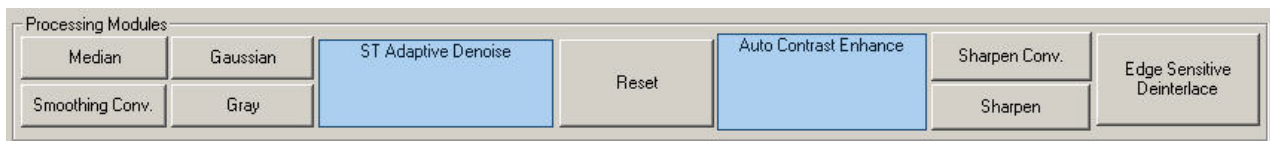
Under the Preview panels, the video you selected appears as a series of images. Selecting the exact time is not critical at this point since the Image Post Processor can display all the images in the video.



- The Preview panels display a series of images for 1 hour of video (if a full hour exists). If the camera was set for Motion, there may be less than 1 hour.
- The Preview slide controls shows the time the camera started recording. It is formatted as HH:MM:SS:1/1000 ref. Moving the slide control scans through the full hour of images in increments defined by the 1/1000<sup>th</sup> reference.
- Each thumbnail preview is captioned with the time and 1/1000 frame reference number.



5. Use the enhancement options (Processing Modules) to change the color, contrast, edge sharpness, etc. of the image. These options are typical of most video editors and work using stepped enhancements:

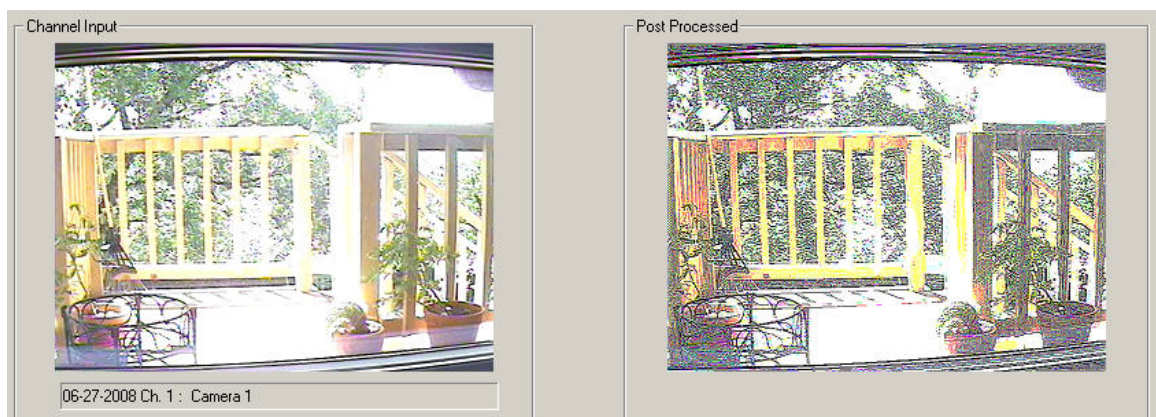


6. Change the image with these options until you have the desired effect.

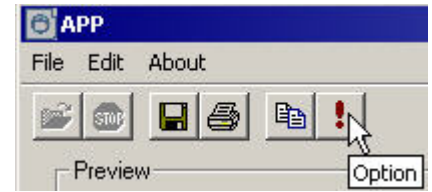
**NOTE:** To reset or restore the original image (make the Post Process image to match the Channel Input image), click Reset.

Using Image Post Processing produces two images:

- Channel Input — Original file image pulled from the HDD
- Post Processed — Channel Input with the real-time enhancement changes

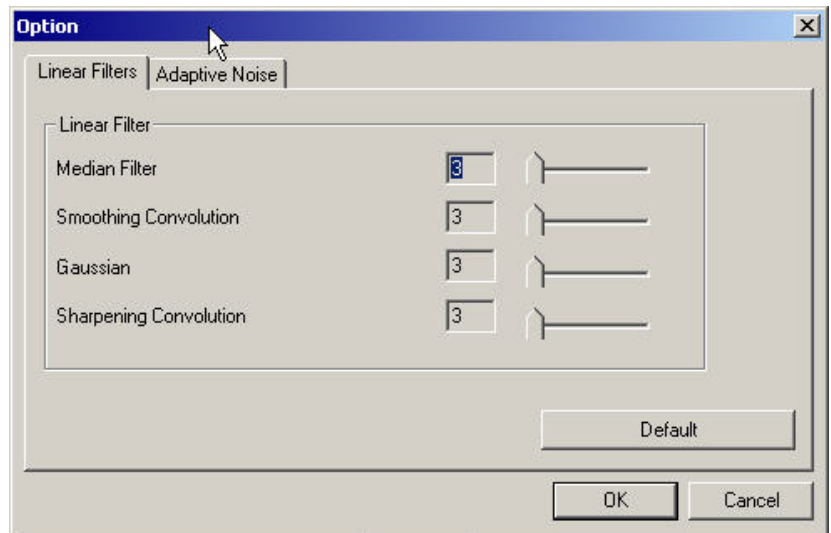


7. (Optional) To edit the image using fine or course settings, from the APP window, click Edit > Filter Option.

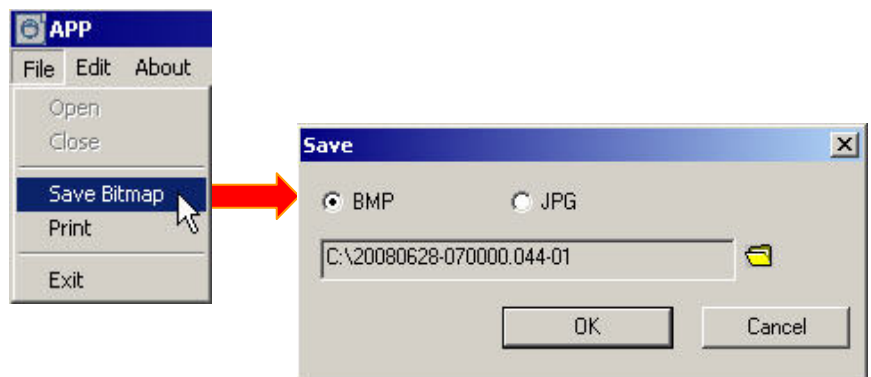


The Option window appears.

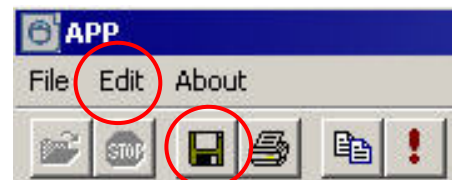
8. Move the slide controls to adjust the image. Try various settings until you achieve the desired affect.
9. Click Default to reset to the original settings.
10. Click OK to finish.



11. To save or print images after post-processing, click File. Images can be saved in either BMP or JPG format.



12. To copy an image to the clipboard, click Edit menu or the Copy icon.



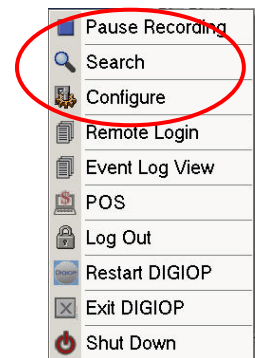
## Using the Smart Search tool

Smart Search (also called “Museum Search”) lets you analyze video for movement after it has been recorded. Beginning with a video recording, you draw motion-sensitive areas directly onto the image. Any activity occurring within these areas creates an event that the software then logs to the Smart Search list.

For example, you might want to know the specific time(s) that cars entered and exited a parking lot, but you had not set up motion sensitive areas to detect these as they occurred. With Smart Search, you can return to the video and perform a post-video analysis of it. By setting up specific areas in the Smart Search on the recorded image to look for cars, you can look for the information you need.

## Running a Smart Search

1. From the main DIGIOP window, select TOOLS > Search.

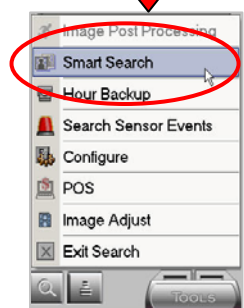


The main Search window opens.

2. Click on a camera image you want to analyze. The border of the selected camera is highlighted.
3. Select the date/time to start the search of the video recorded on this camera.

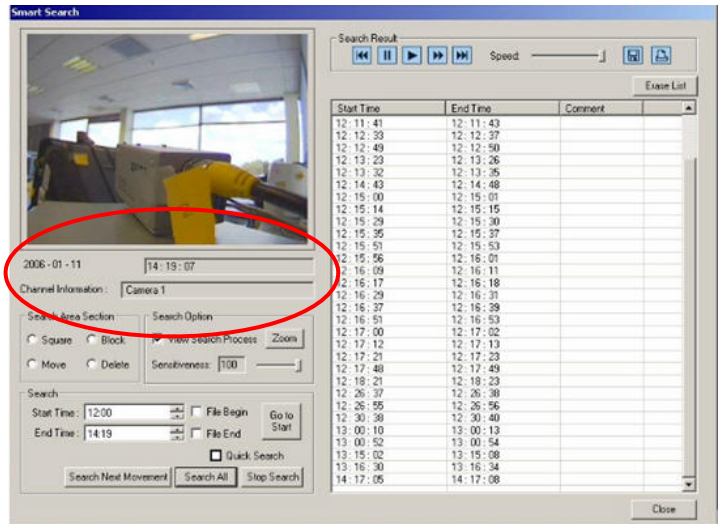


4. From the Search window, click Tools. The Search Tools menu opens.
5. Click Smart Search from this menu.

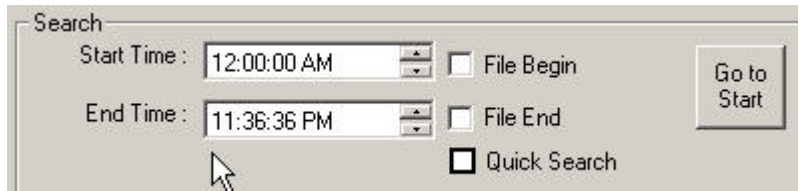


- The Smart Search window appears. This contains the camera video image plus the camera name (Channel Information) and the date and time of the search.

**NOTE:** Initially, the data area on the right is empty until you run a search. In this example, the Smart Search was already run so some information is already shown.



- In the Search field, enter one of these options:
  - Type the Start Time and End Time you want to the search to begin and end or use the up and down arrows to select the time.
  - Or, check the File Begin and File End checkboxes to match the start and end times to the available file content.



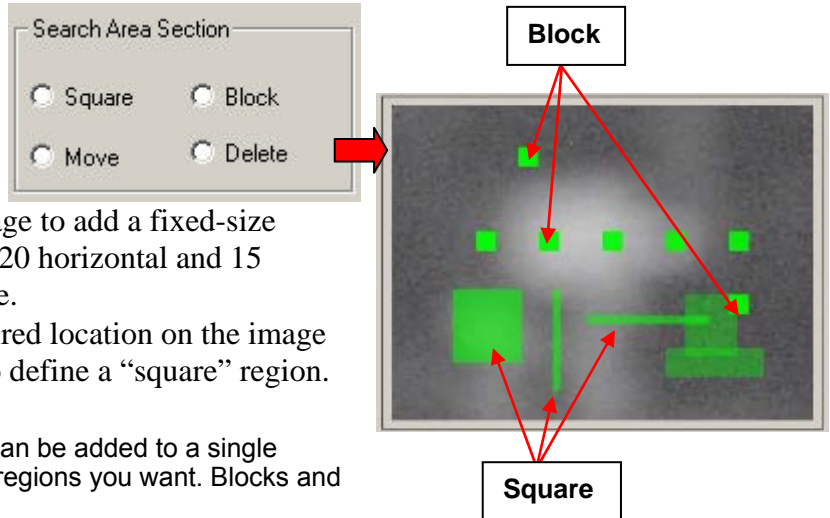
**NOTE:** By default the system opens with the Start Time set to the beginning of the first recording for that camera on the selected day (initially, this is the same as the “File Begin” time). The End Time is the time the file ends (initially, this is the same as “File End” time).

- Click Go to Start to see where the video begins.
- Adjust the Start Time and End Time as necessary to locate the desired video.



10. Place a checkmark in a Search Area Section to place a Block or a Square to define the search regions:

- Block — Click on the desired location on the image to add a fixed-size square. You can add up to 20 horizontal and 15 vertical blocks to the image.
- Square — Click on the desired location on the image and then drag the mouse to define a “square” region.

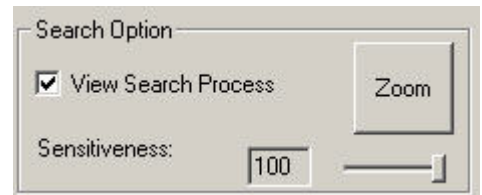


**NOTE:** Multiple blocks and squares can be added to a single image to create the motion sensitive regions you want. Blocks and squares can overlap.

11. Check Move to move blocks and squares to new locations. You can also Delete them.

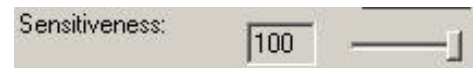
12. Place a checkmark in View Search Process to view all video, not just the images where movement is detected.

**NOTE:** When this option is *unchecked*, the only images that are previewed are those where movement is detected. In this case, if no event is found, the image does not change.



13. Adjust the Sensitiveness slide control for the percent of movement required to trigger an event. The number of events appearing on the event log reflects the sensitivity of the regions, i.e., 100% sensitivity generates more events.

- 0% — Not sensitive to movement
- 100% — Very sensitive to any changes in the defined regions.

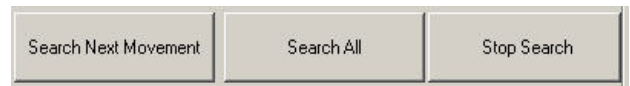


14. If you would like to speed up the search process, check the Quick Search option. Searches may be done up to 20% faster using this option.

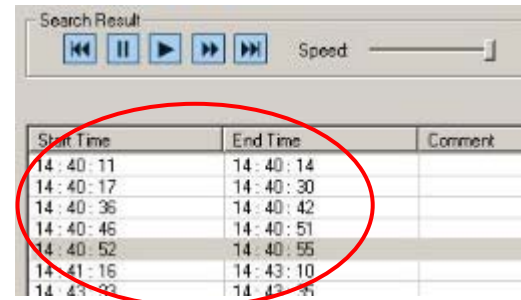


**NOTE:** During DIGIOP testing, a 10-minute recording was completed approximately 20% faster with Quick Search. Search times typically take 60 seconds for 10 minutes of video. The Quick Search *only* reviews the “index” images and ignores the other images. In a relatively motionless scene, this option could save considerable search time. If the Quick Search option not selected, the search feature reviews every image recorded.

15. Begin the search by clicking Search Next Movement. The search pauses at the first event (i.e., movement is detected inside a defined sensitive region). Each event detected in this way appears in the list with a start and stop time.



16. Click Search Next Movement again to move to the next search.

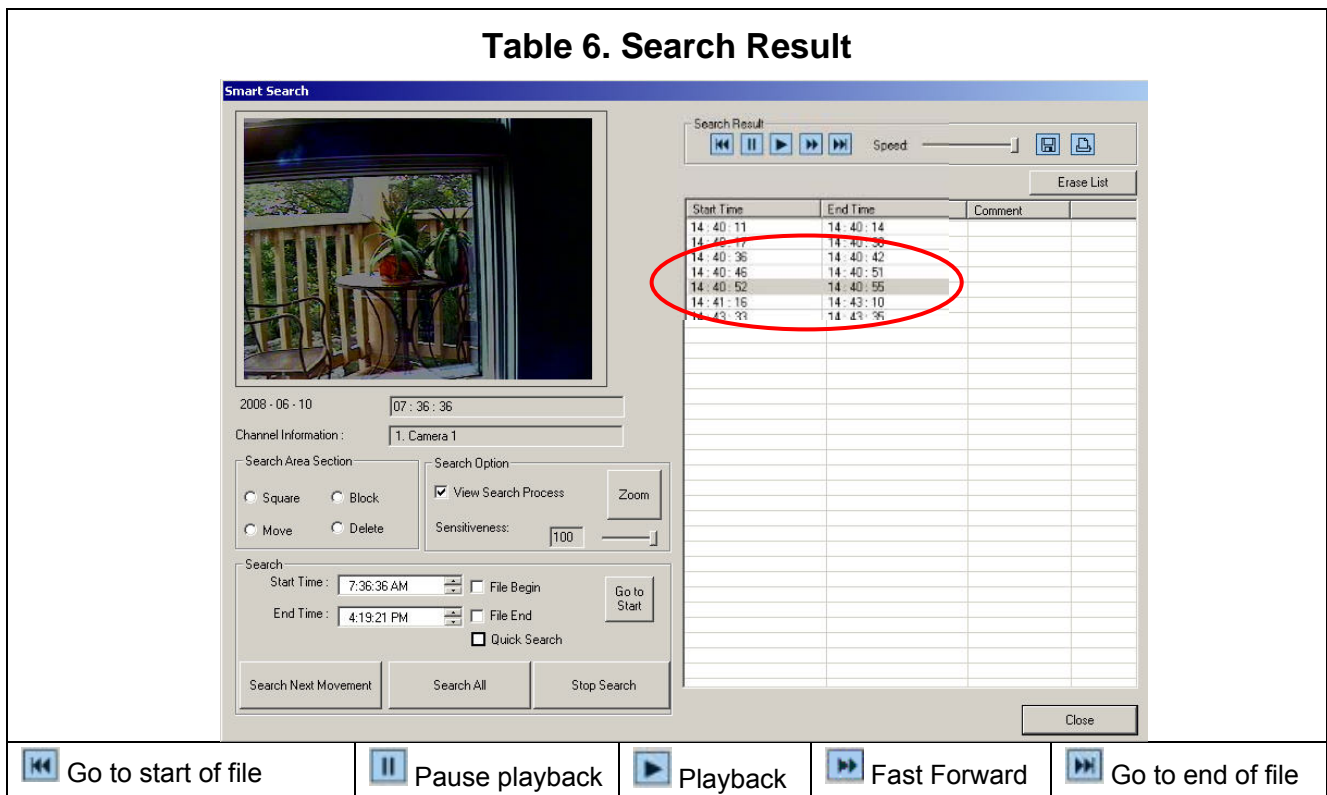


Start Time	End Time	Comment
14:40:11	14:40:14	
14:40:17	14:40:30	
14:40:36	14:40:42	
14:40:46	14:40:51	
14:40:52	14:40:55	
14:41:16	14:43:10	
14:43:33	14:43:36	

17. Continue to click Search Next Movement until the search is complete. You can also select Search All, which erases the current search event list and re-starts the search. It can be stopped, but not paused. It will automatically search instead of

18. Play the events in the list by highlighting an event and clicking the Playback control. Other Search Controls are described in Table 6:

**Table 6. Search Result**



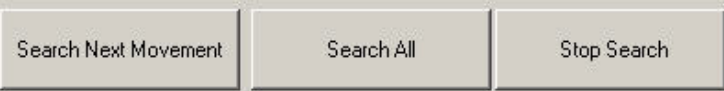


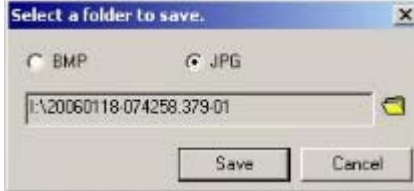


The screenshot shows the 'Smart Search' window. On the left, there is a video preview window showing a balcony scene. Below it, the date is '2008-06-10' and the time is '07:36:36'. Channel information is '1. Camera 1'. Search area options include Square, Block, Move, and Delete. Search options include View Search Process (checked), Sensitiveness (100), and Zoom. Search time range is from 7:36:36 AM to 4:19:21 PM. There are checkboxes for File Begin, File End, and Quick Search. At the bottom of the search window are buttons for Search Next Movement, Search All, and Stop Search.

On the right, the 'Search Result' window is open, showing a table of search events. The first five rows are circled in red. Below the table is an 'Erase List' button. At the bottom of the search result window are playback controls: Go to start of file, Pause playback, Playback, Fast Forward, and Go to end of file.



Table 7 describes additional Smart Search options.

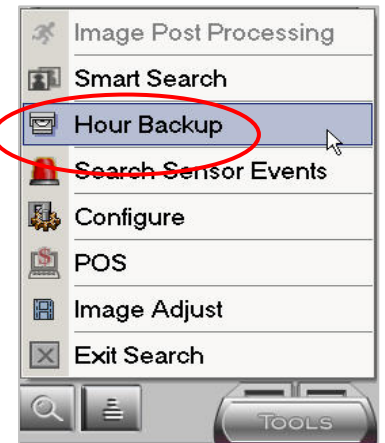
<b>Table 7. Other Smart Search Options</b>		
	<b>Name</b>	<b>Description</b>
<b>1</b>	<b>Zoom</b>	Only impacts playback. (1) Choose a record. (2) Click Zoom. (3) Use the mouse scroll wheel to enlarge an area (e.g., a square or block). (4) Press Play and the video plays back at that zoom magnification. At the end of the playback or when a different video record is selected from the Smart Search list, the zoom magnification is retained until the Zoom is clicked again and the mouse wheel is used. To disable Zoom, click the Go to start playback control (defined in Table 16). 
<b>2</b>	<b>Speed slide control</b>	Only impacts playback. The playback speed varies depending on the frame rate at which the recording was made. At the lowest setting, the video plays back at about 1 fps. 
<b>3</b>	<b>Search Next Movement</b>	Searches the video from the selected camera for motion events 
<b>4</b>	<b>Search All</b>	Erases the current search event list and starts the search from the beginning again. The search can be stopped but not paused. Events are listed by start/end times.
<b>5</b>	<b>Stop Search</b>	Terminates the search completely (no pause option is available)
<b>6</b>	<b>Print</b>	Prints the first image of the search event 
<b>7</b>	<b>Erase List</b>	The Erase List button erases the list and is the same as pressing Search All. 
<b>8</b>	<b>Save</b>	Launches a folder browser where you can select the destination folder. A folder and file are created as either a .BMP or .JPG. The folder/file format is: Folder and file — 20060118-071746.079-01 The name format is: YYYYMMDD – HHMMSS.RRR – Cam# (where RRR is a 1/1000 second reference number) 

## Saving .DSF files each hour with the Hour Backup Tool

This option saves .DSF files to backup storage media in 1-hour increments.

**NOTE:** The .DSF files are not decrypted.

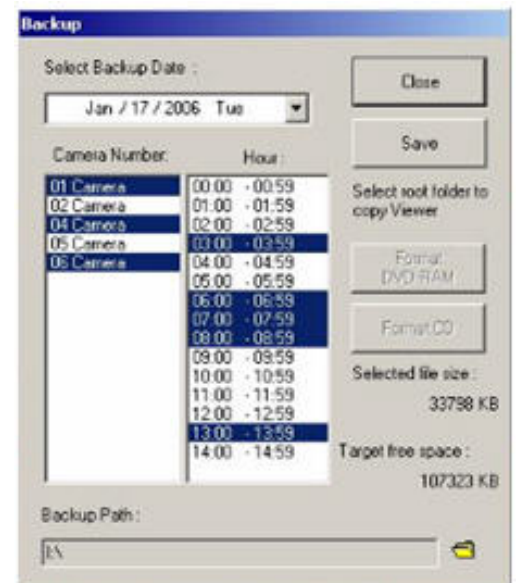
1. Click Search > Tools > Hour Backup.



The Backup window opens.

2. Click the Select Backup Date drop-down and highlight a date to back up.
3. Select a camera from the Camera Number list. Press and hold the Ctrl key to select multiple cameras.
4. Select an hour/file(s) from the Hour list or press and hold the Ctrl key to select multiple hours/files).

**NOTE:** The total estimated storage requirement for the selected files is listed under Selected file size.



5. Select the Backup Path to save the file to by clicking the Open Folder Browser icon.
6. (Optional) If saving to a CD/DVD, use the Format DVD RAM or Format CD buttons.



**NOTE:** The available storage capacity of the selected path is listed under Target free space.

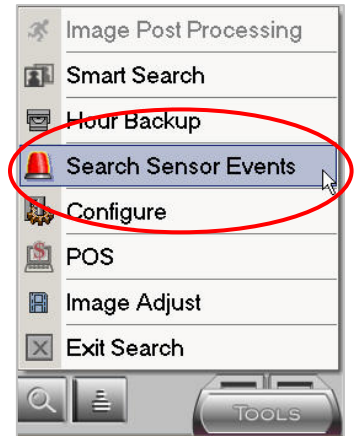
7. Click Save to save the files and a .DSF viewer to the specified directory.

## Searching for lists of camera with Sensor Events Tool

The Search Sensor Events search tool produces a list of all sensor events for the selected camera. You can then print snapshots of these events to use as needed.

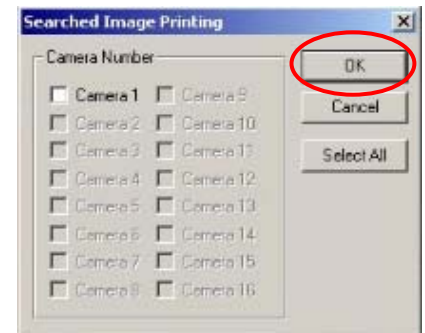
1. From Search Tools menu, select Search Sensor Events.

**NOTE:** If you are viewing a multi-division screen when you search for these events, all the camera views are synchronized (or updated to closely match) the date/time of the camera you are searching. The Graphical Time Line is also updated.



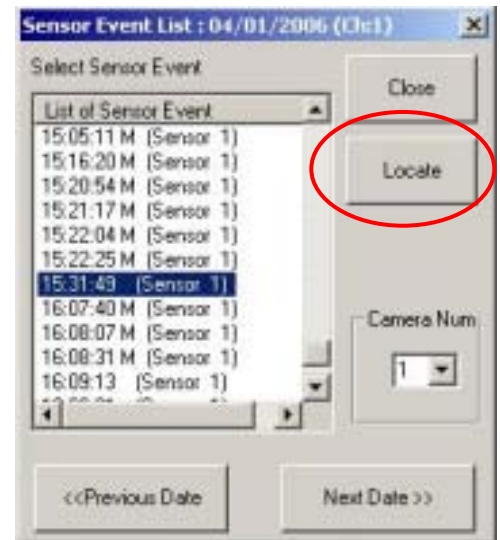
2. Select a camera to search from the Camera Number list. You can also search all cameras at once by clicking Select All.
3. Click OK.

**NOTE:** A disabled checkbox indicates that that camera has no recorded images for that date/time.



The Sensor Event List for the selected camera (under Camera Num) appears. Events are shown by Time, Event Type, and Sensor number.

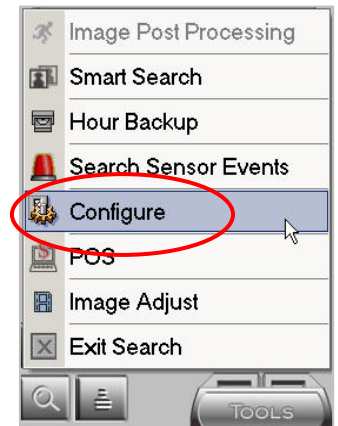
4. Highlight an event by selecting a time corresponding to the event occurrence. To review the Previous or Next Date, click the appropriate button. You are prompted if there is no Previous / Next Date.
5. Click Locate.
6. Select the camera(s) for which images are to be printed.



## Adding printer, adjusting volume, searching with Configure tool

The Search Tools > Configure option provides three features:

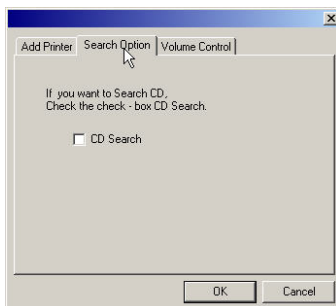
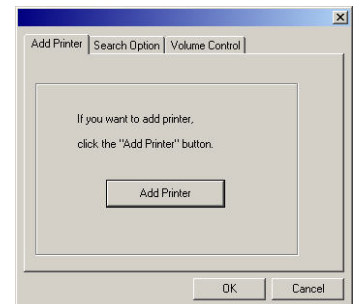
- Add Printer
- Search Option
- Volume Control



### Add Printer

Use this option to add Windows compatible printers. Ensure the number of installed printers is kept to a minimum as there is limited HDD space (disk space) available on the drive.

1. Click the Add Printer button to browse for the printer files.
2. Once the Printer is added, go to the TOOLS>Configure>System tab and Backup the system.

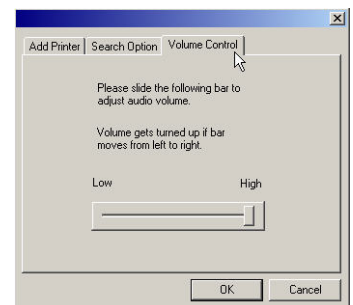


### Search Option

This option searches a CD or DVD for .DSF video files and displays them on the timeline.

### Volume Control

This control lets you adjust the playback audio volume using a sliding volume control.



## Using the Image Adjust Tool during live playback

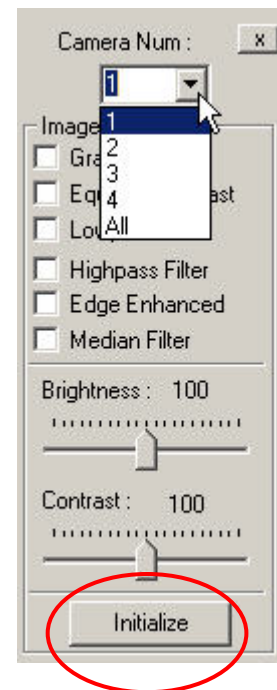
This Search Tools option adjusts the live playback of a video record. When you are done, the image reverts back to the default settings. This option does not let you save the settings.



1. Click Image Adjust. The window shown here with Camera Num appears.
2. Select the camera to adjust from the Camera Num drop-down list.

**NOTE:** This option lets you adjust settings to one camera at a time.

3. Select any one or more Image Filter options. The image will be adjusted according to the filters chosen.
4. Adjust the Brightness as required (real time preview update).
5. Adjust the Contrast as required (real time preview update).
6. Press Play to view the video record.
7. To restore (normalize) the image again, click Initialize to revert all settings back to their default values.

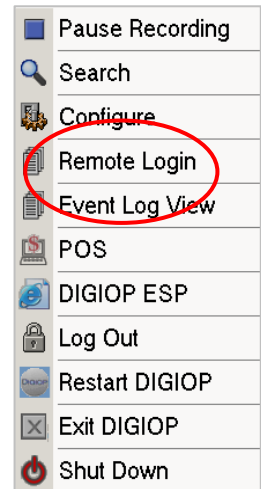
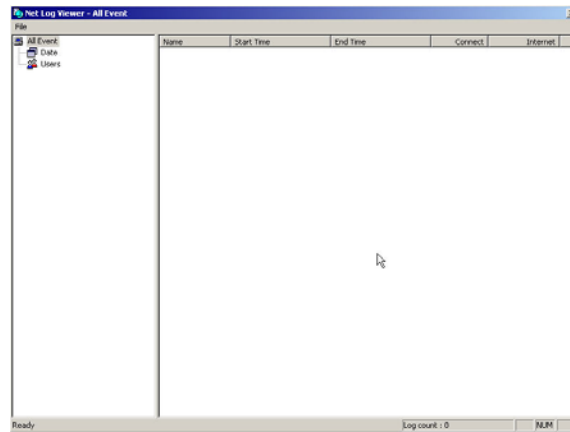


## Other TOOLS options

Other options are found on the main TOOLS menu. These are described in this section.

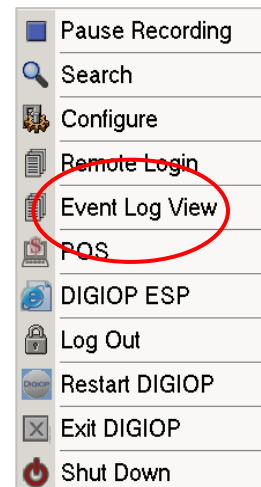
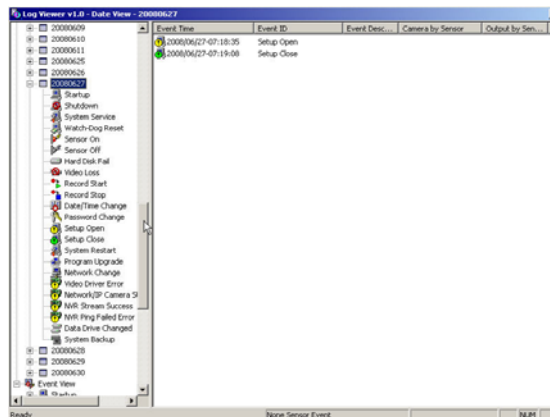
### **Remote Login option**

Opens a real-time log of logins to the system from remote devices (can include Remote Manager and integrated software).



### **Event Log View Option**

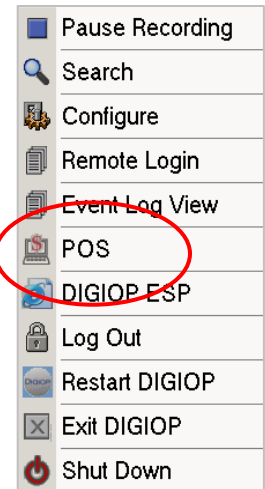
Opens a real-time log of the operation and alarm events generated by the system.



## ***POS (Point of sale) Tool***

This is also known as the DTM (Data Transaction Manager) and requires another license as it is not included in system pricing. Please contact your DIGIOP Dealer for more information.

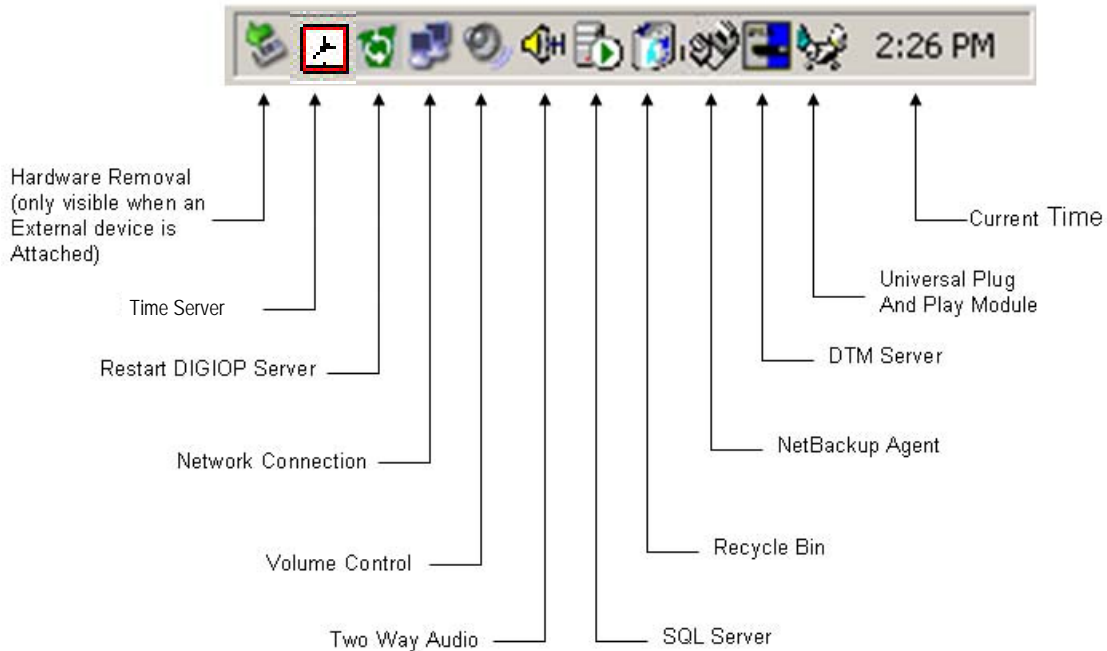
**NOTE:** For more information, see the DIGIOP Data Transaction Manager User Guide on the website at [www.digiop.org/support](http://www.digiop.org/support).



## Appendix A. DIGIOP System Tray programs

Several programs found in the Windows System Tray at the bottom of the DIGIOP Main window. The DIGIOP Server System Tray and its components are identified below:

**NOTE:** The tray icons may appear in a different order than this example.



### ***Shutting down the NetBackup Agent***

Occasionally, you may need to exit the DIGIOP Server application to view settings or to check system files. If you need to exit the DIGIOP Server application, you must first close the NetBackup Agent, the operation of which prevents access to many applications needed for troubleshooting, including Microsoft Windows Explorer, Search, etc.

**IMPORTANT:** When you exit the DIGIOP Server application for more than 5 minutes without closing the NetBackup Agent, the system reboots and goes into a recovery mode. If this should occur, you need to restart the DIGIOP Server application and restart this process to prevent the system reboot.



### To shut down the NetBackup Agent

1. Backup the system to save any configuration or other changes. The Backup feature is accessed from TOOLS>Configure>System.
2. Right click on the icon NetBackup Agent in the System Tray.
3. From the pop-up menu, select EXIT[X].

You can now access Microsoft Windows Explorer.



### Disconnecting USB devices

1. To correctly disconnect any USB device, run the “Safely Remove Hardware” application.
2. Double-click the tray icon and follow the Windows instructions to remove the device.

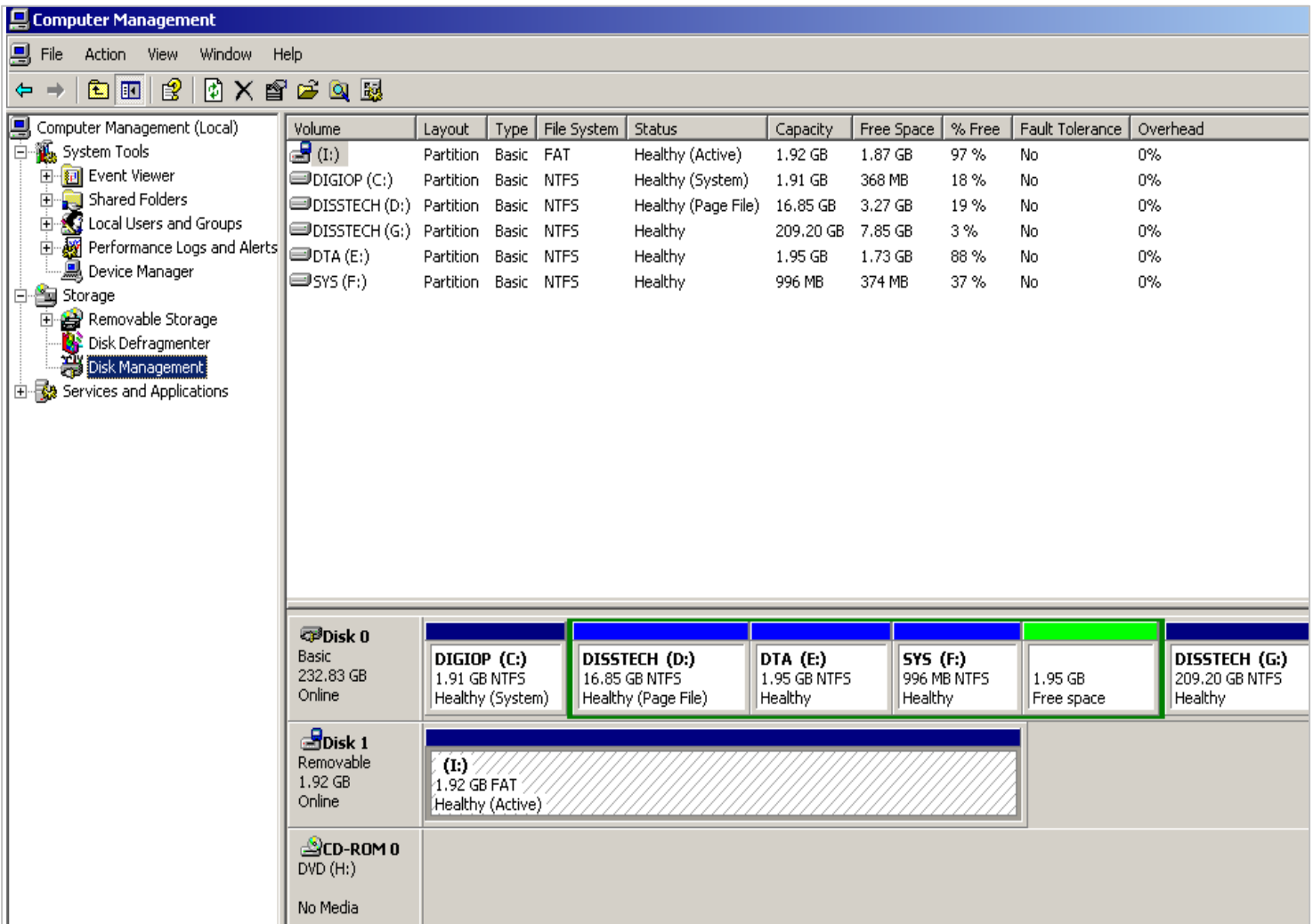


## Appendix B. DIGIOP hard drive configuration

DIGIOP systems perform specific hard drive partitioning, which you can observe from Microsoft Windows Explorer. To access Explorer, you must first shut down NetBackup Agent. See Appendix A for information about shutting it down.

**IMPORTANT:** Be sure to back up your system before shutting down. The Backup feature is accessed from **TOOLS>Configure>System**.

- DIGIOP systems are all configured using multiple partitions.
- Partitions may contain the operating system, drivers, and setup or data files.
- Most of the DIGIOP files and software are in folders called DIGIOP or DissTech.




Volume	Layout	Type	File System	Status	Capacity	Free Space	% Free	Fault Tolerance	Overhead
(I:)	Partition	Basic	FAT	Healthy (Active)	1.92 GB	1.87 GB	97 %	No	0%
DIGIOP (C:)	Partition	Basic	NTFS	Healthy (System)	1.91 GB	368 MB	18 %	No	0%
DISSTECH (D:)	Partition	Basic	NTFS	Healthy (Page File)	16.85 GB	3.27 GB	19 %	No	0%
DISSTECH (G:)	Partition	Basic	NTFS	Healthy	209.20 GB	7.85 GB	3 %	No	0%
DTA (E:)	Partition	Basic	NTFS	Healthy	1.95 GB	1.73 GB	88 %	No	0%
SYS (F:)	Partition	Basic	NTFS	Healthy	996 MB	374 MB	37 %	No	0%

<b>Disk 0</b> Basic 232.83 GB Online	<b>DIGIOP (C:)</b> 1.91 GB NTFS Healthy (System)	<b>DISSTECH (D:)</b> 16.85 GB NTFS Healthy (Page File)	<b>DTA (E:)</b> 1.95 GB NTFS Healthy	<b>SYS (F:)</b> 996 MB NTFS Healthy	1.95 GB Free space	<b>DISSTECH (G:)</b> 209.20 GB NTFS Healthy
<b>Disk 1</b> Removable 1.92 GB Online	<b>(I:)</b> 1.92 GB FAT Healthy (Active)					
<b>CD-ROM 0</b> DVD (H:) No Media						

**Table B  
DIGIOP Drive Partitions**

Drive	Size	Description
 <b>CAUTION:</b> Do not access or modify any drives unless specifically directed to by DIGIOP Technical Support. Most of these files are encrypted and affect system operation.		
DIGIOP C:\ Drive	Approx. 1.91GB	Windows OS and the system software; Windows folder structure
DissTech D:\ Drive	16.85GB	DSF video/audio data files and log files
DTA E:\ Drive	Approx. 1.95GB	POS (Point of Sale or DIGIOP Transaction Manager) software
SYS F:\ Drive	Less than 1GB	<ul style="list-style-type: none"> <li>• DIGIOP system files, including system drivers</li> <li>• System license file (in Settings folder)</li> <li>• User settings(in Settings folder)</li> </ul>
DissTech G:\ Drive	Varies in size depending on system configuration	<ul style="list-style-type: none"> <li>• DSF video/audio data files</li> <li>• Log files</li> </ul>
Unlabelled Drive		Hidden system drive that contains the image backup for the C:\ Drive system restore. If the system stop communications or if Windows or the system fails unexpectedly, the data on this drive overwrites the data on the C:\ Drive. In this way, system configuration and license data is not lost.
<b>IMPORTANT:</b> To ensure that system configuration and license data is not lost, you must back up the system regularly or whenever the system is reconfigured. The Backup feature is accessed from TOOLS>Configure>System.		

### **Other Drives**

Depending on the configuration of the system and the amount of storage space available, other drives may be used for data storage. Once the system has consumed all DissTech storage drives, it searches for the next drive in alphabetical order and starts recording data on that drive.

## Appendix C. System Recovery DVD/CDs

The System Recovery DVDs/CDs contain three options, which perform the following functions:

- Option 1 — DIGIOP software rewrites the Operating System (OS) by reformatting and partitioning the hard disk drives (HDDs)
- Option 2 — DIGIOP software deletes the existing data from the HDD
- (not available on some systems) Option 3 — Contains hardware diagnostics, BIOS and CMOS updates, and HDD flash utilities

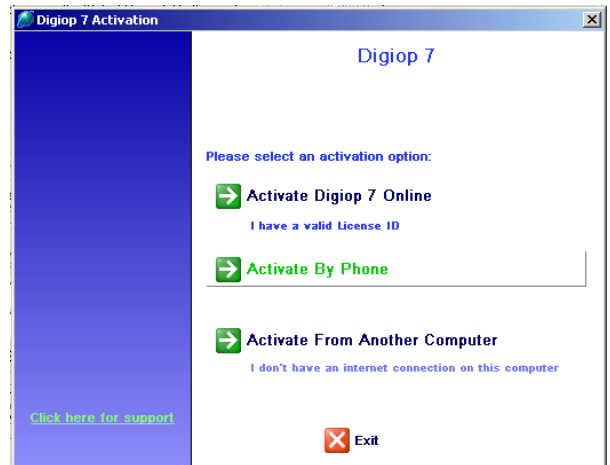
## Appendix D. Activating the system

To activate your DIGIOP system, perform these steps:

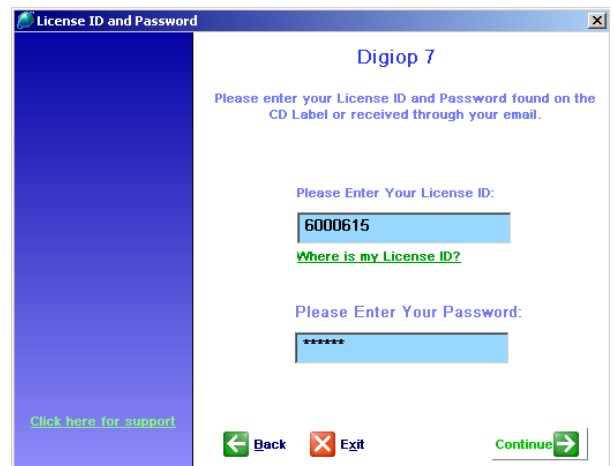
1. Choose Activate DIGIOP 7 Online.

Or, if an Internet Connection is not available,  
choose Activate By Phone.

**NOTE:** Contact DIGIOP Technical Support when  
activating by phone.



2. Enter your License ID and Password (located  
on the sticker on your system).




3. Click Continue.
4. **By Phone:** If you are activating the license by phone, the system will provide you with User Code 1 and 2. With the User Codes, you then must contact DIGIOP Technical Support to obtain Activation Codes.

5. Enter the User Codes and Activation Codes in the fields provided.



6. Click Continue.
7. Once the license has been successfully activated, click Continue.

**NOTE:** The license code is based on a number of factors, e.g., MAC address, system configuration, and Serial Number.



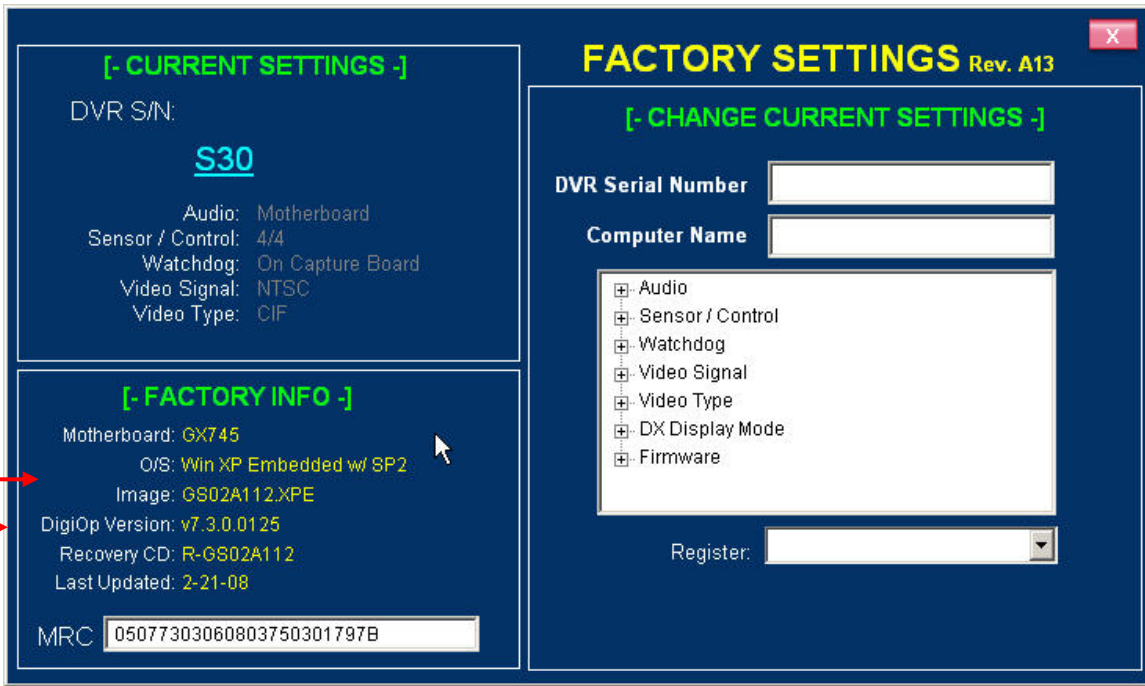
8. Click OK to complete the License setup.

## Appendix E. DIGIOP Current and Factory settings

Current software and image versions, DVR serial number, update dates, etc. can be found through Microsoft Windows Help and Support in the CURRENT SETTINGS and FACTORY SETTINGS window.

1. Click TOOLS > Exit Application to exit the DIGIOP Server software.
2. When the application closes and the main Microsoft Windows screen appears, click the Windows Start button.
3. Click Help and Support. The factory default settings appear.
4. On the left of the window are the Current and Factory Settings.
5. To modify these settings use the drop down menus or enter the data directly in the appropriate boxes.

Here is an example of these settings:



**[- CURRENT SETTINGS -]**

DVR S/N: **S30**

Audio: Motherboard  
Sensor / Control: 4/4  
Watchdog: On Capture Board  
Video Signal: NTSC  
Video Type: CIF

**[- FACTORY INFO -]**

Motherboard: GX745  
O/S: Win XP Embedded w/ SP2  
Image: GS02A112.XPE  
DigiOp Version: v7.3.0.0125  
Recovery CD: R-GS02A112  
Last Updated: 2-21-08  
MRC: 05077303060803750301797B

**FACTORY SETTINGS Rev. A13**

**[- CHANGE CURRENT SETTINGS -]**

DVR Serial Number:

Computer Name:

- [- Audio
- [- Sensor / Control
- [- Watchdog
- [- Video Signal
- [- Video Type
- [- DX Display Mode
- [- Firmware

Register:

**Current software version**

**Current Image version – must match the motherboard**

## Appendix F. File naming conventions

**NOTE:** Drives A through to F are reserved for the Operating System.

The DIGIOP Server application saves recorded images on the G:/ drive. When the G:/ drive is full, images are saved to the H:/ drive. When the H:/ drive is full (or if no H: drive exists), images are saved to the I:/ drive, etc.

### Daily directories

Each day the system runs, the DIGIOP Server application creates a new directory under DiSSTech\DiSS. These daily directories are formatted as YEAR-MONTH-DAY, using four digits for the YEAR and two digits each for the MONTH and DAY (yyyymmdd).

**Example:** The directory called 20051124 is for November 24, 2005.

- YEAR = 2005
- MONTH = 11 (November)
- DAY = 24



### Hourly files

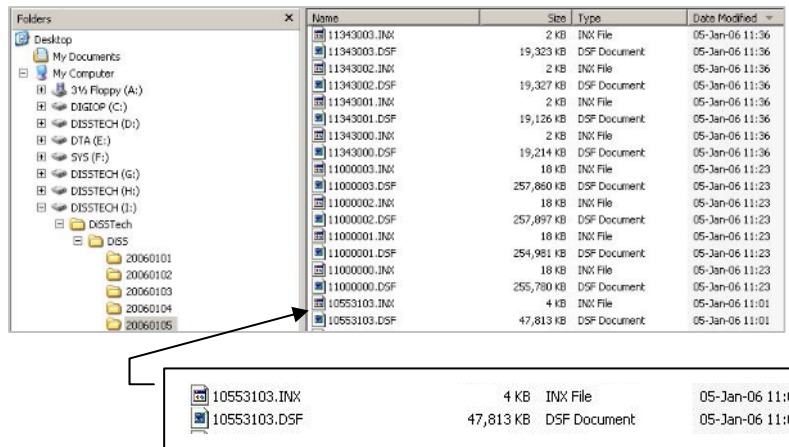
In each daily directory, the application stores video files each hour. These are encrypted .DSP and index (.INX) files for that day. The .DSF file can be viewed using a DIGIOP utility, e.g., DIGIOP Viewer or DIGIOP Remote Manager.

These hour files are in the format HOUR (24 hours)–MINUTE–SECOND–CAMERA CODE, using two digits each (hhmmsscc).

**Example:** The file called 10553103.DSF is the hourly video file for the .INX and .DSF files in directory 20060105.

- HOUR = 10 (AM)
- MINUTE = 55 minutes
- SECOND = 31
- CAMERA CODE = Camera 4 (Camera 1 is 00, Camera 2 is 01, Camera 3 is 02, etc.)

These files are typically recorded immediately after each hour ends. The video file size changes significantly based on the recording modes (e.g., motion versus continuous) and compression type.



Name	Size	Type	Date Modified
11343003.INX	2 KB	INX File	05-Jan-06 11:36
11343003.DSF	19,323 KB	DSF Document	05-Jan-06 11:36
11343002.INX	2 KB	INX File	05-Jan-06 11:36
11343002.DSF	19,327 KB	DSF Document	05-Jan-06 11:36
11343001.INX	2 KB	INX File	05-Jan-06 11:36
11343001.DSF	19,126 KB	DSF Document	05-Jan-06 11:36
11343000.INX	2 KB	INX File	05-Jan-06 11:36
11343000.DSF	19,214 KB	DSF Document	05-Jan-06 11:36
11000003.DSF	18 KB	INX File	05-Jan-06 11:23
11000003.DSF	257,860 KB	DSF Document	05-Jan-06 11:23
11000002.INX	18 KB	INX File	05-Jan-06 11:23
11000002.DSF	257,897 KB	DSF Document	05-Jan-06 11:23
11000001.INX	18 KB	INX File	05-Jan-06 11:23
11000001.DSF	254,981 KB	DSF Document	05-Jan-06 11:23
11000000.DSF	18 KB	INX File	05-Jan-06 11:23
11000000.DSF	255,780 KB	DSF Document	05-Jan-06 11:23
10553103.INX	4 KB	INX File	05-Jan-06 11:01
10553103.DSF	47,813 KB	DSF Document	05-Jan-06 11:01



**Hour long encrypted video file  
hmmsscc\*  
\*cc = camera number**

**Audio/Video Data**

**Day File  
yyyymmdd**

Name	Size	Type	Date Modified
17580000.DSF	2,142 KB	DSF File	11/24/2005 18:01
17580002.DSF	4,043 KB	DSF File	11/24/2005 18:01
18000000.DSF	63,264 KB	DSF File	11/24/2005 19:01
18000002.DSF	114,095 KB	DSF File	11/24/2005 19:01
19000000.DSF	3,332 KB	DSF File	11/24/2005 20:01
19000002.DSF	94,511 KB	DSF File	11/24/2005 20:01
20000000.DSF	3,217 KB	DSF File	11/24/2005 21:01
20000002.DSF	189,526 KB	DSF File	11/24/2005 21:01
21000000.DSF	3,133 KB	DSF File	11/24/2005 22:01
21000002.DSF	276,245 KB	DSF File	11/24/2005 22:01
22000000.DSF	3,135 KB	DSF File	11/24/2005 23:01
22000002.DSF	270,491 KB	DSF File	11/24/2005 23:01
23000000.DSF	3,132 KB	DSF File	11/25/2005 0:01
23000002.DSF	272,068 KB	DSF File	11/25/2005 0:01
17580000.INX	2 KB	INX File	11/24/2005 18:01
17580002.INX	2 KB	INX File	11/24/2005 18:01
18000000.INX	42 KB	INX File	11/24/2005 19:01
18000002.INX	44 KB	INX File	11/24/2005 19:01
19000000.INX	1 KB	INX File	11/24/2005 20:01
19000002.INX	44 KB	INX File	11/24/2005 20:01
20000000.INX	1 KB	INX File	11/24/2005 21:01
20000002.INX	44 KB	INX File	11/24/2005 21:01
21000000.INX	1 KB	INX File	11/24/2005 22:01
21000002.INX	44 KB	INX File	11/24/2005 22:01
22000000.INX	1 KB	INX File	11/24/2005 23:01
22000002.INX	44 KB	INX File	11/24/2005 23:01
23000000.INX	1 KB	INX File	11/25/2005 0:01
23000002.INX	44 KB	INX File	11/25/2005 0:01

Type: DSF File Date Modified: 11/24/2005 18:01 Size: 2.09 MB

## Appendix G. TCP/IP port settings using the firewall

If there is a firewall between the DVR and the PCs on remote sites running the DIGIOP Remote Manager software, you must open ports to allow communications.

Table G-1 contains TCP/IP port settings:

<b>Table G-1 TCP/IP Port Settings</b>	
TCP/IP	Port (TCP)*
Log-in connection	7000
Transmission for live viewing	8000, 8001
Transmission for remote playback (VOD)	9000, 9001
Connection for server diagnosis	8002
Transmission for alarmed video notification	8003
Time synchronization	3000
SMTP for email event notification	25
Two-Way Audio	7021
Event notification	8875 (UDP)
	*Each port number is fixed
	Multicast protocol port, IP = 230.255.255.255

Table G-2 lists the ports that you need to forward through a router.

<b>Table G-2 Router Ports Forwarded</b>			
	Ports		Forward
Logon	7000	TCP	Yes
Live transmission	8000, 8001	TCP	Yes
Checking Server	8002	TCP	Yes
Alarm input	8003	TCP	Yes
VOD transmission	9000, 9001	TCP	Yes
Time Sync	3000	TCP	Yes
Two-Way Audio	7021	TCP	Yes
Event Notification	8875	UDP	Yes

## Appendix H. Troubleshooting

### ***Unit does not power up***



**WARNING:** To avoid personal injury or damage to the equipment, make sure the rack that the Rack Mount Chassis is mounted in is reliably earth grounded.

Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits could have on overcurrent protection and supply wiring.

### **Questions to ask beforehand (to help find root cause of issue)**

- Was the unit working beforehand? If so, for how long?
- Did anything happen that may have caused this (lightning strike, power failure)?
- Is this unit on a UPS? If so, is it on the power protected side and not the surge side?

### **Troubleshooting Questions/Suggestions**



**CAUTION:** This installation should be performed only by a qualified service person; it should conform to all municipal codes.

- Verify that the power lead going into the system is live.
- Check that the power switch is turned On.
- Visually inspect whether the LEDs are on and that the power supply and CPU fans are operating.
- Switch the power cord to another outlet.
- Switch to another power cord.
- Open the cover to check voltages with a voltmeter on the power supply. These should be 12v and 5v.
- Inspect the main board for bulging capacitors.
- Check the processor heat sink and make sure it is properly installed.
- Check and make sure the voltage input is set to its proper setting, which in most cases is 115 V. If the unit is shipped overseas or to some Latin American countries, you may need to set the switch 230V. Check the power requirements for the country in which you are operating the unit.
- If all steps have been followed and problem cannot be solved in the field, DIGIOP Technical Support will issue a help desk ticket and instructions to send the unit for a Return to Depot Repair.
- (G3 systems only) — Check the diagnostic lights for hardware reference. Boot the system with the Recovery CD in the drive. Go into the Tools area and then the Diagnostics (Dells Only), check whether the hard drive detects any problems, if not try another power connector.
- (G3 systems only) DIGIOP Technical Support will have to open a trouble ticket with Dell or HP and possibly dispatch an onsite technician in coordination with the servicing dealer. Or, a replacement part may be sent.

## ***Auto Reboot occurs when the DIGIOP Server is running***

### **Unit auto reboots from within the DIGIOP Server software**

- Check all camera signals. The voltage should be 1.0 - 1.5 volts from peak to peak.
- Make sure the capture card is detected by the unit and that the drivers are properly installed.
- Unplug all camera signals from the system and monitor for up to several hours.
- Check the Event Log for references to the root cause of the error.
- Check the Microsoft Windows Event Viewer for the root cause of the error.
- Perform a factory field recovery in case this is caused by software corruption.
- Check the memory module(s) and make sure it is properly seated. Uninstall and reinstall it. If there are multiple modules, remove each and test each individually.
- Perform Western Digital® Data Lifeguard Tools with the option to write zeros to the drive (located on Recovery Media of version 6.10.2 and above).
- If all steps have been followed and problem cannot be solved in the field, DIGIOP Technical Support will issue a help desk ticket and instructions to send the unit for a Return to Depot Repair.

## ***Auto Reboot occurs before the DIGIOP Server launches***

### **Unit reboots before loading Windows and or the DIGIOP Server software**

- If unit reboots after completing POST (power on self test), the problem could be in the hardware, memory, hard disk, and or motherboard. A DIGIOP Technical Support will issue a help desk ticket and instructions to send the unit for a Return to Depot Repair.
- If the unit loads Windows and reboots when attempting to load DIGIOP, check Microsoft Windows System Device manager for conflicts with device drivers. Re-install driver(s), as needed.
- Load the BIOS update from the Recovery disk.
- Perform field recovery with the factory setting options.
- If all steps have been followed and problem cannot be solved in the field, DIGIOP Technical Support will issue a help desk ticket and instructions to send the unit for a Return to Depot Repair.

### **Unit powers on then shuts off**

The unit powers on, but only stays on for about 3 to 4 seconds before it shuts off.

- Check the heat sink and the processor. Make sure all the latches are secured and the CPU is properly installed.
- Make sure the processor has the correct amount of heat sink solution (thermal grease) between the heat sink and the processor.
- Check the memory module(s) and make sure it is properly seated. Uninstall it and reinstall. If there are multiple modules take each one out and test each individually.
- Check all power cables coming from the power supply.

- Check voltages coming from power supply; these should be 12v and 5v.
- If all steps have been followed and the problem cannot be solved in the field, DIGIOP Technical Support can issue a help desk ticket and instruct to send in for Return to Depot Repair.
- (G3 Dell systems only) Check the Dell diagnostic lights for the associated hardware reference (see Table H-4 in the *DIGIOP G3 Service Guide*). If more assistance is required, DIGIOP Technical Support must open a trouble ticket with Dell or HP and possibly dispatch an onsite technician in coordination with the servicing dealer. A replacement part may also be sent.

## Appendix I. Recovering a lost password

If an administrative password is lost, this procedure lets you reset the password.

1. Attach a keyboard to the system. You must have an external keyboard to perform this procedure.

**NOTE:** If you need to attach a PS2 keyboard, (1) shut down the system, (2) attach the keyboard, and then (3) restart the system.

2. Enter the following keystrokes in this order, holding each key until released:

Press and hold **Shift+ALT** and then press **0** (and release) and then **9** (and release).

This exits DIGIOP.

3. Turn off Netbackup agent and open Windows Explorer. See Appendix A, “DIGIOP System Tray programs” for information about turning off the NetBackup Agent.
4. Open the D: drive and navigate to Disstech\DiSS and find the dissuserlist.ini file.
5. Delete the dissuserlist.ini file.
6. Restart DIGIOP (from the Start menu).
7. When you are prompted to enter a new password for the admin user, LEAVE THE PASSWORD FIELD BLANK.
8. Click OK. The DIGIOP Server software launches.
9. Go into Tools > Configure.
10. Set passwords for each user.

## Appendix J. DIGIOP Contact Information

To contact DIGIOP Technologies, Inc., go to the Support page of the DIGIOP website at [www.digiop.com/support](http://www.digiop.com/support)

Select the appropriate telephone number:

- 800.968.3606 Toll Free
- 713.333.4900

## **Appendix K. Warranty**

Warranty information about your DIGIOP system may be found on the DIGIOP website at [www.digiop.com/support](http://www.digiop.com/support). From the drop-down list, select Warranty Information.



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