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## WaveReader

Remote Digital Video Control Software

### Overview

WaveReader™ Software uses an Ethernet connection\* to provide remote control of GE Security digital video recorders, combination multiplexer/recorders, and extended storage units. It is compatible with GE Security's entire line of DVMRe products (including the Triplex™, StoreSafe®, StoreSafe® Pro, DSR-1000eZ–Ethernet option and eZ models), DSR-2000e, and DVSe.

GE Security digital video units are renowned for their extensive features and easily accessible controls; WaveReader software extends these benefits to anywhere on the network or around the world.

### Outstanding Features

WaveReader software recognizes the unit to which it is connected and provides the user with full access to that unit's features. Whether you're viewing live video or playing back recorded video, the program enables video to be viewed in a variety of screen display modes, from full screen to 64-way views. WaveReader software can also be used to remotely control PTZ (pan/tilt/zoom) units through an Ethernet connection.

When connected to a unit, it's easy to switch from viewing live images to playing recorded images. Search filters enable users to go to a specific date and time to begin playback. Additional searches can be conducted using the following variables:

- Specific date/time range
- Camera (all or some)
- Alarm inputs (all or some)
- Events (motion/alarm linked to event, and transaction text)
- Combinations of time/date, camera, and event.

WaveReader can also be used to remotely view live or recorded video while recording the images to your local hard drive for quick access. It can also be connected via telephone lines but the functionality will be limited.

*\*Telephone connection not available for DVSe.*



### Standard Features

- Full or multiscreen live viewing and playback modes
- Multi site searches
- LAN/WAN with bandwidth throttle or dial-up
- Control PTZ cameras across the network
- Find video by time/date range, camera, event, and transaction text
- Motion Search filter searches recorded video for motion in a user defined area—available exclusively with the DVMRe Triplex
- View video on your PC while recording
- Compatible with the complete DVMRe family
- Address book accommodates up to 10,000 sites, with 18 data fields for recording
- User security rights enable users to customize access and control privileges
- Embedded system platform
- ATM/POS scrolling transaction text display with ImageLinks: scrolling, multi-line text. Click on specific text and immediately jump to the corresponding image
- Exportable and printable search results screen
- Free; no license required

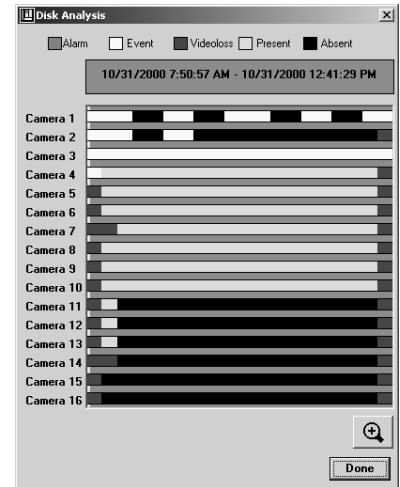
## Video Searches

WaveReader provides several options for searching video. The Disk Analysis screen provides an easy to interpret, graphical overview of the recorded hard disk, revealing when and what type of video was recorded. The convenient color legend makes it easy to determine which video to review.

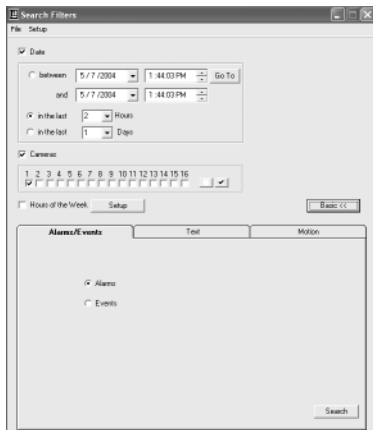
When the desired video is associated with alarm events, motion activated events, or ATM/POS transaction text, the Event Search Filter screen enables users to perform more precise searches according to time/date, camera, and event type (alarm, event, text).

The Triplex is available with Motion Search, which enables the user to search recorded video for changes in the camera's field of view, such as the removal of an item or individuals going through a specific, non-alarmed entry. To activate Motion Search, simply define the time/date, camera, and the specific area of interest. The WaveReader searches the Triplex and returns a list of matching events. Clicking on the desired event will initiate playback.

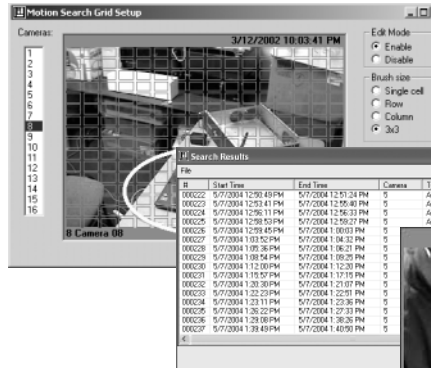
Video can also be searched by ATM or retail POS transaction text, which is synchronized with the displayed video. Transaction text is displayed in a separate, resizable window-ensuring a clean, unobstructed image. The window scrolls as new text is displayed. Because text is synchronized with the displayed video, WaveReader's ImagerLinks feature enables users to select any line in the text display and call up corresponding video.



Disk Analysis Screen



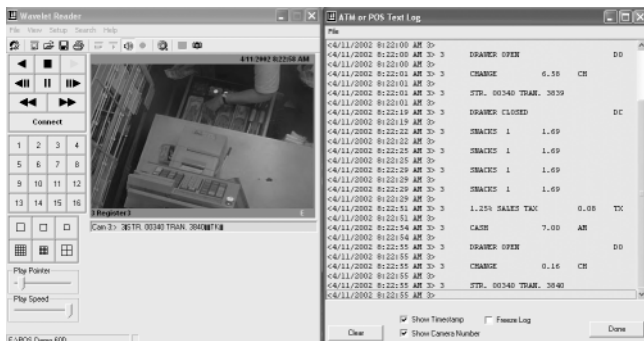
Event Search Filter screen



"Motion Search" available with the Triplex



8 Camera 08



## Saving, Printing, and Enhancing Images

Images recorded with WaveReader's local record button are watermarked to ensure the integrity of each recording. In addition to the watermarked format, each image can be saved in various file formats (for e-mailing or use in other software applications).

Images can be printed with WaveStudio, the built-in enhancement program. Images associated with transaction text can be printed with the text.

WaveStudio also enables users to adjust each image's contrast, intensity, hue, saturation, sharpness, and noise level. WaveStudio's digital zoom provides magnified views of selected areas.

## Playback

WaveReader offers controls that mirror a VCR, including play, reverse play, fast forward play, fast reverse play, frame advance (forward and reverse), pause, and stop. The program also offers screen display modes. The user can quickly move forward in the video file by moving the playback position slider bar. A separate playback speed slider bar permits the user to slow down playback from the normal real-time speed for better observation.

QuickWave is a special version of the WaveReader program that enables the creation of an evidence CD that, when inserted into a CD-ROM drive, automatically plays the video saved on the CD without installing any software

on the playback PC. The images on the CD are in the original watermarked format. The user, with a QuickWave CD, can do the following:

- Select which video file on the CD to play
- Play images in the standard WaveReader playback display formats (single, multicamera, various sizes)
- Play images using the standard WaveReader VCR controls (all except playback speed control)
- Print the current image

## System Administration

WaveReader provides a complete package of tools for managing WaveReader security (privileges to access sites). Authorized users can remotely configure GE Security digital video units, manage and display an address book for multilocation users, and automatically verify proper digital system operation.

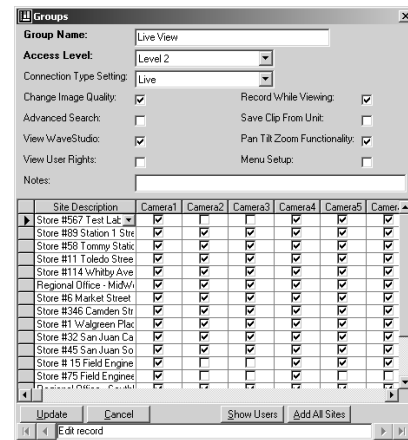
## Security Privileges

Security is established by defining groups of users with specific privileges. Security can be loose, with all users having full rights to all sites; or tight, with access and control limited by specific groups. Groups privileges include:

- Which sites a group has access to
- Which cameras can be viewed by a group
- Viewing live video, playback video, or both
- PTZ camera control
- Image quality control
- Remotely configuring units within their group

## Address Book

A powerful new address book supports up to 10,000 sites. The database includes 18 data fields (including four notes fields) that can sort the records by clicking on the desired column heading.



Group Edit Privileges screen

## Remote Configuration

WaveReader's Menu Setup security privileges allow users to remotely view and change the system configuration of the digital video unit without going to the site. Typical menu functions include camera titles, recording rates, recording schedules, alarm input and relay output behavior, camera motion areas and sensitivity, and recorded image quality. The available menu options will vary according to the type of digital video that is connected to WaveReader.

Site Description	Street	City	State/Province	Zip/Postal Code	Region/Country	IP/Phone No.	Ethernet/POTS	Unit Type	Camera QTY	Serial No.	Administrator of Unit	Contact Phone No.
Store #15 Field Engin	291 Field Engineer Street	Solana Beach	CA	923311	SouthWest	10.90.253.170	Ethernet	DVMRe	16		Donna Summers	714-444-1223
Store #45 San Juan S	383 San Juan South	San Juan Capistrano	CA	65432	SouthWest	10.90.253.41	Ethernet	DVMRe	10		Cecilia DeGillo	876-234-5566
Store #32 San Juan C	18546 San Juan	San Juan Capistrano	CA	88823	SouthWest	67.112.250.67	Ethernet	DVMRe	10		Julie May	707-456-1232
Store #1 Transaction	245600 Transaction Street	Costa Mesa	CA	92555	SouthWest	10.90.253.173	Ethernet	DVMRe	16		Sally Kelleman	905-763-5567
Store #6006 Williams	900 Williams Street 6	Evansville	FL	88845	SouthEast	10.90.253.198	Ethernet	DVMRe	16		Richard Boltho	444-234-1855
Store #114 Whitby Av	6637 Whitby Avenue	Hollydale	GA	66601	SouthEast	10.90.253.187	Ethernet	DVMRe	16		Teddy Brown	456-253-1121
Regional Office - Sou	1524 South Park West	Atlanta	GA	11231	SouthEast	10.90.253.194	Ethernet	DVMRe	16		Valarie Debeling	456-876-1211

Sample address book with entries sorted by "State"

# WaveReader

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## Specifications

### PC Hardware System Requirements

- CPU: Pentium 400 MHz or faster
- RAM: 64 MB (minimum)
- Hard disk drive: 6 MB free hard disk space (minimum)
- CD-R: Required for creation of QuickWave CDs
- Monitor (SVGA): 1025 x 768, 24-bit color
- Operating system: Windows 98 2nd Edition; NT4(SP6)/2000/XP

### Compatible Digital Video Multiplexers and Recorders<sup>1</sup>

- DVMRe Multiplex/Recorder: All models
- DVMRe-eZ Multiplex/Recorder: All models
- DSR-1000e (Optional)
- DSR-2000e Single Channel Recorder: All models
- DVSe Extended Storage System: All models<sup>2</sup>
- StoreSafe

### Format & Ordering

- WaveReader CD-ROM with WaveWatch, included with each digital video unit
- WaveReader CD-ROM with WaveWatch, CD-ROM only, Part No. 0110-A009

<sup>1</sup> Available WaveReader features depend on the unit to which it is connected.  
<sup>2</sup> Requires Ethernet accessibility in DVSe. Check with GE Security for Ethernet availability in DVSe models.

## WaveWatch: Remotely Verify System Condition

Included on the WaveReader CD is an independent program called WaveWatch, which verifies the operational condition of all the digital video units in your system (network or dial up). WaveWatch can directly import your existing WaveReader address book, manually or automatically connecting it to all of your sites. The program reports on the status of the following conditions:

- Successful or unsuccessful connection
- Current camera video loss status and video losses since last check
- Unit checked
- General unit information (version of software in unit, hard disk size)
- Unit's recording status
- Time synch
- Current alarms and alarms since last check

The interval between automatic checks is programmable from 1 second to 24 hours. The onscreen display shows the current polling status by site (successful or unsuccessful). Full status check details are available through the status check report, which can be previewed on screen or printed.

Features supported when using WaveReader Software	Live Viewing	Playback	Multi-Screen Display	PTZ over Ethernet	ATM Interface	POS Interface	"Hot Spot" Motion Search	Per Camera Frame Rates	Per Camera Event Frame Rates	Remote Configuration	Image Print/Enhance	QuickWave Image CDs	WaveWatch Support	"Flash" Upgrade Over Ethernet*	Address Book	Multi-Level Security Groups
DVMRe Triplex	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DVMRe Duplex	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DVMRe-eZ	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DSR-2000e	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DVSe	NA	●	●	NA	NA	●	NA	NA	NA	NA	●	●	●	●	●	●
DSR-1000e	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
StoreSafe	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
StoreSafe Pro	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

\*Ability to remotely upgrade the digital unit's software through an Ethernet connection. Flash upgrade uses an independent program.



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