DEDICATED MICROS

DV-IP Server

User Guide

NetVu CONNECTED

Contents

Introduction

What is the…

DV-IP Server

The DV-IP Server has been designed to offer distributed monitoring and recording of multiple inputs. Combining advanced hardware technology with numerous sophisticated viewing applications makes the product range the ideal solution for many applications.

The DV-IP Server performs the task of a concentrator for analogue video, digitises, compresses, stores and distributes these signals across an Ethernet network infrastructure. Supporting alarm handling, on-board firewall for security, web configuration and monitoring, video motion detection and much more making the Server a fully featured solution.

Remote monitoring of any site can be achieved via the Internet or a more sophisticated viewing application can open up the extra features (remote alarm verification) supported on the Server.

Incorporating audio into the system allows a live bi-directional audio connection to be made between the Sever and a Client application, as well as recording the audio along with the video on the Server hard drive.

The unit is available as 6, 10 or 16 channel units, supporting JPEG and MPEG4 compression ensures high quality video performance is maintained, and with the modular codec architecture within the Server it is possible to achieve up to 120pps (NTSC) recording across all inputs

The local recording achieved with the DV-IP Server removes the issues found in many applications where there are high bandwidth requirements for centralised recording. Supporting numerous network protocols (IP, TCP, UDP, DHCP, FTP, TELNET, ICMP, HTTP, ARP) the DV-IP Server is an ideal choice for a true converged network ensuring compatibility with new and existing network infrastructure's.

To further enhance the recording and monitoring capabilities external alarms and video motion detection can be built-in to the system configuration to enable event recording and remote alarm monitoring; an ideal scenario for Central Monitoring Stations.

The integration of numerous dome/PTZ protocols ensures that the DV-IP Server can be retrofitted into an existing system and offers no limitations for selecting compatible cameras when incorporating into a new installation.

One of the unique features of the DV-IP Server is the On-board firewall supporting IP filtering and TCP and UDP port allocation enhancing the security already achieved with the network firewall and ensuring the unit can not be targeted when connected to a public network.

Features

What does the DV-IP Server offer you?
Below is a list of the features that the DV-IP Server supports, take a look at this and see which of these features is what your application needs, maybe this will highlight some features that you hadn't thought of but may be of value to the system you are installing, then using the How to….? documents select the scenario to configure the unit.

- NetVu Connected

  The DV-IP Server is part of the NetVu Connected family of DVR's, Servers and software offered by Dedicated Micros. This allows the DV-IP Server to be easily integrated into any NetVu Connected system providing a system that can operate as a single unit or as part of a system providing central monitoring capabilities for numerous sites.

- TransCoding Support

  The DV-IP Server supports the option to record and view JPEG video images alternatively it is possible to take the recorded JPEG and view this in MPEG4 format, this feature ensures applications with bandwidth restrictions can still maintain the highest quality video recordings but transmit at much lower bit rates maintaining network efficiency.

- **Multi***Mode* Support

  Multi*Mode* recording offers the ability to set different recording rates, resolutions and compression across scheduled, normal and alarm modes, or to mix a standard setting for many cameras with individual settings for particular cameras and time of day. By varying the quality (bitrate) of the recorded image, users can increase recording capability of the unit.

- Multi-camera Recording Server

  Up to 16 cameras can be digitally recorded simultaneously. Using JPEG video compression the high video quality is maintained.

- Multi Site Video Distributor

  With the introduction of the Ethernet connection the DV-IP Server can distribute video to any location on the LAN or WAN.

- Audio Control and Recording

  The integration of bi-directional audio means that potential situations can be diverted, help points can be incorporated into the overall solution.

  Recording of the audio along side the video allows simultaneous playback showing and hearing what happened during the incident.

- Multiple PTZ and Matrix Protocols

  Allows the DV-IP Server to fit into any application, retrofit existing analogue systems; incorporate a network connection by adding a DV-IP Server. This ensures that nothing needs to be removed and discarded to achieve the functionality supported on the unit.

- Alarms and Relays

  Integration of all Building Management means a single interface for monitoring the area; door access alarm can trigger a camera to be recorded and transmitted to a monitoring station.

  Relays can be used to automatically trigger devices; lift barriers, open doors again emphasises the possibilities of integration.

- Web Interface for Viewing and Configuration

  No need to install dedicated software to connect to the Server, all configurations can be carried out with a common interface for ease of use. Viewing is dependant on the functionality required but simple viewing and control can be achieved via the web interface.

Dedicated Micros ©2007

MPEG4 Compression

The unit includes MPEG4 image transmission capabilities. This technology ensures that users over bandwidth constrained networks have the ability to view video in real time. It can record a mixture of JPEG and MPEG on each video input and transmit either JPG or MPEG to each individual user. Features are provided to ensure the user can configure the unit's image resolution, bit rate and also how many pictures will be transmitted. The unit is able to simultaneously serve JPEG images across a LAN, transmit MPEG4 over a wide area connection, and record high quality JPEG images to disk.

Design of the manual

The DV-IP Server Setup manual is divided into sections to allow ease of installation and configuration. The system works in a two tier scenario; simple and advanced features. This allows the manuals to follow the same format, therefore offering:

• Simple installation

• Simple configuration

There is reference material on the accompanying CD to assist with the advanced features, explaining how the functions operate and the advantage of each function to any installation.

The configuration section is designed to demonstrate typical scenarios and will guide you through the configuration for all aspects of that scenario; How to allocate and IP address, How to enable the Firewall feature, etc.

More information on the operation and control of the System is detailed in the Advanced DV-IP Server User Guide on the CD.

CE

If this product is marked with the CE symbol it indicates compliance with all applicable directives.

Directive 89/336/EEC.

A 'Declaration of Conformity' is held at Dedicated Micros Ltd.,

1200 Daresbury Park, Daresbury, Cheshire, WA4 4HS

Important Safeguards

Read Instructions

All the safety and operating instructions should be read before the unit is operated.

Power Sources

This unit should be operated only from the type of power source indicated on the manufacturer's label.

Servicing

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards.

Refer all servicing to qualified service personnel.

Ventilation

Ensure unit is properly ventilated to protect from overheating.

All the safety and operating instructions should be read before the unit is operated.

To prevent fire or shock hazard, do not expose this equipment to rain or moisture. The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of this equipment that there are dangerous voltages within the enclosure which may be of sufficient magnitude to constitute a risk of electric shock.

Lightning Strike
The unit has some inbuilt protection for lightning strike, however it is recommended that isolation transformers be fitted to the system in areas where lightning is a common occurs.

Regulatory Notes and FCC and DOC Information
(USA and Canadian Models Only)

Warning: This equipment has been tested and found to comply with the limits for a 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 their own expense.

If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the US Government Printing Office, Washington, DC20402, Stock No. 004-000-00345-4.

This reminder is provided to call the CCTV system installer's attention to Art. 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Installing the Unit

Simple Installation

Simple Installation is the minimum installation required for the unit for the unit to operate; we will look at:

Installing the unit into a Rack/Shelf

Connecting Analogue video sources

Connecting the unit to the Network

Applying Power to the system

Tools Required

The tools required to install the unit to this stage are:

1   Suitable screw driver for or Allen key connecting the rack mounting kit and installing in the rack

Note: *The rack screws are not supplied by Dedicated Micros.*

2   Rack mounting brackets (supplied)

3   Laptop running a terminal application, for example HyperTerminal™, see below for full PC specification*

4   RS232 cross-over communication cable (Supplied and used for direct connection)

5   Power Supply (Supplied)

6   Mains cable (Supplied)

7   Ethernet cable (Can be connected directly via a hub or switch)

* Alternatively, a work station on the same DHCP enabled network as the unit can be used.

Choosing a location for installation

- The unit is designed to be shelf or desk mounted. The following precautions must be taken during installation:

- Openings in the unit's case are provided for ventilation. To prevent overheating, these openings should not be blocked or covered.

- Ensure there is a 1" (2.54 cm) gap on either side of the unit.

- When stacking units, ensure there is at least a ½" (1.3 cm) gap between each unit.

- Ensure the unit is not located in an area where it is likely to be subjected to mechanical shocks.

- The unit should be located in an area of low humidity and a minimum of dust. Avoid places like damp basements or dusty hallways.

- If the unit is installed in a closed assembly, the maximum operating temperature must not exceed 104°F (40°C).

- Ensure there is reliable earthing of the mains outlet when fitted to supply connections, other than direct connections, to the branch circuit.

- Any branch circuit supplying the unit must be rated 15Amps.

- It is recommended that an uninteruptable power source be connected to the unit in case of power failure, to ensure continuous operation of the unit.

A quick overview of digital recording

Digital multiplex recorders work in exactly the same way as analogue multiplexers except that they use hard disks to store video, instead of VCR tapes. Analogue recording uses time-lapse recording to extend the length of time recorded onto 2 or 3-hour tape - recording fewer pictures every second.

Adjusting the number of pictures recorded every second also extends the length of time recorded onto the hard disk of a unit. However, other factors also determine the amount of time that can be stored on the disk of a digital multiplex recorder:

> The image quality

> The record rate

> The hard disk capacity

Image quality
Digital multiplex recorders store images in a compressed format, allowing images to be recorded more efficiently. The higher the compression, the smaller the file size, but the image quality will suffer. The DVR offers a range of compression options and image storage formats to give the end user the flexibility to balance between image quality and storage capability.

Kilobytes and Gigabytes are units of storage, 1GB = 1000 Megabytes (MB) and 1MB = 1000 Kilobytes (KB), according to modern hard drive specifications. (Now specified under SI units as one kilobyte (1 kB) = 1000 bytes, whereas one kibibyte (1 KiB) = 1024 bytes to clear the confusion caused by the term kilobyte simultaneously being used to refer to both 1,000 and 1,024 bytes)

With analogue recording, the image quality is dependent on the type of VCR being used; VHS or S-VHS. The unit allows the image quality to be altered by adjusting the image size, for example, Low quality is 14KB, Medium is 18KB, and High is 25KB.

Note: *As for all digital recording, image quality can vary for different scene types, Medium quality may be 18KB in one scene, but it may be 30KB or more to get the same quality in a scene with more detail.*

Using a larger image size will fill the hard disk faster than a smaller image size, as more space is required to store it. To achieve the same amount of recording time when a larger image size is used requires the record rate (PPS) to be reduced.

Standard record rate
The record rate is the amount of pictures recorded to disk in a second, or pictures per second (PPS). This is a system wide figure and is not effected by how many cameras are connected. The update rate per camera can be worked out using the record rate:

Update rate   =   No. of cameras/Record rate

Multi*Mode* Recording
Multi*Mode* recording offers the ability to set different recording rates, resolutions and compression across scheduled, normal and alarm modes, or to mix a standard setting for many cameras with individual settings for particular cameras and time of day. By varying the quality (bitrate) of the recorded image, users can increase recording capability of the unit.

Multi*Mode* recording offers:

Ability to set different recording resolutions including 704x512, 704x256, 352x256 and 176x128.

Ability to set MPEG or JPEG compression recording.

Ability to set PPS recording rates.

Dynamically switchable resolution when switching from Normal to Event Recording.

Dynamically switchable compression between MPEG4/JPEG from Normal to Event Recording.

Rear Panel connections

The illustration shows the rear panel connections.

Dedicated Micros ©2007
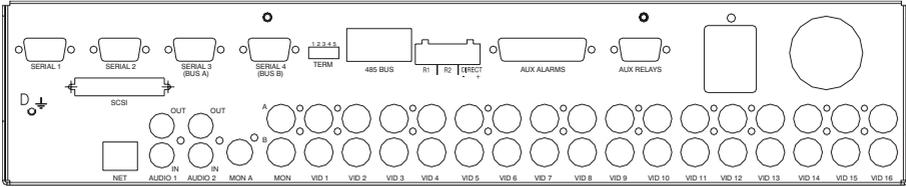
Video

VID1 to VID16	75Ω BNC composite camera connections, 1V pk-pk with loop through, unit is available as a 10 or 16 channel unit
MON A	Not currently used, available for future expansion
MON B	75 Ohms BNC composite monitor output, 1V pk-pk
MON A	Not currently used available for future expansion

Audio

AUDIO 1 IN	RCA (phono) socket, 22KHZ sampling, 47 KΩ input impedance.
AUDIO 1 OUT	RCA (phono) socket.
AUDIO 2 IN	RCA (phono) socket.
AUDIO 2 OUT	RCA (phono) socket.

Data

SCSI	50-pin HD SCSI-2 connection.
NET	RJ-45 100-baseT Ethernet connection.
SERIAL 1 & 2	9-way (Male) D-type RS-232 serial port
SERIAL 3 & 4 (BUS A & BUS B)	9-way (Male) D-type RS-232, RS-422 and RS-485 serial port.
TERM	Termination DIP switches for RS-485.
485 BUS	2x MMJ ports for DM 485-BUS accessories.

Alarms and relays

R1	Screw terminal, alarm relay dry contact, NO/NC, configurable for alarm.
R2	Screw terminal, activity relay dry contact, NO/NC, configurable for VMD.
DIRECT	Screw terminal, direct auxiliary input, NO/NC.
AUX ALARMS	25-way (Female) D-type programmable alarms, NO/NC.
AUX RELAYS	9-way (Female) D-type, configurable for global camera fail and trigger on alarm.

Front Panel

LED's

Power	The power LED will be green to indicate power is connected to the video server
HDD Hard Disk Drive	This will flash when images are being stored to the hard disk
Network	The Network LED will be green to indicate a connection
IR	Not currently used available for future expansion

Quick Connection

Recommended PC Specification

The following is the recommended PC specification to allow configuration and viewing of the unit using a browser interface and also viewing and control from the NetVu ObserVer application:

	Minimum	Recommended
Operating System	Window 2000	Windows XP Pro
Processor	1GHz Intel Pentium 3 or equivalent	2GHz Intel Pentium 4 or equivalent
System RAM	512MB	1024MB
Screen Resolution	800 x 600*	1024x 768 or higher*
Colour Depth	24bit*	24bit or 32bit*
Browser	Internet Explorer 6	
	Netscape Navigator 7.1	
	Firefox 1.5	
JRE	J2SE Runtime Environment 5.0 Update 4	

***** *Although the system will operate on lower specification computers the above is recommended to provide high performance video quality and update rates. If lower specification processors are used this could affect the overall performance of the computer*

WARNING: *For a web browser to correctly operate with unit, Java Virtual Machine (JVM) which is contained in the Java Runtime Environment (JRE) must be installed on each PC that will be used to access unit. The JVM enables Java components in web pages to operate as intended by Dedicated Micros. A version of Java Runtime Environment may be downloaded from http://java.sun.com*

The Java Virtual Machine is one aspect of Java software used in web interaction. The Java Virtual Machine is built into the Java software download, and helps the Sun JRE run Java applications.

Administration rights will be required to install JRE onto a Windows 2000 or Windows XP machine. The JRE can be loaded using one of three methods, Automatic, Manual or Offline.

Automatic installation will require the machine stays connected to the internet whilst the software is loaded directly from the web. This method requires no user intervention.

Manual installation downloads a small program from the web, which will fetch the required files from the web when it is run. It offers more control over the installed options than the Automatic method.

Offline installation will download all the required files onto the computer before commencing installation. This file can then be run when the computer is not connected to the internet, and copied onto other machines without internet access, if necessary.

The software on the unit is written for the Sun Java Machine, and the Microsoft Java Machine should be disabled for optimum reliability.

You can switch between the Sun Java Virtual Machine and the Microsoft VM. The Sun JVM can be enabled and disabled without having to uninstall it. Switching back and forth between these Virtual Machines can be done through the Advanced tab in your Windows Internet Options Control Panel, OR by using the Java Control Panel.

Note: *It is good practice to check both locations.*

To switch between the Sun JVM and Microsoft VM using Internet Options:

1 Open Control Panel by clicking Start->Settings->Control Panel

2 Open the Internet Options window by double clicking Internet Options

3 Click the Advanced Tab

4 Find the "Java (Sun)" item and check or uncheck the checkbox which says "Use Java 2 v 1.4.x for applet (requires restart)"

5   Check or uncheck the box next to Microsoft VM

6   Save your changes by clicking the OK button

7   Restart the browse

Instructions for switching between the Sun JVM and Microsoft VM using the Java Control Panel:

1   Open the Windows Control Panel by clicking Start->Settings->Control Panel

2   Open the Java Control Panel by double clicking the icon labeled "Java Plug-in"

3   In the Java Control Panel, click the Browser Tab

4   Under the Browser Tab you will see checkboxes next to installed Web browsers.

5   Check or uncheck the checkbox next to the Web browser you want enable or disable from using the Sun JVM

6   Click the Apply button to save your settings

7   Restart Internet Explorer

Tools Required

The tools required to install the unit:

Item	Description
1	Suitable screw driver for mounting the unit in place
2	Wall-mounting brackets (supplied)
3	Laptop connected to the same network as the unit
4	Power Supply (supplied)
5	Mains cable (supplied)
6	Ethernet cable

Note: *The rack screws are not supplied by Dedicated Micros.*

Connecting the Rack Mounting Brackets

Please note the unit is heavy. Always follow health and safety guidelines when lifting the unit from the box or installing the unit. When rack mounting the unit it is important that both the front and rear brackets are installed to correctly support the unit in the rack, failure to do this may result in damage of the unit.

A rack mounting kit is supplied with this product, it is important to install this correctly. The kit comprises of:

4 x Rack mount screws

4 x

2 x

2 x Rear supports

2 x

2 x Front Rack mount ears
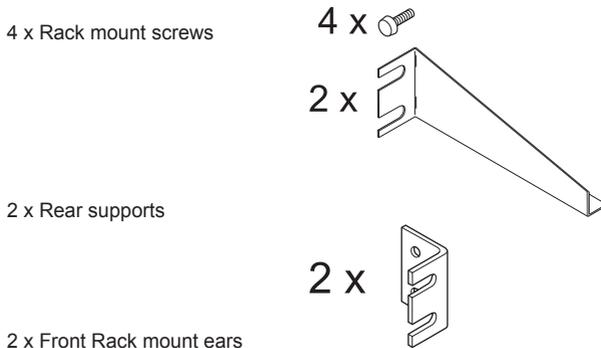
Before connecting any cables to the unit connect the rack mounting kit:

Dedicated Micros ©2007

• *Attach the rear supports to the rack that the unit will sit in, these will support the weight of the unit.*

• *Using the supplied screws, attach the rack mount ears to each side of the unit.*

• *Position the unit on the rear supports.*

• *Attach the rack mount ears to the front of the rack.*

Connecting Video Sources

The unit is available as 6, 10 or 16 channel units; the rear panel in this section shows a 16 channel unit, the only change between units is the number of video inputs; all other connections are the same.

The video inputs are 75 ohm BNC connector's and require a 1 Volt peak-to-peak video signal.

There are two rows of connectors which provide video input and loop through support. It is possible to connect the video input to either the top or bottom row of BNC's.

However it is important to ensure connection consistency for quality of installation by selecting one of the rows as the video input and the other as the loop through connection.

Note: *It is recommended that you connect the cameras from the lowest number first; however it is possible to disable inputs in the unit configuration pages.*
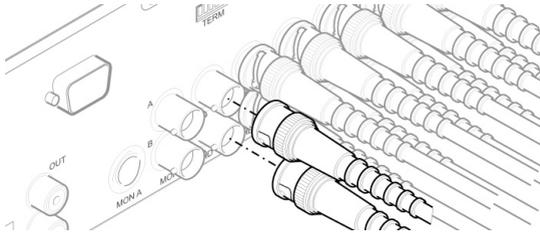
Connecting to the Network

The unit supports a 10/100Mbps auto detecting Ethernet Network Interface Card. The purpose of the network interface is to support the remote configuration, monitoring and control of the unit over a network connection.
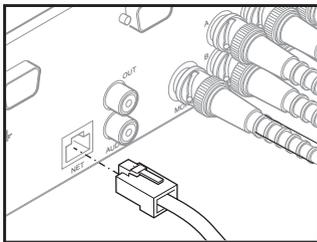
Using a straight-through network cable (Appendix A) connect to the NET socket on the unit to a port on the network. The unit is shipped enabled for DHCP network. An IP Address will be automatically allocated when the unit is powered up, and will be displayed on a connected spot monitor for a user defined period (initially set as 10 minutes).

Note: *Although the unit is automatically allocated an IP address, it is recommended that a static IP address be configured on the unit.*

Note: *The Spot monitor needs to sync with one connected camera to display the IP address correctly. If no cameras are connected, the IP address will not display correctly.*

Connecting serial devices

The unit supports four serial (communication) ports. Each port can be configured to support various peripheral devices.
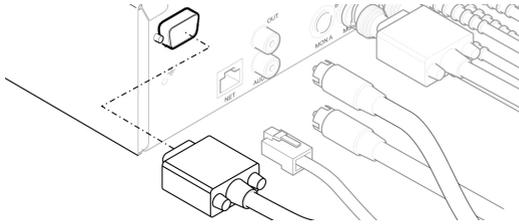
By default Serial 1 is enabled for Debug (Engineering mode) allowing you to connect and configure the unit.

All COM ports are 9 Way D-type male connector's with the following pin connections for RS232, RS422 and RS485.

RS422 Connectivity

Pin	SERIAL 3	SERIAL 4
1	Transmit Data (TX+)	Transmit Data (TX+)
4	Receive Data (RX-)	Receive Data (RX-)
6	Receive Data (RX+)	Receive Data (RX+)
9	Transmit Data (TX-)	Transmit Data (TX-)

RS485 Connectivity

Pin	SERIAL 3	SERIAL 4
1	Transmit Data (TX+)	Transmit Data (TX+)
9	Transmit Data (TX-)	Transmit Data (TX-)

RS232 Connectivity

Pin	Description	SERIAL 1		SERIAL 2	SERIAL 3	SERIAL 4
1	Data Carrier Detect	DCD	DCD			
2	Receive Data	RX	RX	RX	RX	
3	Transmit Data	TX	TX	TX	TX	
4	Data Terminal Ready	DTR	DTR			
5	Ground	GND	GND	GND	GND	
6	Data Set Ready	DSR	DSR			
7	Ready to Send	RTS	RTS	RTS	RTS	
8	Clear to Send	CTS	CTS	CTS	CTS	
9	Ring Indicate	RI	RI			

Termination Dip Switches
Part of the installation process for the communication ports is to ensure the termination is correctly set on each port.

The communication ports support RS232, RS422 or RS485 serial data. When connecting to RS422 or RS485 devices the corresponding DIP switches on the rear of the unit must be set for termination, the following details the correct configuration.
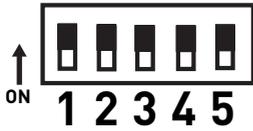
| SW1	DM 485 Bus
SW2	SERIAL 3 RS485 termination (TX)
SW3	SERIAL 3 RS422 termination (RX)
SW4	SERIAL 4 RS485 termination (TX)
SW5	SERIAL 4 RS422 termination (RX)

ON ↑ 1 2 3 4 5

Connecting Power

If there are no further installation requirements (audio, alarms, etc), the unit can be powered up at this stage.

The unit is configured for DHCP and will be automatically allocated an IP Address if connected to a DHCP network. The unit supports an internal power supply and connects directly to the mains.

To connect power to the unit:

1. Ensure the mains is switched off at the socket
2. Connect the main power lead (supplied with the unit) to the POWER connector on the unit, ensure you follow Health and Safety procedures.
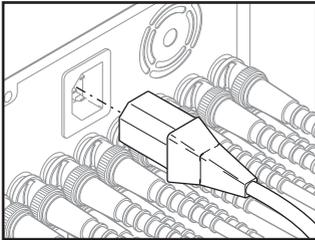
3. Switch the mains on at the socket
4. Check the Green LED on the front panel of the unit lights to show the unit has powered up successfully.
5. If the network supports DHCP, the IP address will be displayed on the spot monitor during boot.

Configuring the IP address via the web pages

It is possible to configure the network information using the onboard web pages, providing the IP Address allocated by the DHCP server was noted.

Note: *The unit IP address will be displayed on the Spot monitor for approximately ten minutes after boot.*

1. Launch the web browser (Internet Explorer, Netscape Navigator or FIrefox)
2. Type the IP address of the unit into the address bar
3. You will be presented with the Main Menu page
4. Select Configuration Options. You will be prompted for a username and password. The default settings are dm and web respectively.
4. Select Network -> Network Settings
2. The IP address, subnet mask and default gateway allocated by the DHCP Server will be displayed on this page. These can all be edited

The unit now has been installed for simple operation.

Setting and Enabling Passwords

There are a number of features supported on the unit that can be password protected to prevent any unauthorised access, these are:

Webpage Configuration

Telnet

FTP

These are configured within the relevant web pages.

Default Passwords

The unit has the following default user names and passwords; it is recommended that these default settings be changed as soon as possible to ensure security.

These functions can all be accessed via the onboard web pages.

Webpage Configuration :	Username = dm	password = web
Video FTP :	Username = dm	password = ftp
FTP Admin :	Username = dmftp	password = ftp
Telnet :	Username = dm	password = telnet

Note: *Ensure you make note of the new usernames and passwords that are configured, loss of this information will require the unit to be returned to Dedicated Micros for password reset.*

Note: Avoid using non alpha-numeric characters when selecting a password, as these can be misinterpreted by the system (Use a-z and 0-9). However underscores, full stops, question marks and hyphens (_ . ? -) are safe to use within passwords.

Network Configuration

This manual is designed to help with the advanced configuration of the unit using the on-board web pages.

To assist with the configuration of the unit, sections are constructed as tutorials and will illustrate how to perform common requirements. Use the tutorials that will provide the required functionality and follow the step by step instructions.

This manual will cover simple configuration –required to get the unit up and running

Advanced Configuration is available in the manual available on the accompanying CD.

Note: *The unit should be configured in line with the main configuration steps detailed in the Setup Guide and therefore the cameras inputs have been enabled and the standard record rate has been set.*

Web Page Icons

Each of the unit configuration web pages has the following buttons:

Reset to Defaults –This will return the associated page to factory defaults.

Display Help –This will display the Help pages for the associated configuration page. This is a good starting point if you are having problems or do not understand the configuration parameters.

the Save Settings icon –This will save a changes that has been made to the configuration page - remember to save the changes.

NOTE: *Selecting a new page before saving the changes will result in any changes being lost!*

Reset –This is displayed on configuration pages that require a unit reset to initiate a function.

Note: *Always save the settings before resetting the unit.*

Each 'How to.. Section' will show the Tab and Function name to allow easy location of the correct configuration page.

Accessing the Configuration Web Pages

The unit is configured using on the on-board web pages. To access these:

Note: *The unit should already have been configured with an IP address (via the serial port) and connected to an Ethernet network.*

1. Launch Internet Explorer (or Netscape Navigator).
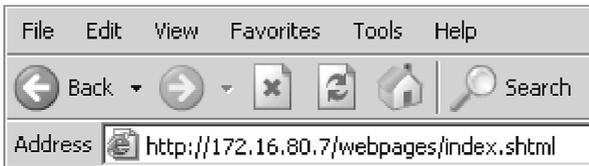
2. Type the IP address of the unit into the address bar.
3. The Main Menu page will be displayed.
4. Select Configuration Options. The unit will prompt for a username and password. The default settings are dm and web respectively.

Note: *The user name and password are case sensitive; they should be changed from the default username and password and kept safe. Mislaid usernames and passwords could result in the unit being returned to Dedicated Micros for reseting.*

Main Menu

The Main Menu allows the Operator access to:

Live viewing of any of the connected cameras.

Configuration web pages for the unit.

Downloads which include the software applications and the product documentation.

Demo pages that demonstrate how viewing applications can be designed for varying system requirements.

Dedicated Micros ©2007

Simple Configuration

How to Configure Global Parameters

There are some parameters that can be set that will affect the overall system; video standard for the video inputs, browser format for the web interface, language that the menus will be displayed in and the DST (daylight saving time) settings.

To configure global parameters:

1. Select Home -> Main Set-up.

2. The Video Standard shown will be the standard for all the video inputs on the unit.

Note: *It is necessary to carry out a system reset if the video format is changed before saving the settings. This allows the unit to activate the change.*

3. Select the preferred date format from the drop down list.

4. The unit web pages can be viewed in two formats; ActiveX (default) or Java, select the relevant option from the drop down list.

5. The web configuration pages for the unit can be displayed in a selection of languages, select the language which is most appropriate to your installation from the drop down list.

Note: *Ensure the PC being used for the configuration is set to the correct time zone and that DST is enabled before continuing.*

6. Select the DST for region where the unit is installed from the drop down list.

7. If the settings are incorrect reset the unit by selecting the reset button.

8. The Unit time can be synchronised to the PC being used to configure the system. This will set the time on the DVR when the 'Sync Unit time from PC' button is pressed, it will not maintain synchronisation between the two.

9. Remember to save the configuration by clicking the Save Settings icon!
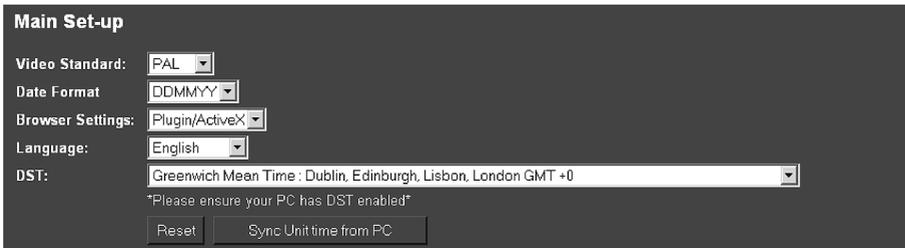
| Function	Description
Video Standard	This displays the setting for all the video inputs on the unit.
Date Format	It is possible to identify the format in which the date will be displayed; the default setting is Day Day, Month Month, Year Year.
Browser Settings	The browser interface on the unit supports ActiveX or Java, select the most appropriate for the application from the drop down list. All users connecting to the system will be presented with the selected interface.

Language	The unit web configuration pages can be displayed in the language that is most suitable to the country of installation. The currently supported languages include; English, Spanish, French, Czech, Italian, Russian, Dutch, Portuguese, German, Turkish, Croatian, Danish, Finnish, Norwegian, Hungarian, Swedish, Polish, Arabic, Chinese
DST (Daylight Saving Time)	This reflects the local time zone for the area where the unit is installed.
Reset	This will reset the unit.
Sync Unit time from PC	The unit can be synchronised with the PC that is being used to configure the unit. The synchronisation is not persistent and will only synchronise the unit and the PC at the time the button is pressed.

How to Enable System Features
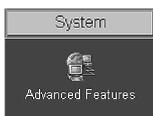
There are a number of features supported on the unit that can be enabled or disabled depending on your system requirements.

When these features are enabled, the relevant configuration web pages will be displayed; if these are disabled then these pages will be omitted.

To enable the features;
1. Select the System -> Advanced Features.
2. By default the Live options are enabled. To enable any other required features, tick the box next to the feature.
3. Remember to select the Save Settings icon!
4. **Click 'Reload Webpages' so the relevant configuration pages for the enabled features** can be displayed.
5. Some features will require a system reset. If the required page is not available after reloading, press the Reset button to reset the unit and re-load the web pages.

Section	Feature	Description
Home	Register	Note: Configuration and registration of the unit is carried out at the factory, therefore this screen is for fault diagnostics only and it is recommended that the page is not enabled unless advised by Dedicated Micros Technical Support.
Cameras	**IP Cameras**	**This feature will enable IP Cameras.** Note: This feature is only available in software version 4.5(001) and above
	Text in image	**It is possible to integrate the unit into an application** where receipt of specific text can be used to trigger an alarm. This will enable the configuration page to be included in the Cameras tab.
Alarms	Alarm image protection	It is possible to configure the unit to protect images within parameters set by the operator (time and date, etc). This will enable the configuration page to be included in the Alarms/VMD tab.
	Database configuration	This will enable the configuration page to be included in the Alarms/VMD tab.
	Alarm/VMD reporting	It is possible for the unit to send information to a remote monitoring station under certain conditions (camera fail, etc). This will enable the configuration page to be included in the Alarms/VMD tab.
	Advanced Alarm Features	It is possible to enable advanced alarm features on the unit. When enabled the advanced features are added to the Alarm Setup pages with the Alarms/VMD tab.
	485 Expansion Bus	The unit can support additional DM 485 devices which are connected to the 485 Bus connector on the unit. This option must be enabled for these devices to be identified by the unit
Network	Automatic FTP download	The unit can be configured to automatically download information using FTP, This will enable the configuration page to be included in the Network tab.
	SMS reporting	The unit can be configured to send data to an SMS server This will enable the configuration page to be included in the Network tab.
	E-mail reporting	The unit supports e-mail of data under certain conditions (alarm, start up, etc). This will enable the configuration page to be included in the Network tab.
	Webcam support	The unit can make any of the video inputs available to a web server for use within a web page. This function uses FTP to upload the images to the web server. This will enable the configuration page to be included in the Network tab.
	Firewall configuration	The unit supports an on board firewall to ensure no unauthorised users can access the unit. This will enable the configuration page to be included in the Network tab.
Tools	Scope, Audio Trace, Relays, Variables	There are a number of tools that can be used to obtain information on the system performance, enabling this options will display the relevant pages in the Tools tab.
Live options	Telemetry controls	This option allows the live pages to be tailored to the Operators requirements, disabling the option will remove all telemetry controls from the Live viewing pages.

| Live options | Event controls | The unit supports an event database which can be accessed from the Live page, disabling this option will remove all event controls and will not allow the Operator to analyse the event database. |
| Live options | Playback controls | It is possible from the Live page to review any recorded images stored on the Digital Sprite, disabling this option will remove all playback controls from the Live viewing page. |

How to Configure Video Inputs and Standard Record Settings

Each video input can be individually configured. How to enable each input and set the standard record settings has been briefly described in the Quick Start Guide, this section will detail the full configuration process; camera resolution and file size, camera titles, termination, video colour and camera fail notification, standard recording settings.

This section is divided into:

> Enabling and configure the camera inputs settings

> Configuring the standard record settings

To enable/configure camera input settings:
1. Select Cameras -> Camera and Record Setup
2. It is possible to identify the global camera resolution (common to all video input); the default option sets the resolution at Medium. The drop down box gives quick access to the high, medium or low options. The settings for each of these options can be edited by clicking the Edit button next to the drop down box.

Note: *It is possible to select the viewing resolution of the images from the unit, however the unit always records at the high resolution settings for optimum quality on recorded images.*

3. All connected cameras will be automatically enabled, use this screen to check the enabled inputs are correct.
4. In the corresponding title box enter the camera name for the video source connected to that input.
5. If the final destination that the video source is to be connected is the unit then this input must be terminated, however if the loop through connections on the unit are to be used then the corresponding input must be un-terminated. To select termination place a tick in the box adjacent to the video input. To un-terminate remove the tick from the box.
6. By default the unit presumes all enabled inputs are colour video sources. If you are connecting a monochrome signal to the unit, it is recommended that the input be set for mono. Place a tick in the corresponding video input.
7. To enable the unit to send notification that the video input does not detect a 1V peak to peak signal place a tick in the box adjacent to the video input. This will give a camera fail alarm.
8. Save the configuration by select the Save Settings icon!

Note: *The Day, Night and Weekend mode are displayed when the Schedule Record Rate is enabled in the Schedule menu (this is enabled by default).*

When setting the unit for Standard recording the unit will record JPEG images.

To configure the standard record settings:

9. Select the Edit Profiles button alongside the Standard Recording drop down box.

10. In the Profile Setup page select the JPEG resolution for High, Medium and Low.

11. Set the Image size for High, Medium and Low (these are set in KB).

12. Click on the Save Settings icon.

13. Return to the Camera and Record Setup page. From the drop down list select the Standard Recording resolution which corresponds to the previously configured settings.

14. Enter the required settings in either the record duration or standard record rate (Global setting).

15. Enter the alarm record rate for when the unit is in an alarm situation (Global setting).

16. Select the alarm recording mode to reflect the recording requirements on receipt of an alarm

17. Enter the video expiry period in days. The unit supports day, night and weekend operation, if this has been enabled within the Cameras>Schedule function then it is possible to identify the alarm record rate for all operation modes. An example of dual mode operation is; a system can be in a 'set' or 'unset' mode or in an 'Night' or 'Day' mode. Cameras are individually selected in either or both modes to be available for alarm recording. The Night mode could be identified as out of hours and Day would be the time during normal working hours. This will ensure cameras (such as internal cameras) can be disabled when necessary so false triggers do not occur. Then these cameras would be re-enabled during non-working hours so the whole site is fully monitored.

18. Within the Record Profiles section select Std from the drop down list for cameras that are to be select for Standard Recording, do this for the Day, Night and Weekend modes,

19. An Edit button will be displayed alongside any cameras enabled for Profile recording to allow selection of a standard Profile setting to be applied to that camera.

20. Save the configuration by select the Save Settings icon!

Note: *The record duration and standard record rate are inter-connected; changing one of these settings will automatically update the other. The alarm record rate is not taken into account.*

Note: *Running the unit at maximum Record Rate (50pps or 20ms in Standard Record Settings) will affect viewing and network transmission, as the video codecs will be operating close to capacity - the unit's priority is to record the footage to the internal HDD, so transmission performance will be reduced. This is exhibited by slow connection to the html pages and reduced viewing frame rates. Multi-user viewing will also be affected. It is not recommended to set the Standard Record rate to 20ms for everyday usage, but rather only for specific situations where this rate is necessary.*

Camera Set-up - ○ Pictures Per Second (pps) ● Milliseconds (ms)

Click here to see thumbnail images

Function	Description
Pictures/Second / milliseconds	This allows the record settings to be configured as either Pictures Per Second or Milliseconds
Standard Recording	This is the resolution and image size of the images that will recorded to hard disk for the cameras that are selected for standard recording and are edited in the profile setup page. The options are High, Medium or Low.
Video Expiry Period	This indicates the maximum time any images can be stored on the hard disk, if the record duration is greater than the video expiry period the images will automatically be overwritten
Record Duration	The total record time available in (DD) Days and (HH) Hours. This indicates the storage capacity of the system without any alarm recording. It is estimated from size of video storage, the standard record rate and the requested target size of the recorded images.

Note: *Changing the Record Duration will automatically update the Standard Record Rate. Changing the Standard Record Rate will likewise update the Record Rate. This should be configured for day, night and weekend operation modes.*

Standard Record Rate	This is global setting and identifies the 'common pictures per second' for all enabled video inputs in non alarm mode. This can be set in milliseconds or the number of pictures per second.
	The delay between consecutive images from any one camera is the Standard Record Rate multiplied by the number of cameras being recorded. Changing the Standard Record Rate will automatically update the Record Duration. Changing the Record Duration will likewise change the Standard Record Rate.

Example Record Rates   40ms = 25 pictures per second

50ms = 20pps

100ms =10 pps

125ms = 8pps

200ms = 5 pps

500ms = 2pps

1000ms = 1pps

Alarm Record Rate	This identifies the alarm recording rate, for the mode of operation being configured (i.e. Day, Night and Weekend mode), which will be activated if an alarm is triggered on the unit. For example, the unit may be configured to increase the recording rate when a door contact is triggered.

Dedicated Micros ©2007

Alarm Record Mode	This option allows exclusive or interleave recording to be selected within any of the operating modes (Day, Night, Weekend) to adjust the record sequence when an alarm is received. The options for event recording are:
	Unchanged - This sets the record sequence to remain the same whether an alarm is present or not.
	Exclusive - The unit will only record the alarm cameras.
	Interleaved - This will set the unit to record the alarm cameras more frequently than non-alarm cameras, by interleaving the two i.e. if camera 1 is in alarm the interleave recording would be 1213141516.
Connected	The unit can automatically detect if a camera source is present, the corresponding input will be enabled in this menu for connected cameras.
Title	It is possible to allocate an ASCII camera title to each of the cameras, which will be displayed onscreen along with the camera number.
Record Profiles	These drop down boxes allow the selection of either Standard or Profile recording for each active period. Selecting Standard recording will apply the settings selected for standard recording to the corresponding camera.
Edit	This will display the Profile Selector sub menu to allow the Pre alarm data to be set for each camera.
Terminated	As the unit supports loop through it is necessary to remove the termination of any inputs that are 'looped', by default all inputs are terminated at 75 ohms.
Mono	If the video input on the unit has a black and white (monochrome) source connected then enable the corresponding camera. The unit will try and compress the colour contents of the image if this box is not enabled, ticking this box will remove unnecessary overhead on the compression process.
Camera Fail Reporting	If the video input on the unit does not identify a 1V peak-to-peak signal then the unit can transmit an alarm notification email for camera failure on the corresponding video input.
Click here to see thumbnail images	This will display a thumbnail view of video connected to the unit. Place the cursor in the camera title box to view the corresponding video input.

Note: *Reducing the file size will allow more data to be transmitted across the network, it is important to remember reducing the file size will require the compression applied to be increased and this will affect the quality of the image.*

Note: *Profile Recording is covered in the Advanced Configuration section of this manual.*

Configuring the Network Settings of the unit

The unit can be allocated an IP address and associated settings via the serial port, this web page allows these settings to be checked and changed if required.

To check / configure the network information:
1.   Select Network -> Network Settings.

2. Any network settings configured via the serial port will be displayed on this page. These can be edited by entering the new information into the relevant areas.

3. The unit supports Domain Name Server allowing the unit to reference other hosts by their name rather than their IP address, enter the IP address of the primary DNS and secondary DNS server.

4. The default system name can be changed to something more appropriate by entering the information in this section.

5. The unit can can have the maximum bit rate for the network connection set to a specific rate. The default settings for LAN, WAN and ISDN are shown when the button is pressed. If these defaults are suitable, select the corresponding button for your network link, and the Max trans rate, transmit image buffers and Ethernet MTU values will be automatically configured. If these default settings are not as required, enter the new information in the sections.

6. Enter a suitable TCP Re-transmit Time (in milliseconds), this settings should be discussed with the Network Manager.

7. The secondary webserver port setting allows a port to be allocated for webserving if the network is already utilising the default port.

8. Remember to save the configuration by clicking the Save Settings icon!

Network Settings

IP Address:	0 . 0 . 0 . 0
Subnet Mask:	0 . 0 . 0 . 0
Default Gateway:	0 . 0 . 0 . 0
Primary DNS:	0 . 0 . 0 . 0
Secondary DNS:	0 . 0 . 0 . 0
System Name:	DS2
PPP IP:	10 . 0 . 0 . 1
DHCP IP:	172.16.100.18
DHCP Subnet:	255.255.0.0
DHCP Gateway:	172.16.50.60
DHCP Name:	
Serial Number:	A1X052560008

Please choose one of the pre-set buttons for your Ethernet bandwidth settings, or manually enter your preferred settings.

[LAN] [WAN] [ISDN]

Force 10BaseT operation:	☐
Maximum Trans Rate:	100000 Kilobits/second (XXX KBytes)
Transmit Image Buffers:	3 (1 to 3 buffers)
Ethernet MTU:	1500 Bytes
TCP Re-Transmit Timeout:	250 Milliseconds
PPP Idle Line Timeout:	180 Seconds
PPP Link Down Timer:	2 Minutes
Packet Size:	0 Bytes
Secondary Web Server Port:	0 [Reset]

Function	Description
IP Address, Subnet Mask, etc	These editable settings could have already been configured via the Serial port. This is the static IP address and subnet mask, and if applicable default gateway.
Primary DNS	This is the primary DNS server IP address for applications that are utilising domain names.
Secondary DNS	This is the IP address of the secondary DNS server in case of failure of the primary server.
System Name	This is the name that is allocated to the unit, this will be used when transmitting alarm information to a Remote Monitoring Station.
Base PPP IP	This is the base IP address allocated to the unit. The PPP Link 1 and PPP Link 2 are automatically generated from the allocated Base IP. PPP Link 1 takes the Base IP and PPP Link 2 will take the next sequential IP address.

Dedicated Micros ©2007

DHCP IP	If the unit is to be installed in a DHCP network, this option would display the IP address that was automatically allocated to the unit from the DHCP Server.
DHCP Subnet	If the unit is to be installed in a DHCP network, this option would display the subnet that was automatically allocated to the unit from the DHCP Server.
DHCP Gateway	If the unit is to be installed in a DHCP network, this option would display the gateway that was automatically allocated to the unit from the DHCP Server.
DHCP Name	This would be the name of the unit that is automatically allocated by the DHCP server.
Serial Number	This a read only section and is generated by the unit hardware identifying the serial number of the unit.
LAN, WAN, ISDN	This option ensures the speed of the data from the unit matches the speed of the network the data is being transmitted across. These are default settings and are configured as:
	LAN – 10000 Kilobits/second
	WAN – 256 Kilobits/second
	ISDN – 64 Kilobits/second
Force 10BaseT operation	The unit supports 10 or 100BaseT half duplex transmission, this will force the unit to operate at a 10BaseT connection.
Transmit Image Buffers	This is used in order to improve the picture delivery over Ethernet when using a slow connection, i.e. 256Kbps. Options available are 1, 2 or 3 buffers.
Ethernet MTU	This is the maximum transmit unit for the Ethernet packet. The MTU is the largest physical packet size measured in bytes, that the network can transmit. By default this figure is set to 1500bytes.
TCP Re-Transmit Timeout	This is the time the unit will wait to re-send a packet if an acknowledgement is not received.
	When making a connection across a WAN link this figure should be increased and should match the timeout figure for the router.
PPP Idle Line Timeout	This is the time the unit will wait before dropping the PPP link if data has not been transmitted or received.
PPP Link Down Timer	If for any reason the PPP connection is lost then this is the time period before the unit will be forced to drop the PPP connection.
Packet Size	This is the maximum packet size that will be transmitted from the unit. This figure is identified in Bytes.
Secondary Web Server Port	If the default port setting for web serving has already been allocated it is possible to configure a second port number.
	eg. If the secondary web port is set for 8000 because the default (80) web port is blocked by the network or firewall. To obtain images from the unit enter the IP address plus the secondary web port in the address section of Internet Explorer or in the Viewer; http://172.16.1.2:8000 (<IP address><:><secondary port number.>

How to Select and Enable Coaxial Telemetry

The unit supports numerous coaxial telemetry protocols allowing these cameras to be connected directly to the unit and controlled using their native control protocol.

Dedicated Micros ©2007

Simple selection of manufacturer/model within the configuration pages and these cameras can be controlled. Common telemetry operations such as pan, tilt, zoom, presets can be controlled via the Live page of the web interface or via the Viewer software.

Note: *Priorities are not allocated to the PTZ control; this works on the initial connection and request having the control. Any subsequent connections will allow viewing but no control until the initial connection is relinquished or after a set period (5 seconds) where control commands have not been issued to the PTZ/dome camera.*

Any of the video inputs on the unit can be configured for coaxial telemetry; this is achieved in the Camera Set-up page.

1. Select Cameras -> Camera and Record Setup to configure the individual cameras.

The coaxial protocols currently supported on the unit are:

BBV (BBV-C)

Pelco (Pelco-C)

Dennard (Dennard-C)

2. Ensure the corresponding camera has been enabled and select the telemetry protocol from the Telemetry list for the corresponding camera.

3. Remember to save the changes you have made by clicking the Save Settings icon!

Once you have selected the telemetry protocol it is possible to; review the image from the video input, test the control, configure the features of the camera that are required for you application (such as presets), and access the dome/PTZ camera menus to configure the more enhanced features supported on the dome, refer to the manufactures manual for the camera for these features.

Function	Description
Telemetry	The drop down list contains all the supported protocols for coaxial telemetry cameras, select the protocol for the corresponding camera.
Telemetry Setup	Once the protocol has been selected it is possible to access the camera menus. This allows any functions supported by the camera to be configured.

Telemetry Setup Page

1. To access the set up parameters of the camera select the Telemetry Setup button on the Camera Set-up page.

Note: *When you select the Telemetry Setup button, it may take a few seconds for the page and video to be downloaded, during this time do not press any buttons as this will slow the process down.*

Dedicated Micros ©2007

The telemetry control buttons for configuration will be displayed along with camera selection, display options and resolution selection.

This web page allows the Operator to view any of the enabled inputs on the unit, control the telemetry connected to the system and set up any features that are required for their application (such as presets). It is also possible to access the dome/PTZ camera menus for configuration of the supported parameters that are only programmable from the camera menu.

Note: *Review the relevant documentation for the camera to see how you navigate the camera menus. Remember to save any configuration settings in the dome menu!*

How to Enable Serial Telemetry

The unit supports numerous serial telemetry protocols, any of the video inputs on the unit can be configured as a functional camera. Serial 3 (Bus A) and Serial 4 (Bus B) can be used for connecting serial telemetry.

Common telemetry operations such as pan, tilt, zoom, presets can be controlled via the Live page of the web interface or via the Viewer software.

The current 485 serial protocols supported on the unit are:

BBV-RS485	Dennard	DM-Serial
Ernitec	JVC	Kalatel
Mark Mercer	Panasonic WV-CS6/8	Pelco-P
Philips	Samsung	Sensormatic
Ultrak	Vantage	VCL
Vista	Philips-232	AD-Matrix
AD168-Matrix	BBV-Matrix	VCL-Matrix
DM-IP	AXIS IP	JVC IP

1. Connect the camera and cables to the unit before configuring the unit:

2. Select System -> Serial Ports & Telemetry.

3. Using the drop down list on the associated Communication port (Serial 3 (Bus A) or Serial 4 (Bus B)) select RS232/485 Telemetry.

4. Select the relevant telemetry type from the list of supported protocols.

5. Enter the dome/PTZ standard settings for:

- Baud rate
- Parity
- Data bits
- Stop bits

- Flow control

6. Ensure the address of the dome/PTZ camera is the same as the video input number on the unit, e.g. Video input 15 would equate to the dome/PTZ camera being address 15.

7. Remember to save the changes you have made by clicking the Save Settings icon!

8. Select **Camera -> Camera and Record Setup and select the telemetry protocol from the** telemetry list for the corresponding camera.

Function	Description
Serial 1 & Serial 2	Serial ports 1 & 2 are RS-232 ports and can have the following port usage assigned; off, debug, general purpose, PPP, text in image and RS232 telemetry.

Tip: *Use Serial 1 for Debug, Serial 2 for RS-232, Serial 3&4 for RS 485.*

Modem/TA	When the serial port is configured for PPP it is necessary to identify which of the supported modems is connected to the unit.
Serial 3 & 4 (Bus A and Bus B)	Serial ports 3 & 4 are RS-232, RS-422 and RS-485 ports and can have the following port usage assigned; off, debug, general purpose, text in image, RS232/485 telemetry.
Telemetry type	This is a dropdown list of serial telemetry protocols that are supported on the unit.
Baud rate, parity, etc	This allows the communication settings to be configured. Note: When telemetry is selected, these will default to appropriate predetermined settings.

Once you have selected the telemetry protocol and addressed the dome/PTZ camera it will be possible to; review the image from the video input, test the control, configure the camera features that are required for the application (such as presets) and access the dome/PTZ camera menus to configure the more enhanced features supported on the dome, refer to the camera manufacturers manual for details of these features.

Dedicated Micros ©2007

Telemetry Setup Page

1. To access the set up parameters of the camera select the Telemetry Setup button on the **System -> Serial Ports & Telemetry page.**

Note: *When you select the Telemetry Setup button, it may take a few seconds for the page and video to be downloaded, during this time do not continually press any buttons as this will slow the process down.*

2. The telemetry control buttons for configuration will be displayed along with camera selection, display options and resolution selection.

This web page allows the Operator to view any of the enabled inputs on the unit, control the telemetry connected to the system and set up any features that are required for their application (such as presets). It is also possible to access the dome/PTZ camera menus for configuration of the supported parameters that are only programmable from the camera menu.

Note: *Review the relevant documentation for the camera to see how you navigate the camera menus. Remember to save any configuration settings in the dome menu!*

How to Configure Matrix Control

The unit can be incorporated into an existing analogue matrix installation and offers control of the matrix via the Live web page or NetVu ObserVer.

This ensures that any existing equipment does not need to be removed from the installation to allow control over a network.

The unit supports connectivity to the matrix on any of the Serial Ports. The following matrix protocols are currently integrated into the unit's software:

Option	Used for
AD-Matrix	*American Dynamics (AD) RS232 Matrix*
AD168-Matrix	*AD168 RS232 Matrix*
BBV-Matrix	*BBV TX1000, TX1500 and BBus-Interface Matrices*
VCL-Matrix	*VCL/Ademco Maxcom Matrix*

Connectivity
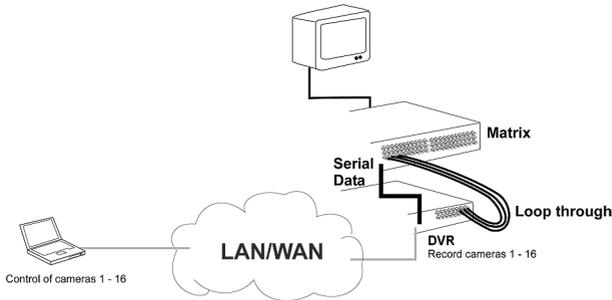
All video inputs from the matrix must be connected to the unit (loop through) as shown below, when installed carry out the following configuration process:

1. Select System -> Serial Ports & Telemetry.
2. Using the drop down list on the associated Communication port (Serial 3 (Bus A) or Serial 4 (Bus B)) select RS232/485 Telemetry.
3. Select the relevant matrix from the list of supported protocols.

   The serial standard settings for the selected matrix will automatically be allocated, however if this is incorrect you can change these for:

   - Baud rate, Parity, Data bits, Stop bits, Flow control.
4. Enter the Matrix Monitor number of the matrix that the unit is connected to and that you will be controlling.
5. Enter the Matrix Offset address.
6. Save the configuration by selecting the the Save Settings icon!
7. Select Camera -> Camera and Record Setup and select the matrix protocol from the telemetry list for the corresponding camera.

Dedicated Micros ©2007

RS232 Ports

PORT | PORT USAGE | | Baud Rate: | 9600
Serial 1: | Debug | | Parity: | None
MODEM/TA: | | None | Data Bits: | 8
Serial 2: | OFF | | Stop Bits: | 1
MODEM/TA: | | None | Flow Control: | None
Serial 3: | RS232 Telemetry | | |
 | Philips-232 | | |
Serial 4: | RS232 Telemetry | | |
 | AD168-Matrix | | |

Telemetry options

Telemetry Matrix Monitor: 0
Telemetry Matrix Offset 0

Note - A suitable RS422/485 converter is required for RS422/485 telemetry.

Telemetry Setup   Reset

Function	Description
Serial1 & Serial2	Serial ports 1 & 2 are RS-232 ports and can have the following port usage assigned; off, debug, general purpose, PPP and text in image, RS232 telemetry.
Serial 3 & 4 (Bus A and Bus B)	Serial ports 3 & 4 are RS-232, RS-422 and RS-485 ports and can have the following port usage assigned; off, debug, general purpose, text in image, RS232/485 telemetry.
Telemetry type	This is the list of serial telemetry protocols that are supported on the unit.
Telemetry Matrix Monitor	Matrices support many monitor outputs, this is the monitor output that has been allocated for connection to the unit.
Telemetry Matrix Offset	This is the matrix offset to allow any camera input on the matrix to be set as input 1 for the unit. An example of this is in large systems where multiple operators are allocated groups of cameras, for ease of use each camera can be configured to start at camera 1. However they could actually be connected to any input on the matrix but we would select camera 1 which could be controlling input 32 on the matrix.
Baud rate, parity, etc	This allows the communication settings to be configured, note when telemetry is selected these will not be active and will default to predetermined settings.

This completes the Simple Configuration of the unit. The unit can operate at the basic level and the remaining configuration would include functionality that is specific to the customer requirements.

The following parameters have been configured:

Global settings

Video inputs

Cameras parameters

Record rates

Remote connectivity

Appendix A

Reset using Telnet

An alternative option for resetting the unit is to connect to the unit using telnet.

1. Go to Start -> Run.
2. Enter <telnet <IP address of Server>>
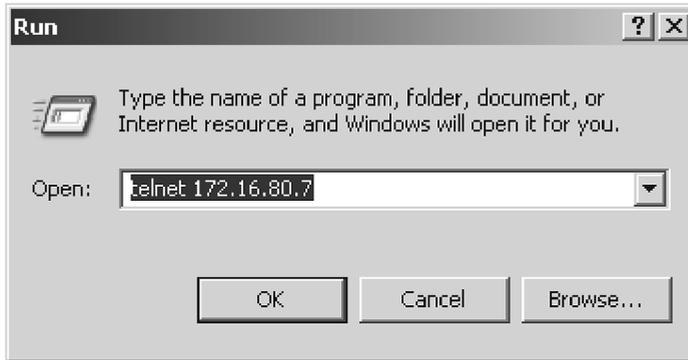
3. You will be prompted for a username and password (default dm and telnet) and press return.

Note: *Echo is enabled on the unit for telnet.*

4. Type <reset>, the unit will reset itself and will not be available for a few minutes.

Appendix B – .ini Files

Editing the ini Files using FTP Client Application

There are a number of parameters that can be configured within the ini files on the unit. This section details the files, their function and how these are configured.

To edit and configure these files on the unit you will require:

FTP communication to be enabled on the unit

Valid FTP username and password

FTP Client software application

Connection via the Ethernet network to the unit

The following steps give an example of how to create an FTP session with the unit to configure these files, take note this may differ from the process of the FTP software you are utilising.

1. Launch the FTP client software.
2. You will need to create a site for the FTP link, enter the IP address of the unit, enter the FTP username and password.
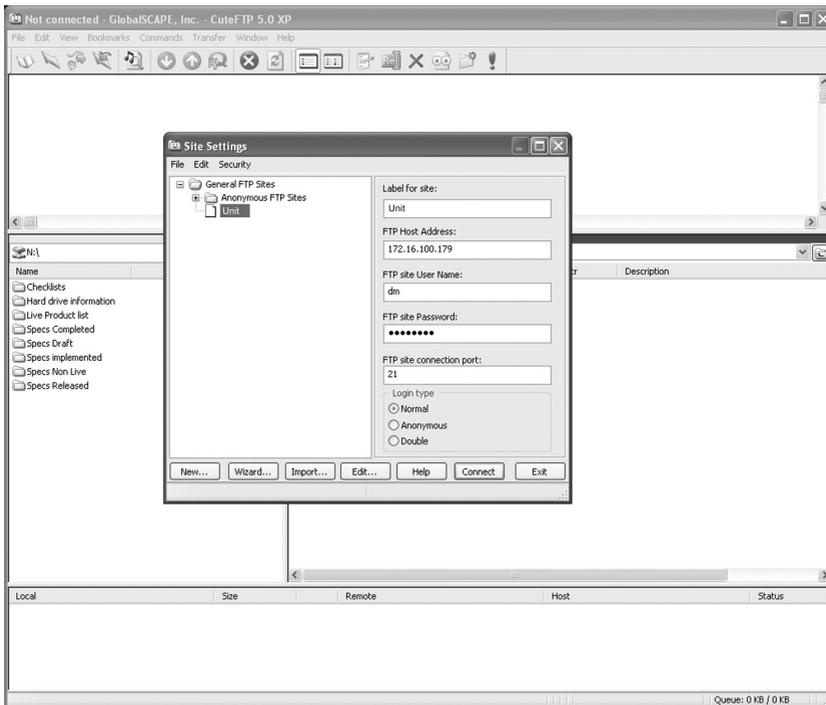
3. Select the Connect button to make the connection.
4. If the connection is successful you will be issued a connection prompt.
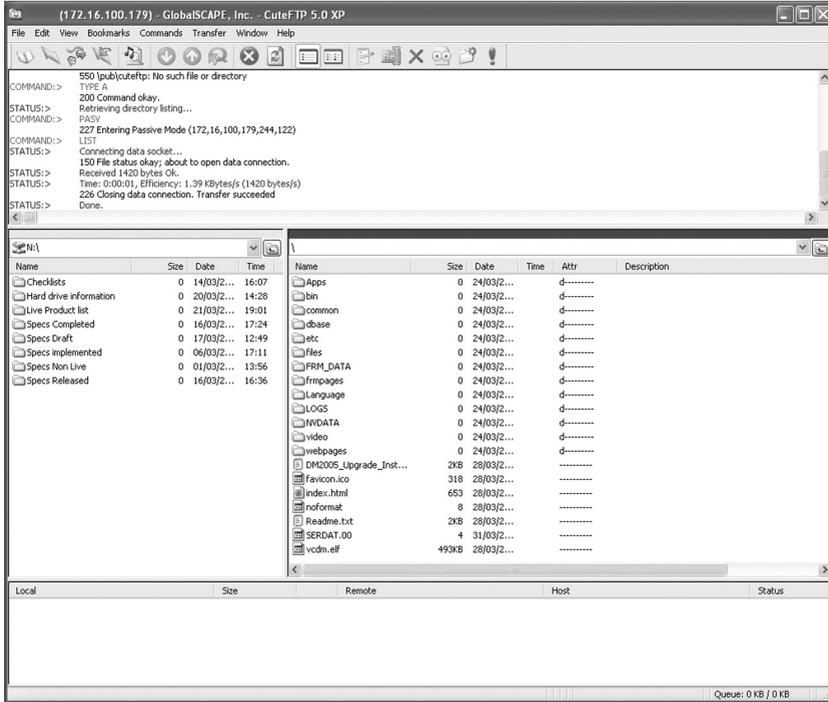
5. Click OK.

6. You will be presented with the directory structure on the unit, locate and select the etc directory in the root drive.

Dedicated Micros ©2007
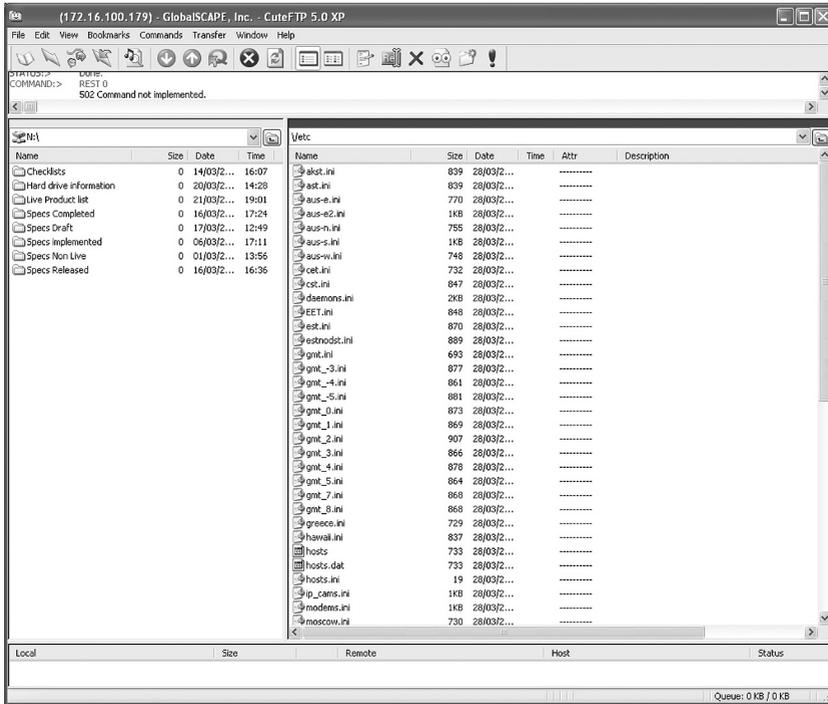
7.   The following files are all stored in the etc directory.
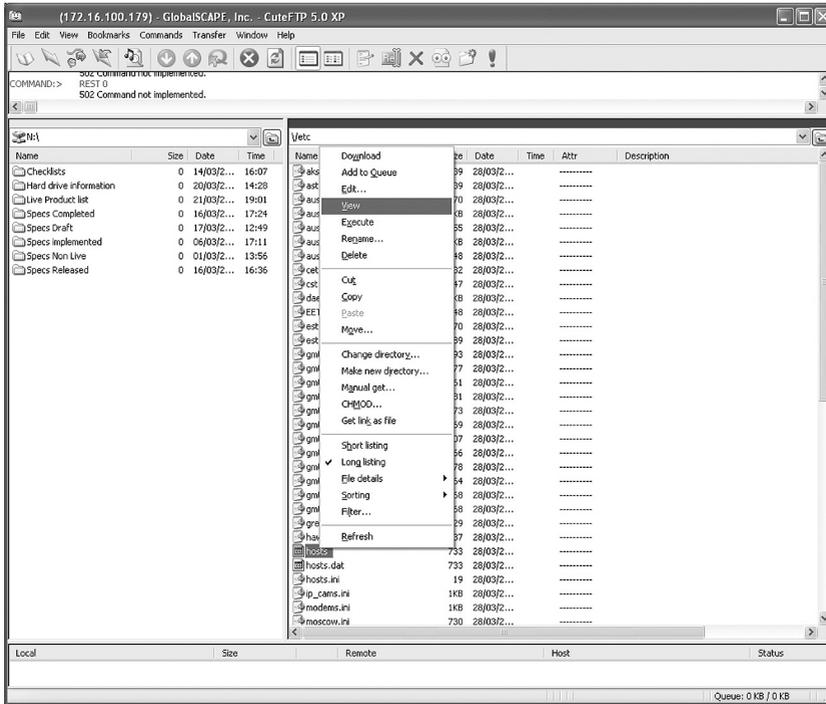
8. There are two ways of opening and editing these files, depending on the file that is selected.

hosts and profiles

Highlight the file, click the right mouse key and select View.

The file will be opened and you can edit the information.

modems.ini, USER.ini, Vidcfg.ini

Highlight the file, click the right mouse key and select Edit.

The file will be opened and you can edit the information.
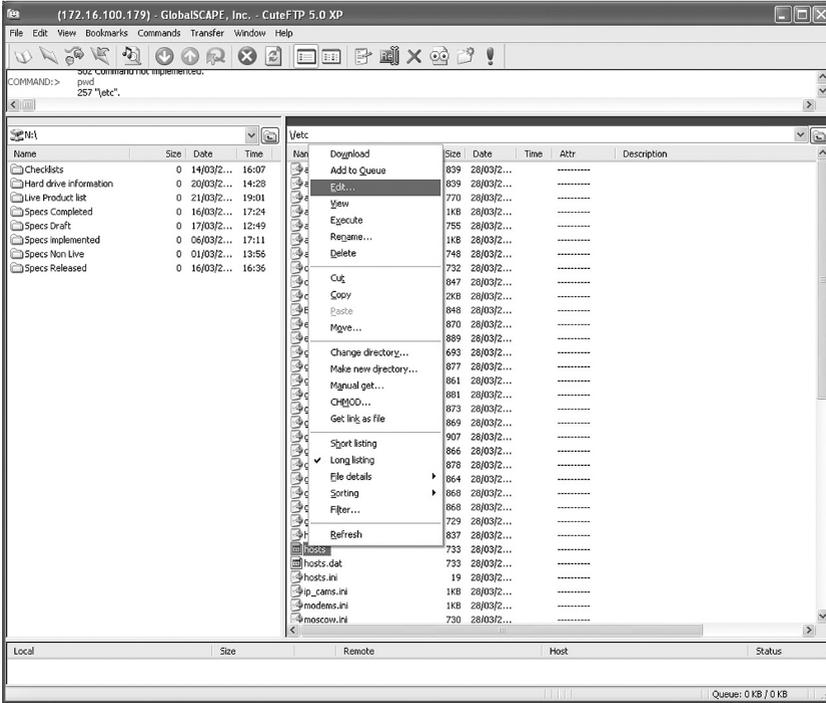
9.   Once you have completed the configuration Save the file.

10. When you close the file you will be prompted to upload the file to the unit, select Upload.
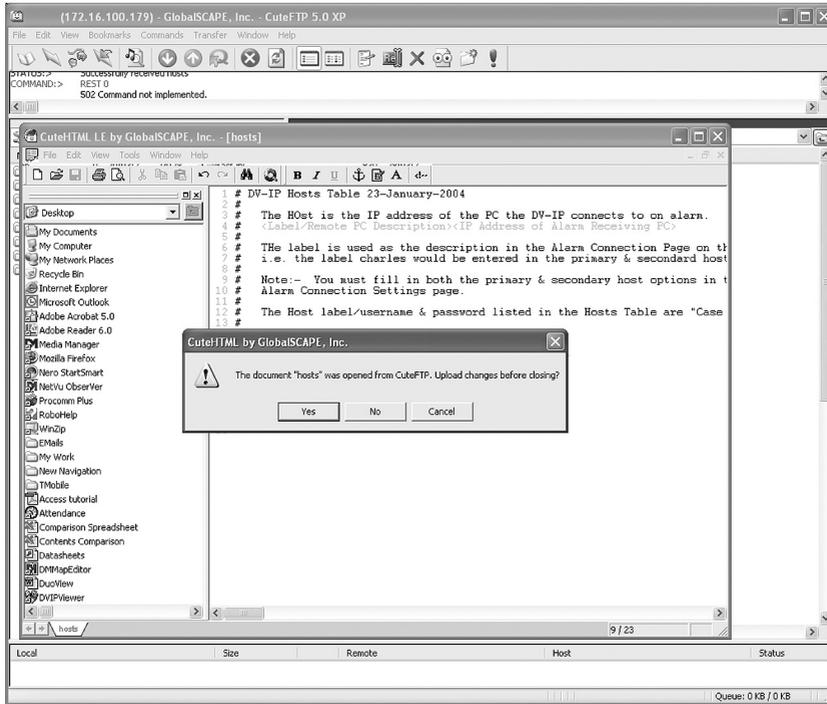
Note: If you are not prompted ensure you upload the file to the unit for the configuration to take affect.

Structure of the Files

Each of the following files usually has an explanation at the beginning of the file describing what the feature command set is and how they can be edit.

If any of the configuration commands have a comment (#) at the beginning of the line then this has been disabled, remove the comment (#) enables the feature and allows you to configure the settings.

Headings will be included when more that one feature can be configured within the file to identify the command string within that section, e.g. [unlock], [watermarking].

hosts

This file contains the IP address of the remote monitoring PC that is the point of contact when an alarm is received on the unit.

The file allows you to identify the name and IP address of the PC.

Note: There is a corresponding web page that is the usual interface for configuring this information; however this file has also be supplied.

An example of the information contained in this file is shown.

Dedicated Micros ©2007

```
# DVR Hosts Table 23-January-2004
# The Host is the IP address of the PC the DVR connects to on alarm.
# <Label/Remote PC Description><IP Address of Alarm Receiving PC>
# The label is used as the description in the Alarm Connection Page on the DVR.
# i.e. the label location1 would be entered in the primary & secondary host name.
# Note:- You must fill in both the primary & secondary host options in the
# Alarm Connection Settings page.
# The Host label/username & password listed in the Hosts Table are "Case Sensitive".
# Hosts Table List

# ————————

# <Label/PC Description><IP Address of remote PC>
 JohnSmith 10.0.0.50
 ARC1    10.0.0.51
 Location1 192.168.2.3
 NULL    0.0.0.0
```

modems.ini

The unit supports a number of modems that can be configured in the Serial Port & Telemetry web page, however if a modem is not supported then the configuration and operational information for the modem can be added to the modems.ini file.

An example of the information stored in this .ini file is shown:

```
# modem description file
# These modem strings will be installed prior to the fixed strings and can therefore be
# used to update the initialisation strings
# format:
# [code]
# name=descriptive text name
# reset=string to reset device to factory defaults
# init=initialisation string
# save=string to save current settings
# negate_dtr=0 assert DTR line during modem initialisation
# negate_dtr=1 negate DTR line during modem initialisation
# type=0,1,2 type of PPP device
# 0 - modem / terminal adaptor (default)
# 1 - router
# 2 - always on eg GPRS, CDPD
# code is the product code as returned by ATI (if appropriate)
# name is the descriptive text name (including spaces if required)
# initialisation string is the complete AT string sent to the TA/modem on detection of DTR
# The negate_dtr line allows control over DTR during initialisation. Some modems will
# not respond if DTR is negated whilst others will answer calls unless DTR is negated
# Initialisation requirements - brackets indicate usual settings
# echo off (E0), DCD follows carrier (&C1), DTR causes hangup (&D2)
# useful settings - hardware handshaking, autobaud
 [FALCOM_A2]
```

```
name=Falcom GSM Phone/Modem
reset=AT&F
init=ATE0&C1&D2&S0S0=1
save=AT&W
negate_dtr=0
[ENFORA]
name=Spider 4 CDPD Modem
reset=AT&F
init=ATE0&C1&D2+WS45=4
save=AT&W
negate_dtr=0
type=2
```

paths.ini

This file is part of the Text in Image configuration and identifies the communication port on the unit that will be connected to the peripheral equipment and also the text information.

Once the associated serial port has been enabled for text in image (refer to the Configuration Section of this manual) it is necessary to enter the relevant information in the paths.ini file so the unit is aware or the route (path) of the text information that will be stored with the associated image.

This is an example of the information that is stored within the paths.ini file.

```
# DVR 17-07-03
# ————————————————————————-
# Example ini file to add text for COM1 to COM4
# COM1 = tty
# COM2 = term
# COM3 = aux1 or if input_path set to pic0 GPS stored on Port 3
# COM4 = aux2
# TEXT00 = camera 1
# TEXT01 = camera 2
# TEXT15 = camera 16
# input_path - the ports COM1 to COM4 that will receive text
# output_path - the command that will associate text to a camera
# buffer_size - the total number of character stored per line
# prefix  - this strips off leading characters received from EPOS


# ============================================
# COM1 will store text with Camera-1
# ============================================


[PATH0]
input_path=\tty
output_path=\pipe\TEXT00
buffer_size=80
# prefix=J


# ============================================
# COM2 will store text with Camera-2
```

```
# ==========================================

[PATH1]
input_path=\term
output_path=\pipe\TEXT01
buffer_size=80
# prefix=J
profiles
```

When utilising the Connect/Dial on alarm function of the unit, it is necessary to identify the receiving station information – profile – so the unit is aware of the route the alarm is to take. For Ethernet connectivity this can be carried out using the web interface, for connection via a serial port it is necessary to enter the information in the 'profiles' file.

Note: *Ethernet profiles can also be entered in the profiles file instead of using the web interface page.*

```
# DVR Profiles Table 23-January-2004
# Profile list
# PPP_Link1 = COM2 - Default alarm dial communication port.
# PPP_Link2 = COM1 - Default dial in communication port.
# Ether1 = Alarm connection across an Ethernet Port (Entering Ethernet as the Profile
# will connect over Ethernet)
# Rules
# 1) The IP address range is that of the remote network the DVR is connecting to.
# 2) IF you set the IP range to 10.0.0.50 with a subnet of 255.255.255.0, the HOST PC
#  IP address range will be 10.0.0.51 to 10.0.0.254
# 3) If you only wish to dialling into the DVR, the Phone No.
# 4) The first field <Username & Profile Label> is the description you will use in the
#  Alarm Connection Page as the Profile description for the primary & secondary call.
# The Profile label/username & password listed in the Profiles Table are "Case
 Sensitive".

# ————————-
# Profiles Table List
# ————————-
```

#<Username>	<Password>	<Port>	<Phone No>	<Address Range>
		<Subnet Mask>		
Dm	password	PPP_Link2	1234567890	
	10.0.0.1	255.255.255.0		
username	password	PPP_Link1	1234567890	
	10.0.0.1	255.255.255.0		
Test	password	PPP_Link1	1234	10.0.0.1
	255.255.255.0			

USER.ini

A number of features on the unit are password protected; these have default usernames and passwords. The features that can be enabled for authentication are FTP, telnet and serial communication.

The user.ini file contains the username and password information for these features and is also the interface to enable or disable password protection.

The example shows the default usernames and passwords and which of these features are enabled on the unit when shipped from the factory.

```
[# 12th Sept 2006
[Admin FTP]
sys_adminftp_user=sys_adminftp_pass
path=\\ftpdrive\ -rw
path=\\webdrive\ -rw
path=\\appdrive\ -rw
path=\\datadrive\ -rw
# Add other paths as required
# Deny access to video
path=*:\video -
[Video FTP]
sys_videoftp_user=sys_videoftp_pass
# Set the home directory to the video drive on the data drive
path=\\datadrive\video -r
# Allow access to video on all other drives
path=*:\video -r
[Telnet]
sys_telnet_user=sys_telnet_pass
[Serial]
# sys_console_user=sys_console_pass
# End of file...
```

vidcfg.ini

The unit can support up to 600Gb of internal storage, however in applications that require large storage capacities it is possible to integrate the Dedicated Micros RAID or JBOD storage units into the application.

As the unit automatically detects external storage, this file is dynamically updated by the system, the example below shows a typical file configuration.

```
# ================
# DVR 03-03-2004
# ================

# Entries are as follows
# [Partition name]
# path = <pathname>
# file_size = <file_size>
# max_blocks = <max_blocks>
# disk_offset = <day_mask>
# write_type =
# The meanings of the parameters are as follows
# Partition Name: Any ascii name for this partition. Does not perform any other function
# path :The effective MSDOS style root path of the partition directory structure
#   default 3.5" = c:\video
# file_size :The size in bytes of each partition file - default = 50Mbyte (52428800)
```

```
# max_blocks : The number of files in this partition. A value of -1 makes the system use
the maximum available
# space on the disk specified in path
# default = -1
# disk_offset : The offset into the disk for the WebPages, Application, Form Files etc;
start making video partitions
# specified in 64 KiloBytes blocks default=3200 (Equal to 200 MegaBytes)
# write_type : unbuffered - writes data straight to the hard disk drive. Useful to speed up
height images sizes
# written at fast to the HDD.
#  NOTE:- This can be wasteful when writing images to HDD i.e. 256 bytes per image on
average. buffered -
#  Default setting - Buffers data to a fixed 20 KiloByte
# buffer prior to a HDD write. More efficient when writing
# images to the HDD.

# ———————-
# Drive Definitions A – Z
# ———————-

# Drive a = 4096 KB Ram
# Drive b = 16 KB RAM
# Drive c = MASTER 3.5"
# Drive d = SLAVE 3.5"
# Drive e = Master 3.5"
# Drive f = Slave 3.5"
# Drive g = Flash Drive
# Drive h to K not used
# Drive l to Z = SCSI Drive ID-0 to 7 LUN-0 to LUN-7
# DVR will support up to Drive letter Z
# Note:- If multiple logical unit numbers (LUN) are used within the SCSI ID, the DVR will
automatically offset the logical drives between drive letters L to Z.
# e.g. SCSI ID-0 LUN-o = Drive L
# SCSI ID-0 LUN-1 = DRive M
# SCSI ID-0 LUN-2 = DRive N
# SCSI ID-1 LUN-0 = DRive O
# SCSI ID-1 LUN-1 = DRive P
# SCSI ID-2 LUN-0 = DRive Q

# ———————-
# Drive Partition Options
# ———————-

# 10 MegaByte Partition - 10485760 - For hard disk sizes 160 GB or less
# 50 MegaByte Partition - 52428800 - Default in Bootloader & upto 600 GB
# 100 MegaByte Partition - 104857600 - For hard disk blocks larger that 600 GB
# 200 MegaByte Partition - 209715200 - For hard disk blocks larger than 2000 GB

# ———————————————————————————-
# Use the following settings to format Addresses 0 to 6 for drives l: to r: external SCSI
drives.
```

```
# ——————————————————————————————————-

# [Partition 5]
# path=l:\video
# max_blocks=-1
# file_size=104857600
# disk_offset=3200
# [Partition 6]
# path=m:\video
# max_blocks=-1
# file_size=104857600
```

Appendix C – Port Assignment on the unit

Port Allocation

It is possible to identify specific ports that will be used for functionality supported on the unit.

These functions are:

FTP

Telnet

HTTP

Telemetry Control

Audio

Debug

Some of these ports have default settings that will link to the default settings of a standard network infrastructure, e.g. port 21 default port for FTP, port 80 default port for HTTP.

However if these default port numbers have already been allocated to other devices on the network then it is possible to identify alternative port numbers.

NOTE: *It's important to ensure all devices that are part of the system configuration are all allocated the same port number otherwise communication between the devices will not be successful.*

To view the ports that have been enabled and configured on the unit, select Network -> Firewall Options. This details the port numbers, type of connection, application and use.

The screen shot shows the default settings for each of the features that utilises a port number as part of its communication path.

PORT	TYPE	APPLICATION	USE
21	TCP	File Transfer Port - (FTP) Connection	Used for manual/auto archiving video & audio to a remote server or PC
23	TCP	Terminal (Telnet) Connection	Remote terminal application, allows engineering function to be carried out
80	TCP	HTTP - Web Server Connection	This port is used when streaming video from a Unit or when accessing the WebPages
1025	UDP	Telemetry Control	PTZ commands are passed from the PC to the Unit
2074	UDP	Audio Port	Outgoing and incoming audio is passed over this link
2075	UDP	Audio Port	This port provides the control for audio outgoing and incoming
5201	TCP	Engineering Debug	Click start, RUN, type:- telnet 5201

It is possible to redefine the port allocation for FTP, telnet and HTTP, how this is achieved is detailed in the Configuration section of this manual.

The telemetry control, audio port and engineering debug are default settings and are not configurable; these port numbers must be given to the Network Manager to ensure there are no other devices on the network using these ports.

Using a telnet session it is possible to telnet to a specific port to obtain debug information, for example at the prompt enter:

Telnet <IP address or unit> 5201

This will download debug information on the Engineering port, the following is an example of the information obtained:

```
Telnet 172.16.80.7                                                    _ □

4897519: F_SERVER: download relays.html
4897809: F_SERVER: download schedule.html
4898320: F_SERVER: download serial_ports.html
4898836: F_SERVER: download std_rec.html
4899321: F_SERVER: download system_features.html
4899612: F_SERVER: download system_logs.html
4902997: F_SERVER: download text_in_images.html
4903548: F_SERVER: download var_rec.html
4904017: F_SERVER: download vmd.html
4904538: F_SERVER: download vssver.scc
4904678: F_SERVER: download watermarking.html
4905219: F_SERVER: download webcam.html
4906601: F_SERVER: download alarm_inputs.html
4907212: F_SERVER: download alarm_zones.html
4907737: F_SERVER: download audio.html
4908023: F_SERVER: download camera_setup.html
4908534: F_SERVER: download camera_setup_adv.html
4908824: F_SERVER: download confirm_shutdown.html
4909125: F_SERVER: download database.html
4909435: F_SERVER: download ftp.html
4909926: F_SERVER: download holidays.html
4910226: F_SERVER: download hosts_profiles.html
4910746: F_SERVER: download img_unprotection.html
4911029: F_SERVER: download main.html
```

Appendix D – Unit Serial and Network Cables

DM RS232 Debug Cable (supplied)

Pin	Colour Code	Pin Assignment	Pin
1	Not used	Not used	1
2	Red	TX	3
3	Blue	RX	2
4	Not used	Not used	4
5	Green	Ground	5
6	Not used	Not used	6
7	Not used	Not used	7
8	Not used	Not used	8
9	Not used	Not used	9
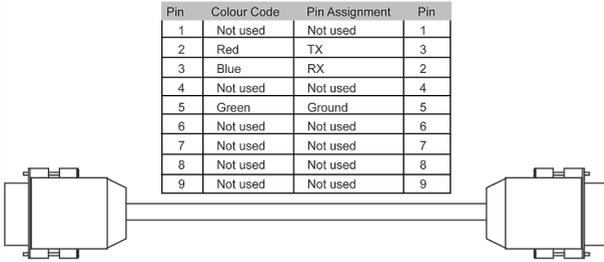
The RS232 Debug cable can be used to connect the PC serially to the unit for configuration using a terminal application (such as HyperTerminalTM).

Straight-through Network Cable

Pin	Colour Code	Pin Assignment	Pin
1	White/Orange	Transmit (+)	1
2	Orange/White	Transmit (-)	2
3	White/Green	Receive (+)	3
4	Blue/White	Not used	4
5	White/Blue	Not used	5
6	Green/White	Receive (-)	6
7	White/Brown	Not used	7
8	Brown/White	Not used	8
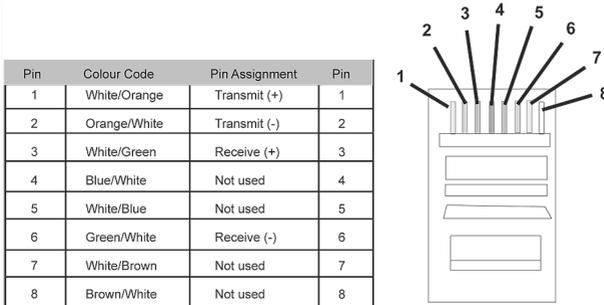
A straight through network cable connects hosts to network devices; PC to switch, unit to Switch.

DM 485 Bus Cable (supplied)

Pin	Colour Code	Pin Assignment	Pin
1	White	Not used	1
2	Black	Ground	2
3	Red	485 bus data A	3
4	Green	485 bus data B	4
5	Yellow	Ground	5
6	Blue	+8V d.c. Supply	6

The DM 485 Bus cable is supplied for connectivity to peripheral DM devices such as Alarm Modules and Relay Modules.

Cross Over Network Cable

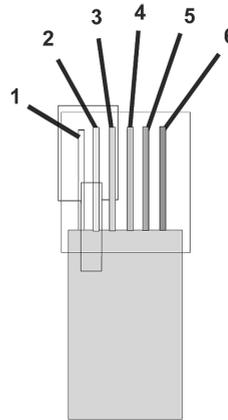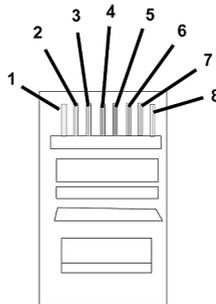| Pin	Colour Code	Pin Assignment	Pin
1	White/Orange	Transmit (+)	3
2	Orange/White	Transmit (-)	6
3	White/Green	Receive (+)	1
4	Blue/White	Not used	4
5	White/Blue	Not used	5
6	Green/White	Receive (-)	2
7	White/Brown	Not used	7
8	Brown/White	Not used	8

A cross over network cable is used to connect hosts to hosts or network equipment to network equipment, switch to router, PC to unit.

DM RS232 Null Modem Cable

Pin	Colour Code	Pin Assignment	Pin
1	N/A	Not used	1
2	N/A	TX	2
3	N/A	RX	3
4	N/A	Not used	4
5	N/A	Ground	5
6	N/A	Not used	6
7	N/A	Not used	7
8	N/A	Not used	8
9	N/A	Not used	9
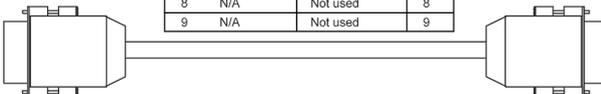
The null modem cable can be used to connect ancillary devices that require 'handshaking' such as modems, GSM, etc.

Dedicated Micros ©2007

Nokia 30 Cable

DV-IP Server Pin	Nokia 30 Pin
1	1
2	2
3	3
4	4
5	5
7	7
8	8
6	

This cable is for use from the unit to the modem only.

Appendix F – SMS Message Format

The unit supports GSM communications and SMS messaging. This allows the unit to report events via SMS and to receive SMS messages in order to create events on the system.

Command Format

The commands consist of a descriptor followed by a variable parameter list. The order in which the parameters appear must follow the format detailed below.

SMS Commands

These are messages that are sent to the unit to force an event to be triggered on the unit. These messages can be sent from a mobile phone or an Internet Service Provider (ISP) supporting SMS messaging.

Callback

This command is used to force the unit to make a connection to an Alarm Receiving Centre where the telnet listener (telserve) application is running.

```
CALLBACK?<password>&<destination>&<profile>&<text>
```

password	This is the SMS password that has been identified in the SMS Set-up page and enables the command to be executed.
destination	This is the IP address or DNS name of the Viewing application that has telserver (Telnet listener) enabled to receive the message.
profile	This can be a number or name that has been configured on the SMS Set-up page, this will be via the serial port or Ethernet connection.
text	This is the text message that will be sent to the remote viewer informing the Operator of an incident and therefore should be meaningful.

SMS Reports

These are messages sent from the unit to a pre-defined SMS Server when an event occurs. The 'events' that will initiate this function are configured within the unit configuration web pages.

Startup

An SMS message will be sent from the unit to the receiving station when the unit 'starts up'.

```
STARTUP?<name>&<time>&<IP address>&<latitude>&<longitude>&<zone>
```

name	This is the system name configured on the unit.
time	This is the local julian time of the message. The julian time is the number of seconds since 00:00:01 hour on January 1st 1970. If the Verbose message option has been enabled on the unit this message will be in a human readable format.
IP address	This is the Ethernet IP address of the unit.
latitude	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
longitude	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
zone	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.

Alarm

This report is generated when an alarm is received on the unit.

```
ALARM?<name>&<time>&<lat>&<long>&<speed>&<course>&<zone>&<camera>&<title>
```

name	This is the system name configured on the unit.
time	This is the local julian time of the message. The julian time is the number of seconds since 00:00:01 hour on January 1st 1970. If the Verbose message option has been enabled on the unit this message will be in a human readable format.
lat	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
long	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
Speed	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
course	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
zone	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
camera	This is the video input number that is directly associated with the alarm on the unit.
title	This is the alarm title allocated to the alarm that forced the SMS message.

VMD

This report is generated when activity has been identified on the unit.

```
VMD?<name>&<time>&<lat>&<long>&<speed>&<course>&<zone>&<camera>&<vmd zone>
```

name	This is the system name configured on the unit.
time	This is the local julian time of the message. The julian time is the number of seconds since 00:00:01 hour on January 1st 1970. If the Verbose message option has been enabled on the unit this message will be in a human readable format.
lat	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
long	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
speed	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
course	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
zone	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
camera	This is the video input number that is directly associated with the alarm on the unit.
vmd zone	VMD zones are configured on the unit, this identifies the zone that has been activated to initiate the SMS message.

Camfail

This report will be generated if the unit identifies that any of the video inputs does not have a 1V peak-to-peak signal.

```
CAMFAIL?<name>&<time>&<lat>&<long>&<speed>&<course>&<zone>&<upper>&
<lower>
```

name	This is the system name configured on the unit.
time	This is the local julian time of the message. The julian time is the number of seconds since 00:00:01 hour on January 1st 1970. If the Verbose message option has been enabled on the unit this message will be in a human readable format.
lat	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
long	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
speed	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
course	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
zone	This parameter is not relevant to the unit and included to support other Dedicated Micros platforms.
upper	This identifies the bitmask of failed cameras 33 – 64.
lower	This identifies the bitmask of failed cameras 1 - 32.

Additional Information

Command Reference List

Command line

Command	Description
<ESC> m\Ether_IP\xxx.xxx.xxx.xxx	Set IP address of the unit.
<ESC> m\subnet\xxx.xxx.xxx.xxx	Set subnet of the unit.
<ESC> m\gateway\xxx.xxx.xxx.xxx	Set gateway of the unit.
<ESC> m\status	Displays the status information or the unit; drive information, comm. Ports information, enabled telemetry, etc.
<ESC> m\serial_mode\comx\disabled	
Debug	
PPP	
Text	
Telem	This command will allow any of the serial ports to be set for a specific function.
	Replace the x with the port number and select from the list the option available (refer to the serial port section of this manual for allocated functionality for each port).
<ESC> m\security\Eng\Open	
Off	
Pass	Allows the security password for debug mode to be enabled (pass)or disable (off) on the unit.
<ESC> m\security\debug\Open	
Off	
Pass	Allows the security password for debug mode to be enabled (pass)or disable (off) on the unit.
ipcfg	Shows the IP address, subnet mask and gateway set on the unit.
TCP Ports	Displays the active TCP ports supported on the unit.

Setting a static IP address via Telnet

The following describes how a preferred static IP address can be allocated and divided into:

    static IP address

    subnet mask

    and if required default gateway

    1. Ask your Network Administrator to complete the following with the information that will be configured on the unit.

IP address   _ _ _ . _ _ _ . _ _ _ . _ _ _ (for example 172.16.0.100)

Subnet mask   _ _ _ . _ _ _ . _ _ _ . _ _ _ (for example 255.255.0.0)

Gateway (if required)   _ _ _ . _ _ _ . _ _ _ . _ _ _ (for example 172.16.0.254)

    2. If a video signal is not already connected to the unit, connect to VID 1 at the rear of the video server.

3. With the mains power OFF, connect the power cable to the unit.

4. If the RS232 communication cable is not connected to the unit, connect this between the COM port on your PC and COM1 on the rear of the unit.

5. On your Windows PC, from the Start menu, select Programs> Accessories> Communications> HyperTerminal and create a new connection using the COM port and the following settings:

Bits per second	38400
Data bits	8
Parity	None
Stop bits	1
Flow control	None

6. Apply mains power to the unit. The green power LED should light on the front panel of the unit and some debug information should appear in HyperTerminal as the unit starts up, wait for this debug information to finish.

7. In HyperTerminal, log on to the unit by typing +++ and pressing enter.

8. At the command prompt, type the following commands, replacing <aaa.bbb.ccc. ddd>with the values issued by the Network Administrator. <ESC> denotes the Escape button on your keyboard, <ENTER> denotes the enter key on your keyboard.

This will allocate a permanent IP address to the unit and disable DHCP.

Note: *The IP address will be displayed on the spot monitor for a user defined period (nominally 10 minutes) after the machine starts up, providing there is a connected working camera*

Enabling DHCP
The unit is set for DHCP by default.

Allocating permanent IP address will disable DHCP. It can be re-enabled.

1. If a video signal is not already connected to the unit, connect to VID 1 on the top row of BNC connector's.

2. With the mains power OFF, connect the power to the rear of the unit.

3. Connect RS232 communication cable between the COM port on your PC and COM1 on the rear of the unit.

4. On your PC, from the Start menu, select Programs> Accessories> Communications >HyperTerminal and create a new connection using the COM port and the following settings:

Bits per second	38400
Data bits	8
Parity	None
Stop bits	1
Flow control	None

5. Apply mains power to the unit. The green power LED should light on the front panel of the unit and some debug information should appear in HyperTerminal as the unit starts up, wait for this debug information to finish.

6. In HyperTerminal, log on to the unit by typing +++ and pressing enter.

Note: *The IP address will be displayed on the spot monitor for a user defined period (nominally 10 minutes) after the machine starts up, providing there is a connected working camera*

7. At the command prompt, type the following commands.

<ESC>m\ether_ip\000.000.000.000 <ENTER>
<ESC>m\subnet\000.000.000.000 <ENTER>
<ESC>m\gateway\000.000.000.000<ENTER>
<ESC>m\save <ENTER>

Dedicated Micros ©2007

reset (to restart the unit) - you must reset the unit for the settings to be applied.

The unit will automatically be allocated an IP address from the DHCP server.

Locating the DHCP Allocated IP Address

If the unit has been left at default setting then the unit will be automatically allocated an IP address, it is important to find this information before the configuration of the unit can be carried out.

The unit must be connected to the DHCP network during this procedure.

1. Connect to unit using Hyper Terminal as described in Allocating and IP Address above.

2. At the prompt in HyperTerminal, run the IP configuration tool, type:

   ipcfg<ENTER> - the DHCP IP address assigned is displayed.

Note: *The IP address will be displayed on the spot monitor for a user defined period (nominally 10 minutes) after the machine starts up, providing there is a connected working camera. This procedure is available in case there is no camera feed available.*

Make a note of the IP address for testing the network configuration.

IP address

Subnet mask

Gateway (if required)

Index

DEDICATED MICROS

Dedicated Micros Ltd.
1200 Daresbury Park, Daresbury,
Cheshire, WA4 4HS, UK

Dedicated Micros Europe
Neckarstrafle 15,
41836 Hückelhoven, Germany

Dedicated Micros USA.
23456 Hawthorne Blvd.
Suite 100, Torrance,
CA 90505, USA

Dedicated Micros France
9-13 rue du Moulinet
75013 Paris, France

Dedicated Micros, Australia PTY.
5/3 Packard Avenue, Castle Hill,
NSW 2154, Australia

Dedicated Micros Slovenia
Delavska cesta 26,
4208 Sencure, Slovenia

Dedicated Micros, Asia PTY
16 New Industrial Road,
#03-03 Hudson Techno Centre,
Singapore 536204

Dedicated Micros Benelux
Joseph Chantraineplantsoen 1,
3070 Kortenberg, Belgium

Dedicated Micros Middle East
Building 12, Suite 302, P.O. Box 500291, Dubai Internet
City, Dubai, United Arab Emirates

Dedicated Micros USA.
14434 Albemarle Point Place, Suite 100,
Chantilly, Virginia 20151 USA

Dedicated Micros (Malta) Ltd.
BLB017, Bulebel Industrial Estate,
Zejtun, ZTN08, Malta

Installed by

NetVu
CONNECTED

MI-I-DSS/E2-0