

Quad Camera Stand Alone System

DVR Security System

User's Guide

INFORMATION SUBJECT TO CHANGE

Table of Contents

Safety Information	3
Package Contents.....	3
1. Introduction	4
1.1 Product Overview	4
1.2 Front Panel	5
1.3 Rear Panel	6
1.4 Remote Control	6
2. Installation	7
2.1 Installing a Hard Drive	7
2.2 Camera Connections and Cabling	8
3. Starting up the DVR System	9
3.1 Detecting an Installed Hard Drive.....	9
3.2 Recovering Lost Data.....	9
3.3 Restoring the Recording Process	10
3.4 Main Screen.....	10
4. DVR System Setup.....	11
4.1 Setup Menu	11
4.2 Camera Select	12
4.3 Record Select.....	12
4.4 Record Mode	12
4.5 Record Frame Rate	13
4.6 Record Quality	13
4.7 Record Schedule.....	14
4.8 Sub Menu - Auto Record.....	14
4.9 Sub Menu - Password Setup.....	15
4.10 Sub Menu - Password Change	15
4.11 Sub Menu - Picture Setup	15
4.12 Sub Menu - Time Setup	16
4.13 Hard Disk Setup	16
4.14 Motion Setup	17
4.15 NTSC / PAL Output Select.....	18
4.16 Restore Factory Defaults	19
5. Recording	19
5.1 Start Recording	19
5.2 Stop Recording	20
5.3 Force Record Mode	20
5.4 Recording Length	20
6. Playback	21
7. Connecting the DVR Unit to a PC.....	22
7.1 Installing Software	22
7.2 Program Interface	23
8. Specification	27
9. Appendix	28
9.1 System Connection Sketch Map	28
9.2 Boxed Contents	28
9. Appendix II (Troubleshooting).....	29

Safety Information

- For your safety, unplugging the power before moving the DVR, installing, or replacing any parts including the hard drive.
- Make sure all the power cable and wires are properly set up before using the DVR.
- To avoid a short circuit, don't leave any unnecessary parts inside the DVR.
- Please avoid dramatic changes of the environment, such as dust, temperature, and humidity. Keep the DVR in a temperature ranging from 5°C~50°C.
- Keep the DVR in a well-ventilated place and away from any heat-generating objects.
- Do not block the DVR's fan and vent.
- Do not expose this unit to the sun directly.
- If you are not sure of the installation and setup, please consult a technician.
- Don't fix it yourself if there's any damage to this unit or the power supply, Consult a technician or the distributor.

Package Contents

- DVR Main unit x 1
- 250GB Hard Drive (Pre-installed) x 1
- Security Cameras x 4
- 18 Meter BNC Camera Cables x 4
- Mounting Brackets x 4
- Power Adapter x 1
- AC Power Cord x 1
- 5 to 1 Splitter x 1
- Remote Control x 1
- Manual x 1
- Software CD x 1

If there is any damage, shortage or inappropriate item in the package, please contact your local dealer.

1. Introduction

1. Product Overview

- High quality pictures by digital recording with 4 video inputs (NTSC / PAL).
- Provides one BNC connector for video output.
- Operations: Recording / Playback / Backup.
- Video compressive mode: Modified MJPEG (recording).
- Recording mode by Continuous, Schedule, Sensor / Motion Trigger.
- One front accessible 3.5" Hard Drive caddy.
- Enhanced USB disk backup.
- Playback searching by Time or Event.
- PC Operating System: Windows 2000 / XP / Vista.
- Two- levels password protection: User password / Master Password.
- Mouse operation available.
- +12VDC, 60Watt 5Amp power adapter (AC100~240V, 50/60Hz),
- Dimension (Width x Height x Depth): 250 x 38 x 232mm.
- Display/Recording frame rate and resolution:

Models	4CH DVR
Display Frame Rate	25x4fps (PAL) / 30x4fps (NTSC)
Recording Frame Rate	25fps (PAL) / 30fps (NTSC)
Display Resolution	720x576 (PAL) / 720x480 (NTSC)
Recording Resolution	640x272 (PAL) / 640x224 (NTSC)

2. Front Panel



Controls:

Name	Function
CH1	View Camera 1.
CH2	View Camera 2.
CH3	View Camera 3.
CH4	View Camera 4.
QUAD	Press to select 1/4 screen display.
REW	Backward search through a time-shifted or recorded video.
PAUSE	Pause video playback.
PLAY	Start video playback.
FWD	Forward search through a time-shifted or recorded video.
STOP	Stop playback or backup.
REC	Start or stop recording / backup.
MENU	Enter menu or back to previous menu list.
UP	Moves up through the list of menu. Also used to select menu options or change the DVR configuration values.
DOWN	Moves down through the list of menu. Also used to select menu options or change the DVR configuration values.
SEL	Use this button to change values on main menu or sub menu setting.

Indicators:

Name	Function
Power LED	The DVR unit is powered up and running (Green color).
Hard disk Activated LED	LED indicator flashes when hard disk is active (Red color).

3. Rear Panel



No.	Function
Video Output (BNC)	BNC connector for attaching to Monitor.
Video Input (BNC)	BCN Inputs for 4x Video Cameras.
DC Input	DC-IN (12V)
Grounding	Screw for attaching grounding cable (if required).
Cooling Fan Vent	Vent for cooling fan (do not cover).

4. Remote Control



1.	CH1	Select or enlarge CH1
2.	CH2	Select or enlarge CH2
3.	CH3	Select or enlarge CH3
4.	CH4	Select or enlarge CH4
5.	QUAD	Quad View
6.	REW	Rewind
7.	PLAY	Play record list
8.	FWD	Forward
9.	RECORD	Record
10.	PAUSE	Pause
11.	STOP	Stop recording or playing
12.	MENU	Enter or exit setup menu
13.	Select / Edit	Modify item
14.	UP	Move up prompt
15.	DOWN	Move down prompt

2. Installation

 **Be sure power is not connected before starting the installation!**

1. Install the Hard Disk Drive

There is a caddy supplied, into which the Hard Drive is installed, this caddy is then inserted into the drive bay at the front of the DVR.

Note: Make sure the jumper on the HDD is set to "Master" to make sure it operates correctly.

Step1: Remove caddy from the front of DVR unit.



Step2: Attach drive to the caddy's IDE and Power connectors, and then screw the HDD into caddy using the 4 supplied screws.



Step3: Insert caddy back into DVR unit and press the latch until locked in place. The caddy can then be locked if necessary.



2. Camera Connections and Cabling

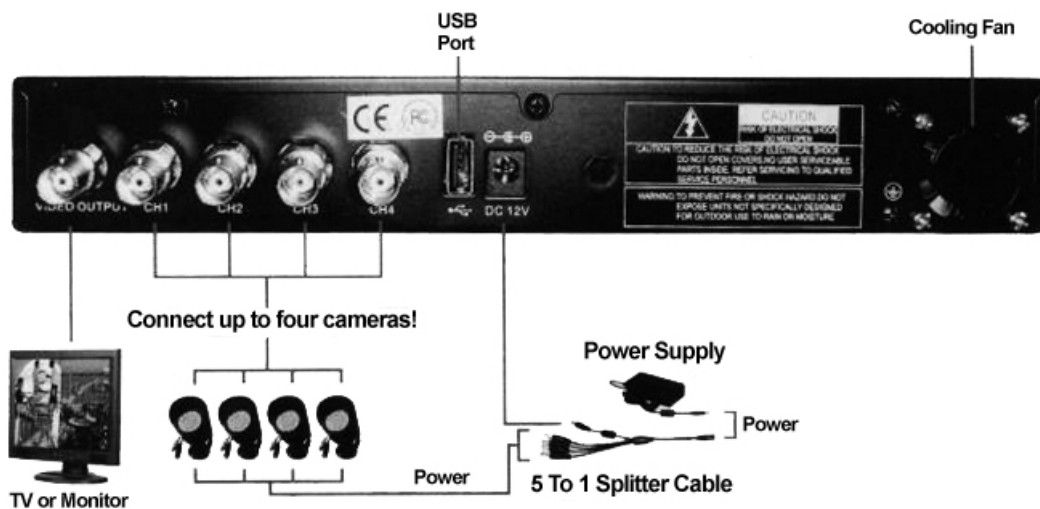
There are four Cameras included with this unit, each of which has a BNC connector to pass the image data into the DVR unit and a power connector to provide power for the Camera.

There are four BNC cables (18 meters long) provided to attach the Cameras to the DVR unit.

There is one 5 to 1 Splitter supplied, which has five connectors for attaching to each of the cameras and one connector for the DVR unit.

The DVR unit has five BNC connectors on the rear panel CH1, CH2, CH3 and CH4. The Cameras attach to one of these four connectors.

The fifth connector is labelled *video out*. This is used to attach an external monitor, in order to display the video output from the DVR unit.



Note: The system needs to be connected to a TV or Monitor and the hard drive must be formatted before the unit can be connected to a PC via the USB cable. Otherwise you will see an error stating “no vineyard drives or devices detected”.

You will need a cable and possibly an adapter to connect your DVR unit to a TV or Monitor depending on what input connection the TV or Monitor requires.

Input Required	Adapter Required	Maplin Part Code
VGA	CCTV to VGA Adaptor	N78CQ
Composite	BNC-Phono Video Lead	L47BA
SCART	SCART-Phono Adapter + BNC-Phono Lead	L83BA + L47BA

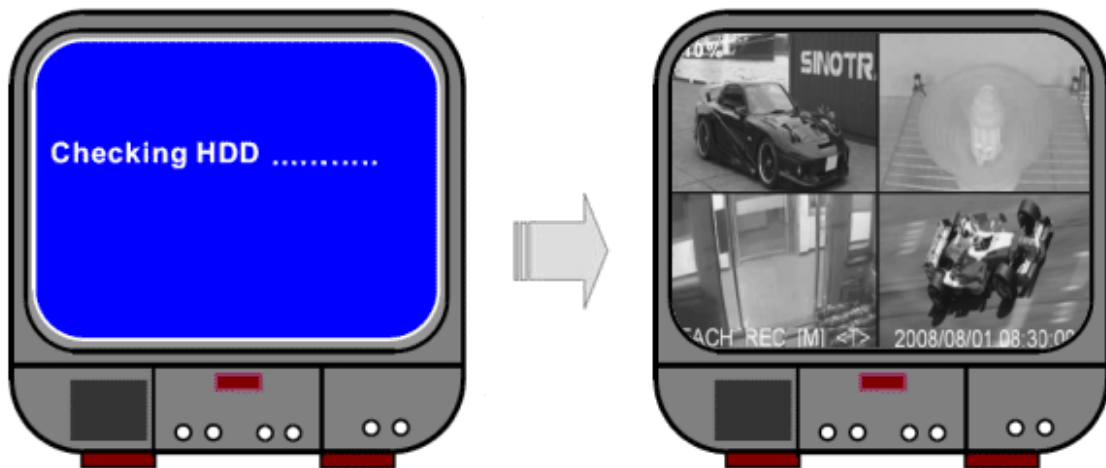
3. Starting up the DVR System

3.1 Detecting an Installed Hard Drive

After the unit is properly installed, the DVR unit will be ready to record and playback.

Turn the unit on using the power switch.

After the unit is powered on, the unit will check the HDD for several seconds, and then the unit will enter into real-time display mode shown in the following screen:



3.2 Recovering Lost Data

If the DVR unit suffers a power cut, there is the potential for a data error to occur, if this is the case the unit will ask if you want to recover the data.



Press the  SEL button to proceed with recovering the data.

3.3 Restoring the Recording Process

If a power-error (very short power outage) occurs during the recording process, the system will automatically restart and restart the recording process.



3.4 Main Screen


Once the system has booted, the main screen will be displayed. If the four cameras have been attached their images will be displayed as shown below:



The ratio of Hard Drive space which has been used is shown in the top left hand corner of the screen.


The Channel number for each Camera image is shown in the middle of the screen.

The Date and Time are shown in the bottom right hand corner of the screen.

To show the setup screen click the  MENU button.

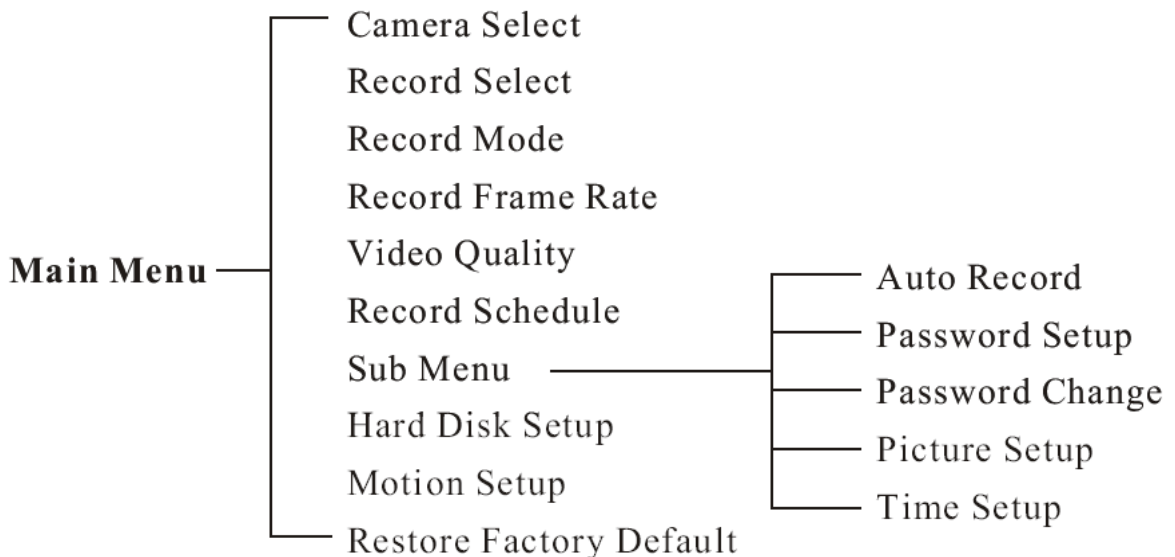
4. DVR System Setup

4.1 Setup Menu

Click the  MENU button to enter the Main Menu. Use the \uparrow / \blacktriangle UP and \downarrow / \blacktriangledown DOWN keys to move through the menu and press the \leftarrow SEL button to confirm an option.

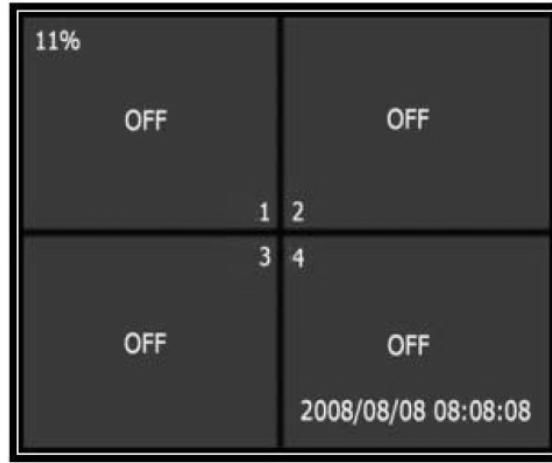


Menu Directory



4.2 Camera Select

This DVR system can display 4 pictures in one screen (Quad Mode) or can be configured to display a single camera.



To choose which Camera(s) to view press the **CH1**, **CH2**, **CH3**, **CH4** or **QUAD** buttons.

If a camera is not connected to a channel, the image for that channel will display "OFF"

4.3 Record Select

This menu option allows you to configure which channels are set to record.

4.4 Record Mode

There are two modes available for video recording:

Each Mode

This mode compresses and records each video channel separately, this allows each channel to be played back separately if necessary and allows the image to be viewed full screen. This mode allows one or more channels to be recorded separately, without the need to record on all four channels.

In playback mode pressing **CH1**, **CH2**, **CH3** or **CH4** allows you to switch between the channel being viewed.

In either recording or playback mode, pressing and holding the **QUAD** button for over 3 seconds will set the cycle through all of the channels one after the other in full screen display mode.

Quad Mode

This mode compresses and records all 4 channels into one video file. This has the advantage of saving space and will allow more video to be stored to the hard drive. The disadvantage of this mode is that it will only playback in Quad mode and individual channels cannot be expanded for viewing in full screen display mode.

4.5 Record Frame Rate

The record frame rate menu option allows the frame rate to be selected, the options are: 25, 12, 8, 6, 4, 3, 2, 1 frames per second.

The higher the frame rate selected the better the quality of played back video will be, will more smooth movement of any moving objects on screen. The drawback to this is that the higher the frame rate, the more Hard Drive space will be used when recording.

4.6 Record Quality

There are three levels of recording quality which can be selected: High, Normal and Low. The higher the recording quality, the more Hard Drive space will be used when recording.

Note: The Record Mode, Record Frame Rate and Record Quality will all affect the amount of Hard Disk space which is used when recording. This will affect the total recording time of the system based on the capacity of Hard Drive which is being used.

4.7 Record Schedule

This menu option allows the Schedule to be set, with the channels set to Not Record, Record or Motion Triggered (recording will only be triggered if the camera detects motion within it's filed of view).



Use the ↑ / ▲ UP and ↓ / ▼ DOWN buttons to move the prompt up and down the Schedule timeline and press the ← SEL button to change the record method at any given point.

The options for the method are:

- “-“ Not Record
- “T” Record
- “A” Motion Triggered

Note: Setting the schedule correctly can allow for a much greater overall recording time for the DVR system.

4.8 Sub Menu – Auto Record

When this option is set to “ON” the DVR will start recording automatically if it has not been operated within the last five minutes.


When this option is set to “OFF” the DVR will not start recording until the ● REC record button is pressed.

4.9 Sub Menu – Password Setup


When the password is set to “ON”, to stop the DVR from recording, or to enter the Menu screen will require the system password to be entered.

If set to off, then the system password will not be needed to operate the system.

4.10 Sub Menu – Password Change






The system password is made up of a number of different menu keys. The default password is entered by pressing the  CH1 button six times.



The password can be changed to any combination of front panel button presses, using all the available buttons except the  MENU button which is used for confirming and exiting from this menu option.

4.11 Sub Menu – Picture Setup

This menu allows the picture Hue, Saturation, Contrast and Brightness to be configured on each channel.

Select the channel to edit using the  CH1,  CH2,  CH3,  CH4 or  QUAD buttons.

Use the  /  UP and  /  DOWN buttons to move between picture options.

Use the   REW and   FWD buttons to decrease and increase the value.


The default value is 50 for all four options. Available values are 0 – 99.



Press the  MENU button to confirm and exit.

4.12 Sub Menu – Time Setup

The systems time and date can be setup within this sub menu.

Use the \uparrow / \blacktriangle UP and \downarrow / \blacktriangledown DOWN buttons to move the prompt and press the \leftarrow SEL button to change the entry. When finished press the  MENU button to confirm and exit.



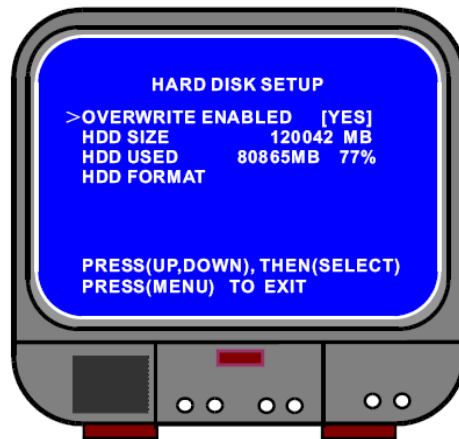
4.13 Hard Disk Setup

This menu option shows information about the Hard Drive which is installed in the system and also allows you to choose whether Overwrite is enabled.

Overwrite Enabled:

If this is set to YES, then when the Hard Drive becomes full, the video recording will loop over and start recording over the earliest recorded data on the disk.

If set to NO then recording will stop as soon as the Hard Drive becomes full.



HDD Size:

This shows the capacity of the Hard Drive which is installed in the system.

Note: Hard Drives always show a capacity which is less than their actual size. A 1TB drive will report as a 976GB drive.

HDD Used:

This shows the amount of Hard Drive space used and the percentage of total drive space used.

HDD Format:

This option is used to configure a Hard Drive for use with the DVR system.

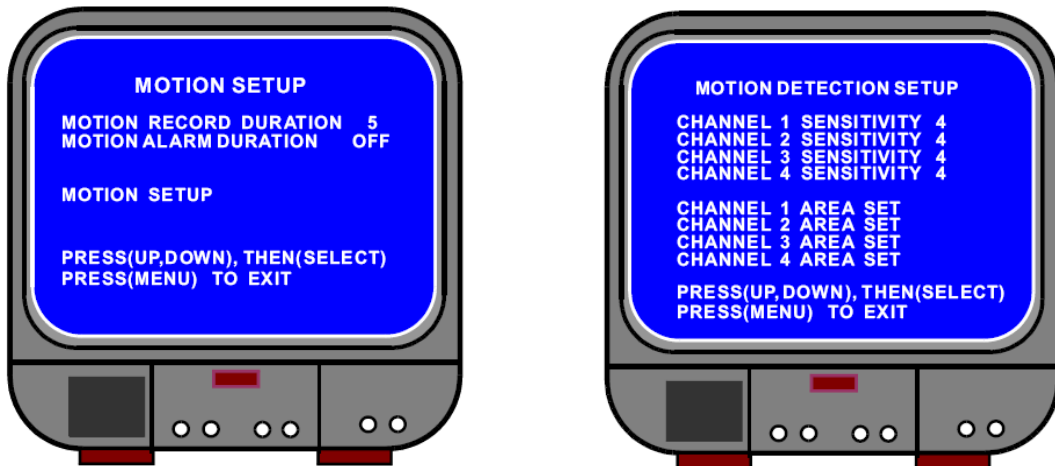
Note: When a Hard Drive is first used with the DVR, this option must be used to configure the drive. Until a drive has been formatted for use with the system an error will occur when trying to access the DVR unit from a PC using the USB connection. The Format option doesn't perform a true format on the drive and this option can't be used to wipe the drive clean of data.

4.14 Motion Setup

The Motion Setup menu allows the recording duration and the sensitivity of the motion detection to be configured.

Motion Record Duration:

The number within this setting is the number of seconds a channel will record for after motion has been detected.



Motion Alarm Duration:

This setting controls how long the Motion symbol will be displayed on screen after motion has been detected.

Motion Setup:

This sub menu allows the Motion Detection to be fine tuned.

Channel Sensitivity:

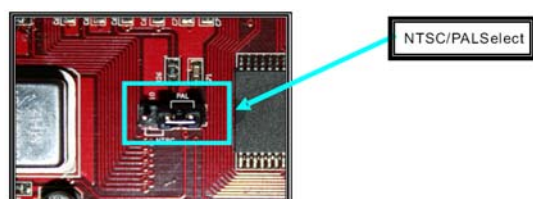
The sensitivity can be set for each channel, the options are from 1 (High Sensitivity) to 9 (Low Sensitivity) and Off which will not allow the channel to be triggered by movement.

Channel Area Set::


By pressing the **SEL** button on a channel you will be shown a picture of that channel divided into 144 (12 x 12) blocks. Each one of these blocks can be set as an active or inactive area for motion detection. Use the **UP**, **DOWN**, **LEFT** and **RIGHT** buttons to move Up, Down, Left and Right within the image. Pressing the **SEL** button while on a block will make it active (transparent) or inactive (shadowed). When finished press the **MENU** button to confirm and exit. Press the **REC** record button to start recording.


4.15 NTSC / PAL Output Select

To switch between NTSC or PAL video format, change the jumper J10 on the system board.




4.16 Restore Factory Defaults

Press the  MENU button and select the “Restore factory default” option to reset the system to it’s factory default settings.

Note: If you forget the system password, turn off the system and remove the Hard Drive. Power the system up again and press the  PAUSE button ten times. This will reset the system to it’s factory default settings.

5. Recording

5.1 Start Recording

Press the  REC record button to start recording. On screen some of the system information will be shown as well as the current feed from the cameras on each channel.

Note: Single channels are only able to be viewed separately in full screen if the record mode is set to Each Mode.



- | | |
|------------------------------|--|
| ① Hard Disk Usage Percentage | ⑤ Status (REC, Play, FF1, FF2, FF3, REW, PAUSE) |
| ② Recording Symbol | ⑥ Hard Drive Information |
| ③ Channel Names | ⑦ Record Schedule: (T) Continuous, (A) Motion, (-) Not Recording |
| ④ Mode (QUAD or EACH) | ⑧ The Time and Date set in the DVR |

5.2 Stop Recording

Press the ■ STOP button to stop recording, if there is a system password, this will need to be entered to allow the recording process to stop.

5.3 Force Record Mode

If the DVR is not set to record because the schedule has been set to “-“ for the current time, you can force the system to record by pressing and holding the ● REC record button for more than 3 seconds. To stop the system from recording in forced mode, press the ■ STOP button.



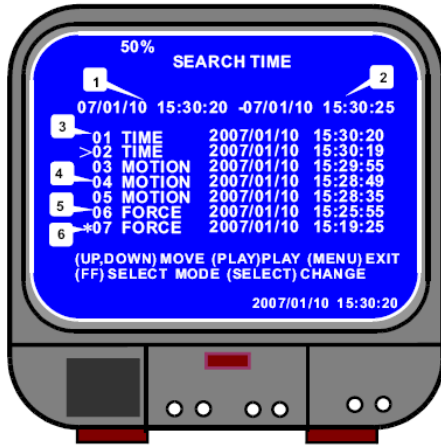
5.4 Recording Length

The table below give the estimated record time in hours based on a 250GB Hard Drive recording in Quad Mode.

Format	Quality	Frame Rate	30	15	7	1
NTSC	HIGH	20	116	234	502	3496
	NORMAL	15	156	310	666	4660
	LOW	12	194	388	832	5826
Format	Quality	Frame Rate	25	12	6	1
PAL	HIGH	20	140	292	582	3496
	NORMAL	15	186	388	776	4660
	LOW	12	234	486	970	5826

6. Playback

To playback the last event which has been saved on the Hard Drive, press the ► PLAY button. To show the recorded events list press the 📖 MENU button and use the ↑ / ▲ UP and ↓ / ▼ DOWN buttons to navigate through the events list. To playback an event from the list press the ► PLAY button on the highlighted event.



① Start Time
② End Time
③ Time: Continue Record
④ Motion: Motion Triggered
⑤ Force: Force Record
⑥ * An event which has not been viewed

Another way to search through video is to enter the time period you wish to view.

Press the ►► FWD button and then use ↑ / ▲ UP and ↓ / ▼ DOWN to move the prompt. Pressing the ←SEL button allows the time and date values to be changed. Press the ► PLAY button to play to video from the selected time period.

2008 / 0 1 / 0 8 08 : 30 : 3 2 --- 2008 / 0 1 / 0 8 16 : 00 : 0 5

7. Connecting the DVR Unit to a PC

7.1 Installing Software

1. Make sure the DVR unit is not connected to the PC.
2. Insert the Software CD in your Optical Drive.
3. Run the Setup program. Note: If installing the software on Windows Vista, install the software in Administration mode by right clicking on the file and selecting “**Run as Administrator**”



4. Change the Destination Folder if necessary, or just click Next.
5. Once the program has been installed, connect the DVR system via the USB cable.
6. Run the program by selecting Start > Programs> DVR Viewer. If installed on Vista, you must also run it as an Administrator by right clicking on the DVR Viewer link and selecting “**Run as Administrator**”

Note: The Hard Drive must already have been formatted for use with the system, otherwise you will receive an error “**No Vineyard Formatted Storage Device Detected**” when trying to access the DVR unit from a PC using the USB connection.



See chapter 4.13 for more details.


When connecting to the DVR system you will see the following window.

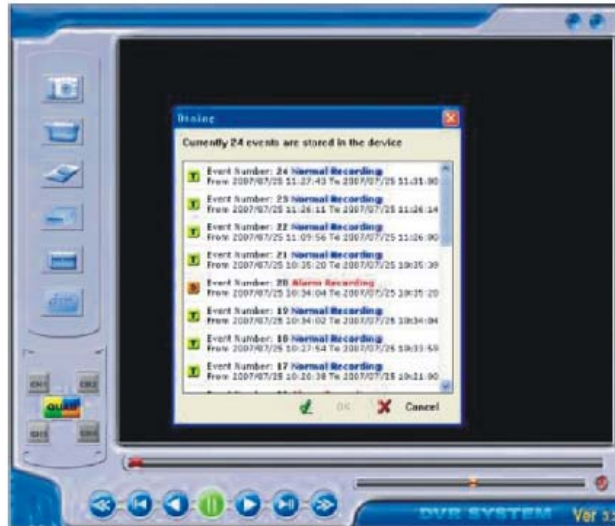


7.2 Program Interface



- | | |
|--------------------|------------------------|
| 1. Save Frame | 13. Back One Frame |
| 2. Save Video Clip | 14. Play Backwards |
| 3. Configuration | 15. Pause |
| 4. Print | 16. Play |
| 5. Event List | 17. Forward One Frame |
| 6. DVR / PC Mode | 18. Fast Forward |
| 7. Channel 2 | 19. Minimise Window |
| 8. Channel 1 | 20. Close Window |
| 9. Quad Mode | 21. Volume Control |
| 10. Channel 3 | 22. Audio On / Off |
| 11. Channel 4 | 23. Playing Scroll Bar |
| 12. Fast Rewind | |

Press  to open the event / record video list.




Select an event from the list to play it back.

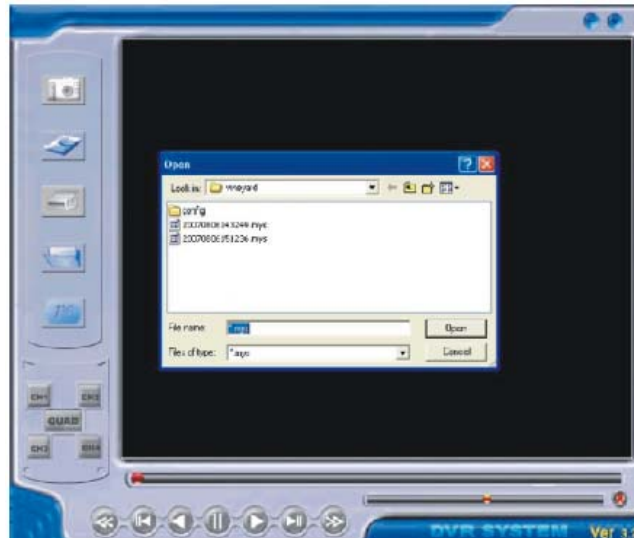
To save a video clip to disk press the  icon, select the format to save it in MYS or AVI and click the OK button.




Quad Camera DVR


To view a saved video click the DVR / PC Mode  icon to change to PC Mode.

Open the file by clicking the folder icon  and selecting the file you wish to playback.




To configure the DVR system, click the  icon.



To print an image from a recorded video, click the  icon.



To play a video click the  icon.

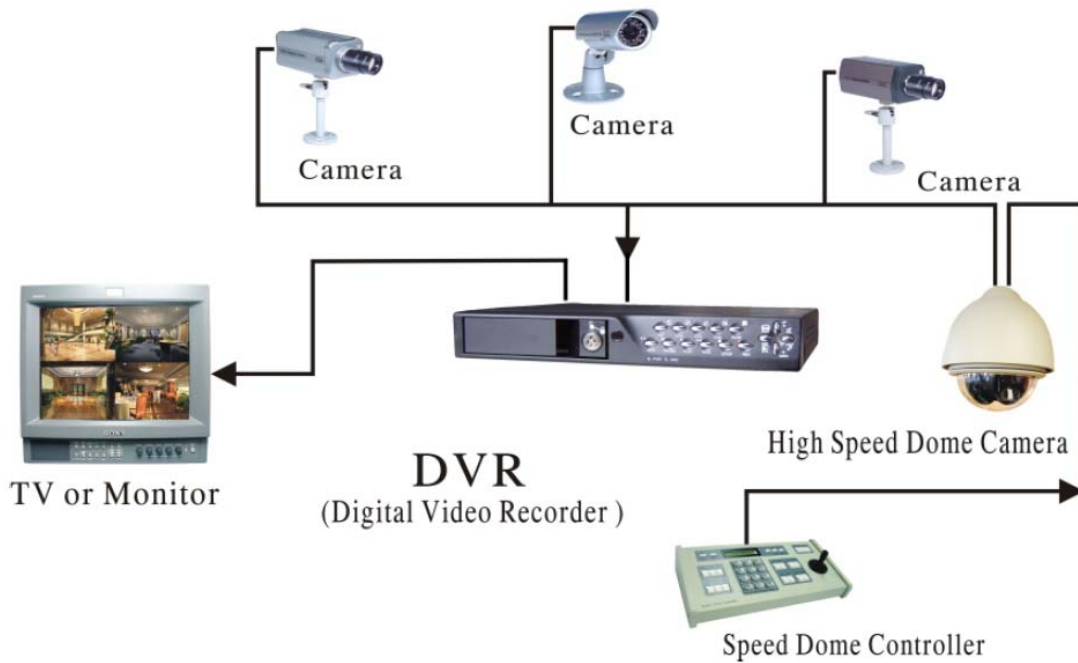


8. Specification

Item		Description	Note
Video Format		NTSC / PAL	
Operating System		None	Stand-Alone
Camera Input Channel		4 channel Composite BNC	
Video Output Channel		1 channel Composite BNC	
Display Frame Rate	NTSC	120 frames / second	4 x 30 frames / second
	PAL	100 frames / second	4 x 25 frames / second
Recording Frame Rate (Quad Mode)	NTSC	Maximum 30 fps (Quad)	Quad Mode
	PAL	Maximum 25 fps (Quad)	Quad Mode
Recording Frame Rate (Each Mode)	NTSC	Each Channel = 30fps ÷ Number of Source	Maximum 30 frames/s (Each Channel)
	PAL	Each Channel = 25fps ÷ Number of Source	Maximum 25 frames/s (Each Channel)
Record Mode		Continuous, Time Schedule, Motion Triggered	
USB		USB 2.0 port (Optional)	
Resolution	Display	NTSC: 720 x 480 PAL: 720 x 576	
	Record	NTSC: 320 x 112, 640 x 224 PAL: 320 x 576, 640 x 272	QUAD: 640 x 224 (total) EACH: 640 x 224
Video Compression Format (Each Channel)		Modified Motion-JPEG (12-20Kb / frame)	Low: 12Kb Normal: 15Kb High: 20Kb
HDD Support		Over 750GB	ATA-100 Interface
Estimated Record Length		250GB Hard Disk @ 7 frames per second @ Normal Quality (250 x 1024 x 1024) ÷ (7 x 15 x 60 x 60) = 693.5 Hours	
Search	Method	Time, Date, Event	
	Full Screen	Yes	
Dimensions (L x W x H)		250mm x 232mm x 38mm	

9. Appendix

9.1 System Connection Sketch Map



9.2 Boxed Contents



Power Cord



Power Adapter



User Manual



Remote controller
(Optional)



GNG



USB Driver CD
(Optional)



USB Cable
(Optional)

10. Appendix II (Troubleshooting)

Q: Why does the DVR not work when connected to a power supply?

A: Make sure that the power switch at the rear of the unit is switched on.

Q: Why is the DVR system responding slowly after boot up?

A: The DVR system will check all the data on the Hard Disk during when it is starting up, this will slow the system down.

A Hard Disk error will also cause the system to slow down, while it checks to drive.

Q: Why does the DVR system repeatedly reboot after being switched on?

A: The Hard Disk may not be formatted in FAT32 format, or may have a logic error. Check if the color format (PAL/NTSC) in the record setting is correct. The system will keep rebooting if the DVR is set to record in PAL mode and the video input is set to NTSC.

Q: Why does the DVR system freeze while playing back or checking playback information?

A: Make sure the Hard Drive is connected within the Hard Drive Bay correctly.

Q: Why is a Monitor or TV connected to the DVR system displaying in only Black & White?

A: Make sure the DVR colour format and the Monitor / TV colour format are the same, also check if the Monitor / TV supports colour in PAL or NTSC.

Q: Why is the live-view not displaying in colour correctly?

A: Reboot the DVR, load the default factory settings and reset the colour setting in the DVR Menu.

Q: Why is a Monitor or TV not displaying an image?

A: Check that the power supply is connected and working and that the video output is connected correctly.

Check that the power switch is ON.

If the monitor is displaying OFF, set the Channel to on in the DVR settings menu.

- Q: When I format the Hard Drive from the Hard Disk Setup option within the Menu, the system tells me that files are deleted. But when I plug into a computer via the USB port, why can I still see the files on the hard disk drive?
- A: The system allows for resetting of the hard drive for over-writing purposes. This does not act in the same way that a PC format would do, and does not delete the data from the drive. If you want to delete all the data on a drive, its best to format it by attaching it to a PC.
- Q: When I opened the box and listed all the components. There were no cables for me to attach to my Television / Monitor, why is this?
- A: There are many ways to connect this DVR a TV / Monitor. It would be impossible to cater for all types. The table below shows the most common connections and what is required:

Input Required	Adapter Required	Maplin Part Code
VGA	CCTV to VGA Adaptor	N78CQ
Composite	BNC-Phono Video Lead	L47BA
SCART	SCART-Phono Adapter + BNC-Phono Lead	L83BA + L47BA

- Q: Does the DVR viewer software support windows vista?
- A: If installing the software on Windows Vista, install the software in Administration mode by right clicking on the file and selecting “**Run as Administrator**”. When you run the program you must also run it as an Administrator by right clicking on the DVR Viewer link and selecting “**Run as Administrator**”
- Q: I have opened the box and set-up the unit and cameras and attached to my PC. Why does the DVR viewer software says “**No Vineyard Formatted Storage Device Detected**”?
- A: The DVR unit needs to be set-up using a monitor first and to be formatted in the correct way, before use with a computer.
- Q: Can I use the DVR connected to a monitor and a computer (via USB) at the same time?
- A: Yes this is a useful function allowing you to take snapshots of pre-recorded material whilst the unit is in use.