

## Technical Overview

Your DVR can replace both a time-lapse VCR and a multiplexer in a security installation. However, it has many features that make it much more powerful and easier to use than even the most advanced VCR.

The DVR converts analog NTSC or PAL video to digital images and records them on a hard disk drive. Using a hard disk drive allows you to access recorded video almost instantaneously; there is no need to rewind tape. The technology also allows you to view recorded video while the DVR continues recording video.

Digitally recorded video has several advantages over analog video recorded on tape. There is no need to adjust tracking. You can freeze frames, fast forward, fast reverse, slow forward and slow reverse without image streaking or tearing. Digital video can be indexed by time or events, and you can instantly view video after selecting the time or event.

Your DVR can be set up for event or time-lapse recording. You can define times to record, and the schedule can change for different days of the week and user defined holidays.

The DVR can be set up to alert you when the hard disk drive is full, or it can be set up to record over the oldest video once the disk is full.

Your DVR uses a proprietary encryption scheme making it nearly impossible to alter video.

You can view video and control your DVR remotely by connecting via modem or Ethernet. There are two USB ports that can be used to upgrade the system or copy video clips to external hard disk drives, CD-RW drives or flash drives.

**NOTE: This manual covers the 9- and 16-channel digital video recorders. The DVRs are identical except for the number of cameras and alarms that can be connected and the number of cameras that can be displayed. For simplicity, the illustrations and descriptions in this manual refer to the 16-camera model.**

# Chapter 1 — Introduction

## Features

Your color digital video recorder (DVR) provides recording capabilities for nine or 16 camera inputs. It provides exceptional picture quality in both live and playback modes, and offers the following features:

- 9 or 16 Composite Input Connectors
- Compatible with Color (NTSC or PAL) and B&W (CCIR and EIA-170) Video Sources
- Multiple Search Engines (Date/Time, Calendar, Event)
- Records up to 60 NTSC Images per Second (50 PAL Images per Second)
- “Loop-Through” Video Connectors
- Continuous Recording in Disk Overwrite Mode
- Continues Recording while Archiving, Transmitting to Remote Site and during Playback
- User-friendly Graphical User Interface (GUI) Menu System
- Two Record Modes (Time and Event)
- Audio Recording and Playback
- Alarm Connections Include: Input, Output and Reset Input
- Built-in Alarm Buzzer
- Live or Recorded Video Access via Ethernet or Modem

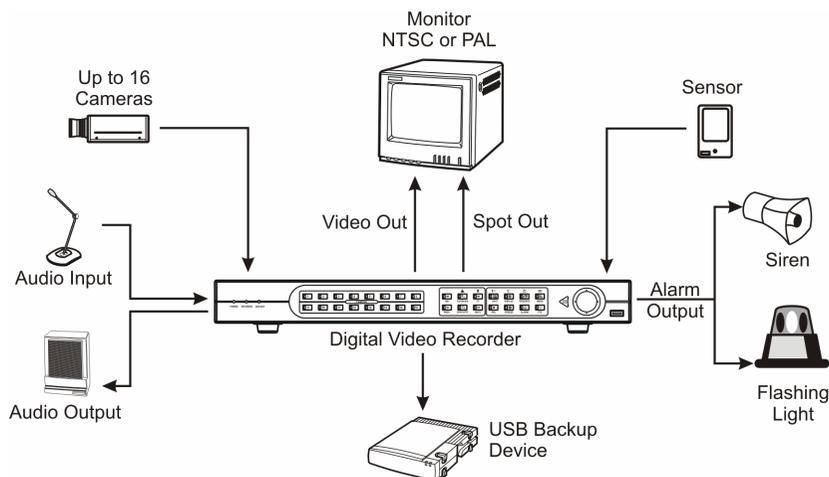
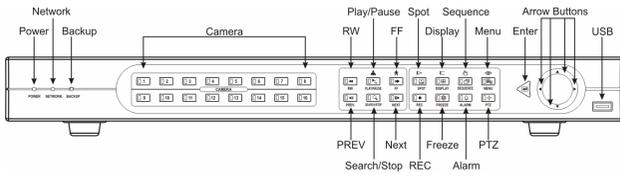


Figure 1 — Typical DVR installation.

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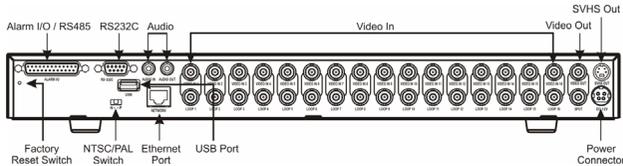
## FEATURES AND FUNCTIONS (1)

### FRONT PANEL



\*Select camera buttons (1-16) to view cameras.

### REAR PANEL

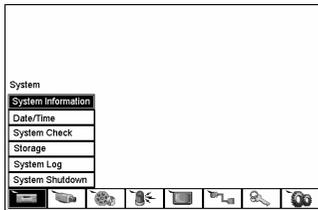


### SYSTEM SETUP

1. After connecting the power cord, the unit will be operational in 60 seconds.

**\*NOTE: There is no record button on the unit. Please refer to the Configuring Record Settings section for the proper record settings.**

2. Press the "Menu" button, enter the password then press the button. The default password is "4321".

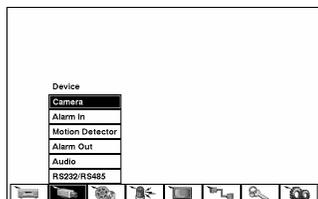


3. Highlight System Information and press the button. The System Information screen appears.
4. Highlight Change and press the button. The System Information Change screen appears.
5. Highlight the box beside Site Description and press the button. Using the virtual keyboard, enter the site name. Select Close and OK to exit and save.
6. Highlight Date/Time and press the button. Enter a new date and time.
7. Highlight Time Zone and press the button. Select the time zone and press the button. Highlight Daylight Saving Time and Holiday Setup and change as desired.

**\*NOTE: Before powering down the DVR highlight System Shutdown, press the button and confirm that you want to shut down the unit – an administrator password will be requested.**

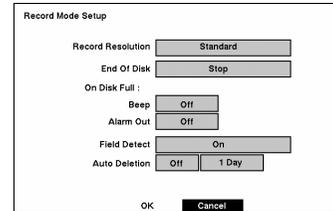
### CONFIGURING INPUT DEVICES

1. Go to <Device> <Camera> to turn On or Off each camera, hide the video of covert cameras, and assign camera titles, types and IDs.



2. Go to <Device> <Alarm In> to set up each input – turn On or Off, set up titles, and set as NO (normally open) or NC (normally closed).
3. Go to <Device> <Motion Detector> to turn On or Off, adjust the Sensitivity and set up Motion Detection Zones.
4. Go to <Device> <Alarm Out> to establish a schedule and set titles for each alarm output from the DVR.
5. Go to <Device> <Audio> to turn Audio Recording and Mute On and Off.
6. Go to <Device> <RS232/RS485> to set up the RS-232C and RS-485 ports to communicate with external devices such as modems, remote controls and dome cameras.

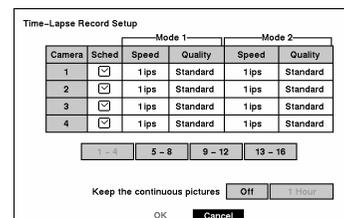
### CONFIGURING RECORD SETTINGS



Highlight the box beside Record Resolution and press the button. This toggles between Standard and High. The maximum recording speed is 60 images per second when set to *Standard*. When set to *High*, the recording speed will be 30 images per second.

### Time-Lapse Recording

1. Go to the Time-Lapse Record Setup screen.
2. Highlight the box under the Speed heading and press the button. Select the recording speed from the drop-down list.
3. Highlight the box under the Quality heading and press the button. Select the image quality from the drop-down list.
4. Go to the Sched field to set the recording schedule. A blue square (Mode 1) or yellow square (Mode 2) indicates the DVR is set to record for those 30 minutes while no square indicates the DVR will not record.

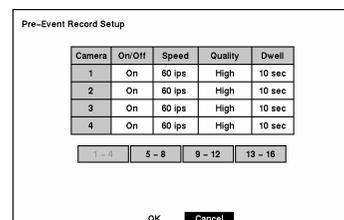


**\*NOTE: Changing the record speed and quality will affect the maximum time-lapse record length.**

### Pre-Event Recording

1. Go to the Pre-Event Record Setup screen to turn individual cameras On or Off, set image speed and quality, and adjust the Dwell time.

**\*NOTE: When the DVR is in the Time-Lapse mode, it ignores the pre-event settings and follows the time-lapse settings.**



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## FEATURES AND FUNCTIONS (2)

### Event Action Recording

1. Highlight the Alarm-In Action, Motion Detector Action or Video Loss Action in the Event Action menu and press the **[OK]** button. The Event Action setup screens will appear.
2. In each Event Action screen, assign a schedule, camera, recording speed, video quality and dwell time in the Record option. In the camera section, multiple cameras can be associated with an event.

Alarm In Event Action

Sensor	Sched	Mode 1		Mode 2	
		Record	Alarm Out	Notify	Notify
1	<input type="checkbox"/>	1	60 ips	Standard	10 sec
2	<input type="checkbox"/>	2	60 ips	Standard	10 sec
3	<input type="checkbox"/>	3	60 ips	Standard	10 sec
4	<input type="checkbox"/>	4	60 ips	Standard	10 sec

5-8 9-12 13-16

OK Cancel

### Event Action (Alarm Out & Notify) Setup

1. Go to the Event Action menu. Activate the Alarm Out section and set the program accordingly for each Event Action.
2. Go to the Event Action menu. Activate the Notify section and set the program accordingly for each Event Action.

Alarm In Event Action

Sensor	Sched	Mode 1		Mode 2	
		Alarm Out	Notify	Notify	Notify
1	<input type="checkbox"/>		10 sec		
2	<input type="checkbox"/>		10 sec		
3	<input type="checkbox"/>		10 sec		
4	<input type="checkbox"/>		10 sec		

5-8 9-12 13-16

OK Cancel

Alarm In Event Action

Sensor	Sched	Mode 1		Mode 2	
		Record	Alarm Out	Notify	Notify
1	<input type="checkbox"/>			On	
2	<input type="checkbox"/>			Off	
3	<input type="checkbox"/>			Off	
4	<input type="checkbox"/>			Off	

5-8 9-12 13-16

OK Cancel

## NETWORK SETUP

1. Go to the Network Setup screen and set up Admin & User Passwords for remote access using the virtual keyboard.

**\*NOTE:** These passwords are for network use. They are different from the Admin and User passwords for local DVR operation.

**\*NOTE:** The passwords are case sensitive. The factory default password for both Administrator and User is 12345678.

2. Highlight Transfer Control and toggle between On and Off. When On, you can set the transfer speed and remote quality to limit bandwidth used to the remote site.
3. Select Transfer Speed from 1 to 30ips and highlight Remote Quality to select the image quality for transferring the video to the remote site.
4. In the connection field, select LAN or Modem, and press "Setup" button.
5. Set up the LAN address and port assignments or modem parameters as required.

LAN Setup

Type:  Manual

IP Address: 192.168.1.100

Gateway: 192.168.1.254

Subnet Mask: 255.255.255.0

DNS Server: \_\_\_\_\_

Port Number Setup: \_\_\_\_\_

OK Cancel

RIS020/RIS485

RIS020/RIS485	RIS020	RIS485
Baud Rate	57600	57600
Parity	None	None
Data Bit	8	8
Stop Bit	1	1
Usage	External Modem	Remote Control

OK Cancel

## CLIP COPY

The Clip Copy screen can be used to back up video to the USB hard disk drive, CD-RW drives or flash drives.

Clip Copy

USB HDD  Audio

From:  First 12-26-2005 04:40:59

To:  Last 12-26-2005 04:40:59

Camera:  1  2  3  4

5  6  7  8

9  10  11  12

13  14  15  16

File Name: \_\_\_\_\_

Start Close

**\*NOTE:** The Clip Copy feature requires the camera title or number along with the date and time of the recorded images to be copied. The default backup device is the CD-RW. A single CDR or CDRW can be written to in several sessions until the disk is full. To view the archived images, remove the disk from the CD-RW device and insert it into any PC with a CD reader. On the PC access the CD drive device and select the image filename. The executable player software program will open automatically displaying playback controls for viewing the video clip.

## SEARCH AND PLAYBACK

Go to the First

Go to the Last

Date/Time Search...

Calendar Search...

Event Search...

Clip Copy...

1. Press the "Search" button on the front panel and enter the user password then press the **[OK]** button. The default password is "1234". To view covert cameras, use the Admin password (4321).
2. Select the type of search using the arrow buttons and press the **[OK]** button.

### Date/Time Search

1. Select <Date/Time Search> in the Search Menu.
2. Enter a specific date and time and select "OK" by pressing the **[OK]** button.
3. The **[PLAY/PAUSE]**, **[RW]** and **[FF]** can now be used to review the video.

Date/Time Search

Enter Date/Time:

01-21-2002 07:04:55 AM

OK Cancel

### Calendar Search

1. Select <Calendar Search> in the Search Menu.
2. Highlight a day using arrow buttons and press the **[OK]** button.
3. Highlight the time bar using the down arrow button and select the time using the left and right arrow buttons. Highlight the GO button and press the **[OK]** button.
4. The **[PLAY/PAUSE]**, **[RW]** and **[FF]** can now be used to review the video.

Calendar Search

01-12-2002

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

0 2 4 6 8 10 12 2 4 6 8 10

Go Cancel

### Event Search

1. vSelect <Event Search> in the Search Menu.
2. The Event Log list will be shown on the screen. Highlight the event you would like to see and press the **[OK]** button.

For more specific search conditions, select <Query> and after entering specific search periods and target events, select <Find>. The search results will be displayed in the event log.

3. Pressing the **[PLAY/PAUSE]** button will start playing the "event" video segment. Press **[STOP]** to return to live monitoring.

Event Search

Search By: Camera

From:  First 01-24-2002 01:56:57 AM

To:  Last 01-24-2002 01:56:57 AM

Camera	Event
<input type="checkbox"/> 1	<input type="checkbox"/> Alarm-In
<input type="checkbox"/> 5	<input type="checkbox"/> Motion
<input type="checkbox"/> 9	<input type="checkbox"/> Video Loss
<input type="checkbox"/> 13	

Search Cancel

Event Search

Search By: Event

From:  First 04-28-2002 11:28:27 PM

To:  Last 04-28-2002 11:28:27 PM

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

Alarm In

Motion

Video Loss

Search Cancel