# DVMS

# DVMS 1600
# User Guide

**SILENT WITNESS** ®
Evolution of Video

# DVMS 1600
# User Guide

## Revisions

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# About This Document

This document introduces the Digital Video Management System 1600 (DVMS 1600) and describes how to install and operate the DVMS 1600.

## Overview of Contents

This document contains the following chapters and appendixes:

- *Chapter 1, Overview*, describes the DVMS 1600 functions and features.
- *Chapter 2, Installation*, shows the rear panel connections and tells you how to connect the DVMS 1600 to peripheral equipment.
- *Chapter 3, Operation—DVMS 1600*, shows how the DVMS 1600 front panel operates and describes the system configuration menus.
- *Chapter 4, Operation—RAS*, describes how to use a PC running RAS to access and control the DVMS 1600 from any location.
- *Appendix A, RAS Installation*, tells you how to install RAS on a PC. It also describes how to connect to the DVMS 1600 using Ethernet, dial-up modem, or null modem connections.
- *Appendix B, Solutions*, lists typical technical issues and how to solve them.

## Important Safeguards and Warnings

**Caution**    The installation of this equipment should be made only by
certified technicians and conform to all local codes.

You should not remove the cover of your DVMS 1600.



**CAUTION**
RISK OF ELECTRIC
SHOCK
DO NOT OPEN

If your DVMS requires repair, contact Silent Witness (see *Warranty and Service*).

**WARNING!** The DVMS 1600 is intended for indoor use. To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

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

# Regulatory Compliance

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Œ mark on the product indicates that the system has been tested to and conforms with the provisions noted within the EN 55024 Class A Electromagnetic Compatibility Directive.

# Warranty and Service

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

In the event you have a problem with any Silent Witness product, please call the Service Department for assistance or to request a Return Authorization (RA) number.

In the U.S.A. and Canada, call 1.800.893.9513, or call +1.604.574.1523.

For international, call 00.800.2020.8080.

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

Prior authorization must be obtained for all returns, exchanges, or credits. Items shipped to Silent Witness without a clearly identified Return Authorization (RA) number may be refused.

# Terms and Definitions

This document uses the following terms.

| Acronym | Definition |
| --- | --- |
| ASCII | American Standard Code for Information Interchange. A code for representing alphanumeric information. |
| ATM | Automated Teller Machine |
| BNC | Bayonet Neill-Concelman connector |
| CCTV | Closed-circuit Television |
| DVMS | Digital Video Management System |
| GUI | Graphical User Interface |
| IDE | Integrated Drive Electronics |
| IP | Internet Protocol |
| ISP | Internet Service Provider |
| LCD | Liquid Crystal Display. A constantly operating display. |
| NIC | Network Interface Card. A device that connectors a device to a LAN. |
| NTSC | National Television System Committee. North American TV format. |
| PAL | Phase Alternation Line. European TV format. |
| PCMCIA | PC Card (Personal Computer Memory Card International Association) |
| POS | Point of Service |
| RA | Return Authorization number |
| RAS | Remote Access Software |
| RCA | Regional Calling Area |
| SCSI | Small Computer System Interface. A device that allows other devices to communicate with the main processor of a computer. |
| SUU | Software Update Utility |

| Acronym | Definition |
|---------|------------|
| VCR | Video Cassette Recorder |
| VHS | Vertical Helix Scan. Video cassette format. |
| VHS HD | VHS High Density |

# Typographical Conventions

This document uses the following typographical conventions:

| Font | What it represents | Example |
|------|-------------------|---------|
| Helvetica Narrow | Keys on the keyboard | Press Enter. |
| Lucida | Values of editable fields that are mentioned in the body text of the document for reference purposes, but do not need to be entered as part of a procedure | The IP Address field can be set to 192. 100. 100. 001. |
| | Text strings displayed on the screen | The message Save and Exit displays. |
| **Lucida Bold** | Words or characters that you must type. The word "enter" is used if you must type text and then press the Enter or Return key. | Enter the baudrate: **09600** |
| | Values of editable fields that appear in tables (on first mention) | The Change telnet config password field can be set to one of the following values: **Yes No** |
| **Gill Sans Bold** | Menu titles and other items you select | Select the **Setup** menu. |
| | Buttons you click to perform actions | Click **Exit** to close the program. |
| *Italic* | Placeholders: words that vary depending on the situation | Enter the *basic parameters.* |
| | Cross-reference to external source | Refer to the *DVMS User Guide.* |
| | Cross-reference within document | See *Overview.* |

# 1

# Overview

The Digital Video Management System 1600 (DVMS 1600) combines the following functions into one integrated security solution:

- Digital video recorder
- Time-lapse VCR/event recorder
- 16-channel multiplexer
- Video motion detector
- Text inserter
- Remote video transmission system

# Features

The DVMS 1600 offers the following features:

- Recording function of a traditional time-lapse VCR combines with video motion detection to reduce the number of stored images and eliminate the need to manage a videotape library.
- Multiplexed video from up to16 video sources with multi-screen display is replacing the role of a traditional multiplexer.
- Text insertion of transaction information from an ATM or POS terminal is combined with video data storage.
- Remote connection through either a network or modem replaces a phone-line transmission or network video system.

# Recording

The video data from multiple cameras is digitized, compressed, and stored on the DVMS 1600 hard drive. You select the capture interval and compression ratio for storage. For time-lapse operation, a picture captured once per second at 20:1 compression is a reasonable solution for general surveillance.

Under specific events, the capture interval may be reduced, and compression ratio reduced. For example, with a hard alarm, the capture rate can be increased up to 60 fps with a compression ratio of 10:1. To reduce the storage of non-critical video, motion activated recording may be activated.

# Displays

The recorder has three integrated displays to provide you with information:

- The monitor 1 output is the main video output of the system. It provides the ability to view a single image or multiple video images on the screen at one time. You select the desired view using the front panel buttons.
- Monitor 2 output is the spot monitor that displays full screen sequenced tours through the video sources.
- The third display is a two-line alphanumeric LCD display that provides basic operational information about the system.

# Playback/Search

The playback function allows you to view the latest recording from the DVMS. This operation allows fast access without going through a set of search dialogs. You can then use the jog/shuttle to review and analyze the video information.

If a more selective playback is required, the search function allows you to specify a set of search criteria, and finds the exact video sequence desired. You can then use the jog/shuttle—as with the playback function—to review the video information.

# Reports/Archiving

You can use the report generation and archiving function to specifically identify types of events that you wish to review or archive on a periodic basis. After reports are created based on specific queries, you can play, review, or autonomously transfer them to an archive media for long-term storage.

# Menu Setup

DVMS 1600 operation can be highly tailored to meet the specific requirements of a wide range of surveillance applications. You select and activate the menus using the buttons on the front panel of the unit. The display output acts as feedback. You can also use the rocker style switch on the front panel to navigate through the interactive menus.

# Remote Access

The DVMS uses Remote Access Software (RAS) that allows you to perform any function remotely that can be performed locally. This includes:

- Configuring the system to meet new requirements without having to dispatch a service team to update the clock
- Monitoring your staff
- Extracting video from the local unit for a fraud investigation being completed in another location

The RAS desktop provides quick and easy access to control functions that are normally part of your VCR and multiplexer. See *Chapter 4, Operation—RAS*.

# 2

# Installation

The installation of the DVMS 1600 consists of two processes:

1. Connecting the DVMS 1600 to all the local peripherals, including cameras, monitors, alarm inputs and outputs, external storage, and ATMs.

2. Setting up te communication equipment required for remote operation.

# Connecting DVMS 1600 to Peripherals

*Figure 2-1* shows the connections on the rear panel of the DVMS 1600. Follow the instructions in *Table 2-1* to connect the DVMS 1600 to all peripherals.

**Figure 2-1    Rear Panel Connections**



**Table 2-1    Rear Panel Connections**

| Label | Connection description |
|---|---|
| In 1 to 16 | Connect the composite analog video inputs—1 to 16—to the BNC connectors on the rear panel. Voltage levels should be 1 VDC ± 0.2 VDC. |
| Out 1 to 16 | If looping is required to go to a second destination (for example, a matrix switch) connect the composite analog video inputs from input cameras (up to 16) to the corresponding composite analog video output BNC connectors. Termination is selected in setup menus. |
| Mon 1 | Connect the primary CCTV monitor to the digitally processed, main monitor output. This output is a composite analog output with full or multi-screen views, displays configuration menus, and a variety of text overlays during operation. |

Table 2-1     Rear Panel Connections (Cont'd)

| Label | Connection description |
|-------|------------------------|
| Mon 2 | Connect an optional CCTV monitor to the spot monitor output. This output provides full screen sequential switching views of some or all cameras. This display is completely independent of the Monitor 1 display. |
| S-Video | Connect the primary monitor to the digitally processed, main monitor output. This output is an S-Video output with full or multi-screen views, and displays the user interface during Menu mode, and a variety of text overlays during operation. It has the same output as Monitor 1, but in S-Video format. |
| Audio In | Connect the line level source to the audio input RCA connector. |
| Audio Out | Connect the RCA audio output of the DVMS 1600 to the RCA audio input of the CCTV monitor. |
| Comm | Connect the serial interfaces for ATMs 1 to 4 to the four ATM RS-232 ports.<br><br>Connect the remote control or external modem to the control RS-232 port with handshaking.<br><br>Connect the controlled device to the telemetry, four-wire RS-485 port.<br><br>See *page 7* for connector pinouts.<br><br>**Note**  Telemetry functionality is not supported in the current software version. |
| Alarm I/O | Connect external alarm devices to the DVMS 1600 alarm inputs. Connect the DVMS 1600 alarm outputs to trigger external devices. See *page 7* for connector pinouts. |
| PC Card | Insert approved PCMCIA card for network or modem connectivity. Card validation occurs after powerup, and can be verified in the system information menu. Remote access must be enabled to recognize and read the PCMCIA card.<br><br>**Note**  A list of supported devices is posted on the Silent Witness web site. |
| SCSI | 1.  Connect an external SCSI device to the 68-pin SCSI control port on the rear panel. SCSI ID must be set in the range of 4 to 6 and must not conflict with the ID of internal SCSI devices.<br><br>2.  Apply power to the external device prior to turning the DVMS on. This allows the DVMS to query the device during start up to ensure it is functioning properly.<br><br>**Note**  A list of supported devices is posted on the Silent Witness web site. |
| Power | The power for the DVMS 1600 unit is 110 VAC/60 Hz for the NTSC version and 220 VAC/50 Hz for the PAL version. |

## Supplementary Information

The most current and up-to-date installation and application references for the DVMS family are on the Silent Witness web site. These include applications for cash register and ATM interfacing, storage calculators, and a variety of DVMS related information. This information is updated periodically to provide installers, end-users, and integrators with the most current DVMS information.

## Connector Pinouts

| Comm Connector | | |
|---|---|---|
| 1 | Ground | |
| 2 | 232 DTR | Remote Control Port and External Modem Connection |
| 3 | 232 RTS | |
| 4 | Ground | |
| 5 | 232 TX | |
| 6 | 232 DSR | |
| 7 | Ground | |
| 8 | 232 CTS | |
| 9 | 232 DCD | |
| 10 | Ground | |
| 11 | 232 RI | |
| 12 | 232 RX | |
| 13 | Ground | |
| 14 | ATM 1 RX | ATM #1 RS-232 Port, Asynchronous Only |
| 15 | ATM 1 TX | |
| 16 | ATM 2 RX | ATM #2 RS-232 Port |
| 17 | ATM 2 TX | |
| 18 | ATM 3 RX | ATM #3 RS-232 Port |
| 19 | ATM 3 TX | |
| 20 | ATM 4 RX | ATM #4 RS-232 Port |
| 21 | ATM 4 TX | |
| 22 | 485 RX+ | Telemetry Control RS-485 Port, four-wire. No software support. |
| 23 | 485 RX- | |

| | | |
|----|----------|------------------------------|
| 24 | 485 TX+  | |
| 25 | 485 TX-  | |

## Alarm I/O Connector

| | | |
|----|------------|------------------------------------|
| 1  | Alarm In 1 | Alarm Inputs 1 to 16, TTL Levels |
| 2  | Alarm In 3 | |
| 3  | Ground     | |
| 4  | Alarm In 6 | |
| 5  | Alarm In 8 | |
| 6  | Alarm In 9 | |
| 7  | Alarm In 11 | |
| 8  | Ground     | |
| 9  | Alarm In 14 | |
| 10 | Alarm In 16 | |
| 11 | Reserved   | |
| 12 | Alarm Out 1 | |
| 13 | Alarm Out 2 | Alarm Outputs 1 to 4, TTL Levels |
| 14 | Alarm In 2 | |
| 15 | Alarm In 4 | |
| 16 | Alarm In 5 | |
| 17 | Alarm In 7 | |
| 18 | Ground     | |
| 19 | Alarm In 10 | |
| 20 | Alarm In 12 | |
| 21 | Alarm In 13 | |
| 22 | Alarm In 15 | |
| 23 | +5 VDC     | +5 Volts DC, 100 mA |
| 24 | Alarm Out 3 | |
| 25 | Alarm Out 4 | |

# Connecting Remotely

## Local DVMS Installation

A remote connection requires that you insert either an approved modem or network card into the PCMCIA slot of the DVMS. The installation and recognition of this hardware can be validated in the system information section of the user menus.

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**Note**     A list of supported devices is posted on the Silent Witness web site.

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### Modem

To connect a modem to the DVMS:

1.  Insert the approved V.90 modem PCMCIA card into the DVMS PCMCIA slot.

2.  Connect a standard analog phone line to the modem.

3.  Power up system. During setup, configure remote access in the DVMS to support this type of connection. See *Setting Up the Network Connections* on page *49*.

### Network

To connect the DVMS via a network:

1.  Insert the approved 10/100BaseT PCMCIA card into the DVMS.

2.  Connect the network cable to the network adapter.

3.  Power up system. During setup, configure remote access in the DVMS to support this type of connection. See *Setting Up the Network Connections* on page *49*.

## Remote DVMS Installation

Remote DVMS installation requires a personal computer with Remote Access Software. To set up a remote DVMS installation, see *Appendix A*.

# 3

# Operation—DVMS 1600

You can operate the DVMS 1600 unit using the keypad on the front panel of the local DVMS or remotely with RAS. There are two types of operations:

- System Configuration

  These activities affect the overall programming of the system. They require administration level access.

- System Operation

  These activities do not affect the configuration or setup of the DVMS 1600 unit. They require user level access.

# System Operation—Front Panel

For onsite security personnel or administrator, the DVMS 1600 front panel keyboard is the primary user interface for the system. It allows overall control of the following:

- What is displayed through the monitor
- Whether live or previously recorded video is displayed
- Changing the configuration to adapt to the changing requirements of the security application

*Figure 3-1* shows the location of the front panel buttons and *Table 3-1* describes their function.

### Figure 3-1    Front Panel

## Table 3-1    Front Panel

| Buttons | Function |
| --- | --- |
| Cam 1 to 16 | Allows the selection of a specific camera to be displayed on the main output monitor. Operation of these buttons overrides the programmed operation of the main monitor. |
| Rec | A toggle button that enables and disables local recording to the hard drive. |
| Play | Initiates local playback of the latest video information from the hard drive. |
| Function | Activates secondary functions of the keyboard buttons. This includes the multi-screen display modes and sequencing, activation of search, and activation of reports without entering Menu mode. |
| - Camera 1 | Full Screen Camera Sequence on Main Monitor |
| - Camera 2 | Activates the Hot Swap function. This allows you to remove the JAZ, DVD, DAT tape or removable disk drive without having to power down the DVMS 1600. |
| - Camera 4 | Displays 2x2 Images on Main Monitor. Activating again selects next group (that is, 5 to 8). |
| - Camera 9 | Displays 3x3 Images on Main Monitor. Activating again selects next group (that is, 10 to 15). |
| - Camera 16 | Live Mode: Displays 4x4 Images on Main Monitor.<br><br>Setup Mode: To set up motion detection zones, press the zone number (1 to 4), then Function + Cam 16 to fill/remove the zone number selected (1 to 4) in the entire screen. |
| - Play | Activates Search Menu |
| - Menu | Menu activates the Report execution without having to enter the setup menus. |
| Menu | Activates the first level menus on the DVMS. These menus include the following DVMS configuration options:<br>• Clock setup<br>• Time-lapse recording<br>• Event recording<br>• Reports<br>• System operational log<br>• Passwords<br>• Overall system and storage setup |
| Jog/Shuttle | Used to enter values during Menu mode, or to provide video data review during Playback mode. During Playback mode, the outer shuttle ring is used for variable speed playback in either a forward or reverse direction. The inner jog wheel allows field-by-field playback in forward or reverse direction. |
| Enter | Located in the center of the directional buttons, is used to select a function for menu change or operation. During playback, can be used to terminate the play function. |
| Up (Menu) | Navigate up through the menu structure, or increment to a larger value. |

| Table 3-1 | Front Panel (Cont'd) |
| --- | --- |
| **Buttons** | **Function** |
| **Down (Function)** | Navigate down through the menu structure, or decrement to a smaller value. |
| **Left (Record)** | Navigate left through the menu structure, or select the previous clip during a play operation. |
| **Right (Play)** | Navigate right through the menu structure, or select the next clip during a play operation. |

## Menu Tree

*Figure 3-2* shows the menu structure of the DVMS 1600. The following sections describe the menus in detail.

Figure 3-2    DVMS Menu Tree
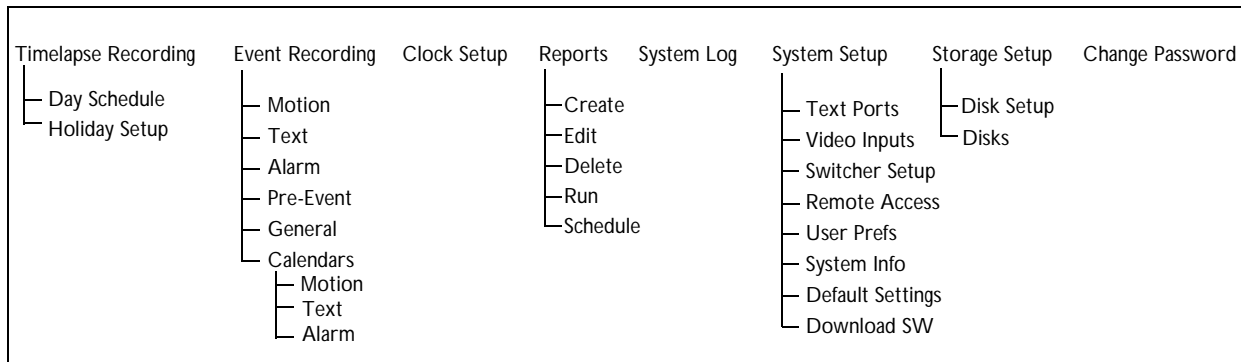


## System Configuration —Menu Setup

This section describes the programming features of the DVMS. Use the following table as a guideline when setting up the storage system and the capture interval and compression.

| Tape type | Hard drive capacity | Compression ratio | No. of images per tape |
| --- | --- | --- | --- |
| T120 VHS | 10 GB | 15:1 | 433,000 |
| T120 VHS HD | 23 GB | 20:1 | 1,300,000 |

Figure 3-3     Main Menu



# Timelapse Recording Menu

Figure 3-4     Timelapse Recording Menu



Use the Time-Lapse Recording menu to select the global record rate and compression setting for time-lapse recording.

## Day Schedule

For each day of the week there is a day independent recording schedule. Use this feature to create recording periods with multiple start and stop times and with selective camera recording.

## Holiday Setup

Use this feature to set user-defined holidays.

## Default Recording Schedule

Use this setting to record 24 hours per day, seven days a week.

### Navigation Aids

**Set buttons**   Use these buttons to enable periods of recording.

**Clear**   Use this button to disable recording.

**Bar graph**   Indicates which cameras are being recorded and for what time period. Green indicates periods of recording. Red indicates no recording will take place during the defined period.

**Figure 3-5    Example of Enabled Recording Periods**

# Event Recording Menu
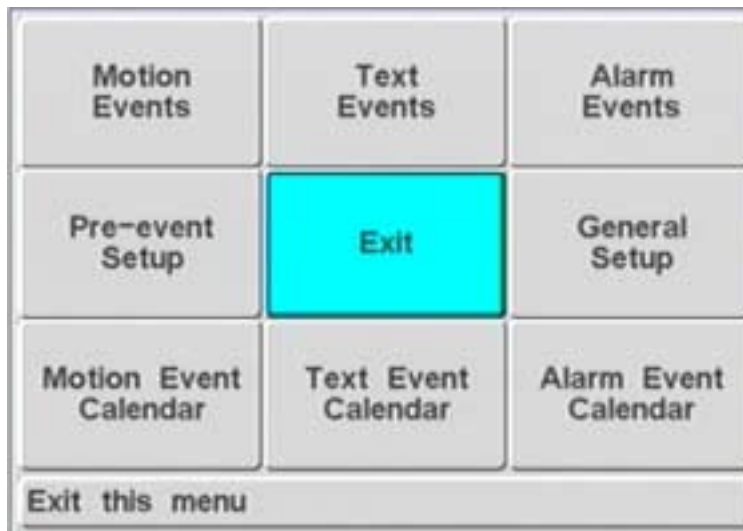
Use the Event Recording Menu to specify how the system responds to a specific set of external events. Options are:

## Main Events

The main events defined in the system are motion, transaction text, and alarms with the option for pre-event storage. Time-lapse recording can be done in parallel with pre-event recording.

All event types default to OFF and must be enabled prior to use. Program the event to timed or automatic mode.

## Timed Mode

In timed mode, the event is recorded for a specific time.

## Automatic Mode

In automatic mode, the recording continues as long as the event is active.

Events have a record speed and quality independent of the time-lapse setting. During events, you may specify whether the beeper should go off, or if any of the alarm outputs change state.You can also select which cameras will record during the event.

# Event Recording Sub-Menus

This section describes the Event Recording sub-menus.

## Motion

**Figure 3-7     Motion Event Setup Menu**



Use this menu to configure motion events on a per-camera basis. For example, you can set up motion grids with four individual motion zones and sensitivities, and trigger size. Testing the effectiveness of the motion triggers is key for optimal disk utilization. The reference update process is automated for optimal system performance.

**Figure 3-8     Motion Zones Screen**
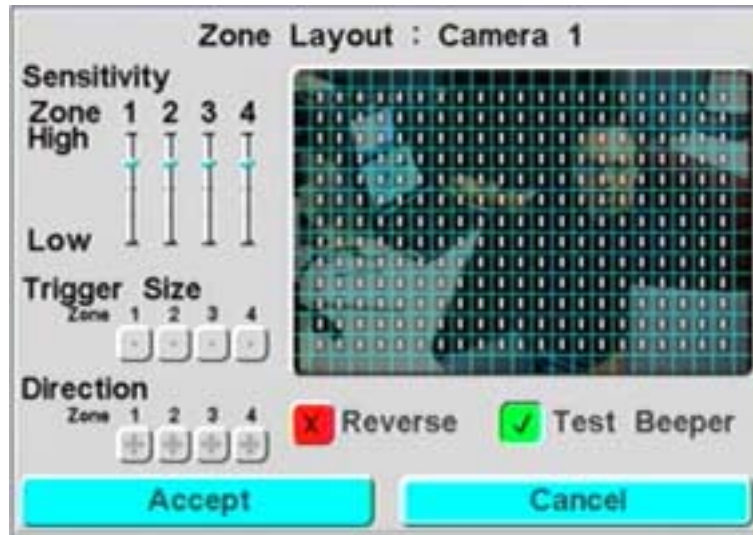


**Navigation Aids**

**Arrow Keys**    Use these keys to navigate around the grid.

**Camera Buttons 1-4**    Use these buttons to select zones for programming.

**Camera Button 5**    Use this button to erase programmed zones.

**Camera Button 16**    Use this button to perform full screen operation of the previously activated button. For example, Camera 5 button followed by Camera 16 button blanks the grid.

## Text

Use this menu to configure transaction text events on a per-port basis. For example, you can configure:

•    Recording rate

•    Recording time

•    Text trigger strings

•    Which cameras to record

This port is limited to asynchronous RS-232 data that is line terminated (carriage return or line feed) with ASCII format data.

---

**Note**     Text triggers may be case sensitive for better discrimination of text events. Press Camera 1 button to put the text trigger dialog into insert mode. Press Camera 2 button to delete characters.

---

## Alarm

Use this menu to configure alarm events. For example, you can configure alarm events for:

- Recording rate
- Recording time
- Which cameras to record

The state of the alarm is set to normally open or normally closed.

## Pre-Event

Use this menu to enable or disable functions and configure pre-event recording (motion, text, alarm). You can enable recording of information immediately prior to the event from selected cameras. The length of the pre-event buffer is set together with the record rate and image quality. This option may be used simultaneously with time-lapse recording.

## General

**Figure 3-12　General Setup Menu**
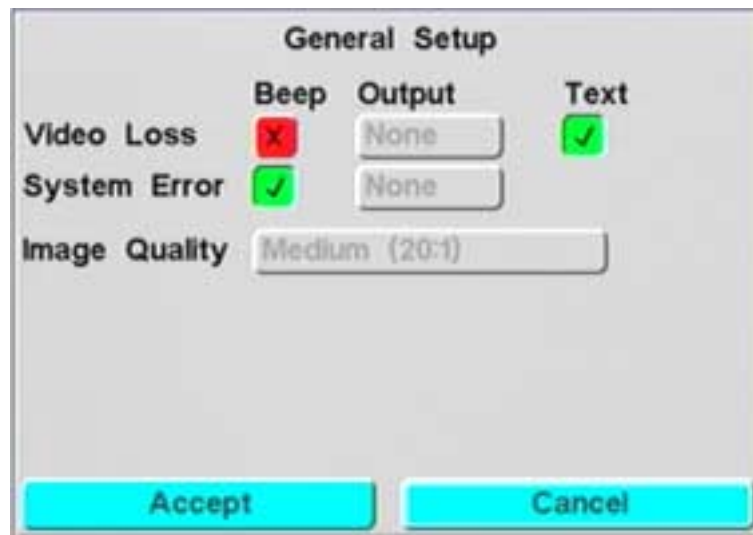


Use this menu for general event settings. For example, you can configure:

- Video loss and system error action processing
- Image quality setting for events

## Calendars (Motion, Text, Alarms)

Use these sub-menus to specify when event recording is active. Activation and use is the same as the time-lapse recording configuration. To provide maximum scheduling flexibility, there are separate calendars for motion, text, and alarms.

**Figure 3-13　Calendar Menu Screens**
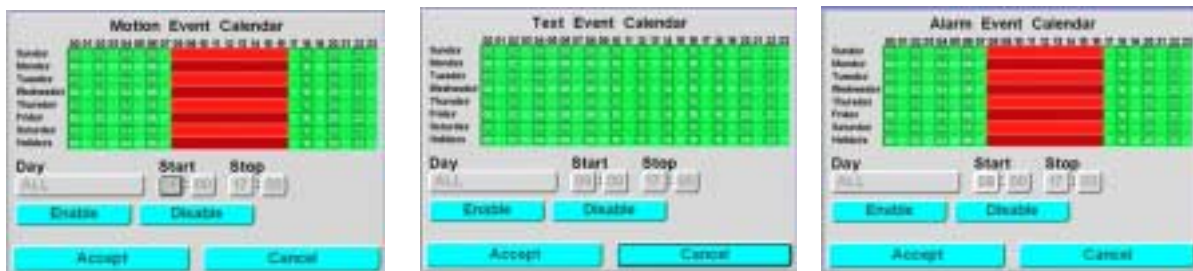
# Clock Setup

**Figure 3-14    Clock Setup Menu**



Use this menu to perform the following tasks:

- Set the system time and date
- Enable daylight savings time
- Enable text synchronization of the DVMS 1600 to an external ATM or cash register

You can also set the format of the date and time to address regional preferences.

# Reports

**Figure 3-15    Reports Main Menu**



Use this menu to create, edit, delete, run, and automatically schedule reports.

There are two types of reports—text reports and event reports. Text reports create a list of clips based on certain text data that was found in the transaction information. You can:

*   Define the port the data came from
*   Specify the exact text strings
*   Specify instances of a certain dollar amount
*   Specify data from, before, or after a particular date in time

Event reports create a list based on clip type. The search and extraction process allows you to specify the event or time-lapse information for the search. You can also send these extracted clips to an archive device which can then be placed in a library or forwarded to an investigator. Use the Camera 1 button to select a report to run autonomously.

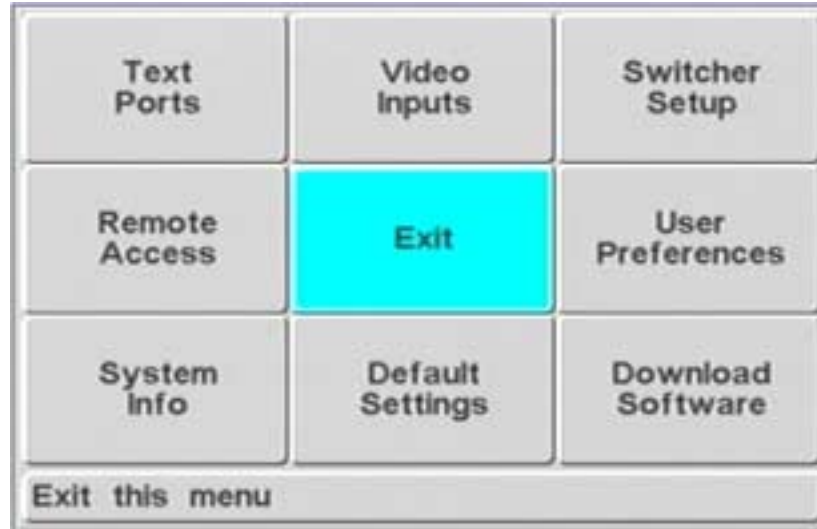# System Log

Figure 3-16    System Log Menu



This menu displays a list of any system operations such as:

- Log-ins
- Powerup
- System errors that may have occurred during the course of operation

The system log stores the last set of system events for later recall.
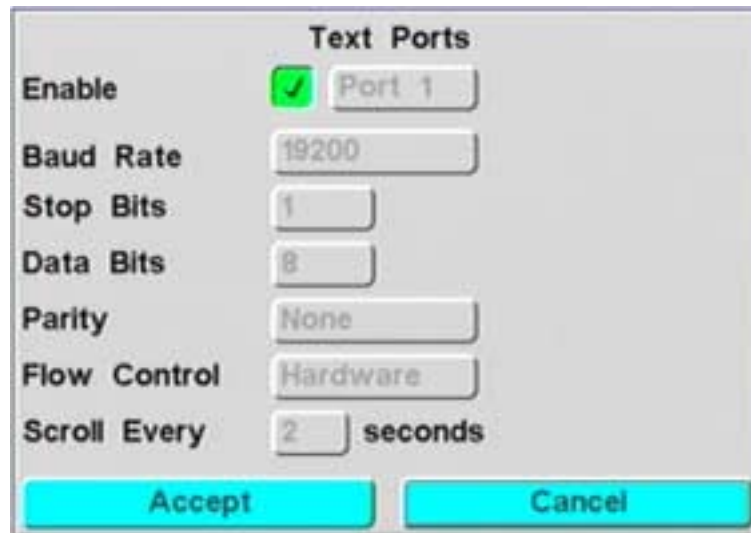
# System Setup

Figure 3-17    System Setup Menu



This menu is where you set up most of your overall system-level configuration. The following sub-menus allow you to configure basic hardware to your specific requirements.

## Text Ports

Figure 3-18    Text Port Menu



Use this menu to set up the baud rates and all the associated configuration data for each of the transaction text ports. You also input the display text scroll rates on this menu.

## Video Inputs

Use this menu to specify how each camera is displayed, including video termination on an individual basis. For example:

- Camera titles
- Time and date display
- Position of the title, time, and date in the camera field of view

The display of text includes how transaction text is displayed on the camera. This information specifies position, number of lines, and string length. The auto detect feature determines whether video is present and updates the switcher program automatically when cameras are present.

## Switcher Setup
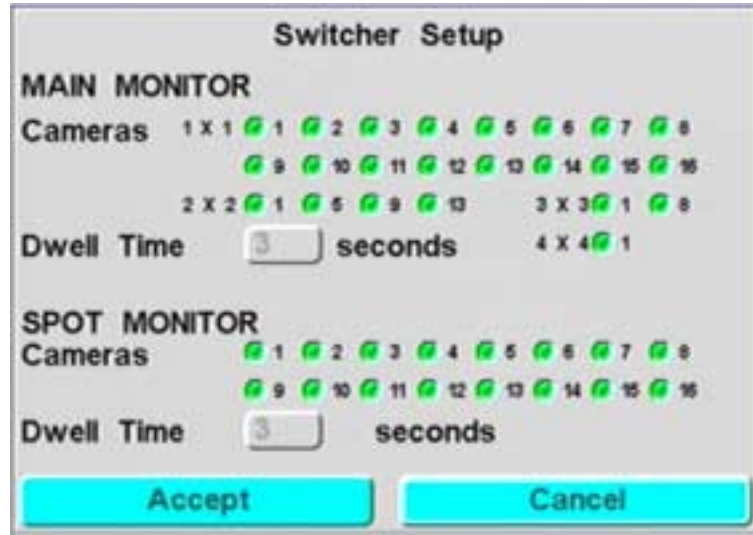
Use this menu to configure the sequencing dwell times for the two monitor outputs: main monitor and spot monitor.

For the main monitor with multi-screen display, you can override the sequencing operation with the front panel keyboard controls.

The spot monitor only operates in sequencing mode. Cameras may be individually enabled or disabled to support a covert camera operation. This prevents specific cameras from being seen, even though they are recorded. To initiate sequencing on the main monitor, select Function - Camera 1.

## Remote Access

### Figure 3-21    Remote Access Menu



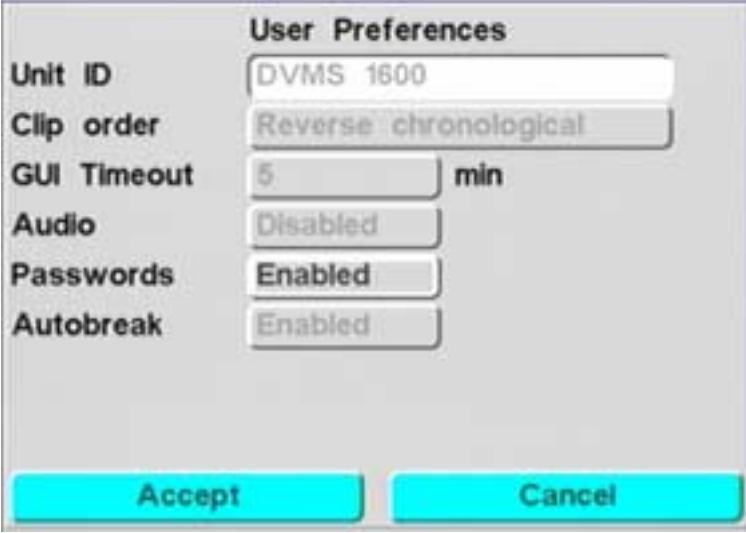Use this menu to configure the unit for remote access through a modem or network connection.

For network connections, obtain a unique, fixed IP address with subnet mask and gateway from your network administrator or Internet Service Provider (ISP).

To enable remote access, Windows networking or dial-up networking must be configured and used in conjunction with RAS (see *Installing the RAS Software* on *page 46*).

## User Preferences

Use this menu to set up preferences that apply to the whole system. For example, you can:

- Specify the unit name
- Set up the GUI timeout
- Enable or disable audio recording
- Enable or disable a global password
- Break time-lapse clips into manageable sizes

## System Information

This menu displays current system information.

## Default Settings

**Figure 3-23    Default Setting Menu**
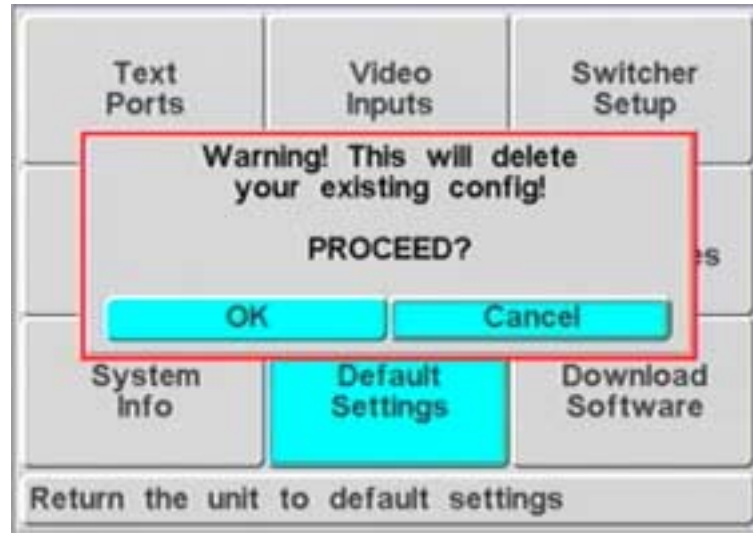


Use this menu to reset the user configuration back to factory defaults. This returns the system to a known starting point in the event that operation becomes erratic.

## Download Software

Use this menu to update the firmware via the Software Update Utility (SUU). This Windows-based application writes the data to the DVMS 1600 memory via an RS-232 connection and updates the flash in one load operation.

---

**Caution**    Powering down during the flash update will require a service card to restore the unit to operational state. It may also require a service call.

---

To download software using RAS, see *Downloading Software Using RAS* on page *43*.

# Storage Setup Menu

**Figure 3-24    Disk Setup Menu**



Use this menu to perform the following tasks:

- Determine which drives are recognized by the system
- Configure parameters related to the file system, such as:
    - Time-lapse/event partitioning
    - Alarm when a drive exceeds a certain capacity (percentage)
    - Archive and hot-swap drives

If you add additional drives, or upgrade system drives after the initial system configuration, the storage system must be re-formatted. This will result in data loss. To avoid formatting the system, you can add archive devices, either internally or externally.

The storage system can handle up to seven devices connected to the DVMS 1600. These include a variety of IDE and SCSI devices. You can connect up to four IDE hard drives to the system, and up to three SCSI devices. The SCSI devices must have their IDs set to 4, 5, or 6.

IDE or SCSI devices inside the DVMS 1600 is limited to four devices. One of these can be a removable format.

External SCSI devices may be connected through the rear panel SCSI connector.

# Change Password Menu

Use this menu to perform the following tasks:

- Change any of the 16 user identification numbers and passwords
- Configure the permissions supported with each user identification

Two password levels are defined: user and administrator. Administrator level allows all access to operation and configuration of the system. User level is limited to access to the operational aspects of the system.

You can enable or disable the password function globally from the User Preferences menu on the system.

# 4

# Operation—RAS

RAS is a Windows-based application that allows you to interact with the DVMS 1600 unit from any PC as if you are on site and using the system. You can use RAS to:

- Monitor live video through a variety of screen display formats
- Play back previously recorded images
- Retrieve recorded data
- Change system configuration parameters (for example, to meet future requirements of the security application)
- Change settings
- Upload new software releases

To install RAS, see *Appendix A*.

## Logging In to RAS

After your PC has established a connection with the DVMS 1600, the Login dialog box displays.



1. In the User Name field, enter one of your eight DVMS 1600 user names. The user name is case sensitive and must be entered exactly as it is set up in the DVMS Change Password menu.

2. In the Password field, enter the appropriate password.

3. Click **OK**.

---

**Note** If you entered an incorrect user name or password, you have only two chances to correct it (that is, a total of three attempts), before you are disconnected from the DVMS 1600.

---

4. When the user name and password are recognized by the DVMS 1600, the Login dialog box closes and all the RAS buttons on the DVMS Remote Access Software main screen are activated (see *Figure 4-1*). The status bar on the lower left-hand side of the screen indicates the name of the unit to which you are currently connected.

**Figure 4-1    RAS Main Screen**

# Using RAS Without Connecting

There may be times when you want to run RAS without connecting to a DVMS 1600 unit. For example, you can use RAS to play back video files or edit configuration files that you previously downloaded from the DVMS 1600. To connect to the DVMS 1600 at a later time, select **Action ➤ Connect** from the main RAS menu.

# RAS Desktop

The RAS desktop is the primary user interface for the remote system. It allows overall control of what is displayed on the PC monitor, whether live or previously recorded video. The RAS desktop makes commonly used functions directly accessible on the desktop with controls similar to those from a standard time-lapse VCR and multiplexer.

The options available after site connection are:

**Active Site**    Selects the site that the RAS connects to for remote operation. Once you select the site from the pull-down list, connection is established. To disconnect, select **Disconnect** from the active site list.

**View Select**    Use the Display and Camera buttons to select the specific camera and views to display during monitoring and playback on the PC output monitor. These view options are typical of a video multiplexer.

**PC Storage**    Allows imagery to be moved from the remote DVMS 1600 to the local PC in either a still or video format. These files are stored in a file structure that simplifies finding and locating the information after storage.

**Monitor**    One toggle button enables or disables the live video monitoring. A second toggle button enables or disables freezing the video that is being sent from the live source.

**Site Status**    Indicators provide up-to-date status from the currently active site to the desktop. This information is valid only when RAS is actively connected to a DVMS 1600.

**VCR Controls**    Record, play, search, and review video information from the actively connected DVMS 1600, or play back video data that has been transferred to the local PC hard drive.

**Playback**   Control buttons initiate playback of the latest video information from the hard drive. The playback control buttons, together with the search function, can also be used to review video data. The playback controls are:

| Control button | Function |
|---|---|
| ▶ | Initiates playback, or play forward |
| ◀ | Play reverse |
| ▶▶ | Play fast forward |
| ◀◀ | Play fast reverse |
| ■ | Stop playback |
| ▶▎ | Go to next clip |
| ▎◀ | Go to previous clip |
| ‖ | Pause play |
| ‖ ▶ | Field advance forward |
| ◀ ‖ | Field advance reverse |

**Search**   This button selects the specific clips on the hard drive. Once the specific clip is found, you can use the normal playback operations to review video data.

**Record**   This toggle button enables and disables recording to the DVMS 1600 hard drive.

# Configuration—RAS

Use the RAS pull-down menus to tailor desktop operation to your individual preferences. You can:

- Build case files remotely from the DVMS 1600
- Update software
- Change DVMS 1600 configuration parameters to support new requirements

This section describes the RAS menus.

## File

This menu contains items from RAS for basic PC file system operation. Use this menu to:

- Open and display stored clips or images
- Save or retrieve stored DVMS 1600 configurations
- Play from local disk or tape
- Disconnect from disk or tape
- Authenticate images
- Exit

## Action

This menu contains RAS items that require external action operation. Use this menu to:

- Connect and disconnect from a remote DVMS1600 unit
- Update the software or configuration of the DVMS 1600 at the remote site
- Archive

## Setup

Use this menu to:

- Configure the remote DVMS 1600 unit
- Set up RAS preferences
- Select the remote site connection method
- Select the site notification process

The same menu structure supported by the DVMS 1600 is also supported by RAS. This allows you to configure the unit remotely the same way you do it locally using the front panel keypad.

For RAS preferences you can specify monitoring quality, display colors, and file destinations for images stored on the PC.

The remote connections define the site name, connection method, phone number or IP address, and if they are to be site managed.

## About

This menu provides an overview of the RAS version that is running.

---

**Caution** During the setup process, recording is stopped so that changes can be made to the system configuration. Exiting the setup process returns the DVMS 1600 to the former operational state.

---

# Monitoring Video Using RAS

To monitor video from selected cameras:

1.  Click the **LIVE** button and any (or all) of the camera buttons on the main screen (see *Figure 4-1*). A Video Monitor window opens with the video from the selected camera(s).

2.  In the View Select area, select how you want the images from the selected camera(s) displayed. Options are:

    Quad, 3x3, or 4x4

The speed at which the video can be refreshed—the number of images per second—is limited by the speed of your connection type (Ethernet, dial-up modem, or null modem) and the speed of your PC.

The DVMS 1600 sends out one complete image at a time, at the top speed possible for your type of connection. If the DVMS 1600 is in Record mode, the image quality is determined by the settings in the Timelapse Recording Menu (see *Timelapse Recording Menu* on page *14*. If the DVMS 1600 is not in Record mode, you can select image quality in the RAS User Preferences dialog box (see *Figure 4-2*). Options are:

*   High (10:1)
*   Medium (20:1)
*   Low (30:1)
*   Very low (50:1)

The higher the quality, the slower the transmission of images. You can also select the size of the image display—small or large.

The size of a single, high quality (10:1 compression), full frame color video image is approximately 35 KB for NTSC. DVMS 1600 image files include some additional information which makes the file size slightly larger than the size of the image itself.

Using an Ethernet connection, you can typically display one to 12 fields per seconds. Using a dial-up modem, you can typically display one field per second or less.

When your PC receives the compressed image file, it decompresses the file and displays it on your Video Monitor window.

**Figure 4-2    RAS User Preferences Window**
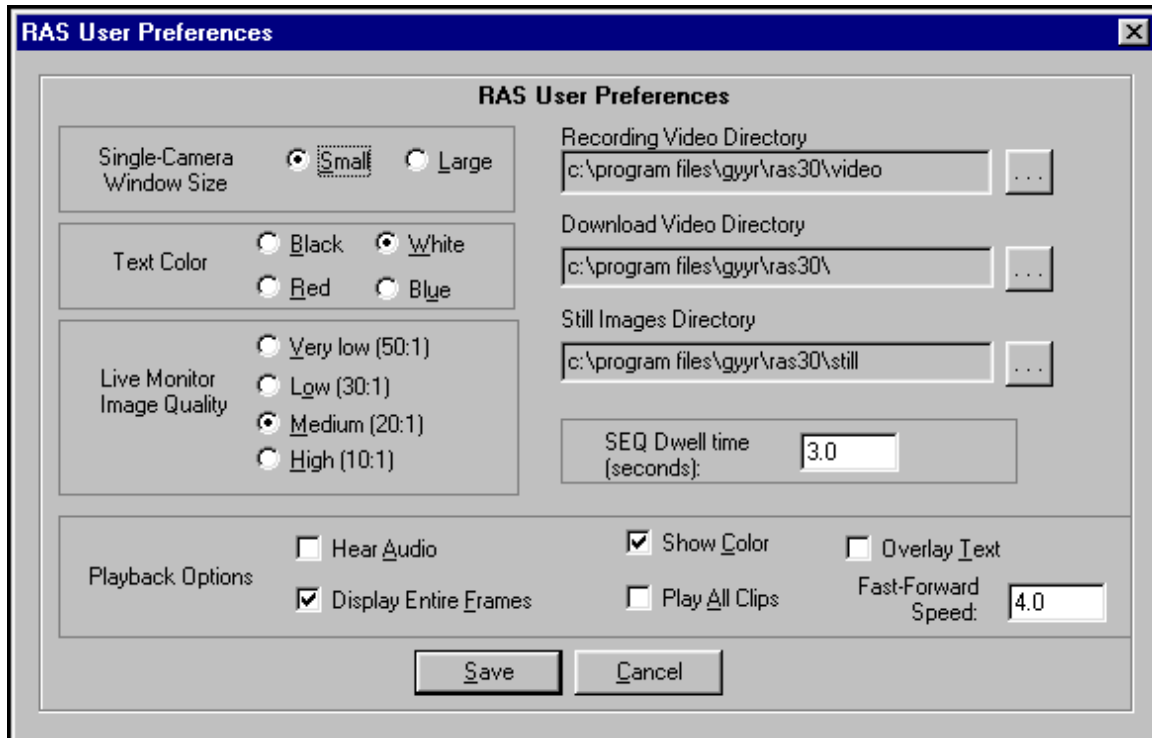
# Setting the RAS Video Monitor Controls

Use the Video Monitor window to set up your video monitor controls. *Table 4-1* describes the controls.

**Table 4-1    Video Monitor Controls**

| Consideration | Control | Description |
|---|---|---|
| Quality vs. speed | Live Monitor Image Quality | Controls the amount of compression that is applied to the video image files before they leave the DVMS 1600 to be transmitted to the PC. At the highest quality setting the video images are less compressed. This creates bigger files that take longer to transmit and lower the speed at which the video image can be refreshed.<br><br>At the highest speed settings the video images are more compressed. Some details may be blurred, but the refresh speed is faster.<br><br>When you play back video clip files, they are sent using the compression that was set when they were recorded. |
| Color vs. monochrome | | A color video image file is twice the size of a monochrome (black and white) video image. Monochrome images refresh faster than color images. |
| Audio vs. no audio | Hear Audio | Check this box to monitor live video when your Video Monitor window is open. This does not affect your video refresh speed. |
| Text on top of video | Overlay Text | Check this box to display text from your Text Insertion ports on top of your video (see *Text Ports* on page *25*). This does not affect your video refresh speed. |
| Overlay text color | Text Color | Check the desired color of any displayed overlay text (from the Text Insertion ports). |
| Image decompression | Image Quality | Select the quality of the image decompression routine used to show video on the Video Monitor window. The speed at which an image can be decompressed depends on the speed of your PC. For this reason, select a lower image quality for a PC with a slower speed. |
| Default video monitor settings | Setup ➤ RAS User Preferences | Set default video monitor settings (see *Figure 4-2*). For example, you can set the default Video Monitor window size, overlay text color, and the image quality. |
| DVMS status | Status bar | The text bar at the bottom of the Video Monitor window provides current DVMS status information.<br><br>If you are monitoring a camera while the DVMS 1600 unit is in Event Recording mode, and an event is detected, your Video Monitor window may be closed by RAS. Check the status bar to determine which event was triggered and which camera is recording the event. |

To close the Video Monitor window, click the currently active camera button.

# Recording and Saving Video Monitor Images

When the Video Monitor window is open, you can save the images being displayed on your PC screen as either a single image file or as a video file. Image files are saved to your PC hard drive.

## Saving a Single Image File

To save a single image file, click the **Still** button. The image currently displayed on the Video Monitor window is saved. The camera icon flashes while the file is being recorded. The image file is saved in the Still Images Directory set in your RAS User Preferences window. An example of a default file name and path is:

**c:program files\gyyr\ras30\still\99_10_22_1.bmp**

where:

| | |
|---|---|
| **still** | is the default subdirectory in your RAS main directory |
| **99_10_22_1 (first image)** **99_10_22_2 (second image)** | is the file name for the saved image. The file name consists of the date and an automatically incremented number, following the YY_MM_DD_# format. |
| **.bmp** | is the (bitmap) file extension. |

## Saving Video Files

To save the images being displayed on the Video Monitor window as a video file, click the **Record Video** button. Clicking the button once starts recording. The red recording indicator flashes. To stop recording, click the button again.

The video file is saved in the Recording Video directory set in your RAS User Preferences window. An example of a default file name and path is:

**c:program files\gyyr\ras30\video\99_10_22_1.dfv**

where:

| | |
|---|---|
| **video** | is the default subdirectory in your RAS main directory |
| **99_10_22_1 (first image)** **99_10_22_2 (second image)** | is the file name for the saved image. The file name consists of the date and an automatically incremented number, following the YY_MM_DD_# format. |
| **.dfv** | is the file extension. |

## Changing the Default Directories

To change the default file directories:

1.  From the main RAS menu, select **Setup ➤ RAS User Preferences**.

2.  Use the Change Directory buttons to set the destination file directories that you
    wish used in the following circumstances:

    Select **Record Video** to save video images that you are monitoring.

    Select **Download Video** to download video files that you are playing from the
    DVMS 1600 unit.

    Select **Record a Still Image** to save a still image file.

> **Note**    Digital video files are generally large files. Recording a video file for any
> length of time can quickly fill up your PC hard drive.
>
> You cannot record the audio along with the video, even if you can hear it
> when you begin recording the video.

# Archiving Video Clips

To archive video clips:

1.  Generate a list of video clips using the RAS Search or Play function, or the DVMS Setup ➤ Review Events or Reports ➤ Create a Report functions.

2.  Archive the video clips using the list. In the Select Video Clip dialog box, right-click on the clips to mark them with a disk icon. To mark all of the clips on the list, click **Select All**.

3.  Click **Start Archiving** to copy the marked clips from the regular drive to the archive drive.
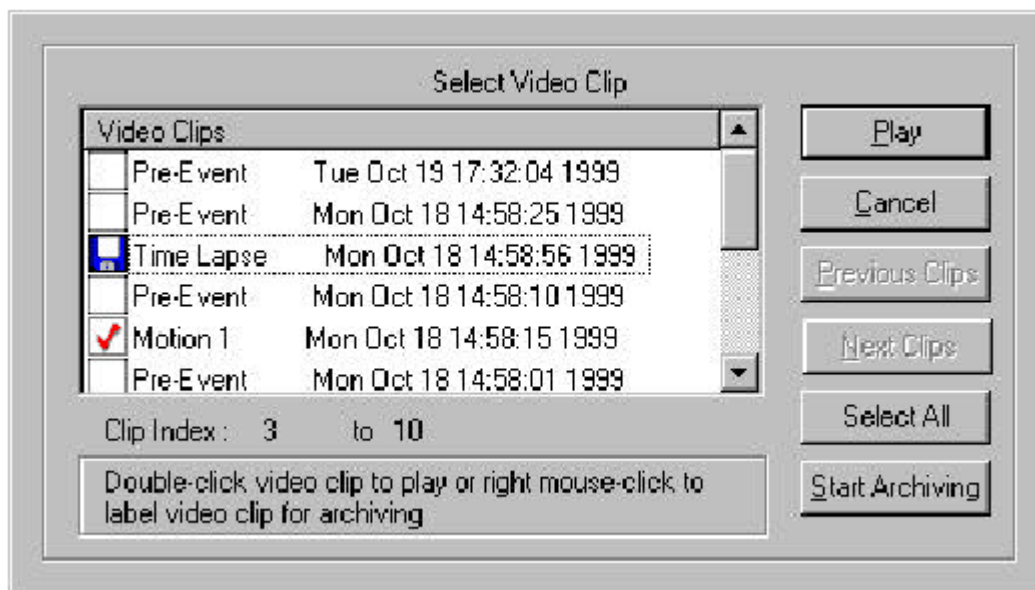


# Downloading Software Using RAS

A PC running RAS can be used to download software updates to your DVMS 1600.

---

**Caution** To protect the internal programming on the DVMS 1600, RAS should only be used to download software files released by Silent Witness. These binary image files can be recognized by their file name (for example, *DDI2_04G.bin*). The numbers in the file name will vary between software updates.

---

To download software from your PC to your DVMS 1600:

1.  To speed up the downloading process, save the new DVMS 1600 software update file to a temporary folder on your PC hard drive.

2.  Start RAS and establish a connection between your PC and your DVMS 1600.

3.  From the main RAS menu, select **Action ➤ Download DVMS 1600 Software**.

4.  Navigate to the new DVMS 1600 software file. Highlight the file and click **Open** to start downloading the software.

    A progress bar displays on the right-hand side of your RAS interface while the software downloads. Once the entire file has downloaded, the DVMS automatically burns in the new software.

    If the connection is broken for any reason, and the DVMS 1600 does not receive the entire file, the process will abort.

5.  When the new software burn is complete, you are prompted to reboot the DVMS 1600 unit. The new software does not take effect until the DVMS 1600 is rebooted. Click **Yes** to disconnect from the DVMS 1600 and reboot the unit. Wait at least one minute before trying to reconnect to the DVMS 1600.

# Disconnecting from the DVMS 1600

To disconnect from the DVMS 1600, from the main RAS menu, select **Action ➤ Disconnect**. This is the preferred method of disconnecting.

---

**Note**     If you close RAS by selecting **File ➤ Exit** from the main RAS menu, or by clicking the **X** in the upper right-hand corner of the RAS screen, you will be automatically disconnected.

---

---

**Caution**  If your DVMS 1600 was recording before you connected to the unit using RAS, a warning window appears when you disconnect. To resume recording before disconnecting, click **Yes**.

---

# A

# RAS Installation

When your DVMS 1600 is connected to a PC running Remote Access Software (RAS) you can access the DVMS1600 from any location. RAS allows you perform the same functions remotely that you can locally. For example, you can:

- View live video
- Play recorded digital video
- Retrieve recorded data
- Change settings
- Upload new software releases

The RAS desktop is the primary user interface for the remote system. It allows overall control of what is displayed on the monitor, whether live or previously recorded video.

# PC System Requirements

Playing back digital video puts a high demand on your computer system. To use the RAS video monitoring and playback functions, your PC must meet the minimum computer system requirements listed below:

| | |
|---|---|
| **Processor** | Intel Pentium 500 MHz or compatible (minimum).<br><br>An MMX processor and faster processor speed are recommended.<br><br>**Note** Non-MMX processors cannot monitor video images. However, you may still access the setup menus and start and stop video recording. |
| **Memory** | 32 MB RAM (minimum) |
| **Disk space** | 5 MB of available hard drive space for application files |
| **Hard disk storage** | For downloaded video files, high quality video images require 35 KB per frame (NTSC). |
| **Monitor** | SVGA with 1024 x 768 x 24 bit true color (minimum). An accelerated graphics card is recommended. |
| **CD-ROM drive** | Required to install RAS software |

| Operating system | Microsoft® Windows® 95/98/XP or NT 4.0 with service pack 4 or higher |
|---|---|
| **Connections** | |
| **- Dial-up modem** | A minimum speed of 38400 bps is required. A higher baud rate is recommended. |
| **- Null modem** | A PC serial communications port must be available. |
| **- Network** | An Ethernet network card must be installed. |

# Setting up the DVMS 1600

Before you can use RAS you need to set up the DVMS 1600 for remote access.

1. Turn on the Remote Access function (see *System Setup* on page *25*).

2. On the DVMS 1600 front panel, use the Menu button to enable Remote Access for at least one user name (see *Table 3-1*).

---

**Note**    User permissions can only be changed locally.

---

# Installing the RAS Software

To install the RAS software:

1. Insert your DVMS 1600 CD-ROM into the PC CD-ROM drive.

2. In Windows Explorer, open the RAS folder on the CD-ROM.

3. Double-click the **Setup.exe** file to start the RAS installation.

4. Follow the Install Shield wizard to complete the installation.

5. Double-click the Gyyr RAS icon on your desktop to start the RAS application.

    If you accepted the program defaults during installation, you can also start RAS by clicking **Start** on the Windows taskbar and selecting **Programs ➤ Gyyr ➤ Remote Access Software**.

6. Connect your DVMS 1600 to the PC running RAS (see *Connecting to the DVMS 1600*).

7. Set up your Ethernet or dial-up networking connection.

    **Ethernet Connection**

Before connecting with the DVMS 1600, you must first enable your PC to communicate to the network. Ensure that the ISP or network administrator has the PC plus Network Interface Card (NIC) working properly before attempting a DVMS remote connection. Under RAS network selection, RAS prompts you for the DVMS name and IP address (which must be a fixed address). Proceed to *Ethernet Connection*.

**Dial-up Networking**.

If you are using a modem or a null modem connection, you need to first install dial-up networking and your modem or null-modem driver. If dial-up networking is not installed on your PC, please refer to the appropriate Microsoft documentation. If problems are encountered during the installation process, please consult Microsoft for assistance.

If you have already installed Dial-up Networking and your modem or null-modem driver, set up a modem connection between your PC and the DVMS 1600 (proceed to *Dial-Up Modem Connection* or *Null Modem Connection*).

# Connecting to the DVMS 1600

You can connect the DVMS 1600 to the PC in three ways:

- Using an Ethernet connection
- Using a dial-up modem connection
- Using a null modem connection

## Ethernet Connection

Connect the DVMS 1600 PCMCIA port and the PC to the same network.

---

**Note**    When you first install a PCMCIA Ethernet card, you must reboot the DVMS 1600 to have the unit recognize the card.

---

**Figure A-1    Ethernet Card Connection**



PCMCIA
Ethernet card

LAN

PC running RAS
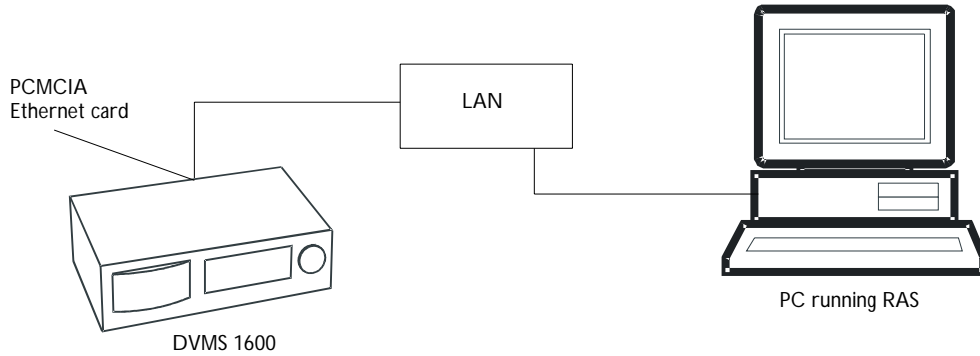
DVMS 1600

# Dial-Up Modem Connection

To connect using a dial-up modem connection:

1.  Turn on modems and ensure they are hooked up to phone lines (at both ends).

2.  Connect an external serial modem to the EIA-232 port on the rear panel of the DVMS 1600 or insert a PCMCIA modem card into the PC card slot on the DVMS 1600.

**Note**    When you first install a PCMCIA modem card, you must reboot the DVMS 1600 to have the unit recognize the card.

**Figure A-2    RAS Dial-Up Modem Connection**



modem

modem

PC running RAS
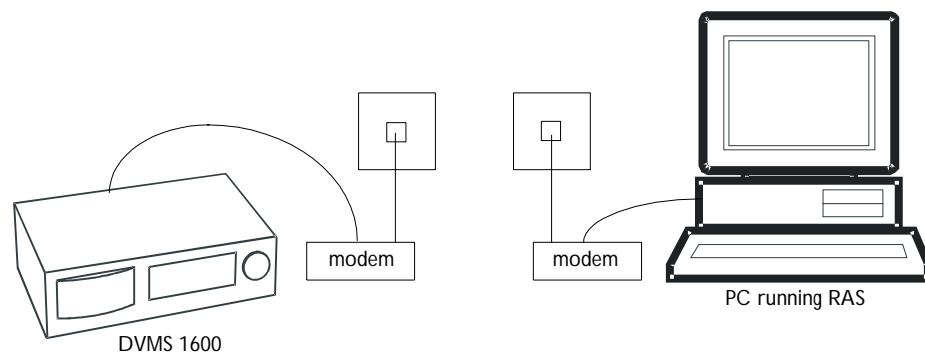
DVMS 1600

# Null Modem Connection

1. Connect the null modem cable to the EIA-232 port on the DVMS 1600 rear panel.

2. Connect the other end of the null modem cable to a serial COM port on the PC.

---

**Note** Do not use a serial cable to connect the DVMS 1600 to the PC.

---

**Figure A-3 RAS Null Modem Connection**
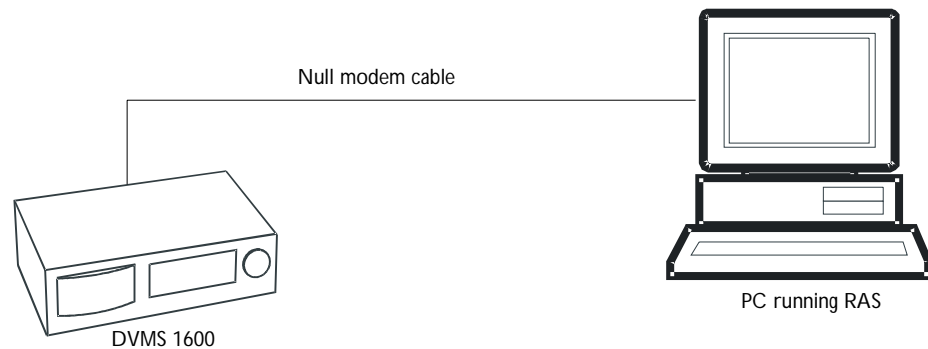


# Setting Up the Network Connections

After connecting the DVMS 1600 and the PC running RAS, you need to set up the network connection.

---

**Note** Make sure you have enabled Remote Access on the DVMS 1600 (see *Setting up the DVMS 1600*).

---

# Setting Up an Ethernet Connection

To set up an Ethernet connection:

1. Start RAS.

2.	If this is your first time using RAS, select **Action ➤ Network Connections** from the main RAS menu. The Communication Setup dialog box displays.
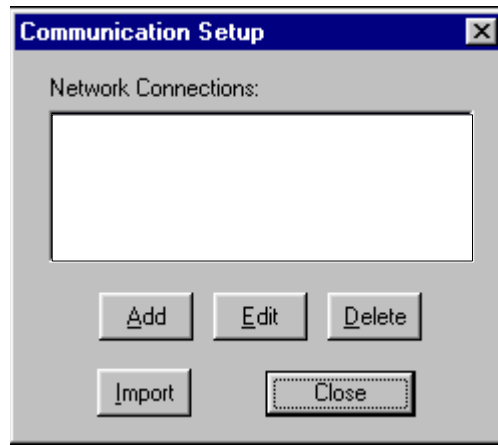


3.	Click **Add**. The Network Connection dialog box displays.
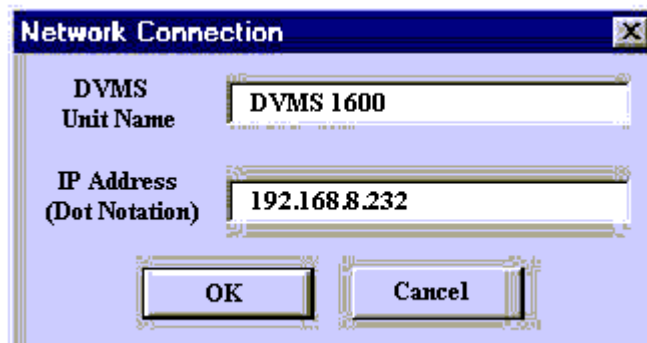


4.	In the DVMS Unit Name field, enter a name for the network connection.

5.	In the IP Address field, enter the IP address of the DVMS 1600. This IP address must be the same IP address you set using the Setup program.

6.	Click **OK**. The network connection appears in the Network Connections field of the Communication Setup dialog box.

7.	To use the new connection immediately, select **Action ➤ Connect** from the main RAS menu. The new network connection appears in the Connect To list. Highlight the new connection and click **Connect**.

8. After a few seconds, the Login dialog box opens, indicating a successful Ethernet connection. Enter the user name and password in the appropriate fields. The user name must be entered exactly the same (case sensitive) as previously set in the System Setup menu. Click **OK** to log in.

## Setting Up a Modem or Null Modem Connection

### Existing Modem or Null Modem Connections

If you have already set up a modem or null modem connection on your PC, it appears in the Connect To list.

---

**Note** All your modem connections are listed, including connections that are not related to the DVMS 1600 (for example, internet connections).

---

To connect to a previously created DVMS 1600 connection:

1. Highlight the connection in the Connect To list and click **Connect**.

2. After a few seconds, the Login dialog box opens, indicating a successful connection. Enter the user name and password in the appropriate fields. The user name must be entered exactly the same (case sensitive) as previously set in the System Setup menu. Click **OK** to log in.

To set up a new modem or null modem connection:

1. Start RAS but do not connect to the DVMS 1600 (click **Cancel**).

2.  Select **Action ➤ Network Connections** from the main RAS menu. The Communication Setup dialog box displays.



3.  Click **Add** to create a new modem connection.

---

**Note**  If you do not have dial-up networking already installed in Windows, a warning window displays. To install dial-up networking on your PC, please refer to the appropriate Microsoft documentation. If problems are encountered during the installation process, please consult Microsoft for assistance.

---
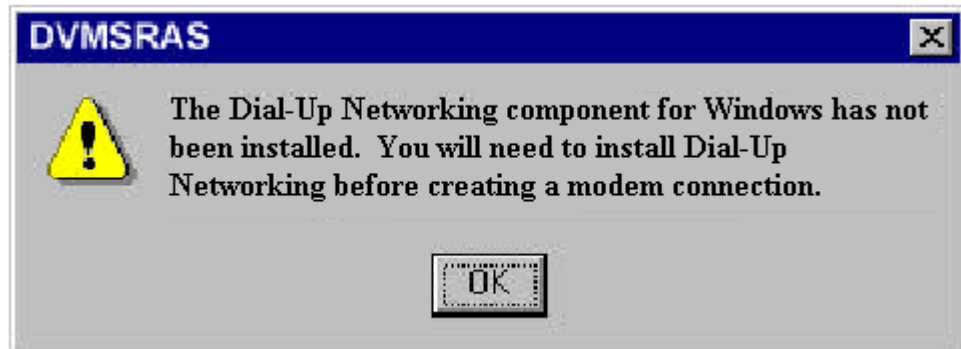


4.  The dialog box that appears depends on the operating system on your PC.

    Windows NT allows you to add a new phone book entry (proceed to *Windows NT Phonebook Entry*).

    Windows 95/98 allows you to modify the modem properties (proceed to *Windows 95/98 Modem Properties*).

### Windows NT Phonebook Entry

a. On the Edit Phonebook Entry dialog box, select the **Basic** tab.



In the Entry name field, enter the name you want to use for the connection.

In the Phone number field, enter the phone number. For a null modem, enter **1**.

In the Dial using drop-down list, select your modem.

If your modem does not appear in the drop-down list, you must install it before you create your phone book entry.

b. On the Server tab:

In the Dial-up server type drop-down list, select **PPP**.

In the Network protocols group box, ensure that only **TCP/IP** is checked.



c.  Click **TCP/IP Settings**. The PPP TCP/IP Settings window displays.

Click **Specify an IP address** and enter a unique IP address in the IP address field.

The IP address (your PC's modem address) you enter must be a unique number. That is, it must be different from the IP address of your DVMS 1600. Also, no other PCs or DVMS 1600 units in your network can use the same number. For additional IP address information, contact your network administrator.

Click **OK** to save your settings and return to the Edit Phonebook Entry dialog box.
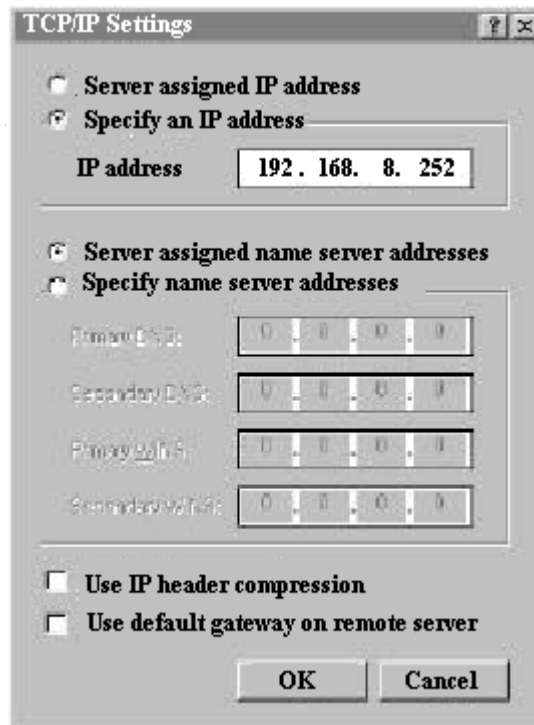


d. On the Script tab, make sure the Login script selected is **None**.

e. Click **OK** to create your new phone book entry.

f. Your modem connection should now be listed in the RAS Communication Setup list. Click **Close**.

g. To use the new connection, navigate to the main RAS menu, select **Action ➤ Connect**, and select the new connection in the Connect To list. Click **Connect**.

   Establishing a modem connection with the DVMS 1600 can take a few seconds. A null modem connection can take up to 60 seconds.

h. After a few seconds, the Login dialog box opens, indicating a successful connection. Click the **Specify an IP Address** radio button and enter a unique IP address as shown.

### Windows 95/98 Modem Properties

a.  On the General tab, enter the phone number in the Telephone number field. For a null modem, enter **1**.
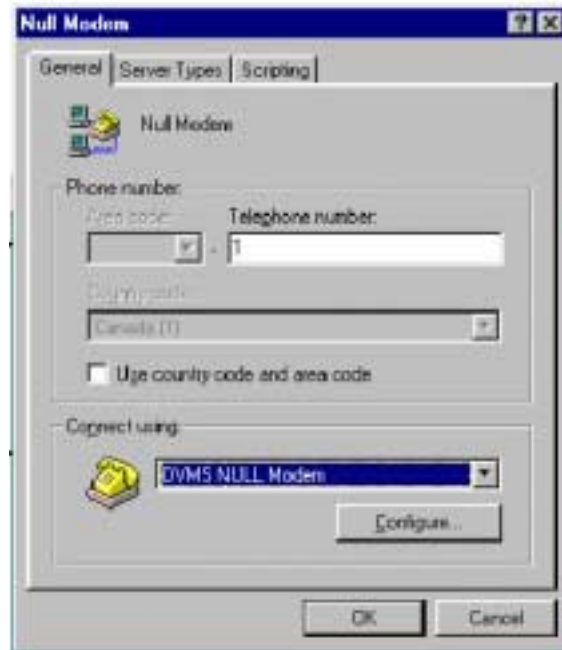


b.  In the Connect using drop-down list, select your modem. If your modem does not appear in the list, you must install it before creating your modem connection.

c.  Click **Configure**. The Advanced Connection Settings window displays. Depending on your modem, the User Error Control group box may be grayed out. If it is not grayed out, the Compress data check box must not be checked.
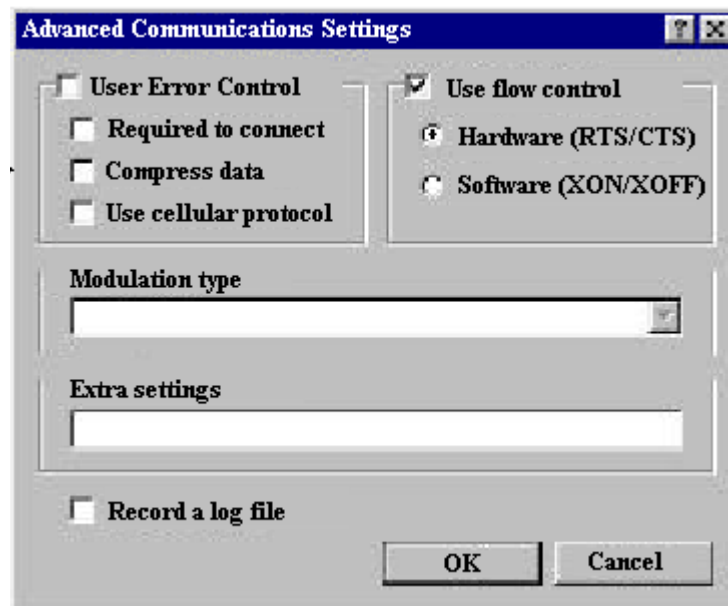
d.  Click **OK** to return to the main Modem Properties window.

e.  On the Server Types tab, only **TCP/IP** should be checked. Clear all others.

---

**Note**    On some Windows operating systems, Server Types may be a button instead of a tab. In this case, click the **Server Type** button.

---
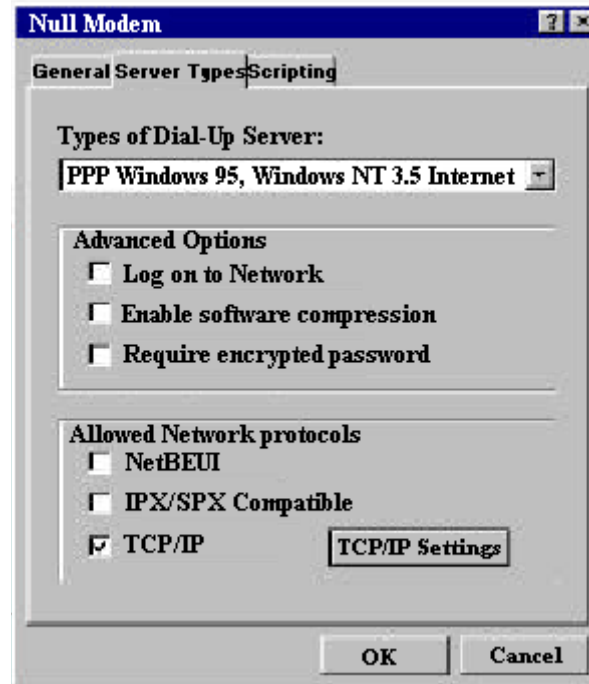


f.  Click **TCP/IP Settings**. The TCP/IP Settings dialog box opens.

Select **Specify an IP address**. Clear all other check marks.

Enter a unique IP address for your modem. It must be different from your
DVMS 1600 IP address. No other PCs or DVMS 1600 units in your network can
have the same IP address. For additional IP address information, contact your
network administrator.
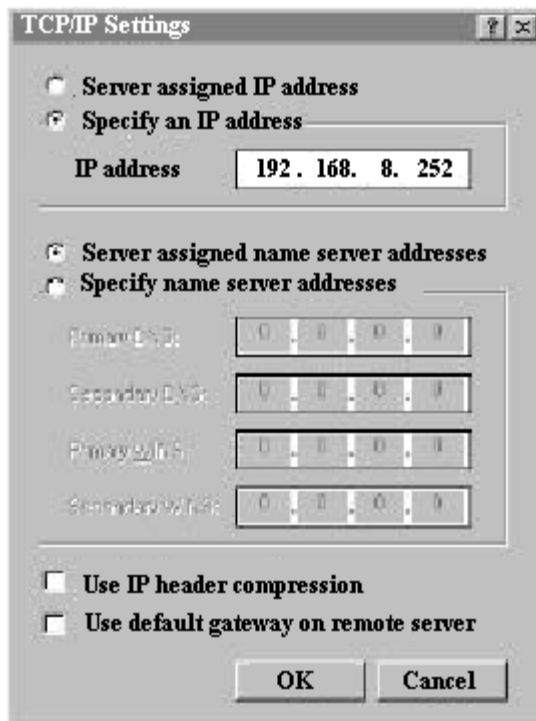


g.  Click **OK** to save your settings and return to the Modem Properties window.

h.  On the Scripting tab, make sure the Login script selected is **None**.

i.  Click **OK** to create your new modem connection.

j.  Your modem connection should now be listed in the RAS Communication
    Setup list. Click **Close**.

k.  To use the new connection, navigate to the main RAS menu, select **Action ➤
    Connect**, and select the new connection in the Connect To list. Click
    **Connect**.

    Establishing a modem connection with the DVMS 1600 can take a few seconds.
    A null modem connection can take up to 60 seconds.

l.  After a few seconds, the Login dialog box opens, indicating a successful
    connection.

# B

# Solutions

The following table describes typical technical issues that you may encounter from time to time and tells you how to solve them.

| If this happens | Do this |
| --- | --- |
| System functioning erratically | The DVMS 1600 is a highly progammable digital recorder. Rather than trying to diagnose problems that may be driven by programming errors, you may find it helpful to go back to a known state. To revert to a known state: |
| | Cycle power, then go into the menus and restore all the default parameters, and format the storage system. This should get the system back to a functional state prior to further system programming. |
| Function not operating | All the main functions can be enabled/disabled in their menu structure. |
| | Example: |
| | Hard alarms are connected to the unit, but when activated the unit does not react to the external alarm. Go into the menus and enable the specific alarm that is connected, then re-test. |
| Network/modem card not recognized | For the system to check for a PCMCIA card, you must enable the Remote Access feature. Go into the menu and enable Remote Access. |
| Video picture poor or video levels incorrect | Check the length of the video cable run. Adjust the video at the source to compensate for video run length. |
| | If looping is performed, the video level may be too low. Disable video termination. |
| | If video is too hot, ensure that video termination is on for non-looped application. |
| Video loss reported on cameras not connected | The system can automatically detect cameras that are present and signal remaining cameras as not connected. This eliminates the need to manually disable cameras that are not present. Go into the menu, select the video option, and then select the video detect option. |
| Unit not recording<br><br>Record light is on, LCD says record, but there are no clips on the hard drive. | Check the various calendars to ensure recording is enabled during the current time period. Also, check that the triggers for motion or text events are properly set up. |

Should you require the assistance of our trained technical support staff, you can expedite call processing by providing our support staff with the current hardware and software versions of the system. This information is available in the system information screen.

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