Installation Guide



DV-IP NV1

Closed IPTV

DEDICATED MICROS

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Whilst every attempt is made to ensure these manuals are accurate and current, Dedicated Micros reserve the right to alter or modify the specification of the machine described herein without prejudice.

Introduction

What is the…

DV-IP NV1 Universal Encoder / High Definition Console & ICR Server ?

The DV-IP NV1 provides a vital bridge between state-of-the-art and legacy CCTV solutions; minimising immediate upgrade costs when deploying a next generation CCTV solution.

The versatility of the DV-IP NV1 allows it to be used as an analogue encoder, 3rd party IP camera re-coder, NetVu Console/Decoder or a fully fledged, enterprise class video server supporting analog and IP inputs, allowing storage on USB or AoE network attached storage. With composite or HDMI monitor output, the NV1 can display megapixel and HD CCTV camera sources in a powerful NetVu Console viewing client.

Demonstrating the power of the NetVu Connected architecture, the NV1 includes powerful re-coding capabilities that can decode, in real-time, any supported 3rd party IP camera stream and convert to a raw video image. This enables functions such as Analytics, Activity Detection, VMD and switching on alarm to be performed on any connected IP stream and introduces the ability to provide multiple streams from the same IP camera.

Any video input, regardless of source, can be seamlessly integrated into a NetVu Connected system through the deployment of a DV-IP NV1. Analogue or IP cameras, PTZ and high definition / megapixel cameras can be viewed, recorded and controlled through the unit.

The DV-IP NV1 offers decoding capabilities for the viewing of remote video feeds from cameras and DVRs. With a HDMI output and multi-screen viewing, the product can be controlled as a secondary hi-definition monitor for DVRs or other NetVu Connected devices providing greater freedom to users wishing to expand the control of their network without incurring the significant associated cost.

With embedded ICR (Integrated Camera Recording) Technology the DV-IP NV1 can make any analogue or IP camera into an edge-located recording device. ICR recording can be via a removable micro SD card, external USB drive or ATA over Ethernet (AoE) drive / RAID. Providing separate, remote storage for backup and long-term archiving and enables a tiered storage architecture that protects against a single point of failure.

The DV-IP NV1 is ready to be part of the next generation of video security – Closed IPTV. Dedicated Micros' ground breaking Closed IPTV solution makes deploying an IP Video, CCTV system safe, secure and simple. Combining patent-pending innovation with zeroconf networking technology, Closed IPTV automatically allocates IP addresses to IP cameras by physical port. In this way the system is completely deterministic, creating firewalls and monitoring IP connections by individual network ports so they cannot be hacked or intercepted.

For further information, please visit the website:

www.dedicatedmicros.com

IMPORTANT: *DVR mode and Video Storage will be supported by future software updates.*

Features

The DV-IP NV1 from Dedicated Micros is equipped with an array of valuable features designed to enhance the operator experience.

- Operate as Console (default) Encoder or DVR
- Versatile video server
- Compatible with any video input; analogue, IP or megapixel
- Encode inputs into simultaneous multiple streams of MPEG4 and MJPEG
- Recoding 3rd party IP cameras for data analysis, alarms and analytics
- Decoder capability for viewing remote video
- Integrated Camera Recording (ICR) capability
- Real-time recording per camera
- PoE capability removes the need for a dedicated power source
- Forms part of a Closed IPTV system when used with a Layer 3 Enhanced CCTV Switch
- Multicasting – push any video stream onto a network for viewing by multiple users
- HDMI Main monitor output for high definition display
- Dual ethernet connections
- AnalyticsCapable
- On-screen telemetry control with Point&Go and
- Absolute Positioning
- Text support - capture text and embed till, ATM or analytics data with video
- Serial and IP Telemetry Control
- MultiMode Recording
- TransCoding - High quality recording and simultaneous video transmission using MPEG4 or JPEG for playback
- Per camera Polymorphic streams change resolution, bit rate and compression mid stream
- Embedded Operating System

NetVu CONNECTED

The DV-IP NV1 has NetVu Connected technology built-in to ensure maximum compatibility with future developments in networked security. NetVu Connected technology enables the DV-IP NV1 to fully interact with other NetVu Connected compatible products from DM including NetVu ObserVer. Providing interoperability between the worlds leading security companies, NetVu Connected uses industry standard networking protocols supported by a wide range of third party integration products and SDKs to ensure future on-going compatibility.

Closed IPTV

Dedicated Micros' ground breaking Closed IPTV solution makes deploying an IP Video, CCTV system safe, secure and simple. Combining patent-pending innovation with zeroconf networking technology, Closed IPTV automatically allocates IP addresses to IP cameras by physical port. In this way the system is completely deterministic, creating firewalls and monitoring IP connections by individual network ports so they cannot be hacked or intercepted. This ground breaking solution provides a very simple and secure answer to IP Video, meaning that no prior knowledge of IP networking is required.

point&go

Point&*go* provides the user with easy to use, fast, accurate telemetry control via an attached monitor. With no need for a telemetry keyboard, users are able to use Pan & Tilt control of a Dedicated Micros Oracle Dome simply by clicking an area of the monitor. The camera will instantly respond, positioning the selected area in the middle of the screen, ideal for tracking movement through a scene.

MAP

Users can now navigate around their CCTV installation using a graphical map. Selecting the relevant camera from the map will instantly connect the user to that cameras image stream. With the ability to load bespoke map images and floor plans to reflect their installations, the Maps feature is ideal for quickly identifying camera locations around a site or CCTV network.

COMMON CONFIGURATION INTERFACE

A Common Configuration interface is displayed when the unit's configuration screens are accessed locally at the unit or remotely via a web browser. This unified system ensures that the installer is familiar with the configuration screens irrespective of their location to the unit, minimising training and familiarisation time and increasing the speed of installation and alteration.

The DV-IP NV1 includes the unique colour-coded, soft key menu structure and on-screen Graphical User Interface (GUI). Context sensitive, the menu structure always represents the area of the menu the user is in, allowing them to quickly select the options and settings they need without having to trawl through menu pages and options.

VIDEO TIMELINE



The Video Timeline feature is an intuitive interface for the control and navigation of playback video. With control via the colour-coded on-screen buttons, the user is able to control the video forward or backwards in incremental steps of seconds, minutes, hours, days and weeks.

MultiMode Recording

The unit supports **Multi***Mode recording which is a storage technology developed by Dedicated Micros. This offers the ability to set different recording rates, resolutions and compression formats across scheduled, normal and alarm modes for each individual camera.*

By varying the quality, bit rate and file size of the recorded images, the **Multi***Mode function can increase recording capabilities of the unit.*

Multi*Mode* offers:

- Ability to set different recording resolutions.
- Ability to set and switch MPEG or JPEG compression recording as required.
- Ability to set PPS recording rate per camera.
- Dynamically switchable resolution when switching from Normal to Event recording.
- Dynamically switchable compression between MPEG4 and JPEG from Normal to Event recording.

Design of the manual

For ease of use, this manual has three parts:

1. Installation — Shows details of how to install the unit and connect external devices.
2. Configuration — Shows details of the units menus.
3. Operation — Shows quick reference details on how to control the unit.

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.

WARNING

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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

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.

CE Mark



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, UK.

Installing the Unit

Before you start

Check the contents of the box

Remove all items from the packaging and check the items listed below are present:

- DM/DVIP/DV-IP NV1 universal encoder / high definition console and ICR Server
- 24Vdc PSU
- Mains cables
- RS485 breakout PCB
- USB Mouse
- Installation and Operation Guide

If any of these items are missing, please contact Dedicated Micros Technical Support team.

Note: *Before installing the unit, carefully read all Safety Instructions and the following information on where the unit should be located.*

Choosing a location for installation

- Ensure the unit is properly ventilated to protect from overheating.
- Ensure the unit is not located anywhere it could be subject to extreme mechanical shocks.
- The unit should be located in an area with low humidity and a minimum of dust.
- If the unit is to be installed in a closed assembly, the maximum operating temperature must not exceed 40°C (104°F).

Electrical Connections

Please ensure the following are available and have been tested prior to the installation:

- Mains point (recommended)
- Network point
- Network cable
- Active video signals i.e. at least one working camera feed
- PC with CD ROM drive and connection to the same network as the DV-IP NV1 unit

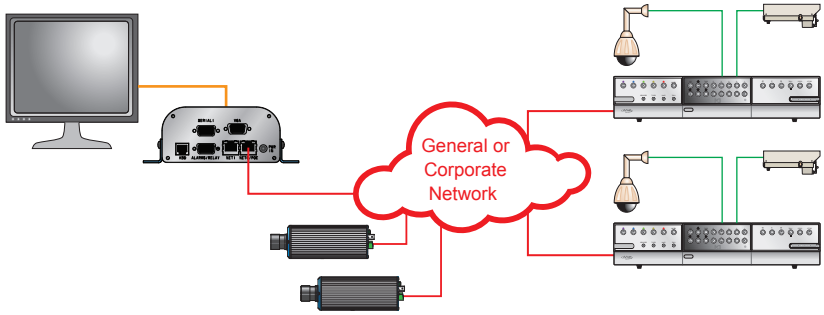
Modes of operation

The DV-IP NV1 can be set to operate in 'Encoder' 'Console' or 'DVR' mode on the Features page, refer to 'Features'. Any configured settings are reset to factory defaults when the mode of operation is changed.

IMPORTANT: *The options and pages available in the Configuration and Viewer menus will differ depending on the mode of operation selected.*

Console Mode (Default mode of Operation)

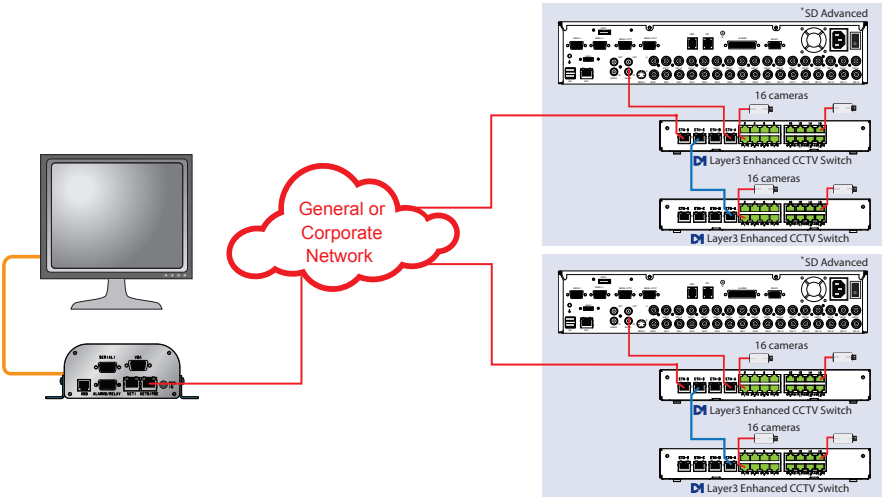
The DV-IP NV1 can be configured to decode remote NetVu connected IP sources (individual cameras, encoders or servers) and display them on the local monitor. NetVu connected streams can be viewed live or recordings from attached servers or ICR devices. The NV1 has full NetVu Console capability embedded within it.



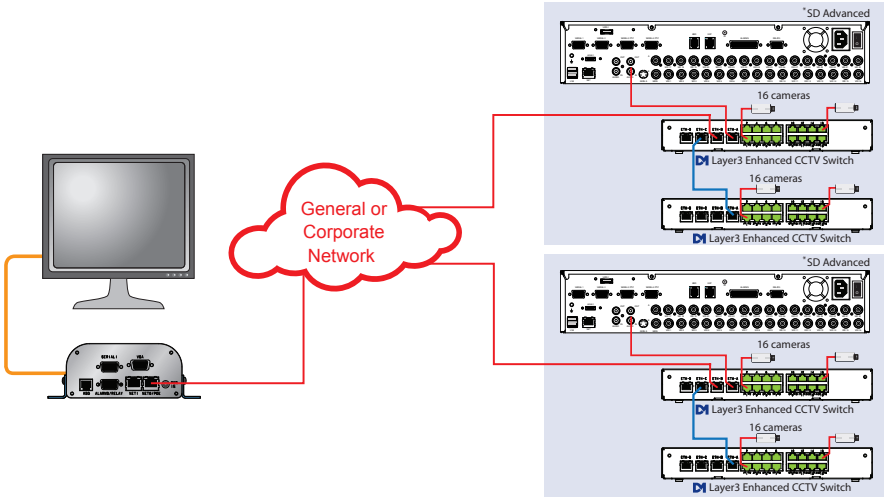
Closed IPTV Console

The DV-IP NV1 integrates seamlessly with Dedicated Micros' Closed IPTV for use as a private video client, console video client or pure IP solution, allowing IP cameras to record video directly to Network Area Storage using AoE, using the NV1 as a viewing client.

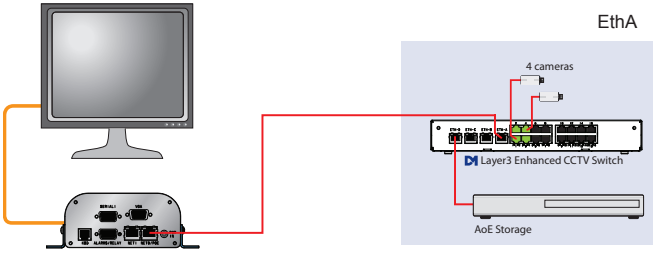
Private Video Client (via EthD)



Viewing Client (via EthB)



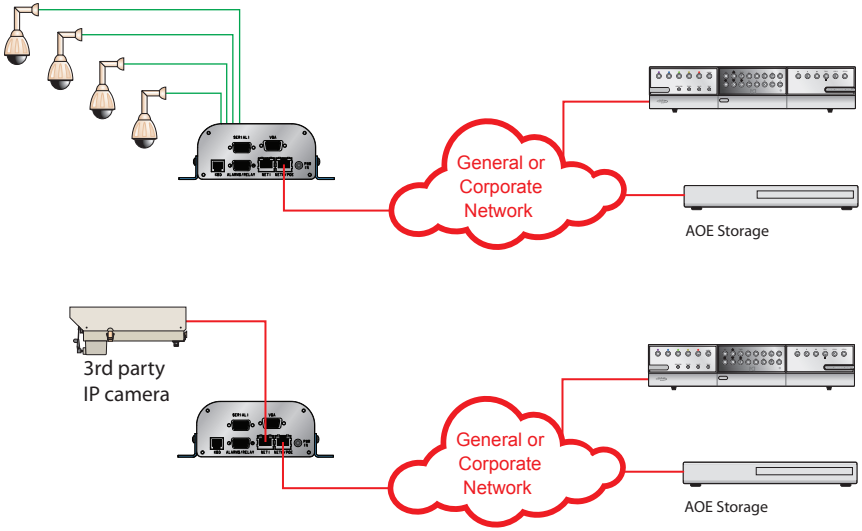
Pure IP Solution



Encoder Mode

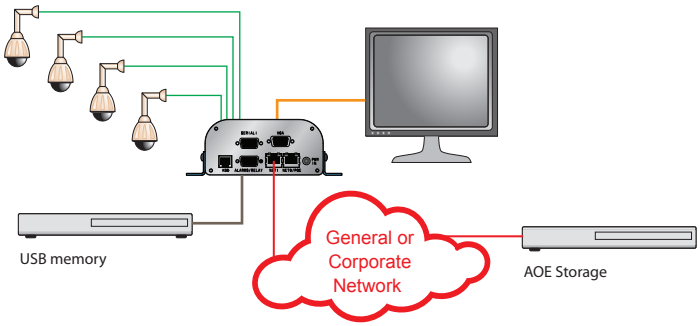
Connect up to 4 analogue cameras to the BNC inputs labelled ‘CAM 1’ to ‘CAM 4’. If one or more of these cameras have PTZ control; RS485 telemetry can be utilised via a connection to the DV-IP NV1’s serial port.

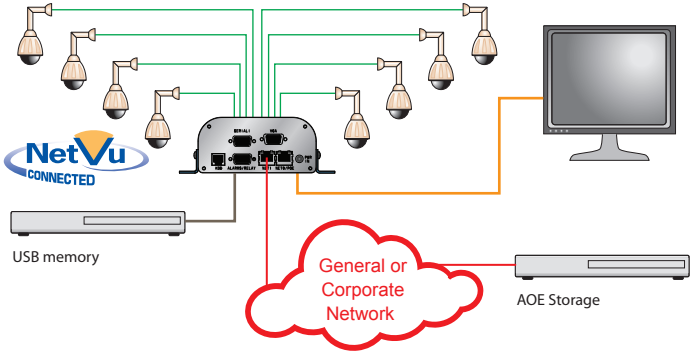
In place of an analogue cameras, a 3rd party IP camera can be connected to the Ethernet port labelled ‘NET1’ for recoding as a NetVu connected device. The ICR capability allows encoded camera to be recorded to the DV-IP NV1’s SD card or to an AoE device.



DVR Mode

The DV-IP NV1 is also a fully fledged, enterprise class video server supporting analog and IP inputs. With embedded ICR (Integrated Camera Recording) Technology; the DV-IP NV1 can make any analogue or IP camera into an edge-located recording device. Recording can be via a removable micro SD card, external USB drive or ATA over Ethernet (AoE) drive / RAID.





Closed IPTV with the DV-IP NV1

Analogue channels can be utilised by the BNC connections on the back of the unit OR by the sockets on the Layer 3 Enhanced CCTV Switch. If an IP source is plugged into a channel occupied by a BNC connection, the BNC will take priority and possess the channel, whilst the IP connection will be added to an unassigned list, allowing it to be tied to an available channel through the configuration pages.

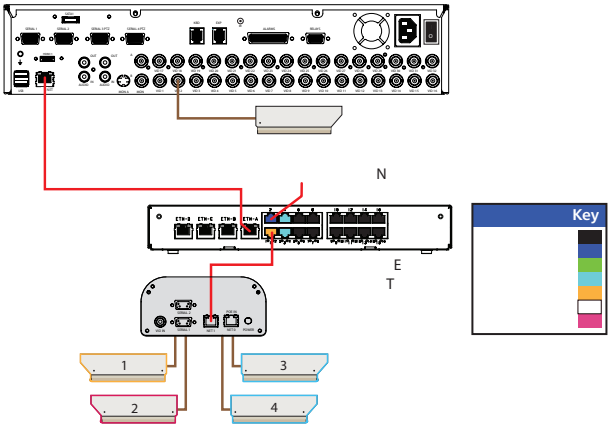
Individual cameras should be connected in sequential order, i.e. connect the first camera to port number 1 on the Layer 3 Enhanced CCTV Switch. When this connection is registered by the NVR, it will display a notification on the Main Monitor showing the recognised details of the new video source, including resolution, name and MAC address. There will also be a notification if a camera is disconnected.

Using Closed IPTV with DV-IP NV1

A NetVu Connected multi-channel server can be can be added to any of the camera ports as a video source. The available channels are then allocated as the Layer 3 Enhanced CCTV Switch detects video sources on the NetVu Connected multi-channel server and allocates them to consecutive Port Free channels, starting at the port on which the video source is added. If the process encounters a channel that does not have “Port Free” status then the video source will be added to the unallocated list; consecutive cameras will only be applied to channels that are Port Free.

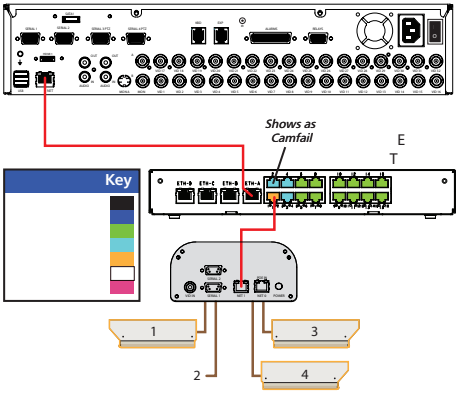
For example the Layer 3 Enhanced CCTV Switch has channel ports 1,3,4 listed as Port Free, 2 is an Analogue camera. If one 4 channel ICR encoder is added to camera 1. The result is;

- ► ICR Encoder - Camera 1 -> Camera 1 NVR
- ◄ ICR Encoder - Camera 2 -> Unallocated, Cameras
- ► ICR Encoder - Camera 3 -> Camera 3 NVR
- ► ICR Encoder - Camera 4 -> Camera 4 NVR.



When a multichannel encoder is connected to the Layer 3 Enhanced CCTV Switch, the NVR will receive information from the encoder about how many cameras are connected. Channels set as Not Connected on the encoder, when presented to the Enhanced Layer 3 switch will not be eligible for Auto IP.

In the scenario shown below, the NVR is set at defaults and the Layer 3 Enhanced CCTV Switch has an ICR encoder with three analogue camera inputs connected at positions 1, 3 and 4. Position 2 is not used. The Closed IPTV NVR would be auto configured on consecutive ports, camera 2 would not be allocated to port 2 which would be registered as assigned to a failed camera.



Analogue channels take precedence. If an analogue camera is present and connected then it will only become Port Free if the channel is set to Not Connected on the Closed IP NVR configuration pages.

The de-allocated cameras are added to the Camera->Unallocated Cameras page on the NVR, which shows a tabulated list of all unallocated cameras connected to the switch, showing all the camera details (DNS, Auto IP Address, MAC, Classification, Channel number and Native resolution). Each camera has a drop down list showing all 'Port Free' channels available for allocation to the video source.

Any errors in setting up the cameras can be rectified by simply disconnecting and reconnecting the camera to the switch in whilst configuration mode, which will allow the camera to reallocate. If multiple changes are made, it is recommended that the NVR is reset after correcting the configuration to ensure perfect allocation.

Quick Overview of DV-IP NV1 Record Settings

When set to operate in Encoder or DVR, the DV-IP NV1 provides as default:

- High performance recording with minimal configuration.
- Consistent recording duration and smooth motion video capture.
- Default recording at MPEG4 5pps or JPEG 1PPS

IMPORTANT: *It is recommended that the time and date be configured either by the 'Sync To PC' option, or ideally, the 'SNTP Server' option. A Simple Network Time Protocol (SNTP) server allows external devices to connect and set their current date and time settings to that of the SNTP. There are numerous SNTP clients available via the web, a Windows server can also be used as an SNTP client.*

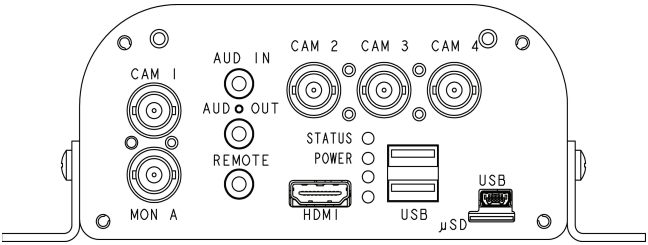
Complete Flexibility

The advanced record menu can be used to configure individual cameras to suit specific requirements e.g. Entry/Exit routes. Various storage sizes are available dependant on the combination of the number of cameras, the storage options and record rates selected.

Note: *It is the Installer/Owner's responsibility to ensure that the record duration is set to the necessary requirements of the application.*

Installation

Front Panel connections



Data

USB	3x USB connector (2 normal / 1 micro size)	
LEDs	Power	Will illuminate when power is connected to the unit
	Status	Will illuminate when the unit is active
REMOTE	Infra-Red Input connector for IR Remote Control Extender	
SD	Micro SD card port - available as storage for video footage in DVR and Encoder ICR modes.	

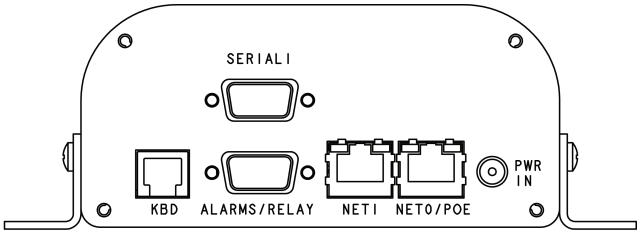
Video

CAM1 to CAM4	75Ω BNC composite video input, 1V pk-pk
MON A	75Ω BNC composite monitor output, 1V pk-pk
HDMI	High-Definition Multimedia Interface connector

Audio

AUDIO IN	3.5mm (phono) socket, 8KHz/16KHz/22KHz sampling 75Ω input impedance, 1V pk-pk
AUDIO OUT)	3.5mm (phono) socket, line level <100Ω output impedance,1V pk-pk amplification required

Rear Panel connections



Data

SERIAL 1	RS-232 / RS-485 / RS-422 (3 wire & 9 wire)
NET 1	RJ45 Ethernet network connector, 10/100 Mb/s Ethernet Network
NET 0 /POE	RJ45 Ethernet network connector, 10/100 Mb/s Ethernet Network / Power Over Ethernet : IEEE 802.3-2008. End span and bridging
KBD	RJ12 connector for RS485 bus keyboard, used with Dedicated Micros telemetry keyboards (KBC1, KBC2)

Note: *The Serial 1 port and the keyboard connector utilise the same 485 bus which can provide either keyboard support or telemetry. Both Encoder and DVR mode defaults to telemetry, Console defaults to keyboard operation.*

Alarms and relays

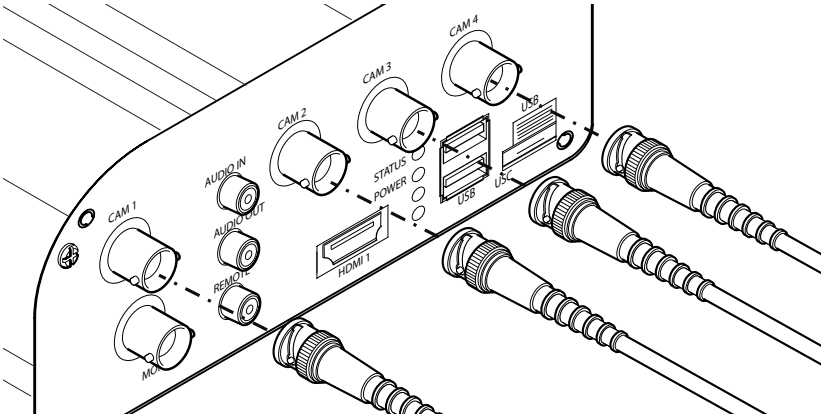
ALARMS	Via 9 way (female) D Type 24V 200mA 4 General Alarm Inputs Range of Alarm states are i. 0 – 800R = Short circuit ii. 800R – 2K = closed contact iii. 2k – 12k = open contact iv. > 12K = open circuit.
RELAYS	Via 9 way (female) D Type rated at 24V 200mA 1 onboard light duty relay output (500mA@12V-48V Max)

Power

POWER	2-way terminal connector (DC) uses either external PSU provided or POE (power over ethernet).

Connecting the DV-IP NV1

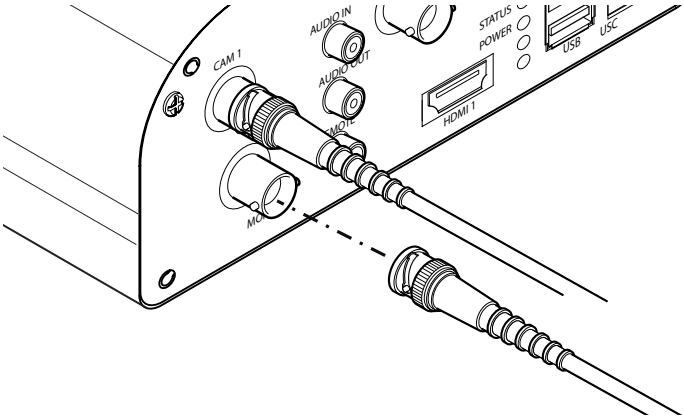
Step 1 - Connecting Analogue Video



The DV-IP NV1 supports four connected analogue video inputs via the 75Ω BNC connectors labelled ‘CAM1’ to ‘CAM4’.

Note: *This step is not required if the unit is configured as a Console.*

Step 2 - Connecting a Monitor

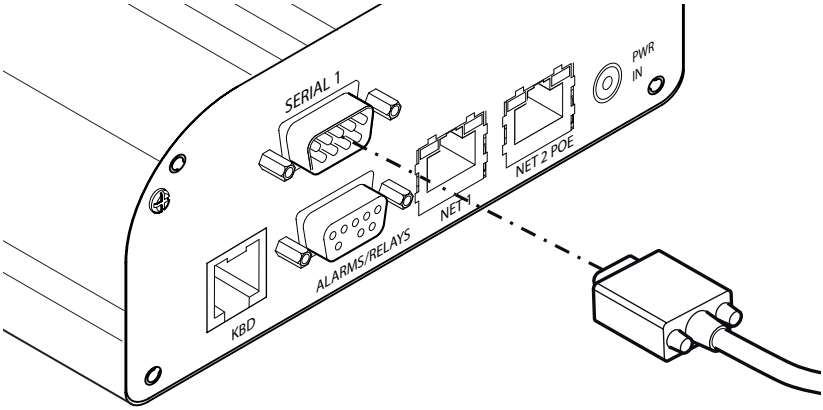


Connect a local monitor either to the BNC output labelled ‘MON A’ output or the HDMI output.

Note: *Only one monitor connection is supported at any one time. The HDMI output will take precedence should monitors be connected to both monitor outputs.*

Note: *This step is not required if the unit is configured as an Encoder, but it is recommended if the unit will be configured locally.*

Step 3 - Serial Telemetry



If RS485 telemetry is needed, the telemetry cable from the analogue dome should be connected to pins 1 and 9 of the D connector, or the TX+/- screw terminals on the supplied interface PCB. The dome's RS485 network address should be set to match with the camera input that it is connected to on the DV-IP NV1, e.g. if connected to input CAM2, the dome RS485 address should be set to 02.

Note: *The Serial 1 port and the keyboard connector utilise the same 485 bus which can provide either keyboard support or telemetry. Both Encoder and DVR mode defaults to telemetry, Console defaults to keyboard operation.*

Example Switch Settings

Oracle dome - DM-RS485 telemetry:

Red switch 2

Blue switch 0

Yellow switch 2

2060 dome - DM-RS485 telemetry:

Blue switch 0

Yellow switch 2

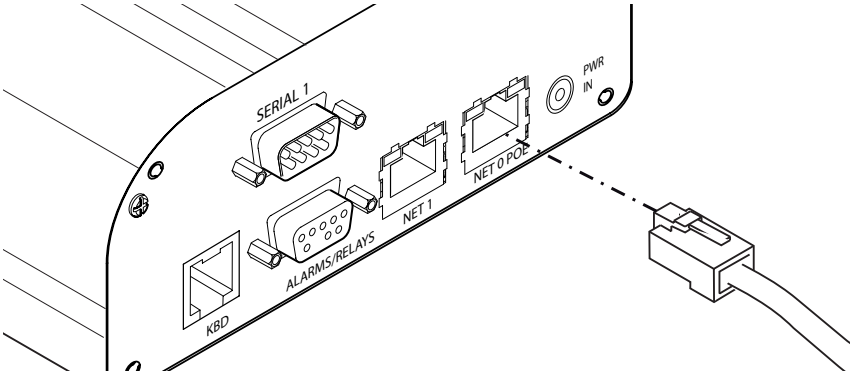
Please refer to the instructions supplied with the domes for more information.

The 9 way D serial plug can be used for RS232 debug (by connecting to a PC serial port) or for RS485 telemetry control using the supplied breakout PCB.

9 way D-Type Connectivity

Pin No.	Description	Comments
1	DCD/RS485+/RS422_TX+	COM1 RS232 DCD or COM2 RS485
2	RXD	COM1 RS232 RXD
3	TXD	COM1 RS232 TXD
4	DTR /RS422_RX-	COM1 RS232 DTR or COM2 RS422-
5	GND	Digital Ground
6	DSR /RS422_RX+	COM1 RS232 DSR or COM2 RS422+
7	RTS	COM1 RS232 RTS
8	CTS	COM1 RS232 CTS
9	RI /RS485- /RS422_TX-	COM1 RS232 RI or COM2 RS485-

Step 4 - Connecting to the Network



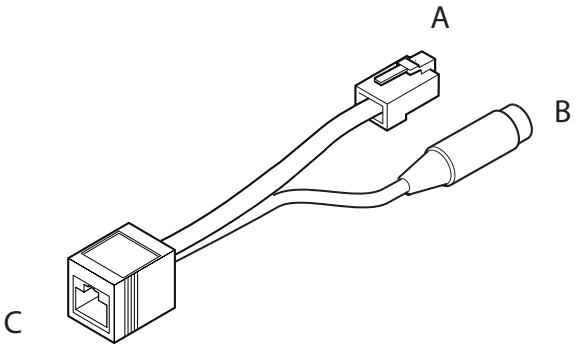
The DV-IP NV1 supports two 10/100Mbps auto-detecting network port (operating on an internal switch). Use a CAT5 cable to connect the unit to the network. If using the DV-IP NV1 in a closed IPTV environment, *refer to Closed IPTV with the DV-IP NV1* and *Modes of Operation* for detail on how to connect securely to the Closed IPTV network.

The unit also supports Power over Ethernet (PoE). This allows the power for unit to be supplied via the ethernet port. If the PoE function is to be utilised, connect the CAT5 cable to the network connector labelled 'NET 0 POE'.

Note: *The PoE function must be used in conjunction with a PoE Switch or the POE Injector (not supplied).*

POE Injector (available separately)

The Dedicated Micros POE Injector is designed to enable the use of POE (Power over Ethernet) before a POE capable switch has been installed. It is installed alongside a suitable 48Vdc PSU that can supply 15W is required - DM/PSU/48V can be purchased separately from Dedicated Micros.



A Connection to DVR/NVR/Switch

B Connection to suitable 48Vdc 15W PSU - (DM/PSU/48V)

C Ethernet cable connection to NV1.

Operation on a Standard IP Network

Locating the Unit's IP address

The unit is configured using on-board web pages. This can be done remotely once the unit has been installed in its chosen location. The IP address of the unit is required to access these pages. When the unit is connected to a DHCP network for the first time, its IP address is unlikely to be known without referring to the settings of the network switch or router it is connected to.

DHCP works by assigning an IP address at initial connection to the network. It is possible however that this IP address can change without notification i.e. following power failure. DNS (Dynamic Name Service) allows the unit to be assigned a meaningful name which can be used to reference the unit instead of an IP address. This will remain constant in the event that the DHCP assigned IP address changes. If you do not wish to assign a DNS name, a fixed IP address can be assigned via the Configuration Menu pages:Network Settings->Network->IP Address.

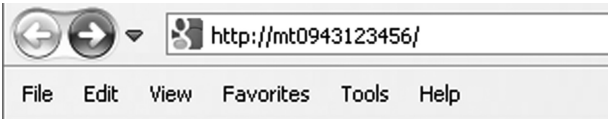
When the unit is powered up, the IP address can be found by viewing on a local monitor and navigating to Configuration Menu pages:System Settings->Attributes->IP Address.

IMPORTANT: *Refer to Appendix D for guidance on locating the unit's DHCP assigned IP address via a Serial Port connection to a PC / Laptop.*

The easiest way to open the web pages remotely for the first time and identify the assigned IP address (via the Status page) is by connecting to the Unit using its DNS address.

Default DNS Address

The default DNS address for each unit is factory set to be its serial number. Therefore the address can be found from the serial label on the unit or via the packaging the unit came in. The DNS address can be typed directly into the address bar of a web browser on a desk/laptop connected to the same local network as the unit.



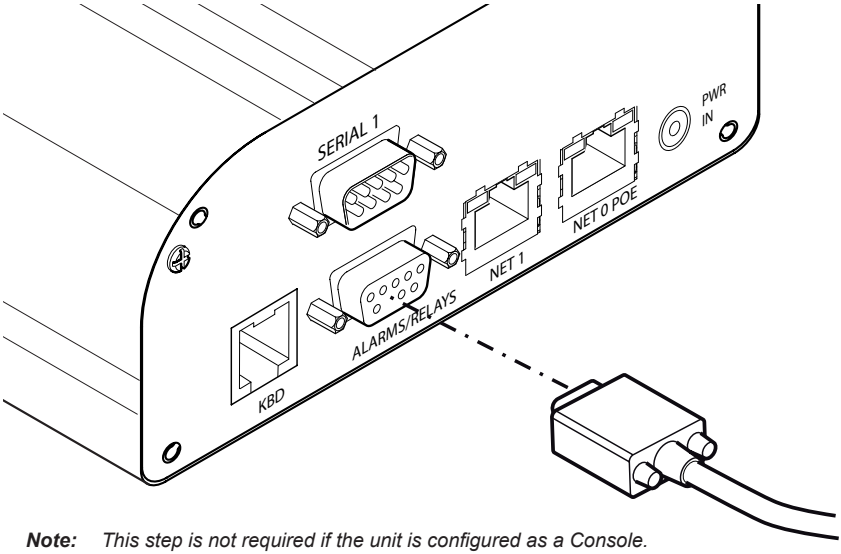
Note: *The unit's DNS address can be changed subsequently to something more memorable or meaningful than its serial number. It can be edited via the System name option in the Attributes configuration page (System->Attributes).*

Note: *Following a change to the System name (DNS address), it will be necessary to reboot the unit. The unit can be rebooted via System -> Maintain-> Reset.*

The unit supports zero-configuration networking (sometimes known as Bonjour), this enables automatic discovery of computers, devices, and services on IP networks. Zero-configuration uses industry standard IP protocols to allow devices to automatically discover each other without the need to enter IP addresses or configure DNS servers. By loading a suitable free add-on to your web browser such as Bonjour for Windows for Internet Explorer or BonjourFoxy for FireFox zero configuration devices such as this unit can easily be discovered and accessed.

The web pages loaded onto the unit can be navigated by connecting a monitor to MON A and the provided USB mouse into one of the USB ports.

Step 5 - Alarms / Relays



Note: *This step is not required if the unit is configured as a Console.*

Alarms

The unit supports 4 normally open/closed alarm inputs via the ALARMS/RELAY connector, or one Global keyswitch input with camera specific inputs configurable as entry/exit alarms.

Alarm Connections

Pins	**Connections**
5 - 8	Alarm Inputs 1-4
4-9	Ground

Relays

The unit support one 24V 200mA relays

Relay Connections

Pins	**Connections**
1	Relay 1 signal

Step 6 - Connecting USB Memory

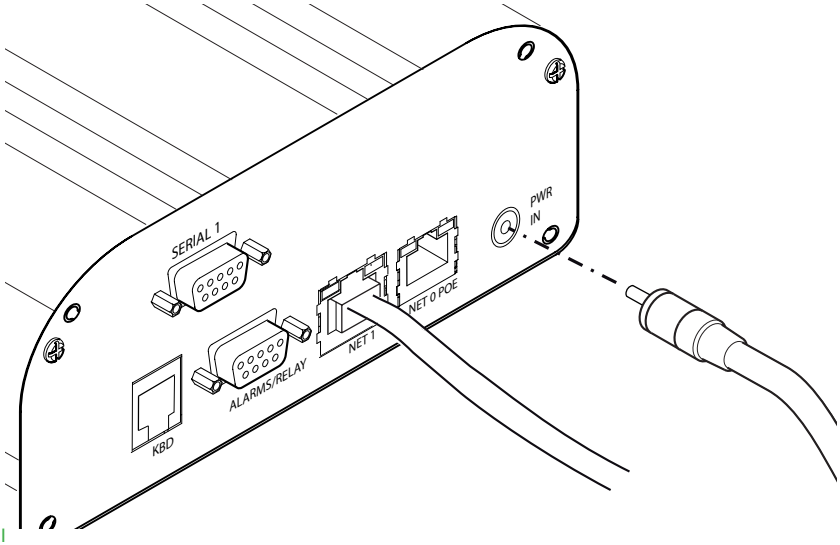
The unit can utilise USB mounted memory to store video data, either in the form of memory stick or larger USB hard drives. The unit can also utilise AoE network storage.

The SD card (if installed) can also be utilised for limited storage.

To utilise USB storage, connect a suitable USB hard drive to one of the sockets on the front of the unit.

Instructions on how to prepare connected USB drives are provided, refer to 'Video Storage'.

Step 7 - Connecting Power



The DV-IP NV1 can use either the external PSU (supplied) or POE. If POE is not being utilised, connect the supplied external PSU to the unit and then to the wall socket or to a fused spur connection. Check local regulations before installation. Some countries require an Alarm/Security device be connected to a fused spur and not a wall outlet socket.

For guidance on utilising the Power over Ethernet (PoE) function, refer to *Connecting To The Network*'.

Accessing & Configuring the Unit

The unit can be configured either on the local monitor or over the network using a PC with Internet Explorer or similar browser. Both have near identical menu interfaces.

Accessing the menus on a local monitor

The Viewer and Configuration menus can be displayed on a local monitor (connected to BNC Connector 'Mon' or the 'HDMI' port on the unit).
The viewer menus will display the images from the video source connected to VID 1 on initial connection. 'To view the Configuration menus, use a connected USB mouse to navigate the Viewer menus until the Menu (Blue) option is displayed. Select the Menu (Blue) option to display the 'Configuration' menus. The Configuration menus are now displayed. Navigate the menu tree via the USB mouse *(refer to 'Navigating The Configuration Menus' for further guidance)*.

Accessing the menus on a PC web browser

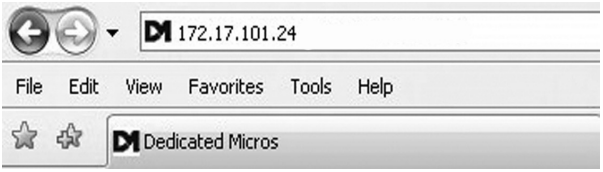
For guidance on connecting the unit to the network, refer to 'Installing the DV-IP NV1->Step 4 Connecting To The Network'

The Configuration menus can be accessed and navigated via your desk/laptop, for further guidance, refer to 'Navigating The Menus'.

Accessing the Configuration Webpages

The unit can be configured using the webpages. To access these:

1. Launch Internet Explorer (or similar web browser package).
2. Type the URL for the unit (IP or DNS address).



3. The Opening menu page will be displayed.

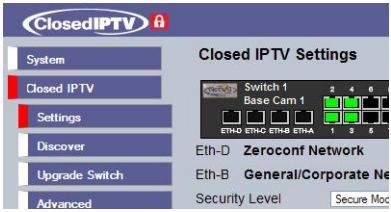
Configuring Closed IPTV

The Closed IPTV feature can be enabled via the System->Attributes menu. When enabled the unit can act as the controlling NVR in a Closed IPTV system. When connected to a Layer 3 Enhanced CCTV switch, it is possible to plug in NetVu connected IP Camera/Encoder products, see them auto allocate to channels and begin recording. It is also possible to apply advanced security settings to the Closed IPTV system by selecting the security options from the Closed IPTV Settings menu. This will protect both the IP video data and corporate network against rogue access from exposed network endpoint.

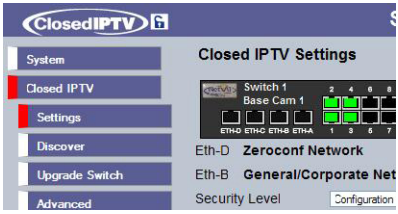
Refer to 'Closed IPTV with the DV-IP NV1' in the 'Installing The Unit' chapter for further guidance on using the NV1 within a Closed IPTV system.

It is only possible to change Closed IPTV settings when the system is in Configuration mode (Closed IPTV->Settings). The Closed IPTV logo in the top corner of the configuration pages gives a quick indication of whether the system is in Secure or Configuration mode. Dedicated Micros recommend the system is always left in Secure Mode unless Closed IPTV settings are actually being edited.

Secure Mode



Configuration Mode



Note: *The Closed IPTV logo and Secure/Configuration mode symbols will only be displayed when Closed IPTV has been Enabled. Closed IPTV can be enabled via the System->Attributes menu.*

Main Menu

The main menu will be displayed when first accessing the unit remotely. This menu allows access to the Configuration and Viewer menus.



Select the Configuration menu tab to access the Configuration menus, for further guidance refer to 'Navigating the Configuration Menus'.

Select the Event Search tab to access the unit's Event Search function, for further guidance refer to 'Event Search'.

Note: *The 'Event Search' option will only be displayed if 'Enable Event Search' is selected in the 'Features' menu: System Settings->Features.*

Select the Viewer menu tab to access the unit's Viewer function, refer to 'Operating The Viewer' for information on the numerous Viewer features.

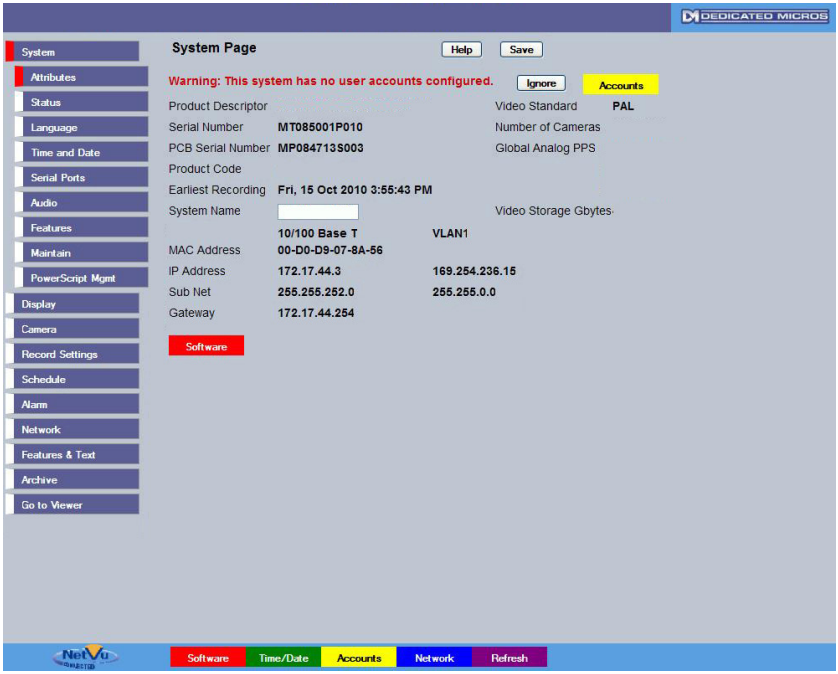
Note: *The 'Viewer' option will only be displayed when Operational Mode is set to 'Console' or 'DVR' in the Features->System menu (System Settings->Features->System)*

IMPORTANT: *By default, no Usernames and Passwords are required to access any of the various menus. Usernames and Passwords can however be added to regulate access to the Configuration and Viewer menus, refer to the 'Display Settings-> User Accounts' menu for information on establishing Usernames and Passwords.*

Navigating The Menus

The menu tree provides access to the configuration menus.

The configuration pages are navigated using the menu tree (displayed on the left of each page). Selecting one of the menu options will display the relevant page. Associated sub-menus will then be available.



Relevant menus can also be accessed directly from other menu screens via the coloured softkey options shown at the base of each menu. The options available will depend on the menu being viewed. Select a softkey option by pressing either the corresponding button on the IR Remote Control (if viewing the menus locally), or by selecting the relevant option via the PC mouse (if viewing the webpages).

Note: *Any changes made via the webpages are automatically saved when the page is closed. To 'manually' save changes, select the Save option.*

Entering Alpha-Numeric Data via a Local Monitor

Numeric or text data is entered using the on-screen Virtual Keyboard (Arrow Key Editor).

To display the Virtual Keyboard, highlight the relevant text input box and double press the left button of the USB mouse. The Virtual Keyboard is displayed.

Use the cursor to select a character. Select 'Submit' to enter details, select 'Cancel' to exit without entering any text.

Note: *Any USB Keyboard (not supplied) can be connected via one of the USB ports on the unit. The USB Keyboard can then be used to enter alpha-numeric data via the local menus.*

Using a USB Mouse or the Webpages

Navigate the menus by clicking the tabs displayed on the left of the menu headings (on the menu tree). The first option is highlighted with a red tab. Select a main menu heading to open a drop down list of further sub-options.

Highlight an editable field by clicking on it directly.

If viewing pages locally, enter alpha numeric data via the Arrow Key Editor (see above). If viewing remotely, enter via the PC keyboard. If available, click on the drop down menus to select settings.

Note: *A selected item in the drop down list will appear highlighted.*

Navigating away from a page (clicking on a different option on the menu tree) will automatically save any changed settings. To undo changes made to any menu, select the Refresh (Purple) option.

Using a Supported Dedicated Micros Keyboard (DM/KBC1 & DM/KBC2)

The unit can also be controlled using an optional Dedicated Micros keyboard. This is connected via the KBD connector on the rear of the unit and provides the same control functions as the I.R Remote Control.

Note: *Refer to 'Using the optional Keyboards (DM/KBC1 & DM/KBC2)' for further guidance.*

System Settings

The menus under the System Settings heading allow the unit's core settings to be viewed, changed and the system software upgraded.

IMPORTANT: *Not all menus will be available in both 'Console' and 'Encoder' mode. The mode of operation can be selected in the Features->System menu (System Settings ->Features->System).*

The Attributes option displays details about the unit including the IP address, unit serial number, MAC address and software version.

The Status pages displays information about the unit's operating condition, shows how long the unit has been operating and the reason for the last reset. It also shows camera status and displays any failed cameras. The About / Logs menus allow access to numerous system information pages and detail various system logs.

The Language page allows the system language to be set. The language can also be changed for the current session only.

The Time and Date page allows the unit time and date settings to be adjusted, including setting the time-zone.

The Serial Ports page allows each of the two serial ports to be individually configured for one of a range of operations, including, debug, PPP and telemetry.

The Features page allows control of the different features that are available within the software including switching modes, E-mail reporting, webcam support and control of the display resolution.

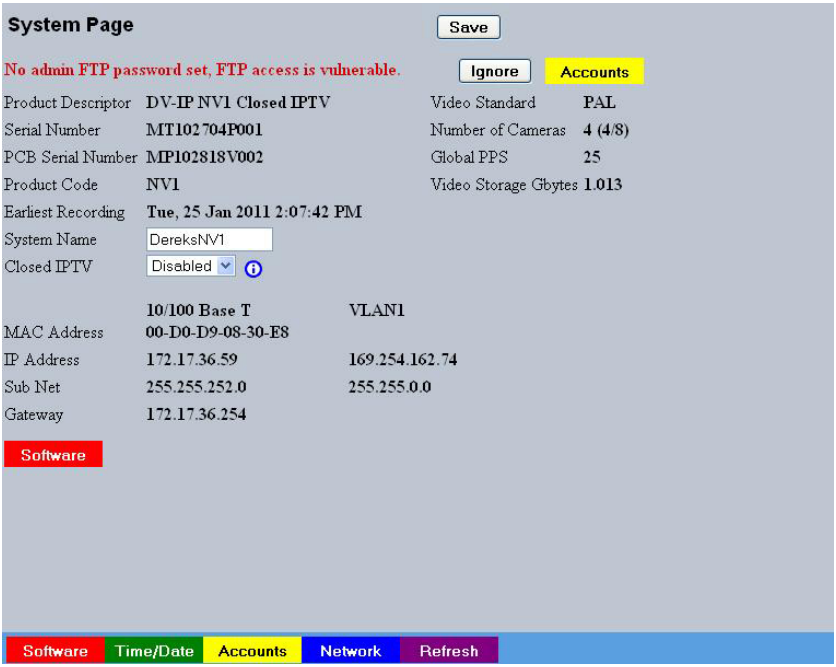
The Maintain page allows the current configuration to be saved, and for previously saved settings to be loaded. It also enables easy upgrade of the system software.

The PowerScript Mgmt page allows installed PowerScripts to be activated/deactivated on start-up.

The USB Config. page allows one of the units USB sockets to be used as an external storage output. A high capacity USB device could then be connected and used to store recorded video images.

Attributes

This menu shows the general information about the unit including the version of software installed, the unit's serial number and the allocated DHCP IP address.

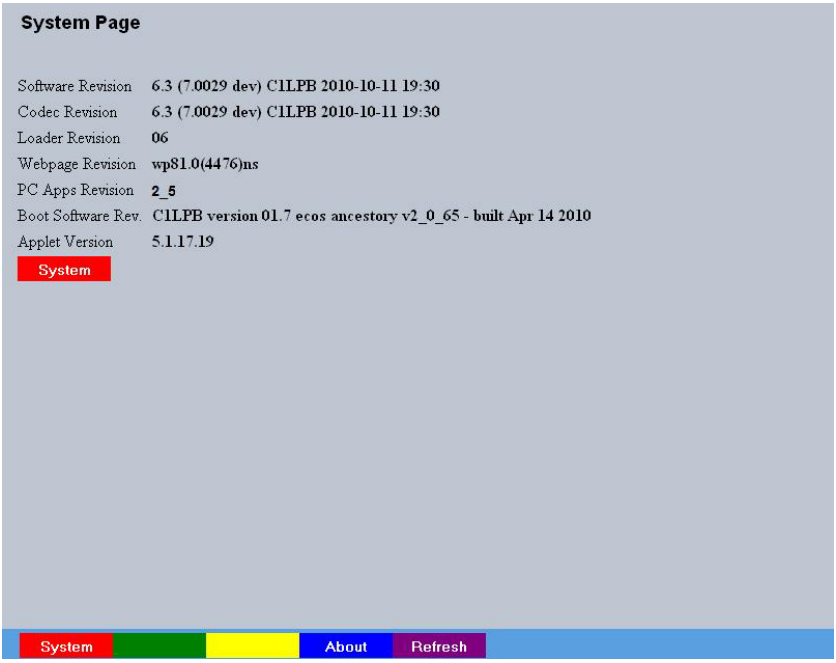


Product Descriptor	Details the product model.
Serial Number	Identifies the serial number of the specific unit.
PCB Serial Number	Displays the PCB (Printed Circuit Board) serial number of the unit.
Product Code	Displays a code identifying the unit's specification.
Earliest Recording	Displays the date/time of the earliest recording held on the unit.
System Name	This field can be edited to allocate a name to the unit. This is displayed when the unit is accessed via NetVu ObserVer and is sent when transmitting information to a Remote Video Response Centres (RVRC).
Closed IPTV	Select to Enable or Disable Closed IPTV Operation
Video Standard	Displays the video standard adopted by the unit i.e. PAL, NTSC
Number of Cameras	Shows the number of camera channels on the unit.
Global PPS	Details the Global PPS (Pictures Per Second) recording rate for all cameras.
Video Storage Gbytes	Highlights the available video storage capacity in Gigabytes.
MAC Address	This is the MAC address assigned to the unit.
IP Address	This is the IP address allocated to the unit.
Sub Net	This is the subnet of the network where the unit is located.
Gateway	This is the IP address of the default gateway (router) assigned by the DHCP server.

Note: *The above address information is split into two columns. Each column relates to either Network port 1 (Net 1) or Network port 2 (Net 2).*

Software (Red)	Select this option to display installed software information (see below).
Time/Date (Green)	Select to open the System->Time and Date page.
Accounts (Yellow)	Select to open the Display->User Accounts page.
Network (Blue)	Select to open the Network->Network page.
Refresh (Purple)	Refreshes the information on the current page.

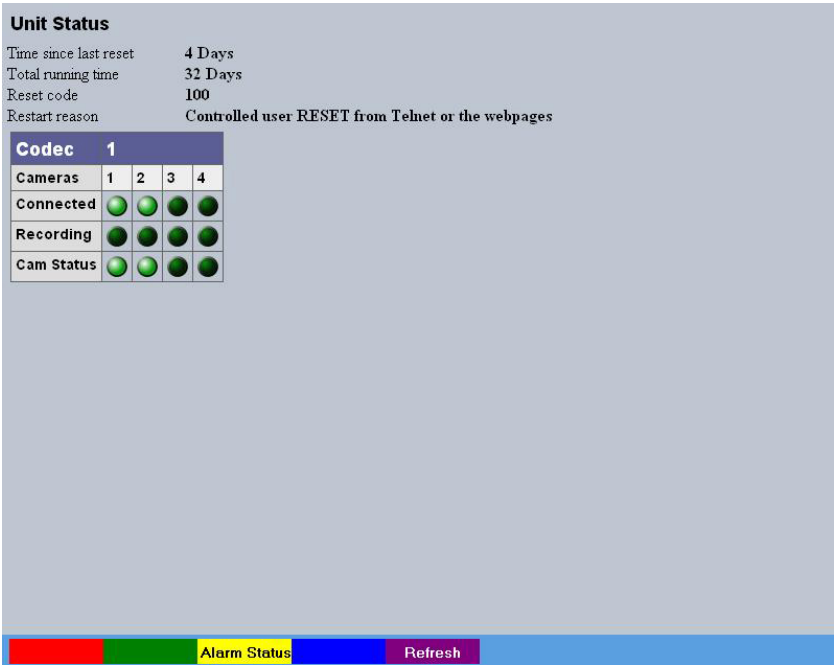
Software Menu



Software Revision	This identifies the version of software the unit is running.
Codec Revision	This identifies the codec version the unit is running.
Loader Revision	This identifies the codec version the unit is running.
Webpage Revision	This identifies the webpage version the unit is running.
Framestore Revision	This identifies the Framestore Revision the unit is running.
PC Apps Revision	This identifies the revision archive of the Viewer and associated PC Apps software.
Boot Software Rev.	Displays the infrastructure componentry software revision.
Applet Version	This identifies the applet version the unit is running.
System (Red)	Select this option to return to the System menu.
About (Blue)	Select to open the Status->About page.
Refresh (Purple)	Refreshes the information on the current page.

Unit Status

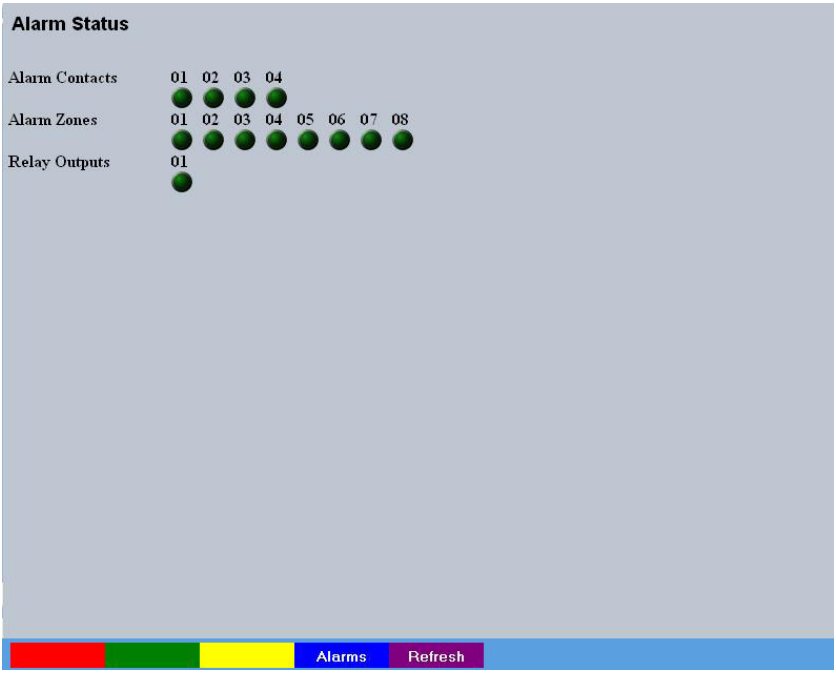
This menu details information regarding the status of the unit, notably the total time the unit has been operating and the time since its last reset. Status log information can also be exported via the 'Export Logs' option to a USB device (for guidance on the Export Log function refer to 'System Settings->Maintain').



Time since last reset	Details the time since the unit was last reset.
Total running time	Details the total time the unit has been operational.
Reset code	The last reset code used is displayed.
Restart reason	The reason for the last restart is displayed i.e. Controlled User Reset.
Codec	One codecs is installed within the unit.
Cameras	Cameras assigned to each codec are displayed.
Connected	Those camera channels with cameras connected will be highlighted light green. Those not in use will appear dark green.
Recording	Those camera channels that are currently recording are highlighted light green. Those not recording will appear dark green.
Cam Status	Those camera channels where the connection is deemed to be functioning correctly will be highlighted light green. Those deemed to have failed will appear red. Camera channels with no connected camera will appear dark green.
Alarm Status (Yellow)	Select to open to the Status->Alarm page.
Refresh (Purple)	Refreshes the information on the current page.

Alarm Status

This menu details information regarding the status of the unit's alarm contacts, alarm zones and relay outputs.

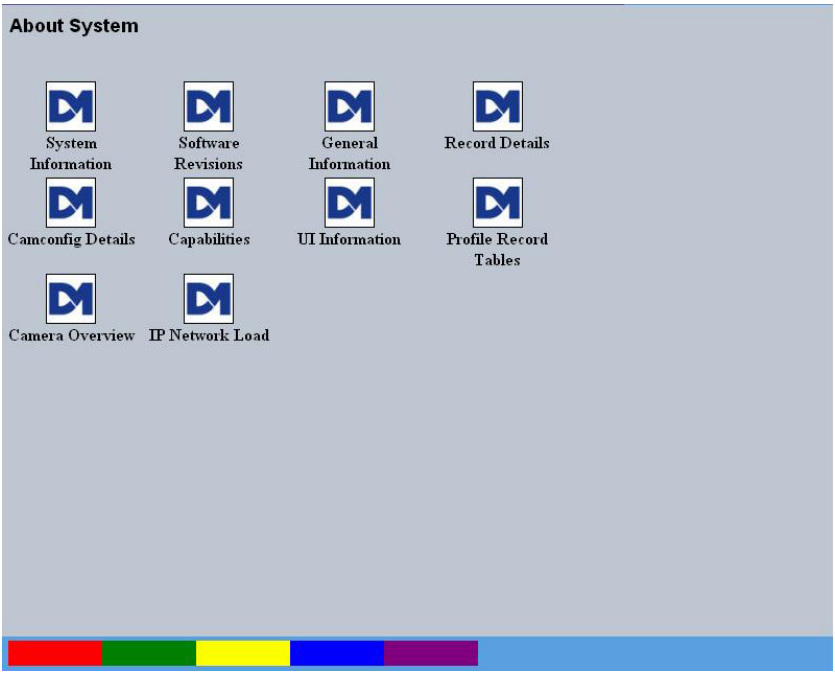


Alarm Contacts/Zones/Relay Outputs	Alarm Contacts, Alarm Zones and Relay Outputs that are in an 'active' state are shown light green. 'In-active' ones appear dark green (not illuminated).
Alarms (Blue)	Select to open to the Alarm->Inputs page
Refresh (Purple)	Refreshes the information on the current page.

About

These menu allows access to numerous system information pages and detail various system logs. Select the an icon to view the relevant pages.

Note: *Refer to Appendix C for further information on the 'About' menu pages.*

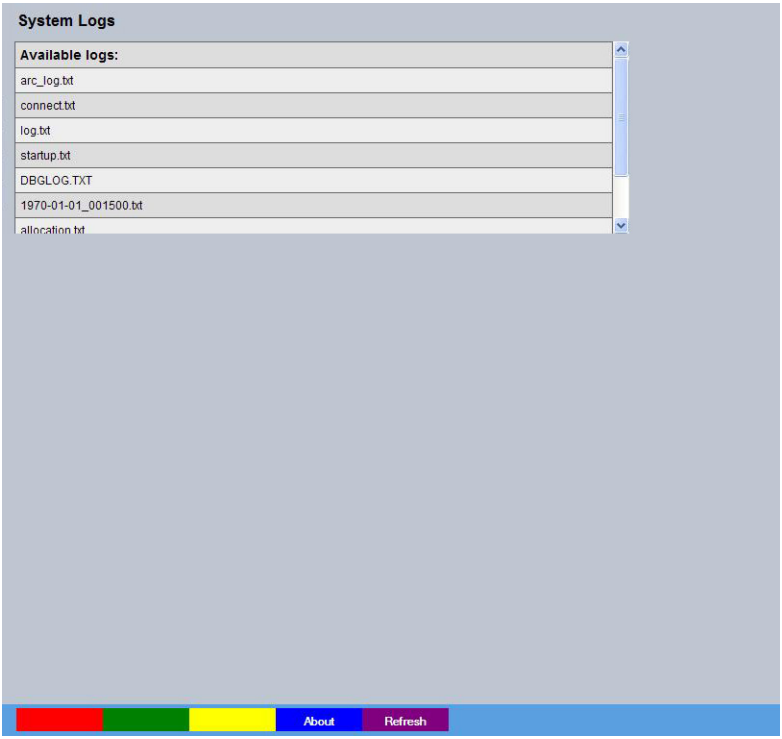


System Information	Select to open the System menu. System information will be displayed. Refer to System Settings->System for guidance on the information available.
Software Reference	Select to open the Software Reference menu. Software information will be displayed. Refer to System Settings->System->Software Menu for guidance on the information available.
General Information	Select to open the General Information menu. This menu details the current recording profile in operation i.e. Set, Unset or Override. Currently enabled features are also shown. Features are enabled via the Features menu (System Settings->Features). Installed drive data is also shown.
Record Details	Select to open the Record Details menu. For each camera, the camera type and class is shown, plus whether it is currently recording. The recording profile for each camera is also detailed. Record settings can be configured for each camera via the Record Profile menu (Record Settings->Profile Record).
Camconfig Details	Select to open the Camera Attributes menu. This menu provides detailed information on the type of camera i.e. analog or IP and for IP cameras, the supported resolution and capabilities.
Capabilities	Select to open the Capabilities menu. This menu details the function capabilities of your unit.

UI Information	Select to open the UI (User Interface) menu. This menu details basic information regarding your unit. The java applet path is also shown. The default location will always be the applet installed on the unit. If accessing multiple units via a remote connection, all can be assigned the same Viewer applet. This will lessen the load time required when accessing different DVRs/Servers. For further guidance refer to the Viewer Defaults menu (Display Settings->Viewer Defaults).
Profile Record Tables	Select to open the Profile Record Tables menu. This menu thoroughly details the preconfigured recording settings.
Camera Overview	Select to open the Camera Overview menu. This menu details the general settings assigned to each of the local camera channels.
IP Network Load	Select to open the IP Network Load menu. This page illustrates the network traffic utilised by the unit. The page refreshes every second.

Logs

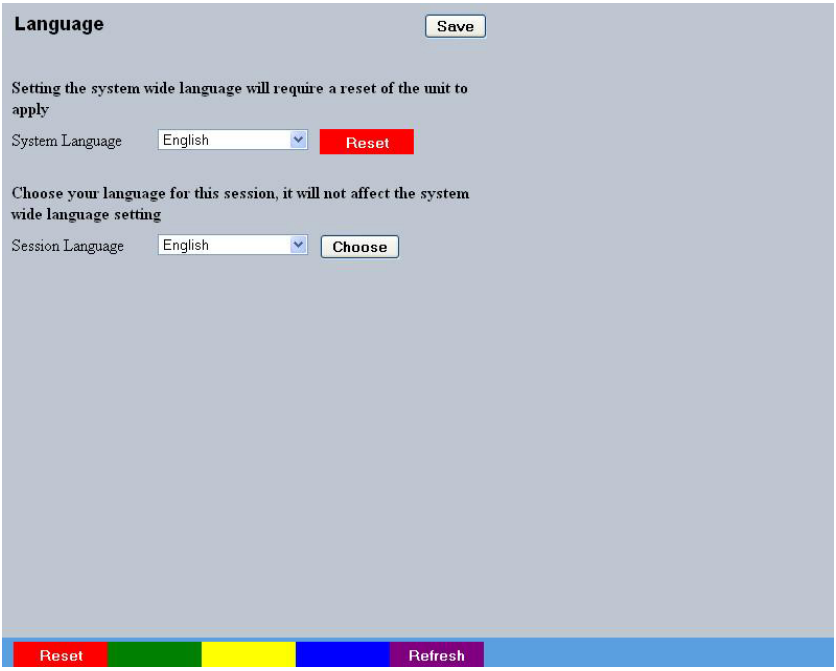
The log files stored in the camera can be accessed from this page. Selected logs are displayed on the page below.



About (Blue)	Opens the *About* page
Refresh (Purple)	Refreshes the current page

Language

This menu allows the system language to be set. Changing the System Language will effect all menu pages. If required, the language can also be changed for the current session only.



System Language	Select to change the system language setting.
Reset (Red)	Select to reset the unit.

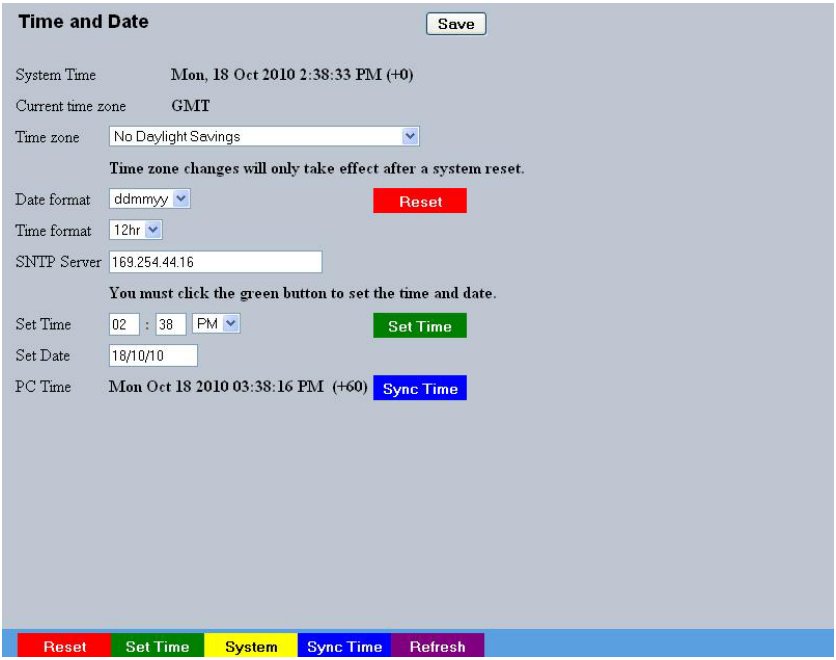
Note: *The unit MUST be reset to implement system language changes.*

Session Language	Select to change the language settings for the current session only.
Choose	Select to immediately activate session language changes.
Reset(Red)	Resets the unit
Refresh (Purple)	Refreshes the current page.

Time and Date

This menu allows the time and date to be set on the unit. Required timezone information can also be established and the unit time synchronised to that of the PC being used to view the webpages.

Note: *If power is lost to the unit, time/date settings will be lost.*



System Time	The current system time and date is displayed.
Current Time Zone	Displays the currently selected time zone settings.
Time Zone	Select the relevant timezone offset from the accompanying drop down menu.
Reset (Red)	When a change has been made to the unit's Time Zone setting, it is necessary to reset the unit before the change will take effect.
Date Format	As default, the date is entered dd/mm/yy. It can also be displayed as mm/dd/yy or yy/mm/dd.
Time Format	As default, the time displayed is in 12 hour format. This can be changed to 24 hour if required.
SNTP Server	A Simple Network Time Protocol (SNTP) server allows external devices to connect and set their current date and time settings to that of the SNTP. If required, enter the SNTP server IP address here.

Note: *Dedicated Micros recommend the use of a SNTP Server.*

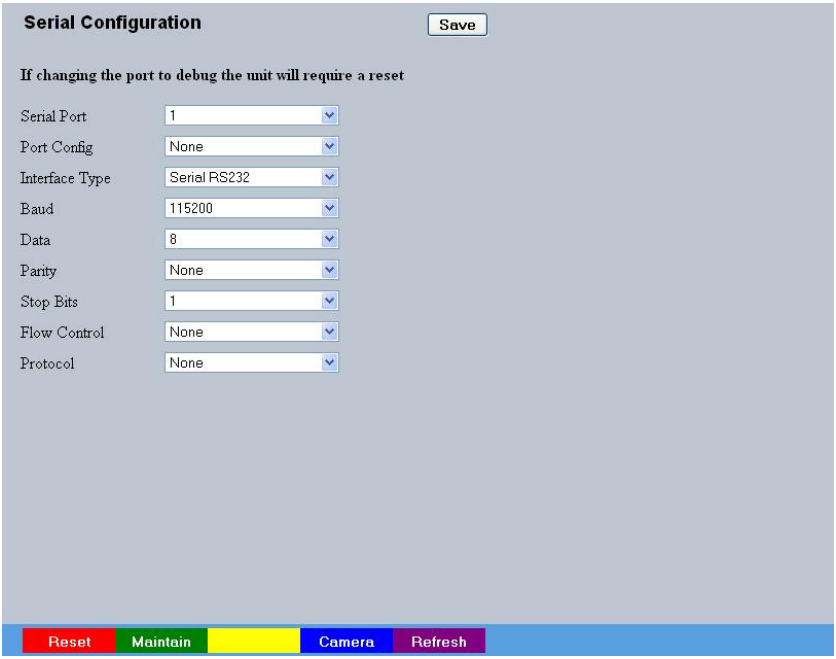
Set Time	Enter a current time for the unit.
Set Date	Enter a current date for the unit.
Set Time (Green)	When current time/date as been entered, select this button to implement changes.

PC Time	Displays the system time of the PC currently being used to view the webpages.
Sync Time (Blue)	Use this button to synchronise the time of the unit to that of the PC being used to view the webpages.
Reset (Red)	Select to cycle the power to the unit.
Set Time (Green)	When current time/date as been entered, select this button to implement changes.
System (Yellow)	Select to open the System->Attributes page.
Sync Time (Blue)	Use this button to synchronise the time of the unit to that of the PC being used to view the webpages.
Refresh (Purple)	Refreshes the information on the current page.

Serial Ports

This menu allows configuration of the unit's Serial ports. For installation information, refer to 'Installing the Unit'.

Note: *The Serial 1 port and the keyboard connector utilise the same 485 bus which can provide either keyboard support or telemetry. Both Encoder and DVR mode defaults to telemetry, Console defaults to keyboard operation.*



Serial Port	These is one serial port available for configuration.
Port Config	The serial port can be configured to specific uses. Select from: None — Switches port off Debug — Sets port for serial communications PPP — Sets port for Point to Point Protocol Telem — Sets port for Telemetry purposes Comm — Sets port for Comms purposes EPOS — Sets the serial port for connection to an EPOS (Electronic Point Of Sale) device
Interface Type	Choose the type of serial interface being used. Select from RS232, RS485 or RS422.

Note: *RS485 will only be available when 'Enable RS485 Telemetry' is selected in the Features->System menu.*

Baud/Parity/Data/Stop/Flow Control	These options allow the Serial port communication settings to be configured.

Note: *When a telemetry protocol is selected, these settings will default to pre-determined values and should not normally be altered.*

Protocol	This is a drop down list of serial telemetry protocols supported by the unit.

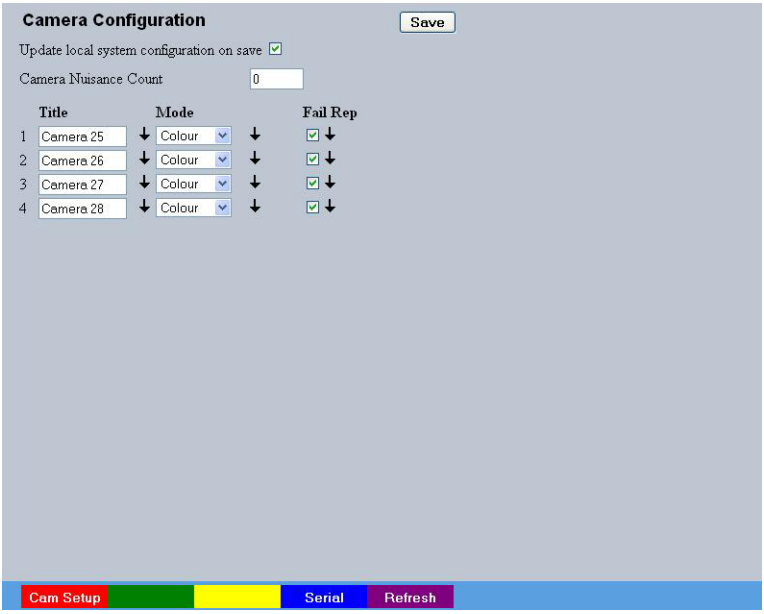
Note: *Refer to 'Appendix G' for a full list of supported telemetry protocols.*

IMPORTANT: *Before the serial port is set to telemetry, 'Enable 485 telemetry' must be set to 'True' via the Features menu (System Settings->Features). The unit MUST be reset to reassign the RS485 BUS to the serial port because it is assigned to the 485 Bus controller by default.*

Reset (Red)	Select to cycle the power to the unit.
Maintain (Green)	Select to open the System->Maintain page
Camera (Blue)	Select to open the Camera Configuration page (see below).
Refresh (Purple)	Refreshes the information on the current page.

Camera Configuration

This page allows configuration of some features on all cameras available to the unit.

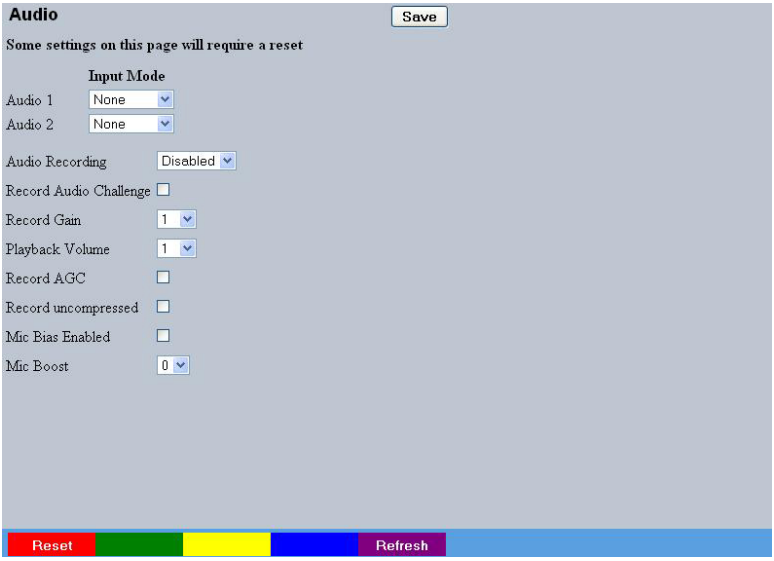


Update local sys config on save	Select to update and enforce any changes made here in the local system display.
Camera Nuisance Count	This is a repetitive detector value. When a camera failure alarm is received on the unit, it will store the alarm time and monitor the number of times the same alarm is triggered within an hour period. If the detector is triggered the number of times entered here, the unit will set the camera to 'No Connection'. To disable this feature, leave the setting as '0'.
Title	Titles assigned to each camera are displayed.
Mode	The settings will default to 'Colour'. If Monochrome cameras are used, select 'Mono'. Selecting 'Mono' will remove colour patterning. If a particular channel is not in use or the camera has failed, select 'Not Connected'.
Fail Rep	Select this option to activate a Failure report in the event of

	camera connection failure (video loss).
Cam Setup (Red)	Select to open the Camera->Setup page
Serial (Blue)	Select to open the System->Serial page
Refresh (Purple)	Refreshes the information on the current page.

Audio

The Audio menu allows settings for the bi-directional audio channel to be edited. Audio can be recorded from line input. Challenge audio i.e. originating from an Operator using NetVu ObserVer at a Remote Video Receiving Centre (RVRC) can be recorded.



Audio 1/2	Use the drop down box to assign an audio function to each input, 'Local' is Audio recorded from local inputs, 'Challenge' audio originates from an Operator using NetVu ObserVer at a Remote Video Receiving Centre (RVRC).
Audio Recording	Select 'Enable' to activate Audio recording. Note that this is a global action which when Enabled, will result in all audio received by the unit being recorded to the HDD.
Record Audio Challenge	Select this option to record an audio challenge received via an IP connection i.e. originating from a remote client.
Record Gain	This option allows the Record Gain level to be set. This is the base setting from which the AGC (Automatic Gain Control) will operate. Select from 1 to 15. The default and recommended setting is 15.
Playback Volume	Select a volume setting between 1 to 64 for audio playback.
Record AGC	Select this option to activate the AGC function. AGC helps produce a better quality recording by removing background noise/distortion.
Record uncompressed	Select this option to record audio in an uncompressed format.

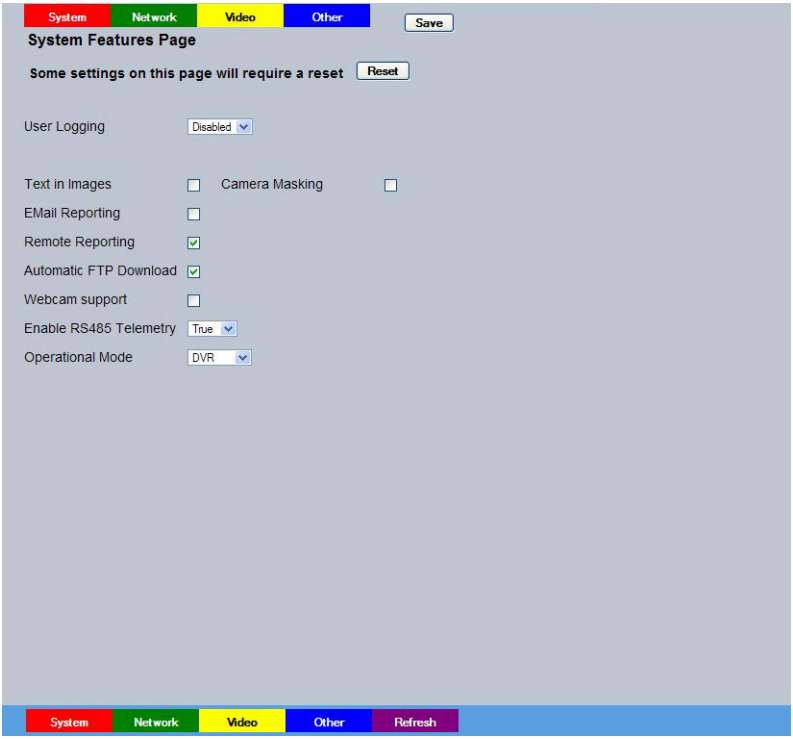
Note: *Recording in uncompressed format will significantly increase the disk space used.*

Mic Bias Enabled	Enables the Audio input to receive MIC input.
Mic Boost	Increases gain on Audio channel to boost MIC signal.
Reset (Red)	Select to cycle the power to the unit.
Refresh (Purple)	Refreshes the information on the current page.

Features

These menus enables the activation of numerous system features. Features are grouped within four sub-menus: System, Network, Video and Other. Changing the Operational Mode will remove any configuration information and apply the default factory settings for the selected mode.

System



User Logging	Enable this option to activate User Logging. For further information regarding the User Logging function, refer to 'Appendix B'.
Text in Images	Select this option to activate the Text in Images function. For more information refer to 'Text-Text In Image'.

Note: *When de-selected here, the 'Text in Image' menu will no longer be displayed in the menu tree.*

Camera Masking	Select this option to activate the Camera Masking function, refer to ' Alarm->Camera Masking' for more information.

Note: *When de-selected here, the 'Camera Masking' menu will no longer be displayed in the menu tree.*

E-mail Reporting	Select this option to activate the E-mail Reporting function, refer to 'Network->E-mail' for more information.

Note: *When de-selected here, the 'E-mail Reporting' menu will no longer be displayed in the menu tree.*

Remote Reporting	Select this option to activate the Remote Reporting function, refer to 'Network->Remote Reporting' for more information. Keyboard Enable (485 bus) Select to enable a connected RS485 Keyboard unit.
Automatic FTP Download	Select this option to enable automatic FTP downloads to upgrade the unit and/or the webpages, *refer to 'Network Settings-FTP Download' for more information*.

Note: *When de-selected here, the 'Automatic FTP Download' menu will no longer be displayed in the menu tree.*

Webcam Support	Select this option to activate the Webcam function. This allows the unit to emulate a webcam and send image from one video feed in webcam format, refer to 'Network Settings-Web Cam' for more information.

Note: *When de-selected here, the 'Web Cam' menu will no longer be displayed in the menu tree.*

Enable RS485 Telemetry	Select 'True' to enable telemetry.

IMPORTANT: *Enabling this feature will inhibit the use of a KBC1 or KBC2 keyboard.*

Operational Mode	The unit can be set to operate in either 'Encoder', 'DVR' or 'Console' mode. The pages available within the configuration menu will change depending on the mode selected. The Viewer menus WILL NOT be available when 'Encoder' is selected.

Changing the Operational Mode will remove any configuration information and apply the default factory settings for the selected mode.

System (Red)	Select to open the System->Features->System page
Network (Green)	Select to open the System->Features->Network page
Video (Yellow)	Select to open the System->Features->Video page
Other (Blue)	Select to open the System->Features->Other page
Refresh (Purple)	Refreshes the information on the current page.

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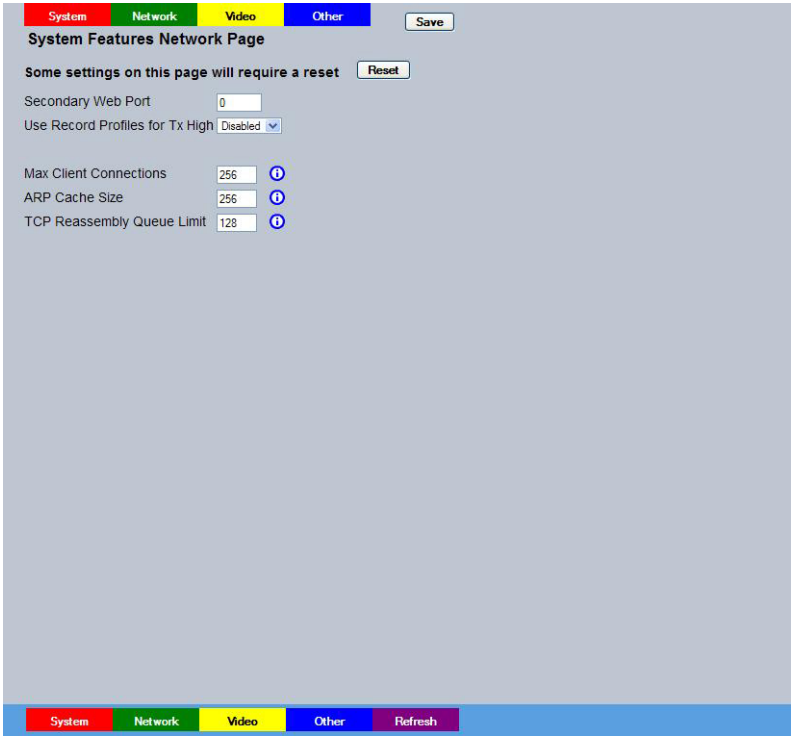
Network



Secondary Web Port	If the default port setting for web serving has already been allocated, it is possible to configure a second port number i.e. the secondary web port can be set to 8000 if the default web port (80) is blocked by the network or firewall.
Use Record Profiles For Tx	Select this option when units required Video Transmission profile (rate/quality/resolution) is identical to that being recorded.
Max Client Connections	This setting limits the number of client connections to the server. The default value is 256 but could be increased if there is heavy network traffic.
ARP Cache Size	This setting limits the number of cache entries available in the ARP table. The default setting of 256 is adequate for most instances
TCP Reassembly Queue Limit	This setting limits the maximum number of TCP segments allowed in the reassembly queue, to protect against a common DoS attack.
System (Red)	Select to open the System->Features->System page
Network (Green)	Select to open the System->Features->Network page
Video (Yellow)	Select to open the System->Features->Video page
Other (Blue)	Select to open the System->Features->Other page
Refresh (Purple)	Refreshes the information on the current page.

Video

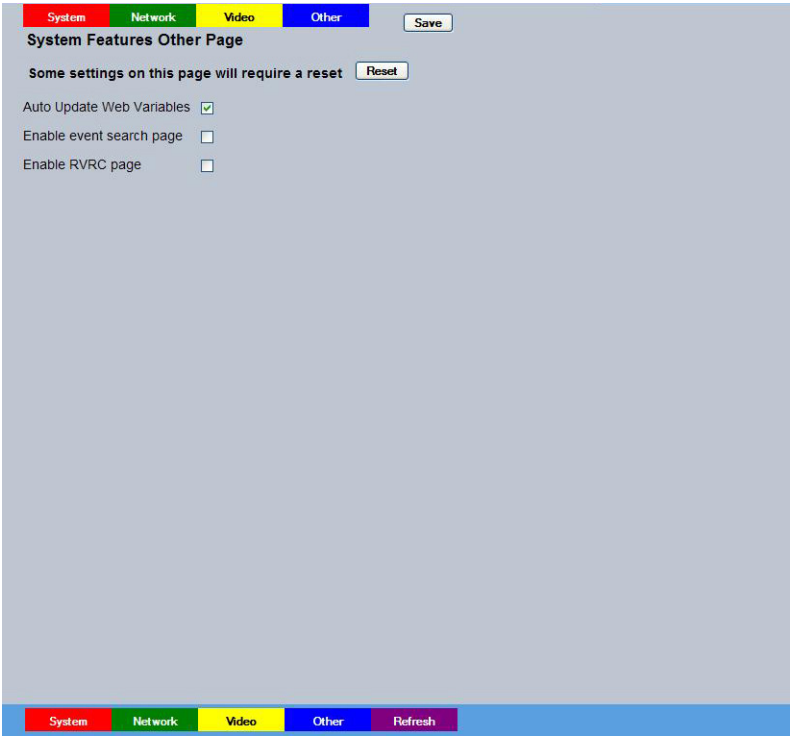


Detected Video Standard	The unit automatically detects the video standard being used i.e. PAL/NTSC.
Video Resolution (h x v)	Edit the resolution settings. This will be the default display resolution when viewing the unit's menu pages.
Deinterlace Filter	When Enabled, this option will improve the appearance of moving objects by applying a deinterlace mask that minimises the comb effect that can be visible when recording high motion scenes in 4CIF mode. It is recommended that this option be enabled when recording in 4CIF mode.
Disable Transcoding	Select to disable the unit's transcoding capabilities. In normal circumstances this should always remain enabled, however it can be useful to disable the feature when conducting maintenance.
Segment Aspect Ratio	This setting control how a 4:3 image is displayed in a multi-screen or wide screen format on the local viewer. The available display segment changes depending on the number of multi screen images selected for display. Stretch forces the image to fill the available display segment. This may result in some distortion of the display image. Zoom Fit forces the frame to fill the available segment completely and proportionally. Consequently some of the image at the top and bottom of the frame may be cropped. Frame Fit forces the frame to fill the available segment proportionally, resulting in black bars left and right on some multi display choices.

Note: *There is no cropping or distortion on the recorded image, these settings are for display only.*

System (Yellow)	Select to open the System->Features->System page
Network (Green)	Select to open the System->Features->Network page
Video (Yellow)	Select to open the System->Features->Video page
Other (Blue)	Select to open the System->Features->Other page
Refresh (Purple)	Refreshes the information on the current page.

Other



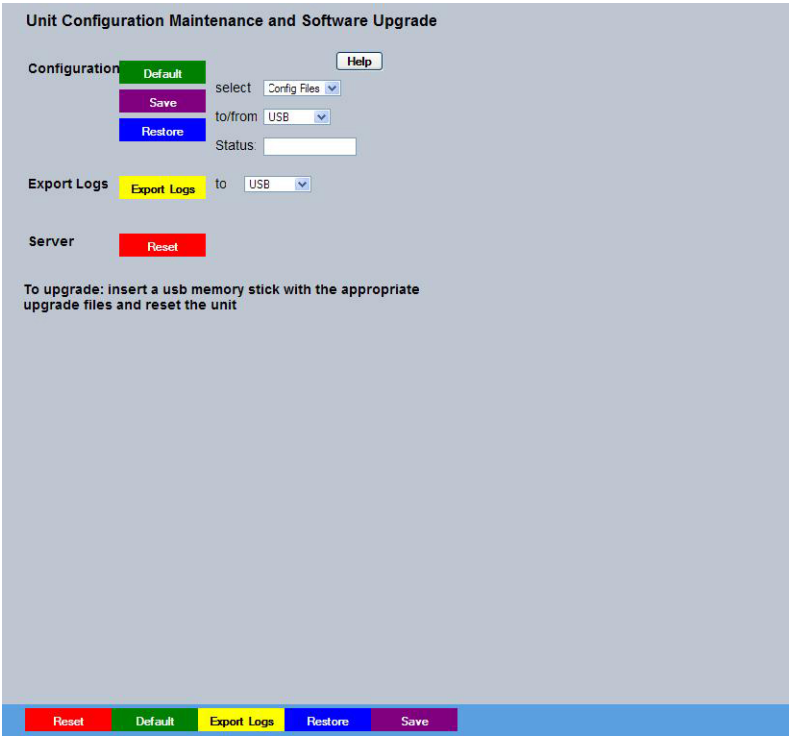
Auto Update Web Variables	Configures the unit to update all system variables required for an automatic upgrade without requiring confirmation. Do not check this box if you run a customised applet.
Enable Event Search	Select to enable the Event Search option. When enabled, the option will appear within the Configuration Menu tree. For further details refer to 'Navigating the Configuration Menus->Event Search'.
Enable RVRC page	Select this option to activate the RVRC Remote Set/Unset/ Override function. For more information refer to 'Record Settings-RVRC'.

Note: *When de-selected here, the 'RVRC' menu will no longer be displayed in the menu tree.*

System (Yellow)	Select to open the System->Features->System page
Network (Green)	Select to open the System->Features->Network page
Video (Yellow)	Select to open the System->Features->Video page
Other (Blue)	Select to open the System->Features->Other page
Refresh (Purple)	Refreshes the information on the current page.

Maintain

This menu allows the unit to be reset and a software upgrade to be performed via an inserted CD-R/ DVD-R or a connected USB device. Current unit settings can also be saved for future use and previously saved settings restored.



Configuration

Default (Green)	Select to return the unit to its factory default settings.

Note: *Selecting the Default button will cause the system to reboot.*

Save (Purple)	Select to save current unit settings to the selected media.
Restore (Blue)	Select to restore previously saved settings from the selected media.

Note: *Selecting the Restore button will cause the system to reboot.*

To/From	Set as 'USB'.

Export Logs

Export Logs (Yellow)	Select to export all Logged data to a connected external device.
To	Set as 'USB'..

Server

Reset (Red)	Select to cycle the power to the unit.

IMPORTANT: *To upgrade the unit, insert a media device containing relevant software upgrades and select 'Reset'.*

Note: *For the latest software upgrades, please refer to the Dedicated Micros website: www.dedicatedmicros.com*

Note: *Selecting the Default button will cause the system to reboot.*

Save (Purple)	Select to save current unit settings to the selected media.
Restore (Blue)	Select to restore previously saved settings from the selected media.

Note: *Selecting the Restore button will cause the system to reboot.*

To/From	Set as 'USB'.

Export Logs

To	Set as 'USB'.

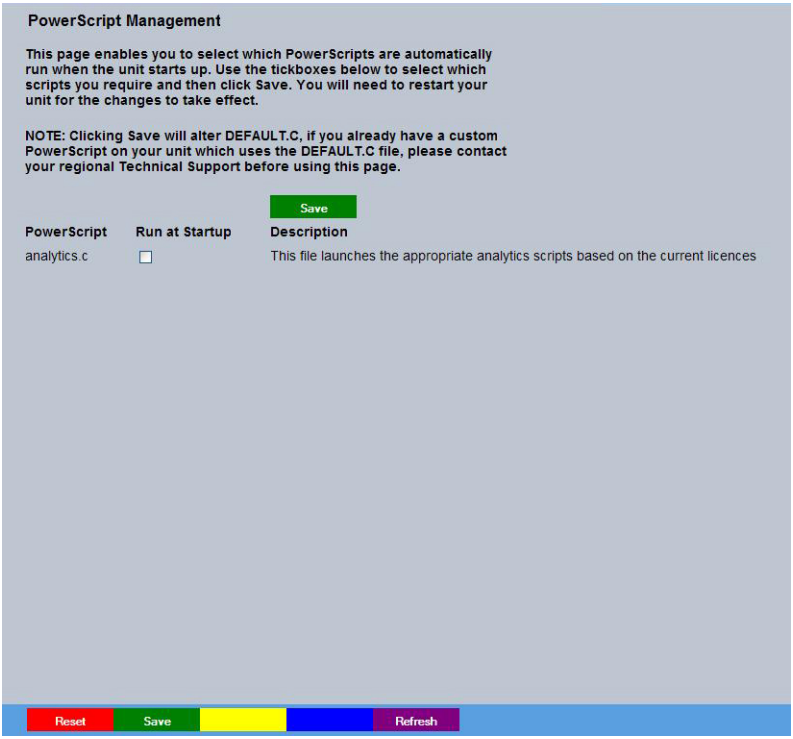
Server

Reset (Red)	Select to cycle the power to the unit.

Reset (Red)	Select to cycle the power to the unit.
Default (Green)	Select to return the unit to its factory default settings.
Export Logs (Yellow)	Select to export all Logged data to a connected external device.
Restore (Blue)	Select to restore previously saved settings from the selected media.
Save (Purple)	Select to save current unit settings to the selected media.

PowerScript Mgmt

This menu enables installed PowerScripts to be activated/deactivated on start-up. Use the tickbox(es) to select/deselect installed PowerScripts, then select Save (Green). A system reset will be required for the changes to take affect.

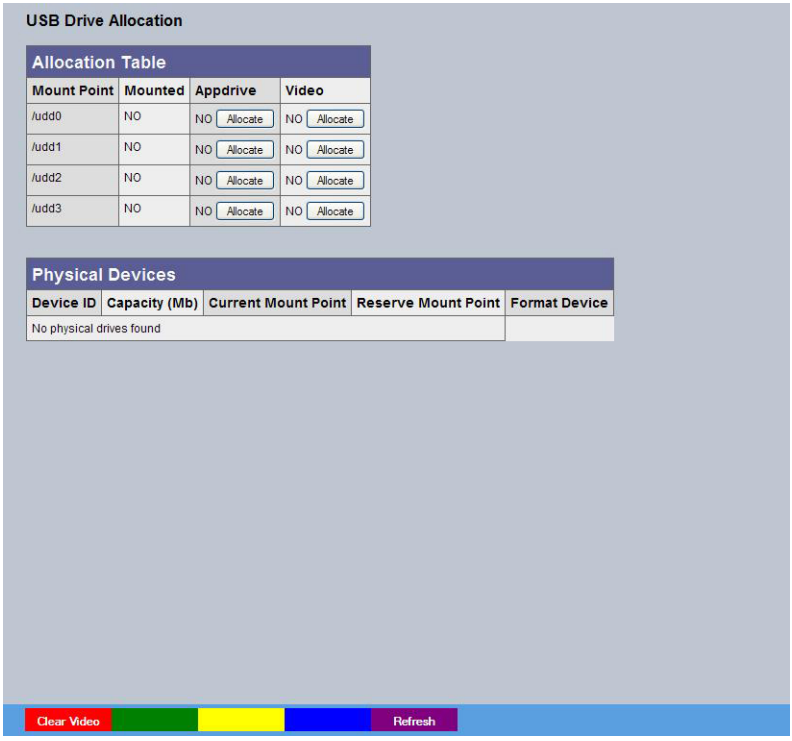


Note: *Changes this page will alter the 'Default.C' file. If you already have a custom PowerScript on your unit which uses Default.C, please contact Dedicated Micros Technical Support for guidance Tel: +44 (0) 845 600 9502 for further guidance.*

Reset (Red)	Select to cycle the power to the unit.
Save (Green)	Updates the DEFAULT.C file on the unit to enable selected scripts on reboot.
Refresh (Purple)	Refreshes the information on the current page.

USB Configuration

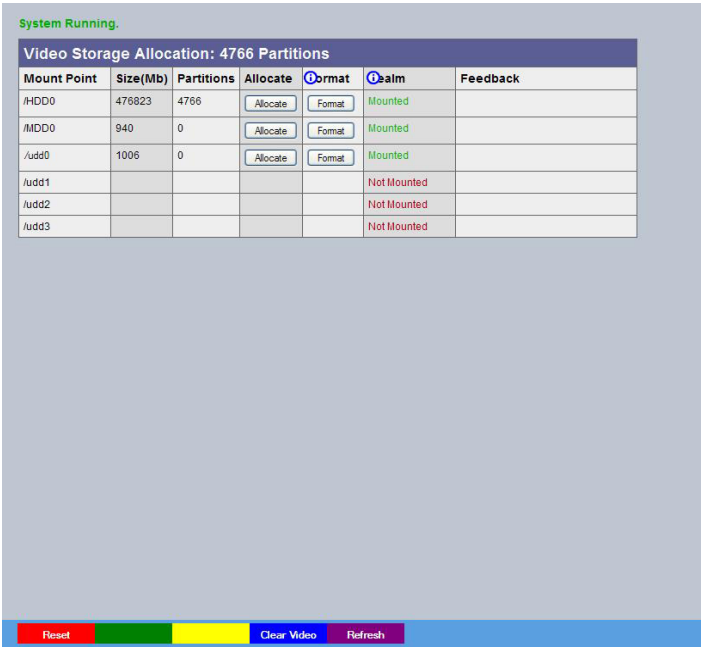
This page allows one of the USB sockets on the unit to be configured for use as an external storage output. A high capacity USB device could then be connected and used to store recorded video images.



Allocation Table	The table allows a USB input to be assigned to the external storage output. Select the relevant 'Allocate' button.
Mount Point	Allows the available features to be assigned to the unit USB connections /udd0, /udd1, /udd2 and /udd3
Mounted	Shows whether the unit has recognised the storage device.
Appdrive	Designate this USB storage as an appdrive allowing the unit to store application data such as where the web pages and main application binaries sit.
Video	Allocate this USB storage device as a video storage area
Physical Devices	Information relating to any connected USB media device will be detailed here. There is also the ability to format previously unused USB storage devices with the Dedicated Micros standard disk format to allow it to integrate with the unit.
Clear Video (Red)	This button will remove the reference to the video stored on the USB devices, allowing them to be overwritten. It does NOT delete the data instantly.
Refresh (Purple)	Refreshes the information on the current page.

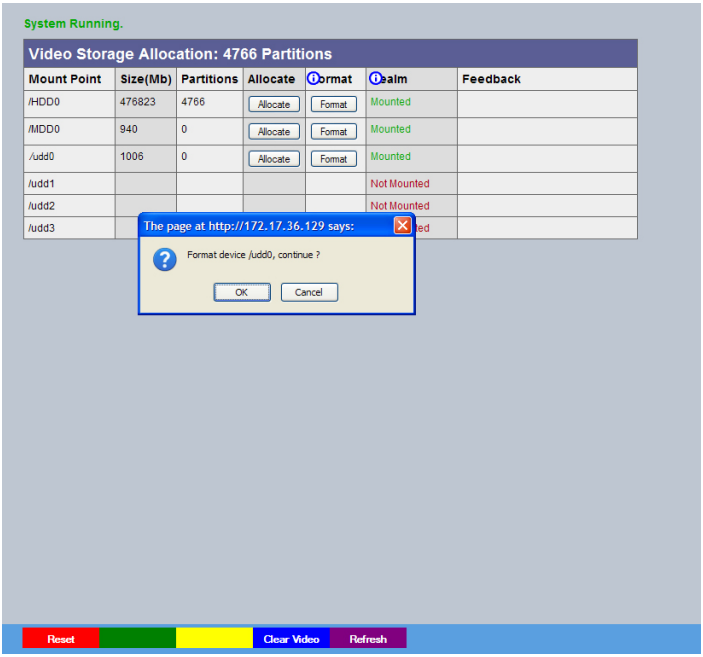
Utilising USB Memory

1. Navigate to System -> Video Storage.



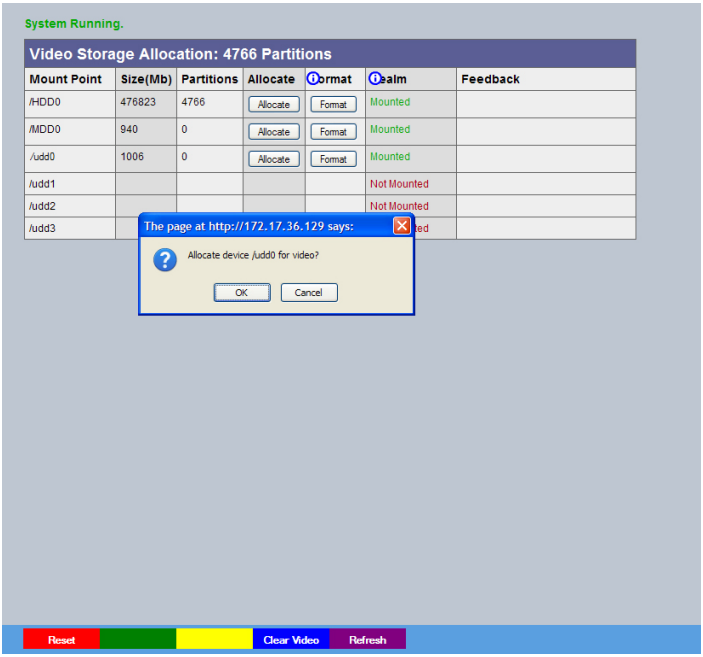
The Video Storage Allocation table displays drives that are available for video recording. Entries with the prefix '/HDD0' indicate the units local hard drive (if installed), entries prefixed by '/udd0' are recordable media connected to the unit via USB sockets, an entry prefixed by '/mdd' is the installed SD card.

1. Plug a USB storage device into one of the available USB ports and click the purple Refresh button. The newly connected device will be displayed with a '/udd' prefix. The SD card (if installed) will also be displayed and can be allocated in the same way. USB devices will be prefixed udd, SD cards will be prefixed MDD.
2. The device may require formatting. DM recommends the device is formatted even if it was previously been used as video storage. Click on the 'Format' button adjacent to the device listing to prepare the device for recording.



3. Allocate the formatted and mounted storage for video storage by clicking on the 'Allocate' button. Allocation takes between a few seconds and a few minutes, depending on the size of the drive, and the Feedback column will display information about the allocation process. The unit will require a Reset once allocation is complete.

Note: *The unit application drive is protected, if it is allocated the unit will only remove the video folder. Formatting any other device will remove all data. In either case recording on the system is halted while formatting and, if already allocated, the formatted device will be de-allocated as a video storage device*



The system displays a confirmation box to ensure the correct device has been selected. Click OK to confirm, then reboot the system. Once the power has cycled, the system will build the required PAR files ready for recording to commence, progress will be displayed in the Feedback column.

Note: *There will be a pause before recording begins, dependant on the size of the USB device as video partitions are built.*

Closed IPTV

Dedicated Micros' ground breaking Closed IPTV solution makes deploying an IP Video, CCTV system safe, secure and simple. Combining patent-pending innovation with zeroconf networking technology, Closed IPTV automatically allocates IP addresses to IP cameras by physical port. This ground breaking solution provides a very simple and secure answer to IP Video, meaning that no prior knowledge of IP networking is required.

The menus under the Closed IPTV heading become active when the Closed IPTV feature has been enabled and there is at least one Layer 3 Enhanced CCTV Switch connected.

The Settings page provides access to the majority of configuration options for the feature, and is used to enable configuration of the switches, setting the security and access features whilst also giving an overview of the port status of each connected switch..

The Discover page allows automatic discovery of Layer 3 Enhanced CCTV Switches connected to the Closed IPTV NVR.

The Upgrade Switch page allows connected Layer 3 Enhanced CCTV Switches to be quickly, easily and securely upgraded.

The Advanced page allows switch base camera numbers to be set, and camera details to be synchronised automatically.

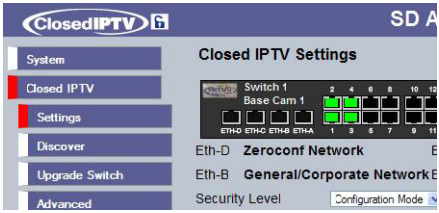
Configuring Closed IPTV

It is only possible to change Closed IPTV settings when the system is in Configuration mode (Closed IPTV->Settings). The Closed IPTV logo in the top corner of the configuration pages gives a quick indication of whether the system is in Secure or Configuration mode. The main display will also say if the unit is in Configuration mode. Dedicated Micros strongly recommend the system is always left in Secure Mode unless Closed IPTV settings are actually being edited.

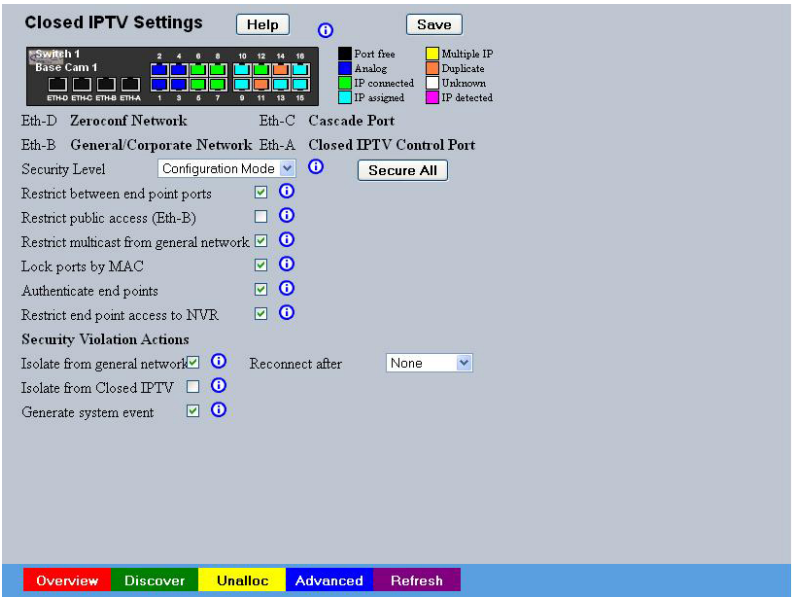
Secure Mode



Configuration Mode



Settings



Note: *The blue 'i' in a circle is a link to in-page help. Click on a symbol to get help about the adjacent menu item.*

The on-screen image of the Layer 3 Enhanced CCTV Switch provides instant information regarding camera connection ports.

It is advisable to only allocate ONE camera (analogue or IP) to each available port.

Each Layer 3 Enhanced CCTV Switch has a rotary dial on the base to allow a unique (in the cascade) identifier to be set. Port to Channel mappings are allocated using a combination of this rotary dial and the 'Base Camera' setting on the Closed IPTV settings menu.

Port Illustration Colour Key

Port Free (Black)	■	No video source currently connected to the port and nothing assigned to that channel.
Analog Connection (Blue)	■	Analogue camera input using the BNC connection for this channel on the back of the NVR. Analogue cameras take priority over IP cameras when channels are being assigned; if an IP camera is put into the port on the switch associated with an a channel allocated to an analogue input, the IP camera will go into the un-allocated camera list and the port icon will turn orange to signify Duplicate Port Allocation *(see below)*.
Single IP Connected (Green)	■	A single IP camera is connected directly to the port and will be auto assigned to the channel.

Single IP Assigned (Turquoise)		A camera that has either ; been configured manually independently outside Closed IPTV or is one of the cameras (above camera 1 of the encoder) assigned by Closed IPTV by connecting a multi channel encoder.
Multiple IP Connections (Yellow)		A port that is hosting a multiple channel input e.g. a connection to a multi channel encoder. The cameras after this are treated by the NV1 as Single IP Assigned.
Duplicate Channel Allocation (Orange)		A port that has analogue and IP connection applied to it. The IP source will be un-allocated.
Unknown (White)		A port which has detected a network connection but the type of connected device is not recognised.
IP Detected (Magenta)		A port which has detected a network connection but the device is either not assigned to current channel or is assigned elsewhere

Security Level

Select from Configuration Mode' or 'Secure Mode'.

In Configuration mode;

- The security settings of all cascaded Layer 3 Enhanced CCTV Switches can be globally edited
- The configuration of all endpoints (video sources) connected to the attached Layer 3 Enhanced CCTV Switch can be globally edited.

Use this mode when configuring or adding additional servers to a Closed IPTV system only. The switch is not secure in this mode, but it allows the NV1 to discover cameras and additional switches. Cameras can be physically swapped around and configured by the user as required.

Note: *In Configuration mode, there is no registration of a camera fail. The cameras are either in a not connected state or connected when present.*

In Secure Mode;

- Closed IPTV security is enabled and the selected security settings (determined by the configuration check boxes) are applied.
- End points (video sources) will become trusted for NetVu Connected Cameras.

When in this mode access is restricted by a number of techniques, including Restrict between end points, Restrict Public Access, Restrict multicast from general network and Lock ports by MAC (below).

Note: *In Secure Mode, video sources are either successfully connected or port free. A configured source that is not sending data will be registered as a camera fail.*

NOTE: *Secure mode should always be enabled once configuration is complete. If left in Configuration mode the system will be insecure and vulnerable to attacks. A visible warning will be displayed on the local viewer if Secure mode is not applied.*

Restrict between end point ports

End points are defined as the extreme edges of the network, normally video sources, which could be exploited as potentially insecure connections into the Closed IPTV network.

This option acts as a hard firewall to stop exposed end points from being used to mount attacks on other cameras in a different location (e.g. prevents a camera in a public location from affecting a camera in the safe vault).

Restrict public access (Port B)	Select to restrict all network data between the General/Corporate network to the video end points. No outside connections except the NVR are allowed to communicate with end points directly, and endpoints are separated from the General/Corporate Network..

Note: *The NVR itself on standard DHCP or static IP address will still be accessible from Eth-B if physically connected to network.*

Note *Non NetVu Connected cameras will only be allocated DHCP addresses by the external network if this option is disabled.*

Warning: ***If this option is not enabled it will still be possible for external systems connected to the general corporate network (via port Eth-B) to access all camera/video sources.*** *Dedicated Micros recommends that Eth-B should always be left restricted in Secure Mode as security can be compromised if left unrestricted. Additional Closed IPTV systems should always be added in Config mode to allow auto IP configuration to accommodate existing systems and avoid IP conflicts.*

Restrict multicast from general network	This disables client network access to the multicast services on the camera, but does not disable standard web access for camera configuration etc. unless 'Restrict public access' is also enabled. If this option is ticked, it only allows clients to receive multicast video data through SAP service group broadcasts from the NV1.

Warning: *Multicasting requires this option is disabled to ensure public access is unrestricted.*

Lock ports by MAC	Camera ports on the Layer 3 Enhanced CCTV Switch can be locked to the MAC address of the camera connected to that port. This prevents casual access from the port to the rest of the system (DVR, other cameras). No other MAC address will be allowed on that port. This allows multicast, direct camera access etc but protects the client network to a limited degree from the exposed end point.
Signature Verify Remote Codecs	More sophisticated attackers could bypass the Layer 3 Enhanced CCTV Switch MAC address rules (described in 'Lock Ports by MAC') by spoofing the MAC address of the camera connected to the port. We can identify such attackers using Trusted Endpoint Signature Verification of the video stream.

Warning: *If this option and 'Lock ports by MAC' is not enabled then cameras or other devices can be swapped in and out of the port with no restrictions on their network data i.e. an alternative 'hacked' video source could be introduced to the Layer 3 switch in place of a legitimate source.*

Restrict End Point Access to NVR	To limit the potential intrusion methods available from the camera ports, the standard set of TCP and UDP services on the NVR can be completely disabled to traffic from the camera ports. If a camera has been swapped for a device that has been given a spoof MAC address the NV1 will still only accept data from that connection via the usual HTTP port. The port can only supply video, and this will be flagged as unsigned due to the Trusted Endpoint feature (if enabled).

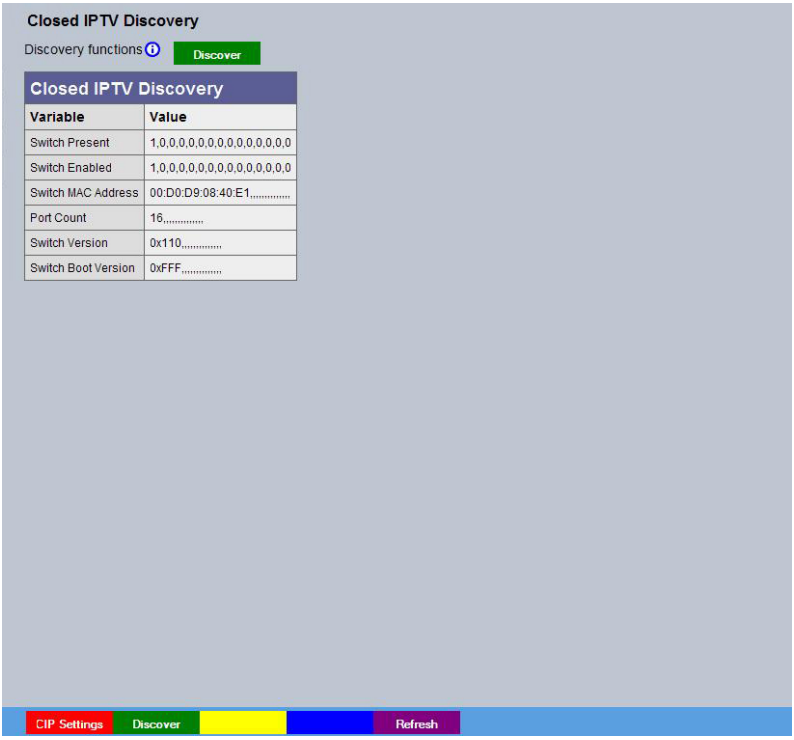
Security Violations

Isolate from network	On detection of a security breach this option will prevent any device connected to the breached port from accessing the general corporate network (if available). Video will continue to be streamed on the Closed IP side of the network.
Reconnect after	Reconnection to the network will be attempted after a security breach once this period has elapsed. If the security breach is detected again, connection to the public network will remain blocked.

Isolate from Closed IP	If a security breach is detected, the video source is isolated from the Closed IPTV network.
Generate system event	Select this option to report port violation as system events which can be used as a input to an alarm zone (e-mail, alarm etc) on the NVR.
Overview (Red Button)	Select to open the Camera -> Overview page.
Discover (Green Button)	Select to open the Closed IPTV -> Discover page which can be used to force discovery of all Layer 3 Enhanced CCTV Switches connected to the NVR.
Unalloc (Yellow Button)	Select to open the Camera->Unallocated Cams page.
Advanced (Blue Button)	Select to open the Closed IPTV->Advanced Page, refer to 'Advanced'.
Refresh (Purple)	Refreshes the information on the current page.

Discover

This page shows the currently connected switches and allows the option to force discovery of Layer 3 Enhanced CCTV Switches connected to the NVR. When a switch is connected, the NV1 will automatically discover and connect to it. The Layer 3 Enhanced CCTV Switch supports zero-conf networking (sometimes known as Bonjour), which enables automatic discovery of cameras on the IP network. Zero-conf uses industry standard IP protocols to allow devices to automatically discover each other without the need to enter IP addresses or configure DNS servers.



Variable	The parameter being passed by the discovered switch. There is the capability to show 16 switches, each switch detail is separated by a comma.
Value	Details the appropriate port variable value.
CIP Settings (Red)	Select to open the Closed IPTV->Settings page
Discover (Green Button)	Information on the switches seen by the NV1 is updated in the table.
Refresh (Purple)	Refreshes the information on the current page.

Upgrade Switch

This page provides the option to upgrade a selected switch (or all switches). Upgrades for the Layer 3 Enhanced CCTV Switch are included in the upgrade files for the unit and are loaded to the switch from the NV1.

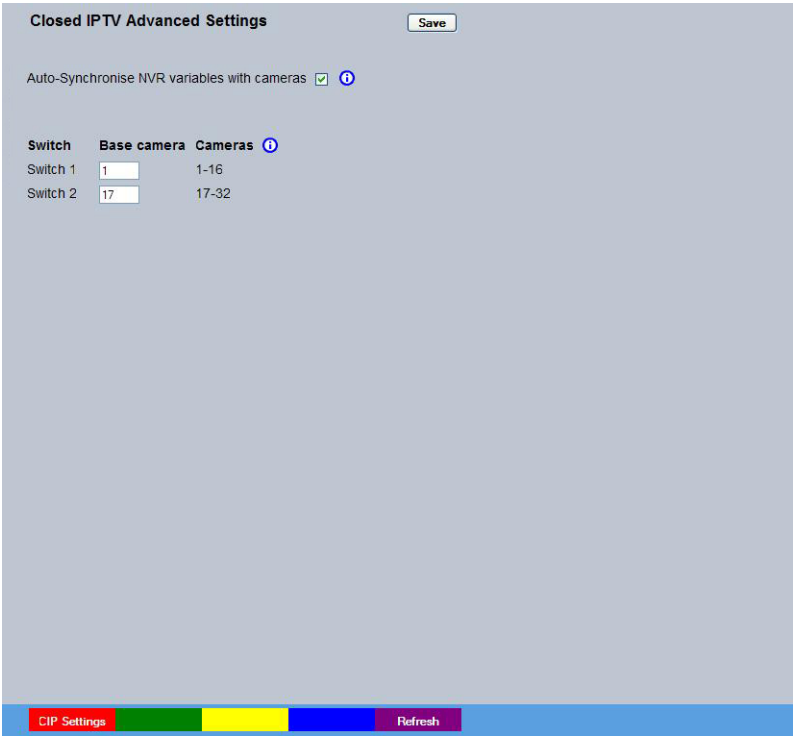


Once a switch is connected and auto-discovered, the connected NV1 can upgrade it. Select the switch to be upgraded and press the Upgrade button. The NV1 sends the required file to the switch and automatically restarts it.

Upgrade Switch	Use the drop down to select the switch to be upgraded, or upgrade all switches using the 'All Switches' option.
Progress	The entry shows the status of the switch upgrade.
CIP Settings (Red)	Select to open the Closed IPTV->Settings page.
Upgrade (Yellow)	Begins the forced upgrade of the switch.
Refresh (Purple)	Refreshes the information on the current page.

Advanced

This page allows access to the advanced facilities on the NV1 such as Autosync and setting the base camera number of a switch.



Auto-Synchronise NVR variables with cameras	When a new camera is connected and the unit is in configuration mode, the NV1 will synchronise some of the settings (i.e. camera title) with the camera. Synchronisation will only occur for Remote Codec cameras (i.e. NetVu Connected cameras/ video servers) and only in configuration mode.
Switch	Displays the switches that have been found and accepted by the NVR, *refer to 'Discover'*.
Base Camera	Each switch can have up to 16 video sources attached to it. A switch may not have all ports configured with a video source, so there may be more than two switches attached to the NV1. This option sets the base camera number on the selected switch, all subsequent video sources on that switch will receive a consecutive number.

Note: *Ports on the switches are allocated using a combination of base switch number and configuration page. Each Layer 3 Enhanced CCTV Switch has a hardware configuration dial on the base to allow a unique (in the cascade) identifier to be set. This identifier is used by this configuration page to configure the base camera number.*

CIP Settings (Red)	Select to open the Closed IPTV->Settings page
Refresh (Purple)	Refreshes the information on the current page.

Console Settings

The menus under the Console Settings heading allow the unit's Viewer display settings to be altered and User Account details to be viewed and changed.

IMPORTANT: *The Console Setting pages will only be available when the unit is operating in either 'Console' or 'Server' mode.*

The Systems page dictates which cameras and systems the DV-IP Server will connect to, and controls how the video feeds will be displayed.

The Systems Overview page gives an overview of all connected cameras and their home servers across all systems.

Note: *The Systems Overview page can only be accessed if viewing the Configuration menus remotely via an IP connection.*

The Remote Monitors page allows monitors not physically connected to the unit to view camera images received by the unit.

The Viewer Defaults page allows the Viewer menu settings to be configured.

The Display page controls how the local monitors present information. They control whether text will be displayed on the Main or Spot monitors, the colour of that text, and how long cameras being displayed in sequence will be shown on screen.

The Maps page allows images to be imported and used as maps displayed in the Viewer menus. Hot spots can be added to allow quick navigation to individual cameras.

The Map Data page allows Map Config information to be saved for future use. Previously saved data can also be uploaded.

The User Accounts page helps protect configuration procedures by limiting access to specific users via accounts and passwords.

Systems

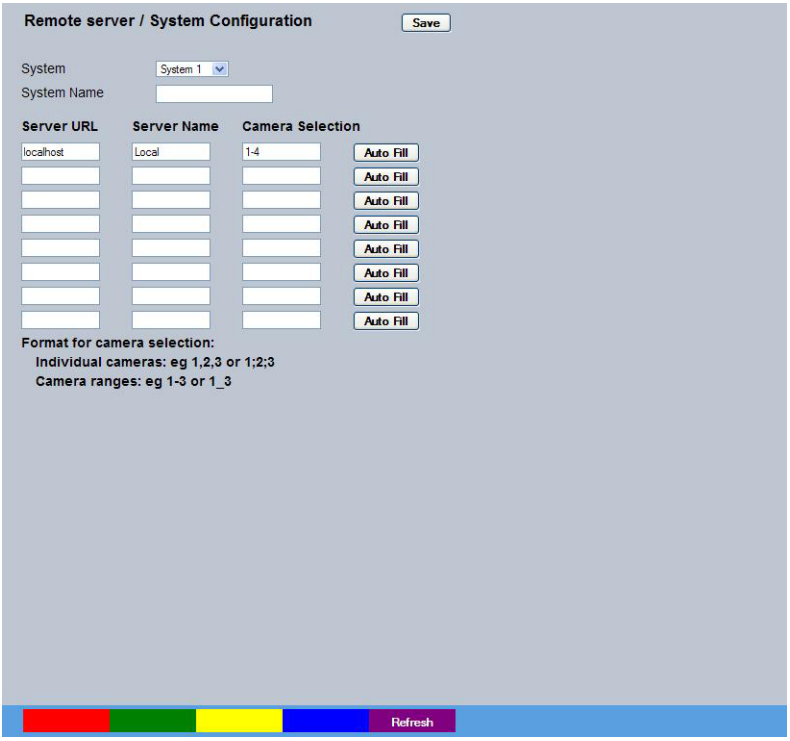
The unit can be configured with up to 20 systems. A system is a collection of DVRs and cameras selected from those DVRs. Systems are not formally connected networks but a collection of DVRs viewable over an IP network. Each system provides access and control of up to 99 cameras at any one time.

Each individual system can be selected from a drop down menu.

Camera numbering is sequential within that system (up to the maximum 99 cameras per system).

Note: ***For local camera feeds to function correctly, ensure the first server option for System 1 is configured to display the local cameras as shown below:***

Server URL	Server Name	Camera Selection
localhost	local	1-4, 1-8 or 1-16



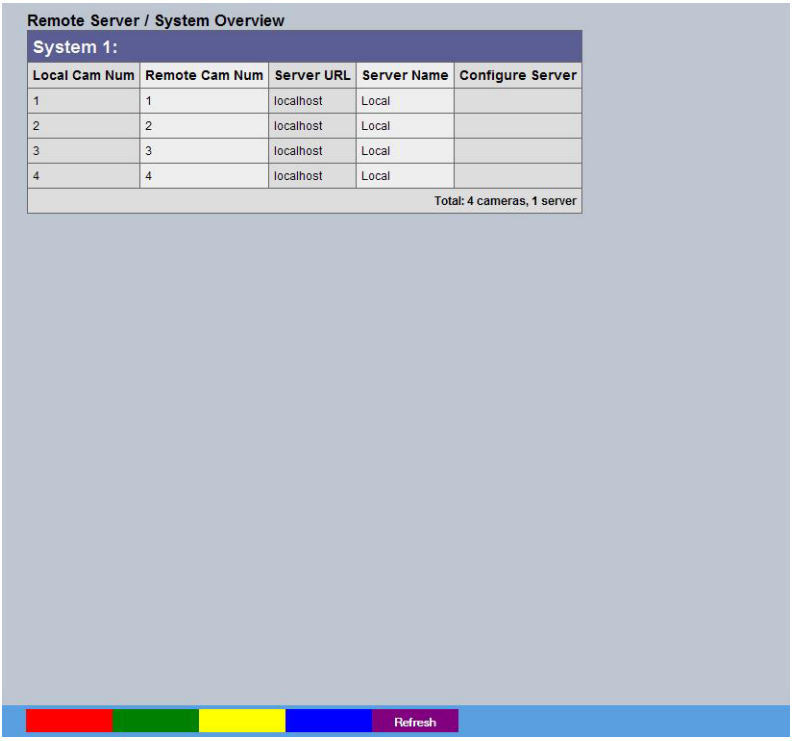
System	Select from 20 available systems using the drop down menu.
System Name	If required, enter a recognisable name for the system (this name is held on the DV-IP Server and represents the system).
Server URL	Enter the IP addresses of the servers providing the video signals.
Server Name	Enter a name for the accompanying requested server (this name is held on the unit and represents this server).
Camera Selection	Select the cameras to be accessed. To select individual cameras, use the format 1,3,5 or 1:3:5 etc. To select a range of cameras, use the format 1-3 or 1_3 etc. All connected, non-covert cameras within the range will be added in numerical connection order.

Auto Fill	When the Server URL has been entered, select the ‘Auto Fill’ option to auto include the Server Name and ALL available cameras from that server.
Save (Purple)	Select to save current unit settings to the selected media.

Systems Overview

This menu gives an overview of all connected cameras and their home servers across all systems. The numbers allocated to each camera, both 'locally' within each System, and 'remotely' by their servers are displayed. The Configuration pages for each connected server can also be accessed (if access rights permit).

Note: *This page will only be available if accessing the Configuration menus remotely i.e. via an IP connection.*

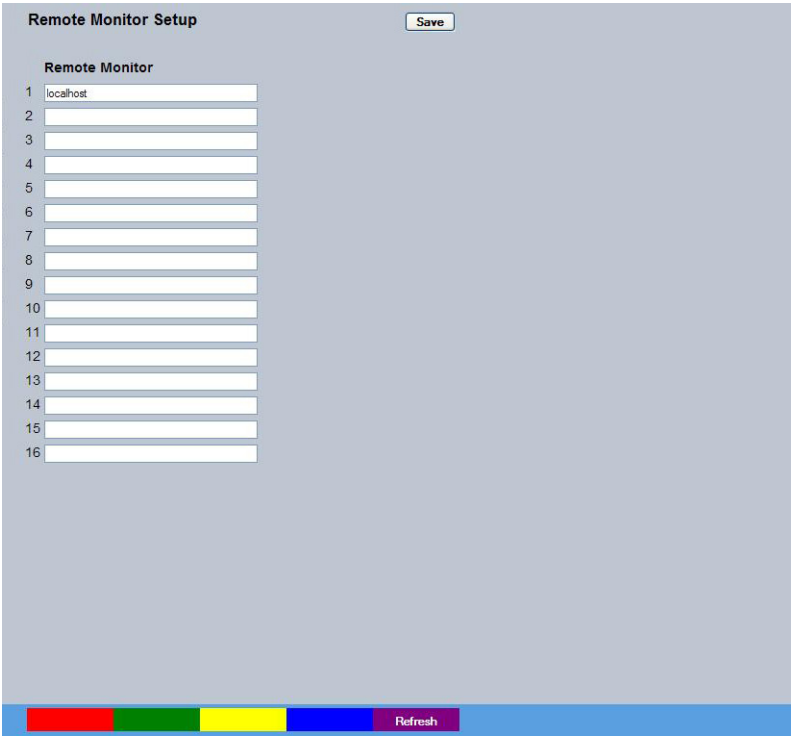


Local Cam Num	Identifies the number the camera is allocated in each system i.e. to access Camera 1 in System 1, first select System 1 via the System Selection map, then select Camera 1.
Remote Cam Num	Identifies the number the camera is allocated on its server. Selecting this number via the Viewer menus ***will not*** result in images from that camera being displayed.
Server URL	Displays the URL of the server supplying the video images.
Server Name	Displays the name of the server supplying the video images.
Configure Server	Select the Config Pages option (displayed here if applicable) to access the configuration pages for the selected Server.

Note: *Passwords may be required to successfully access server configuration pages.*

Remote Monitors

This menu allows monitors not physically connected to the unit to view camera images received by the unit. The IP address of the server connected to the monitor (or video wall) is required. Cameras can then be selected via the remote monitor

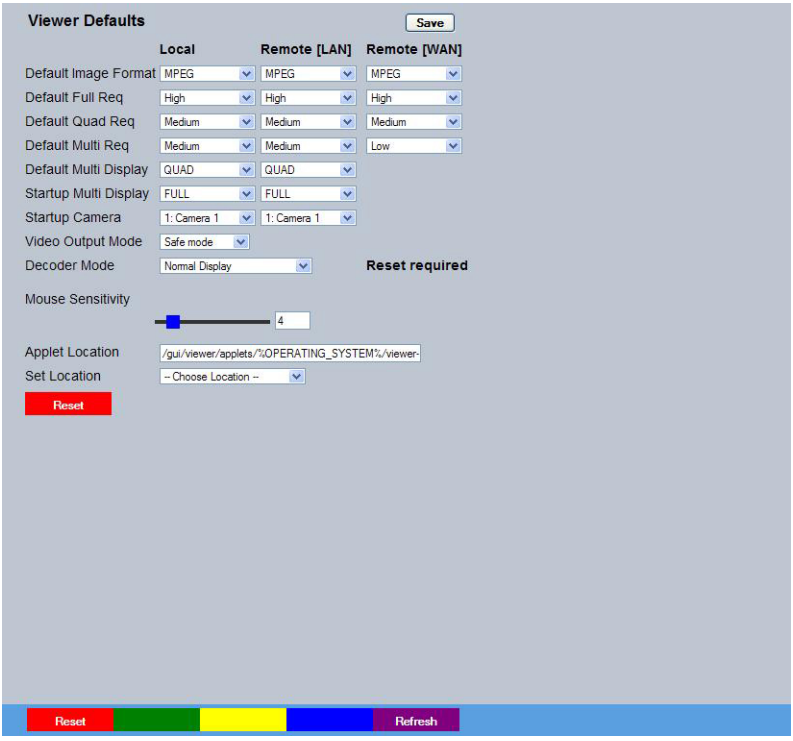


Up to 16 remote monitors (or video walls) can be configured. Enter the IP address of the server connected to the monitor.

Save (Purple)	Select to save current unit settings to the selected media.

Viewer Defaults

This menu allows configuration of settings for the Viewer function. For more information regarding this feature refer to 'Operating The Viewer'.



Default settings can be configured for accessing the Viewer function via a local monitor and also remotely via a network connection (settings can be optimised for either a LAN or WAN connection).

Default Full Req	Images displayed full screen in the Viewer menus can be shown in either High Medium or Low resolution.
Default Quad Req	Images displayed in Quad format in the Viewer menus can be displayed in either High Medium or Low resolution.
Default Multi Req	Images displayed in Multi format in the Viewer menus can be displayed in either High Medium or Low resolution.
Startup Multi Display	When accessing the Viewer function, select the display format which will initially be displayed.
Startup Multi Display	When accessing the Viewer function, select the display format which will initially be displayed.
Startup Camera	When accessing the Viewer function, select the camera image which will initially be displayed. If one of the multi display formats has been selected via the 'Startup Multi Display' option, the camera channel selected here will be displayed in first (top left) position. Subsequent camera channels will be displayed in sequential order.

Video Output mode	Select the display output that best suits the viewing monitor. Typically PAL Default is most suited for a CRT monitor, PAL Reduced for a TFT monitor. Select from: PAL Default PAL Reduced HD Default HD 4x3

Note: *It will be necessary to reboot the unit to implement any change to the Video Output Mode. The unit can be rebooted via the Reset (Red) option.*

Note: *If there is no suitable standard configuration to suit the monitor in use, refer to 'Appendix F -Monitor Output' for details on enabling more options.*

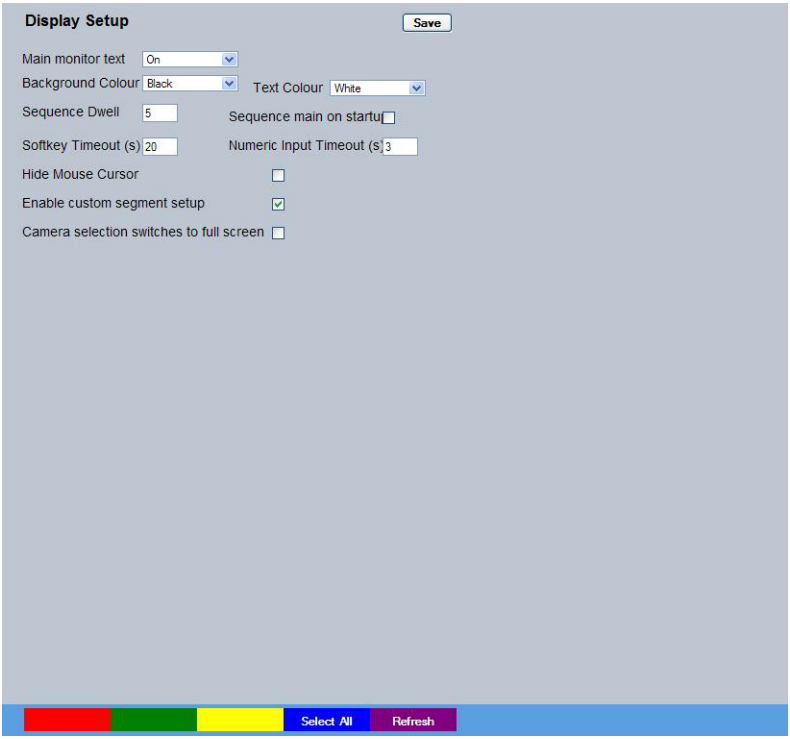
Decoder Mode	Select from Normal Display or Decoder Mode. Normal Display allows cameras to be accessed and controlled via the Viewer menu. In Decoder Mode, connected cameras can be accessed, viewed or controlled via Dedicated Micros Pick-a-Point system.

Note: *For further information regarding Dedicated Micros Pick-a-Point system, please contact Dedicated Micros customer services in your region.*

Mouse Sensitivity	The sensitivity settings of the mouse can be adjusted from the least sensitive (1) to the most sensitive (10). The setting can be adjusted via the slidebar or a number entered directly into the accompanying textbox. The default setting is 4.
Applet Location	The location of the unit's Viewer menu applet is displayed. The default location will always be the applet installed on the unit. If accessing multiple units via a remote connection, all can be assigned the same Viewer applet. This will lessen the load time required when accessing different DVRs/Servers. For example, if a local unit and a remote DVR are to be accessed, it is possible to set the Applet location for both DVRs as the local unit. If viewing the unit remotely, Dedicated Micros provide a remote applet. This remote applet can be selected via the 'Set Location' option. The applet is located on the website (www.dedicatedmicros.com/software_release/index_firmware.php). Due to possible bandwith restrictions on the network the DVR is located, using this remote applet may improve data transfer speeds.
Set Location	Select the applet location. Choose from 'Default location' i.e. the applet installed on the unit; or the 'website' option i.e. the remote applet.
Reset (Red)	Select to reset the unit and implement any changes made to the 'Video Output mode' or 'Applet Location' fields.
Save (Purple)	Select to save current unit settings to the selected media.

Display

This menu allows configuration of monitor settings used when viewing camera images and text data.

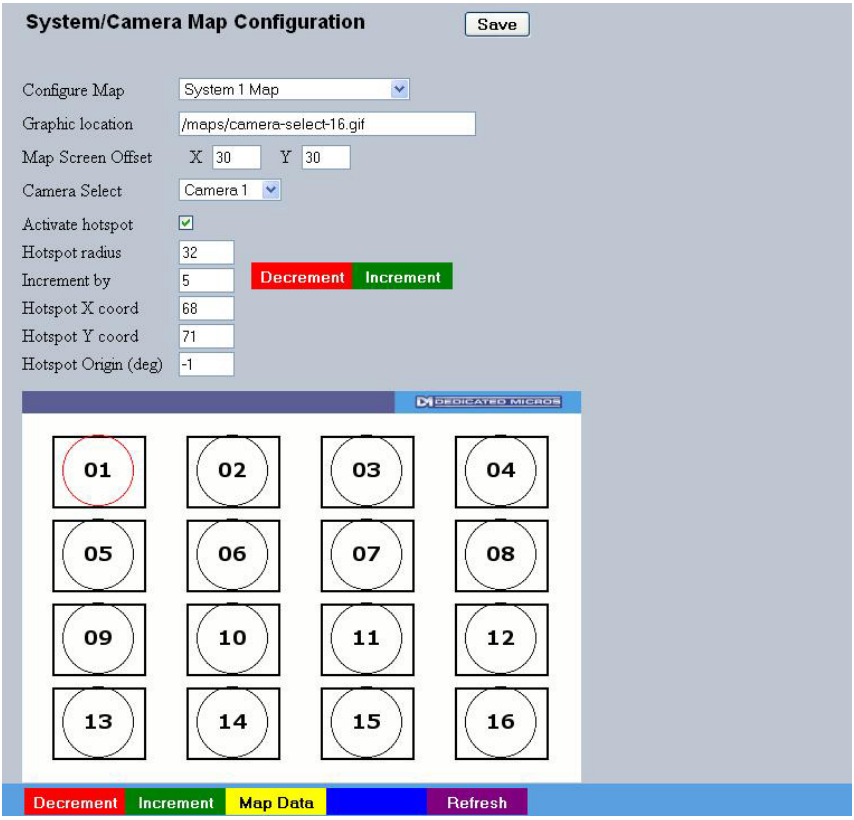


Main monitor text	It is possible to select text to be displayed on the main monitor. The text displayed will include; time, date, mode of operation (Set, Unset or Override), camera number and camera title.
Background Colour	A black background appears by default around the text. It is possible to change the colour of this background. Select from the options available in the drop down list.
Text Colour	The colour of the displayed text can be changed. Select from the options available in the drop down list.
Sequence Dwell (secs)	The sequence dwell time can be set from 1 to 99 seconds. The dwell time is the period a camera's images are displayed before switching to the next camera in the sequence.
Sequence main on startup	Select to sequence live views from all connected cameras on the main monitor upon system start-up.
Softkey Timeout	Enter the number of seconds unused key inputs on the monitor output will be displayed before disappearing.
Numeric Input Timeout(s)	Enter the number of seconds unused numeric inputs on the monitor output will be displayed before disappearing.
Hide Mouse Cursor	Select to hide the mouse cursor displayed on a local monitor connection.

Enable custom segment setup	Select to activate the custom segment setup feature. When selected, a user can configure a Quad or Multiscreen layout via the Viewer menu. The configured layout can include any camera in any available segment.
Camera selection full screen	Select to auto switch to full screen mode any camera channel selected from 'Multi' display (selected via the Viewer feature).
Select All (Blue)	Select to add all available cameras to the Spot Monitor Sequence.
Save (Purple)	Select to save current unit settings to the selected media.

Maps

This menu allows images to be imported and used as maps that can be displayed in the Viewer Menus. The map can then have hotspots added to allow quick navigation to individual cameras. An overview 'System Selection Map' can also be added to navigate between different systems.



Configure Map	Select the relevant system using the drop down menu, or use the 'Overall System Selection Map' option to create a map to navigate between systems. The Overall System Selection Map will display all available numbered systems. Selecting a hotspot then opens the relevant System camera map.
Graphic Location	Enter the location of the relevant map graphic, including the **full** I.P address of the server holding the map. The map image will be displayed if linking is successful. The linked map can be in gif or jpeg format and should not exceed 500 by 350 pixels.
Map Screen Offset	These co-ordinates represent the top left corner of the map graphic as displayed in the Viewer menu.
Camera Select	Select which camera is to be linked to the created hotspot.
Activate Hotspot	Select to activate and display the camera hotspot.
Hotspot Radius	Enter the radius (in pixels) of the hotspot.

Increment by	If using the Decrement (Red) or Increment (Green) buttons, enter the size (in pixels) that the hotspot will increase/decrease.
Decrement (Red)	Select to reduce size of hotspot.
Increment (Green)	Select to increase size of hotspot.
Hotspot X coord	Use to position the centre of the hotspot along the X axis e.g. entering 20 would place the hotspot centre 20 pixels from the left edge of the map.
Hotspot Y coord	Use to position the centre of the hotspot along the Y axis e.g. entering 20 would place the hotspot centre 20 pixels from the bottom edge of the map.

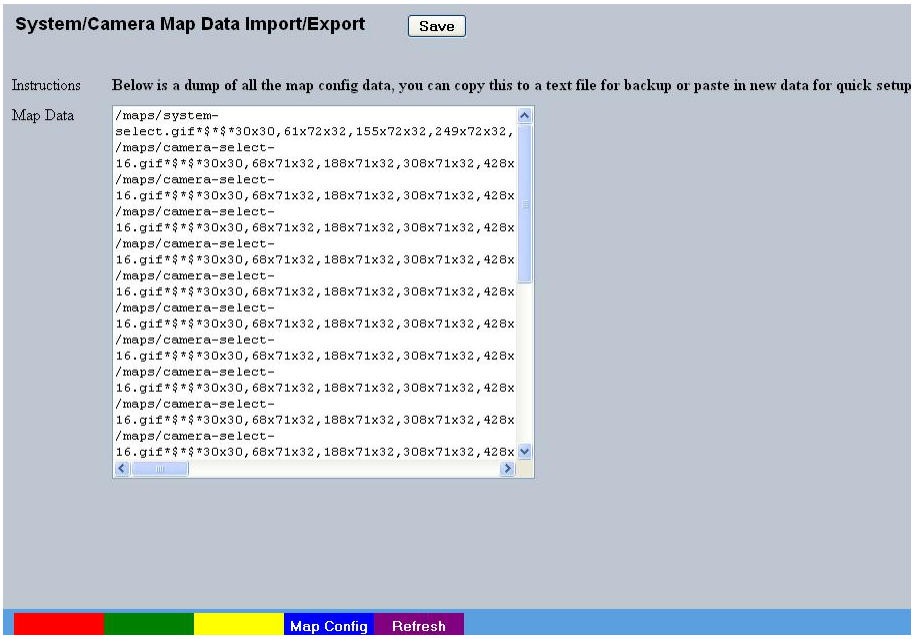
Note: *The hotspot can also be positioned by clicking directly on the map.*

Hotspot Origin (deg)	This option should be used when the hotspot relates to a Dedicated Micros Oracle Dome camera. Clicking the hotspot will send the Oracle Dome camera to a pre-determined view (absolute positioning). However if the dead centre of the hotspot is selected, the camera will be viewed from its current location. The absolute positioning point will depend on the data entered here. A setting of '0' would result in the camera facing its Original (base) position. To change the preset position, enter a number between 1 and 360. A setting of 20 would set the preset position to 20 degrees to the right of its 'origin' position, 180 would send it to face in the opposite direction (of its base position) . *For information on establishing an Origin position for a PTZ camera, refer to the 'Viewer Menus-PTZ Profile menu'.*
Decrement (Red)	Select to reduce size of hotspot.
Increment (Green)	Select to increase size of hotspot.
Map Data (Yellow)	Select to open the Display->Map Data page
Refresh (Purple)	Refreshes the information on the current page.

Map Data

The Map Data menu allows Map Config data to be Imported/Exported. This enables map data to be saved and stored for future use, or used between multiple DV-IP Servers.

Note: *The Map Data menu will only be available when viewing the menu pages remotely i.e. via the webpages.*



To save map data, highlight and copy all text displayed in the Map Data text window, then save this data as a text file.

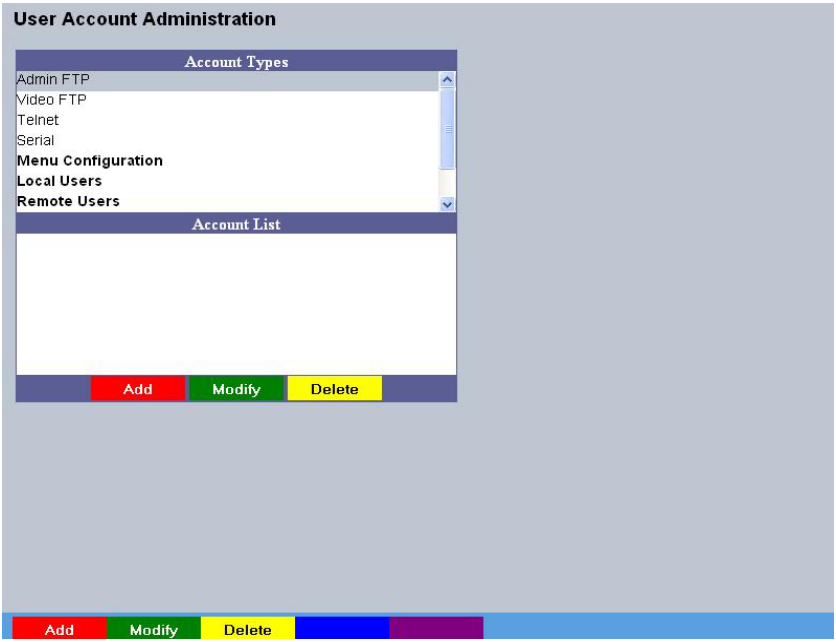
To import data, copy relevant text from an external location and paste into the Map Data text window. When the menu is exited, this data will be used as the Map Config settings.

Note: *Dedicated Micros recommend the existing Map Data is saved before import.*

Map Config (Yellow)	Select to open the Display->Map Config page
Refresh (Purple)	Refreshes the information on the current page.

User Accounts

The unit can protect configuration procedures by limiting access via usernames and passwords.



Account Types

The available account types for which users and passwords can be assigned privileges are:

- Admin FTP — Assigning username and password requirements for the Admin FTP function will limit access to the unit via an FTP connection.
- Video FTP — Assigning username and password requirements for the Video FTP function will limit access to the Video FTP archiving feature (used with NetVu ObserVer).
- Telnet — Assigning username and password requirements for Telnet connections will limit Telnet access to the unit (Telnet can be used to upgrade the unit).
- Serial — Assigning username and password requirements for Serial connections will limit access via a Serial link.
- Menu Configuration — Assigning Menu Configuration access privileges will limit access to the Configuration menus when viewed locally. When implemented, the user will be prompted for a username and password before access to the Configuration menus (via the main menu) will be granted.

• Local Users	Assigning Local Users access privileges will limit access to the Viewer pages for local users. When implemented, the local user will be prompted for a username and password before access to the Viewer pages (via the main menu) will be granted.
• Remote Users	Assigning Remote Users access privileges will limit access to the Viewer pages for remote users. When implemented, the remote user will be prompted for a username and password before access to the Viewer pages (via the main menu) will be granted.

It is possible when granting access privileges to Local and Remote Users to limit access to specific cameras. Use the Camera Selection segment of the Add New Account menu, enter those cameras for which access will be permitted. Select the cameras in accordance with the input channel connected to on the rear of the unit. For example, to allow access to camera 1 to 3 inclusive, enter: 1-3. To grant access to cameras 1,3 and 6, enter 1,3,6. If no camera data is entered, access will be allowed to all connected cameras in both live and playback modes.

Note: *There are no default usernames and passwords for any of the Account Types. If none are assigned, access will be granted to all users and no request for a username and password will be made.*

Account List

When an Account Type is highlighted, details of users with access will be displayed.

Add	Highlight an administration feature i.e. Serial and select 'Add'. Enter the new User Name and Password. That user's name will now be displayed in the account list.
Modify/Delete	To modify or delete a user's settings, highlight the user in the list and press the relevant button to Modify or Delete.

Note: *If viewing the User Accounts page via a local monitor and navigating with the I.R Remote Control. Press the right directional button from the menu tree to access the Account List.*

Enter the new User Name and Password. That user's name will now be displayed in the account list.

Modify (Green)	To modify user setting, highlight the user in the list and press to Modify.
Delete (Yellow)	To delete a user, highlight the user in the list and press to Delete.

Camera Settings

The Camera Settings menus allow configuration of cameras connected to the unit. Refer to the individual menus for further details.

IMPORTANT: *Camera Settings pages **will not** be available when operating in Console mode.*

The Camera Setup page allows the quick configuration of all connected local camera channels (with a dynamic preview available).

The Camera Overview menu details the general settings assigned to each of the local camera channels.

The IP Streams menu allows the selection of High, Medium and Low resolution settings for video sources originating from a network based source i.e. IP Server. These streams are configured on the remote device. This feature is predominately intended for use with 3rd party IP camera streams (connected via the 3rd party IP camera unlock feature).

The Unallocated Cams menu details the cameras that are available to the Closed IPTV system but are not assigned to a camera channel. This will normally be because a BNC (Analog) camera has been allocated the same channel as and IP camera, which has become automatically unallocated.

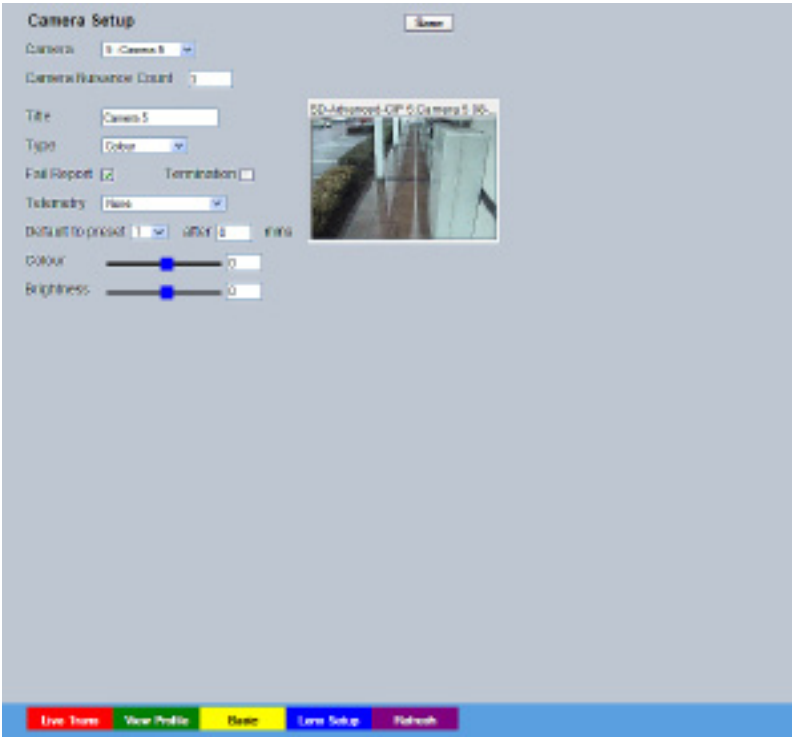
Camera Setup

This *menu allows the configuration of active camera channels.*

IMPORTANT: *The menu options displayed will differ depending on the camera 'Type' and 'IP Mode' selected.*

Note: *Ideally any setup options available locally on the camera should first be used to best obtain a suitable image quality.*

Mono/Colour Camera



Load Video Window (grey)	Press to initiate the applet to display the camera view.
Camera	Select a camera channel for review and adjustment.
Camera Nuisance Count	This is a repetitive detector value. When a camera failure alarm is received on the unit, it will store the alarm time and monitor the number of times the same alarm is triggered within an hour period. If the detector is triggered the number of times entered here, the unit will set the camera to 'No Connection'. To disable this feature, leave the setting as '0'.
Title	Assign a recognisable name to the camera. This will be displayed in all references to the camera in the both the Configuration and Viewer menus.
Type	The settings will default to 'Colour'. If Monochrome cameras are used, select 'Mono'. Selecting 'Mono' will remove colour patterning. Select' 'IP' for an IP Camera. If a particular channel is not in use or the camera has failed, select 'No Conn'.

IMPORTANT: *The menu options displayed will differ depending on the camera 'Type' selected here.*

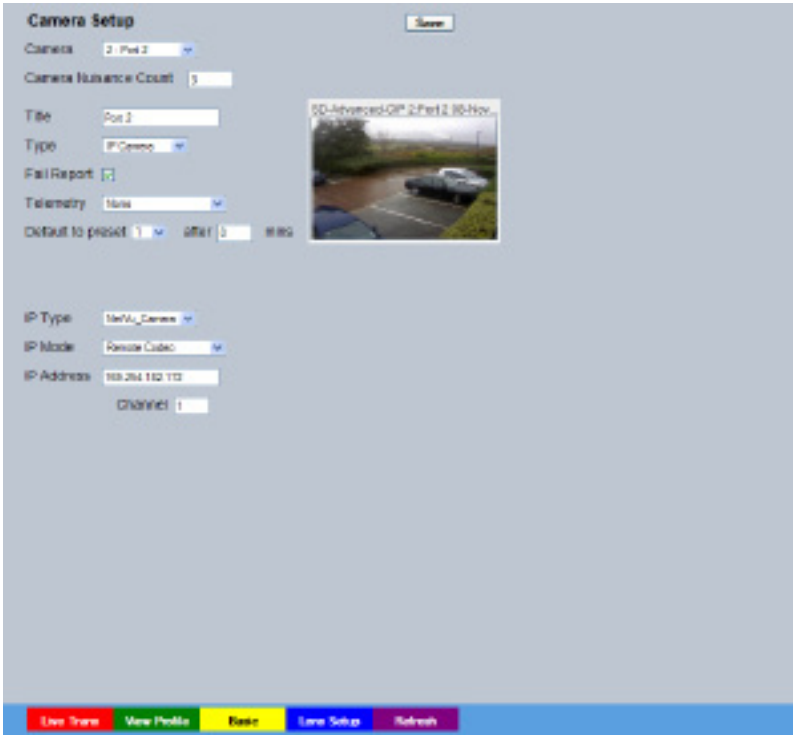
Fail Rep	Select this option to generate a Failure report in the event of camera connection failure.
Telemetry	If a telemetry capable camera is connected, the appropriate control protocol should be selected from the accompanying drop down list, *refer to 'Appendix G' for details of supported telemetry protocols.*
Default to preset	If a telemetry camera has been assigned a preset position, select the chosen preset position here. Enter the time period (in minutes) of inactivity which will result in the camera moving to its preset position, For guidance on assigning camera presets refer to Viewer menus->Program Page.
after X mins	Refer to 'Default to preset'.

Note: *The following settings will change depending on the type of camera connected.*

If a Local Analog Camera is selected

Colour	Select a colour value from -8 to +8 via the slidebar or enter a number directly into the accompanying textbox.
Brightness	Select a contrast value from -8 to +8 via the slidebar or enter a number directly into the accompanying textbox.

IP Camera



If a NetVu Connected IP Source is selected

IP Type — Select the type of NetVu Connected source the camera stream is originating from. Select from:

'NetVu Server' - i.e. DVIP Server, DVIP RT, SD, SD Advanced, EcoSense.

'NetVu Gen 2' - i.e. DS2, BX2.

NetVu Camera' - i.e. the CamVu 2000 from Dedicated Micros.

'NetVu ANPR' - i.e. the HyperSense ANPR camera from Dedicated Micros.

IP Mode — Select the IP mode used to receive incoming IP data. Select from:

Simple Stream - Received IP streams are non-compressed and are viewed as configured on the originating source.

Recode Stream - When selected, the unit will recompress the incoming IP stream to the record profile settings established for this camera channel in the Profile Record menu (Record Settings->Profile Record). This feature is only accessible with 3rd party IP camera when the 3rd party IP camera license has been enabled.

Remote codec	When selected, the unit will utilise the codec in the remote NetVu connected video server/ camera to allow change Multimode profiles and perform additional activities such as VMD and Activity Detection as if the codec was an integral part of the DVR. If 'Remote codec' is selected, the loading on the unit's internal codecs will be reduced.

IMPORTANT: *The Remote codec option is only applicable for NetVu Connected cameras.*

Note: *Additional IP cameras (further to existing local camera channels) are remote codec only. Therefore any NetVu connected cameras will be applied above local camera level.*

When 'Simple Stream' and 'Recode Stream' are selected via 'IP Mode', the following options will be available:

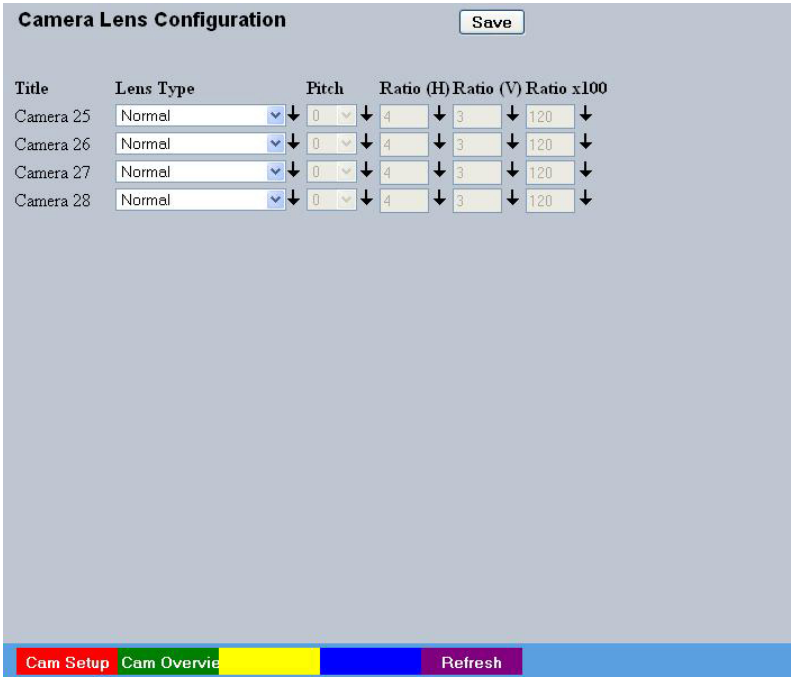
IP Address	Enter the URL address of the image source.
Channel	If the URL is a multichannel device (e.g. DV-IP NV1), this specifies which channel to use.

Both types

Live Trans (Red)	Select to open the Network->Live Trans page
View Profile (Green)	Select to open the Record Settings->Profile Record page
Basic (Yellow)	Select to open the Serial Ports->Camera page.
Lens Setup (Blue)	Select to open the Camera Lens Configuration page
Refresh (Purple)	Refreshes the information on the current page.

Camera Lens Configuration

This page allows different lens de-warping techniques to be applied to connected cameras. The unit can de-warp Fish-eye and Depressive Fish-eye lenses to present a normal aspect image.



Title	Shows the allocated name of the video source.
Lens Type	Allows selection of fisheye, depressive fisheye and normal lens types.
Pitch	Allows the image to be rotated counterclockwise by ninety degrees.
Ratio (H)	Allows the horizontal ratio of a panamorphic lens to be set.
Ratio (V)	Allows the vertical ratio of a panamorphic lens to be set.
Ratio x100	Allows the multiplier ratio of a panamorphic lens to be set.
Cam Setup (Red)	Select to open the Camera -> Setup page
Cam Overview (Green)	Select to open the Camera -> Overview page
Refresh (Purple)	Refreshes the information on the current page.

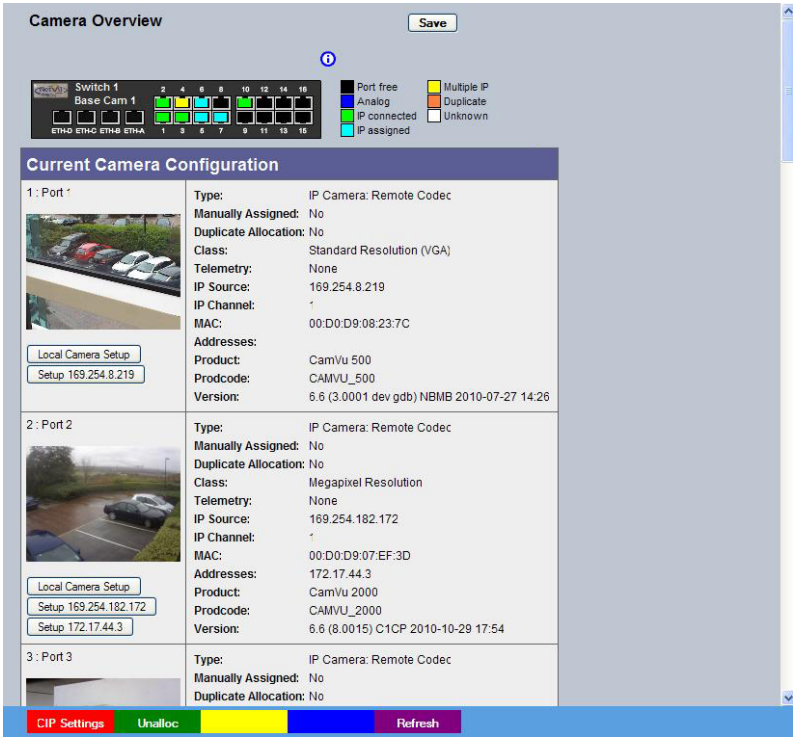
Camera Overview

This menu details the general settings assigned to each of the local camera channels.
To edit the settings assigned to any of these cameras;

Click on Local Camera Setup to edit the settings held in the SD Advanced;

Click on 'Setup' to open the Setup menu on the connected video source.

Note: *The Layer3 Enhanced CCTV switch image will only be displayed when the unit is operating within a Closed IPTV system.*



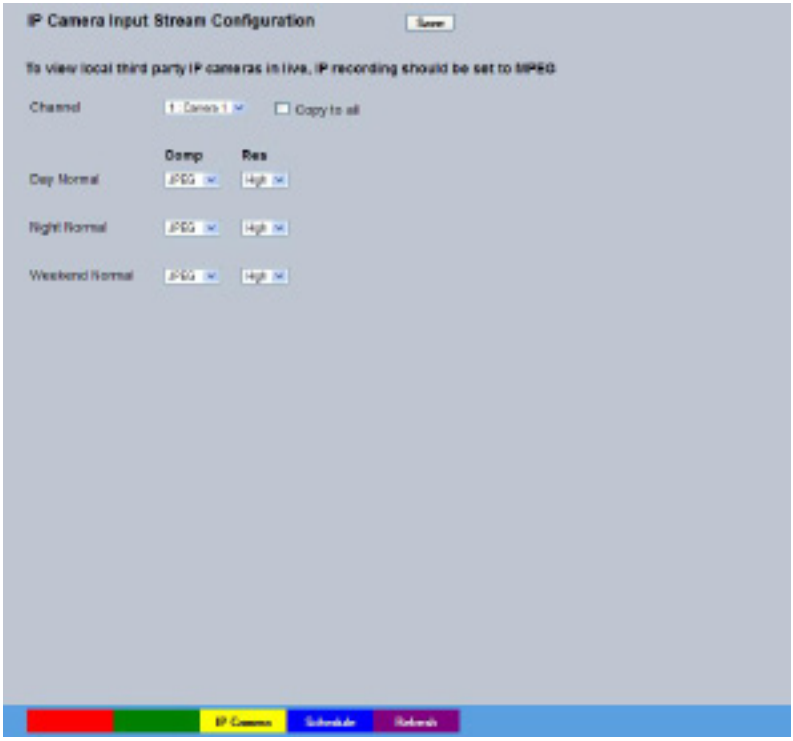
CIP Settings (Red)	Select to open the Closed IPTV->Settings page
Unalloc (Green)	Select to open the Camera->Unallocated Cams page
Refresh (Purple)	Refreshes the information on the current page.

IP Stream Inputs

The IP Streams menu allows the selection of High, Medium and Low resolution settings for video sources originating from a network based source i.e. IP Server. These streams are configured on the remote device. This feature is predominately intended for use with 3rd party IP camera streams (connected via the 3rd party IP camera unlock feature).

Note: *The IP Stream needs to be set to Simple Streaming on Camera->Setup.*

Note: *There is only normal 'non event' recording for connected IP cameras.*



Channel	Select a camera channel for review and adjustment. Only those cameras designated as 'IP' in the Camera Setup menu will be available (Camera Settings->Camera Setup).
Copy to all	Select this option to apply current settings to all connected cameras.

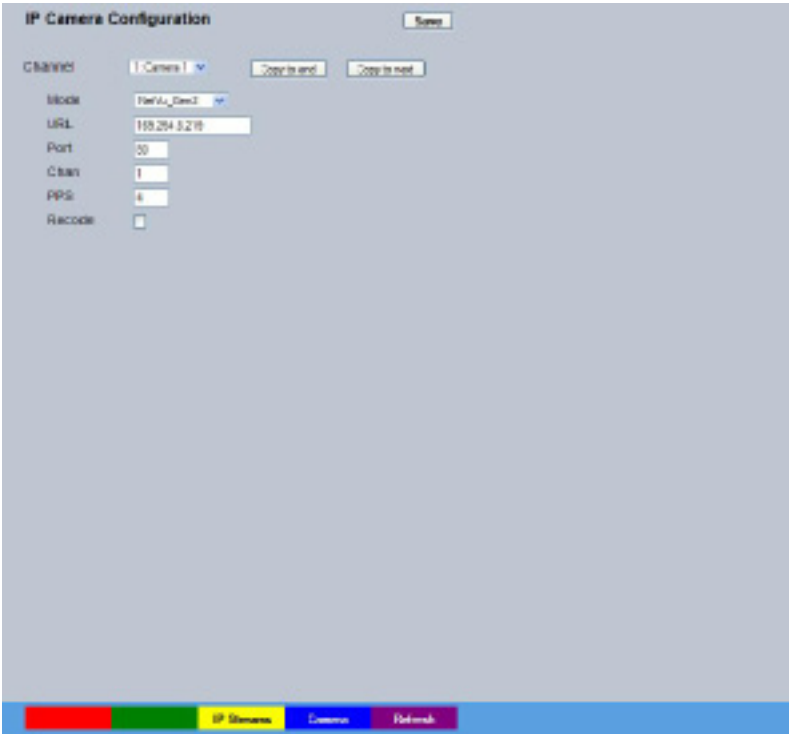
The following options can be configured for Set, Unset and Override record profiles when operating under Normal (non Event) conditions. For information regarding record modes, refer to Configuration Menu:Record Settings->Profile Record.

Comp	Select image compression format (MPEG or JPEG).
Res	For both MPEG and JPEG recording, select either High, Medium or Low quality resolution settings.

Note: *To view a local third party IP camera 'live', IP recording should be set to MPEG.*

IP Camera (Yellow)	Select to open the IP Camera Configuration menu.
Schedule (Blue)	Select to open the Schedule->Setup page
Refresh (Purple)	Refreshes the information on the current page.

IP Camera Configuration



Channel	Select a camera channel for review and adjustment. Only those cameras designated as 'IP' in the Camera Setup menu will be available, (Camera->Setup).
Mode	Select the IP mode used to receive incoming IP data. Select from:
Simple Stream	Received IP streams are non-compressed and are viewed as configured on the originating source.
Recode Stream	When selected, the unit will recompress the incoming IP stream to the record profile settings established for this camera channel in the Profile Record menu (Record Settings->Profile Record). This feature is only accessible with 3rd party IP camera when the 3rd party IP camera license has been enabled.
Remote codec	When selected, the unit will utilise the codec in the remote NetVu connected video server/camera as if it was directly connected inside the DVR. Thus the user can change Multimode profiles and perform additional activities such as VMD and Activity Detection as if the codec was an integral part of the DVR. If 'Remote codec' is selected, the loading on the unit's internal codecs will be reduced.

IMPORTANT: *The Remote codec option is only applicable for NetVu Connected cameras.*

Note: *Additional IP cameras (further to existing local camera channels) are remote codec only. Therefore any NetVu connected cameras will be applied above local camera level.*

When 'Simple Stream' and 'Recode Stream' are selected via 'IP Mode', the following options will be available:

URL	Enter the URL address of the image source.
Port	If required, edit the port input data. This will default to 80 (HTTP).
Chan	If required, edit the channel input data.
PPS	Edit the PPS (Pictures per Second) recording settings.
Recode	Select to activate the recode option.

When 'Remote Codec' is selected via 'IP Mode', the following options will be available:

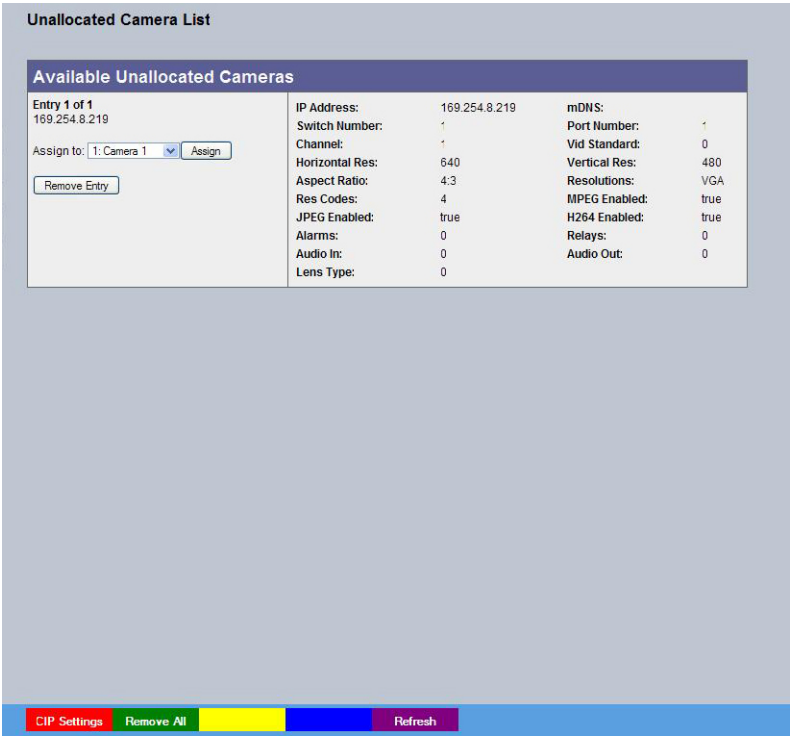
IP Address	Enter the URL address of the image source.
Channel	If required, edit the channel input data.
IP Camera (Yellow)	Select to open the Camera->IP Stream Inputs page.
Camera (Blue)	Select to open the Serial->Camera page.
Refresh (Purple)	Refreshes the information on the current page.

Unallocated Cams

Channels can be utilised by the BNC connections on the unit OR by the sockets on any connected Layer3 Enhanced CCTV Switch. If an IP source is plugged into a channel occupied by a BNC connection, the BNC will take priority and possess the channel, whilst the IP connection will be added to the un-allocated list, allowing it to be tied to an available channel through this configuration pages.

Similarly, if a BNC connection is assigned to an occupied IP channel, the IP camera will be 'bumped' onto this list.

Cameras can then be assigned to a free channel, or dismissed as no longer required. A dismissed camera can be added back into the un-allocated list by refreshing the connection (unplugging it from the switch, and plugging it back in again).



Assign to:	Displays all available unassigned cameras.
Assign	Assigns the associated IP stream to the selceted camera.
Remove Entry	Deletes the associated IP stream from the unallocated cameras list
CIP Settings (Red)	Select to open the Closed IPTV->Settings page
Remove All (Green)	Deletes all IP stream on the unallocated cameras list
Refresh (Purple)	Refreshes the information on the current page.

Record Settings

The Record Settings menus allow configuration of the unit's record functions. Record settings can be configured for normal operation, on alarm, by schedule and for set holiday and weekend periods. Selected video data can be saved and protected. Refer to the individual menus for further details.

***IMPORTANT:** The Record Setting pages **will not** be available when operating in Encoder mode.*

The Default page allows the basic Recording settings to be edited.

The Profile Record page allows the recording configuration to be based on specific priorities. The record rate and quality can be customised to respond appropriately to the alarms and time of day. A high degree of control and flexibility is possible using these options.

The JPEG Trigger page allows configuration of the pre trigger feature (for cameras recording JPEG mode only). When enabled, the pre-trigger feature will buffer and store alarm recording prior to an event trigger

The Protect Video page allows previously recorded data to be protected and retained. If needed, all recording can be halted and saved video deleted.

The AoE Setup page allows configuration of the units ATA over Ethernet (AoE) function. AoE is a network protocol designed for simple high-performance access of storage devices over Ethernet networks. Importantly the external storage device must be located on the same network as the unit.

Default

The unit has a range of pre-defined configurations available. As standard the unit can record at 5pps MPEG4. Alternatively the unit can be configured for 1pps JPEG or for ***Multi****Mode operation (note that this will result in the record duration being determined by the time period the unit is in alarm).*



Days Recording	Displays the record duration possible using the current configuration.
Timed Expiry	If required, all stored recorded video can be permanently deleted after a set number of days. Set to '0' to de-activate this function
Camera Settings	Choose the rate of non alarm recording to be used from the range of preset recording profiles. Select from Normal Rate MPEG4 6.25pps or Normal Rate JPEG 3pps.
Record Duration/Enhance Quality	The recording duration can be limited to a set number of days (Low, Medium or High); allowing the recording quality to be enhanced for a shorter storage period.
Refresh (Purple)	Refreshes the information on the current page.

Profile Record

It is possible to set the unit recording configuration based on specific priorities. The **Multi***Mode recording feature offers the ability to set different recording rates, resolutions and compression formats across unset, set and override modes. By varying the quality, bit rate and file size of recorded images, the* **Multi***Mode function enables the recording capabilities of the unit to be greatly increased. The Profile record menu can be accessed in a Simple format or in Advanced mode. The Advanced mode offering greater opportunities to dynamically edit recording capabilities.*

Simple Record



Menu View	Switch to the Advanced Profile Record menu.
Days Recording	Displays the record duration possible using the current configuration.
Channel	Enables selection of a specific camera for editing.
Copy To End	Select to copy the current profile record settings to all camera channels.
Copy To Next	Select to copy the current profile record settings to the next camera channel.
Unset/Set/Override Normal	Shows the recording profile used by the camera if no Timer Functions are applied and the camera is operating under Normal (non Event) conditions. For further details refer to the 'Schedules' section.
Unset/Set/Override Event	Shows the recording quality that will be used by the camera during an Alarm or Event. Note that Set and Override schedules will be used only when Timed Schedules are applied. For further details refer to the 'Schedules' section.

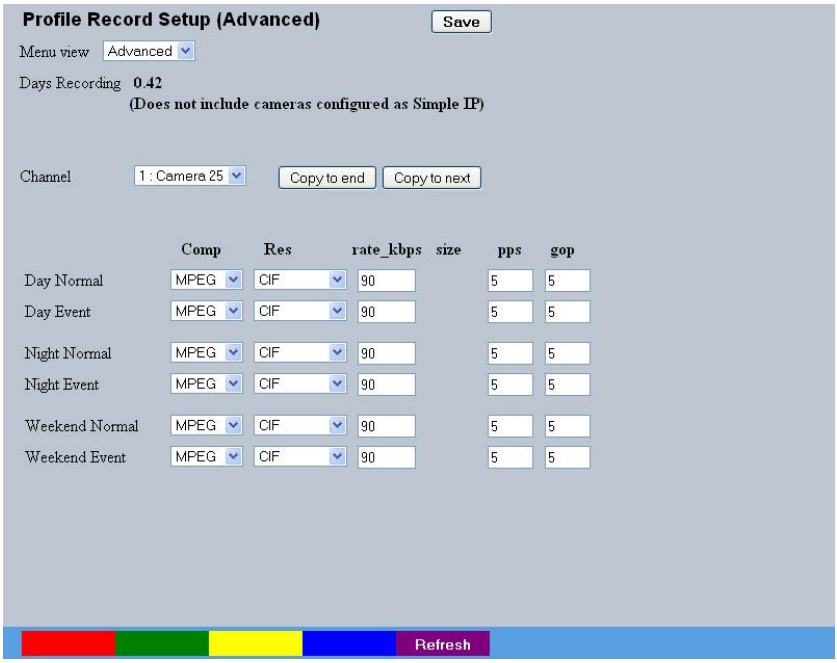
Note: *Unset, Set and Override modes can be given more recognisable titles i.e. Day, Night, Weekend via the Schedule menu (Record Settings->Schedule).*

Comp	Select image compression format (MPEG, JPEG).
PPS	The accompanying dropdown list allows the number of frames captured per second to be set. The pictures per second (pps) option allows either 5, 3, 2, 1, 0.5, 0.25 or 0.1 pps to be recorded. Pictures can also be recorded at 'Real Time' speed, '3/4 Real Time' or '1/2 Real Time'. To disable record, choose the 'No Record' option.
Quality	The accompanying dropdown list allows the quality of recorded images to be set. Select from Maximum, Very High, High, Medium, or Low. Select User Defined to use settings established in the Advance Profile Record menu.

Note: *The higher the Quality setting, the greater the storage space used.*

Refresh (Purple)	Refreshes the information on the current page.

Advanced Record



Menu View — Switch to the Simple Profile Record menu.

Note: *When Advanced Record settings have been changed, it is not possible access the Simple Record menu until the newly configured Advanced Record settings have been applied. To do this, open the Record menu and select the 'Save' option. It will then be possible to return to the Profile Record menu and access Simple Record.*

Days Recording	Displays the record duration possible using the current configuration.
Channel	Enables selection of a specific camera for editing.
Copy To End	Select to copy the current profile record settings to all camera channels.
Copy To Next	Select to copy the current profile record settings to the next camera channel.
Unset/Set/Override Normal	Shows the recording profile used by the camera if no Timed Schedules are applied and the camera is operating under Normal (non Event) conditions. For further information refer to 'Schedule'.
Unset/Set/Override Event	Shows the recording quality that will be used by the camera during an Alarm or Event. Note that Set and Override schedules will be used only when Timed Schedules are applied. For further information refer to 'Schedule'.

Note: *Unset, Set and Override modes can be given more recognisable titles i.e. Day, Night, Weekend via the Schedule menu (Record Settings->Schedule).*

Comp	Select image compression format (MPEG, JPEG).
Res	Select image resolution format (QCIF, CIF, 2CIF or 4CIF).
Rate_kbps	If MPEG4 is selected, the figure entered here will be the bit rate allocated. A higher bit rate will provide better quality. MPEG bit rates can be entered within the range of 45-2500K bits/second.

Size	If JPEG is selected, the figure entered here will be the size of the JPEG transmitted (in Kbytes). JPEG file sizes can be configured within the range of 5-45Kbytes.
PPS	Select the number of pictures recorded per second.
GOP	If using MPEG4 recording, select the number of images recorded within a GOP (Group of Pictures). A GOP consists of an I-Frame (keyframe) and following P frames.

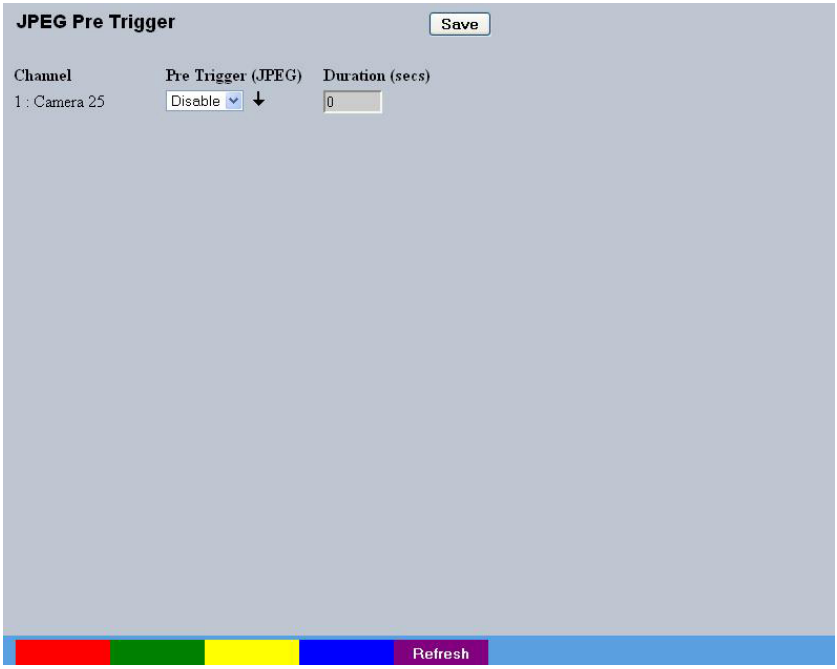
Note: *The GOP is also the rewind interval and stop interval for MPEG recording playback.*

Note: An MPEG I-frame is considerably larger than a P-frame. Therefore the lower the GOP ratio, the higher the disk space required to store recorded images.

Refresh (Purple)	Refreshes the information on the current page.

JPEG Pre Trigger

This menu enables configuration of the pre trigger feature (for cameras recording JPEG mode only). When enabled, the pre-trigger feature will buffer and store alarm recording prior to an event trigger.



Channel	Only those camera channels set to record in JPEG mode will be available for configuration.
Pre-Trigger (JPEG)	Enabling the Pre-Trigger feature will buffer and store alarm recording prior to an event trigger (in JPEG format). It will use the maximum available memory dependent on other cameras requirements of the buffer space. Select 'Enable' to activate.

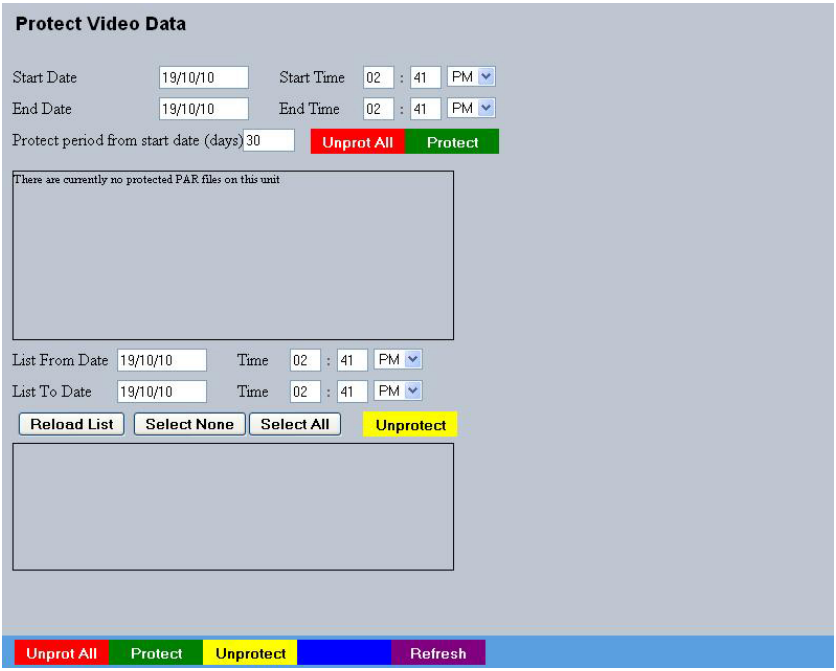
Note: *It is recommended that the Pre-Alarm option in the 'Alarm Settings-Zone Input' menu be set to the same value as the Pre-Trigger setting. This will ensure successful playback of high quality Pre-Trigger images. High quality pre-trigger images will only playback properly if review (playback) starts prior to the pre-trigger initiation.*

Pre-Trigger Duration (secs)	The Pre-Trigger Duration is the maximum possible time that data will be stored prior to an event trigger.
Refresh (Purple)	Refreshes the information on the current page.

Protect Video

This menu allows the unit to automatically protect and retain recorded data. Previously saved data can also be unprotected. Enter a start and end time and select 'Reload List' . All saved video files from the chosen time period will be shown in the upper textbox. These recorded 'PAR' files can then be selected and protected via their accompanying checkboxes and the Protect option. Selected video files can also be unprotected via the Unprotect option.

The lower textbox provides a status report detailing which video files have been protected/unprotected.



Start Date	Enter a start date to protect video.
Start Time	Enter a start time to protect video.
End Date	Enter an end date to protect video.
End Time	Enter an end time to protect video.
Protect Length (days)	Enter the number of days that selected files will be protected for.
Protect (Green)	Select this option to protect recorded video for the selected time period(s).
Unprotect All (Red)	Select this option to unprotect all recorded video from the list.
List From Date/Time	This dialog box allows a search to be made within the protected video list starting from a specific Time and Date.
List To Date/Time	This dialog box allows a search within the protected video list to conclude at a specific Time and Date.
Reload List	This will refresh the video list according to the selections made in the Start Time/Date and End Time/Date dialog boxes.

Select None	This de-selects all the available video files.
Select All	This selects all the available video files.
Unprotect (Yellow)	Select this option to unprotect recorded video for the selected time period(s).
Unprot all (Red)	Select to unprotect all recorded video from the list
Protect (Green)	Select to protect recorded video for the chosen time period
Unprotect (Yellow)	Select to unprotect recorded video for the chosen time period
Refresh (Purple)	Refreshes the information on the current page

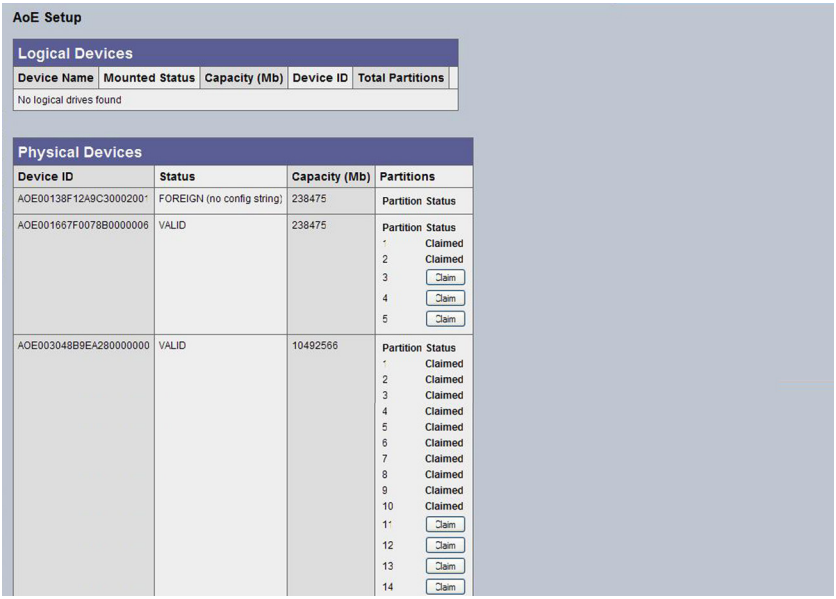
AoE Setup

This menu allows configuration of the units ATA over Ethernet (AoE) function. AoE is a network protocol designed for simple high-performance access of storage devices over Ethernet networks. Importantly the external storage device must be located on the same network as the unit. AoE does not rely on network layers such as IP and TCP, making it non routable i.e. routers cannot be used to forward a packet across disparate networks. AoE packets can only travel within a single local Ethernet storage area network (adds a physical layer of security to the information). The stored video can only be accessed by plugging directly into an ethernet socket in the same LAN as the host. This means AoE cannot be accessed over the Internet or other IP networks, but makes AoE more lightweight (with less load on the host), easier to implement, provides a layer of inherent security, and offers higher performance.

Note: *Refer to Viewer Menu->Copy Menu for guidance on exporting Event data via the unit's USB port.*

IMPORTANT: *An additional .ini file must be installed to make use of the AOE feature. Please contact Dedicated Micros Technical support team (+ 44 (0) 845 600 9500) for guidance.*

Note: *Contact Dedicated Micros Technical support team (+ 44 (0) 845 600 9500) for details of recommended AOE devices.*



Logical Devices	Connected AOE Devices - Any devices in this panel are being used by the unit to store data. These can be freed by clicking on the Release button.
Physical Devices	Available AOE Devices - Any devices in this panel are available on the network. They can be added to the storage capability of this unit by 'claiming' the storage, using the 'Claim' button. Unavailable storage is listed as Owned. Claimed storage capacity requires formatting before it can be used.
init config string	This button will remove failed or powered down devices that had previously been recognised and are no longer available.

FDISK	This button will format the whole device, erasing all data previously available on it and setting it up for video data storage.
Refresh (Purple)	Refreshes the current page.

Schedule

This menu allows the Timer Function names to be configured. The Timer Function enables the unit to automatically be put into set/unset mode at specific times on specific days. This can help reduce unnecessary alarm triggers. The mode will be set by the DVR that the camera is connected to.

When the unit is in Set or Unset mode, combine with different recording qualities and rates under normal and alarm conditions for a high degree of control in a range of situations.

The Setup page allows configuration of the schedule including naming the modes of operation and controlling when the unit changes between modes.

The RVRC page allows a user to temporarily switch the unit's system state into set/unset/ override mode.

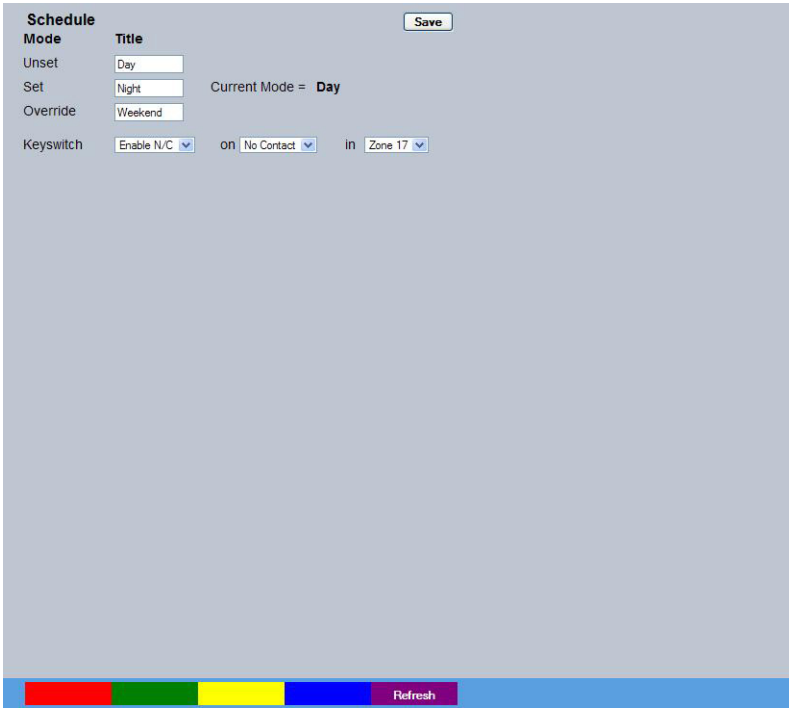
The Holiday & Weekend menu allows the unit to be automatically switched to Override mode for individual days i.e. public holidays or during a weekend (or any defined period).

Setup

This menu allows the Schedule function to be configured. This enables the unit to automatically be put into set/unset mode at specific times on specific days. This can help reduce unnecessary alarm triggers.

Combining when the unit is in Set or Unset mode with different recording qualities and rates under normal and alarm conditions gives a high degree of control in a range of situations.

Note: *If Keyswitch is Enabled, the Day Time and Night Time options will not be displayed. The additional Keyswitch options will instead be displayed.*



Mode/Title	Enables a name to be entered for Unset, Set and Override mode.

Note: *Any changes to Mode titles here will affect the mode names displayed in the Profile Record, IP Record and Zone Input menu pages.*

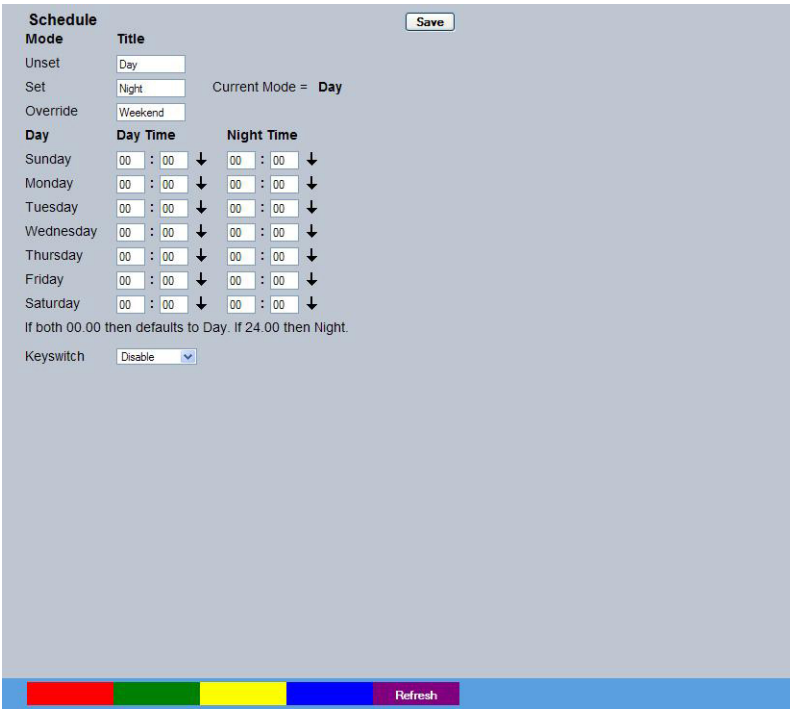
Current Mode	Shows the current timer mode according to the names entered in the Mode/Title text boxes.
Day Time	Enter the time (using the 24hr clock) when Unset mode will begin.
Night TIme	Enter the time (using the 24hr clock) when Set mode will begin.
Keyswitch	A Keyswitch can be used to switch the recording profile (Unset/ Set).

Note: *When the Keyswitch option is set to 'Enabled'. It is necessary to save (or exit and return to) the menu. The additional Keyswitch options will then be displayed.*

Enable-N/O	Select if the Keyswitch is to be normally open (UNSET). Then choose a contact to be used in a specific zone as the Keyswitch.

Enable-N/C	Select if the Keyswitch is to be normally closed (SET). Then choose a contact to be used in a specific zone as the Keyswitch.
Enable EOL	Select to configure the Keyswitch for EOL. The End Of Line (EOL) option enables the Keyswitch to detect any changes in the electronic input resistance. A change outside the expected values will result in a Tamper Alarm (short circuit or open circuit) being detected and the system switching to alarm mode.

With Keyswitch Disabled



Day	Specifies which Day of the week is being configured

NOTE: *The next two descriptions utilise the standard name settings for the profiles (SET, UNSET). If these names have been changed on the 'Schedule' page, these menu options will display the user configured names.*

UNSET Time	Specifies what time in format HH:MM the UNSET recording settings, configured on the Profile Recording page, will become operational
SET Time	Specifies what time in format HH:MM the SET recording settings, configured on the Profile Recording page, will become operational

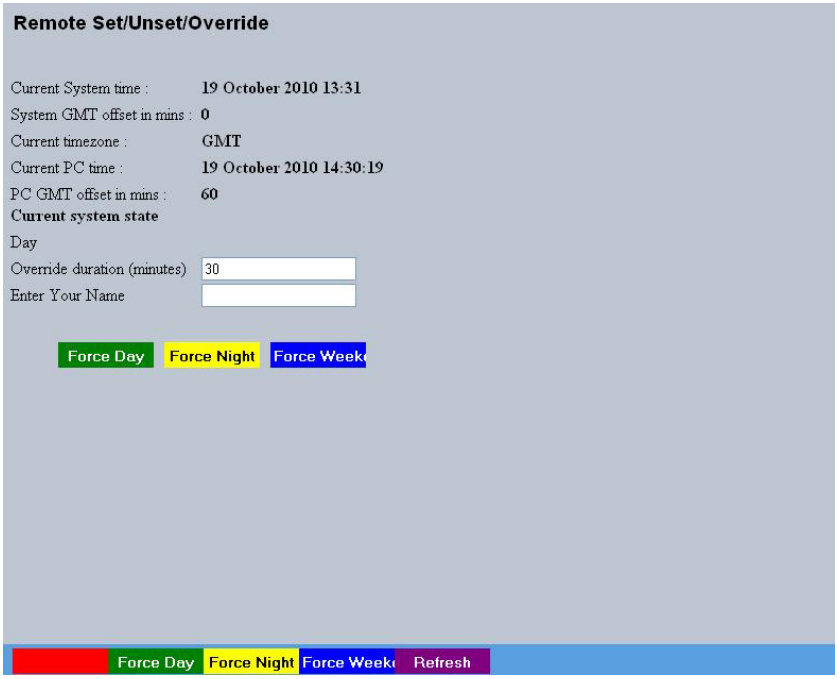
Note: *The arrow button displayed next to each textbox allows settings to be replicated for those cameras listed below. This will only affect the adjacent option i.e. Mode arrow will replicate the Mode setting to all cameras below the clicked arrow.*

Note: *To disable one day, set both times to 00.00. To have the profile recording all 24 hours of a day, set both times to 24.00*

RVRC

This menu allows a user to temporarily switch the unit's system state into set/unset/override mode. The user will be required to enter their name and also the intended override duration. The action will be logged.

Note: *Refer to the Schedule menu for details of how to configure Set, Unset and Override modes: Record Settings->Schedule.*



Current System Time	The unit's current date and time information will be displayed. This will be logged with any override action.
Current PC Time	The current date and time information of the PC currently being used to view the webpages will be displayed. This will be logged with any override action.
Current system state	The current system state will be displayed i.e. Set, Unset or Override.

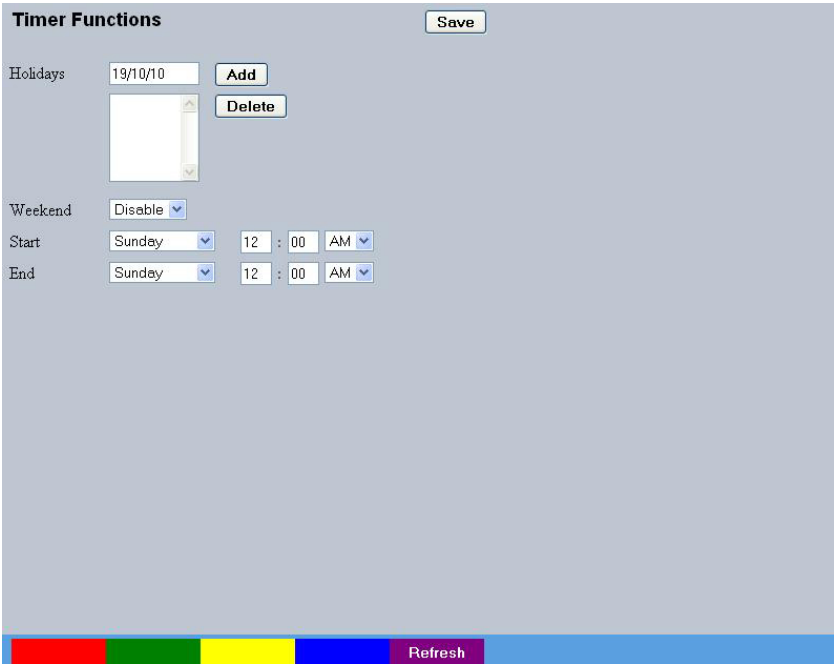
Note: *The system state names displayed here will depend on those entered via the Schedule menu: Record Settings->Schedule.*

Override duration (minutes)	Enter a time period for the override procedure. After this time period, the system state will return to that configured via the Schedule menu (for the current time).
Enter Your Name	Enter your recognised user name. This will be logged.
Force UNSET(Green)	Select to switch to Unset mode.
Force SET (Yellow)	Select to switch to Set mode.
Force OVERRIDE (Blue)	Select to switch to Override mode.
Refresh (Purple)	Refreshes the information on the current page.

Holiday & Weekend

This menu allows the unit to be automatically switched to Override mode for individual days i.e. public holidays or during a weekend (or any defined period).

IMPORTANT: *Holiday and Weekend settings cannot be entered when a Keyswitch has been enabled in the Record Settings->Schedule menu.*



Holidays	Enter a date and press the Add button. The date will be added to the Holiday list. To delete, highlight and select Delete.
Weekends	Select 'Enable' to activate the Weekend function. Set mode will now be active for the dates outlined below.
Start	Select a Start day and time for Weekend mode.
End	Select an End day and time for Weekend mode.

Note: *Override mode will remain active until weekend is disabled.*

Refresh (Purple)	Refreshes the information on the current page.

Alarm Settings

The Alarm Settings menus allow configuration of the unit's alarm functionality. Individual alarm inputs and alarm zones can be configured. Global relays can be activated and the Activity grid set up. Refer to the individual menus for further details.

IMPORTANT: *The Record Setting pages* ***will not*** *be available when operating in Console mode.*

The *Inputs page allows configuration of alarm channels. Up to 4 alarm channels are available.*

The Zone Input page enables the configuration of alarm zones. Up to 32 separate alarm zones can be created.

The Zone Actions page enables actions such as Go to Preset to be allocated to alarm zones. Zones can also be associated with a specific camera. On receipt of an alarm, images from the associated (primary) camera will automatically be displayed in the Viewer menu.

The Masked Camera Det(ection) page allows cameras to generate an alarm if 'masked' , based on a threshold contrast value and dwell time.

The Alarm Response page enables configuration of responses following an VMD/Activity Detection trigger.

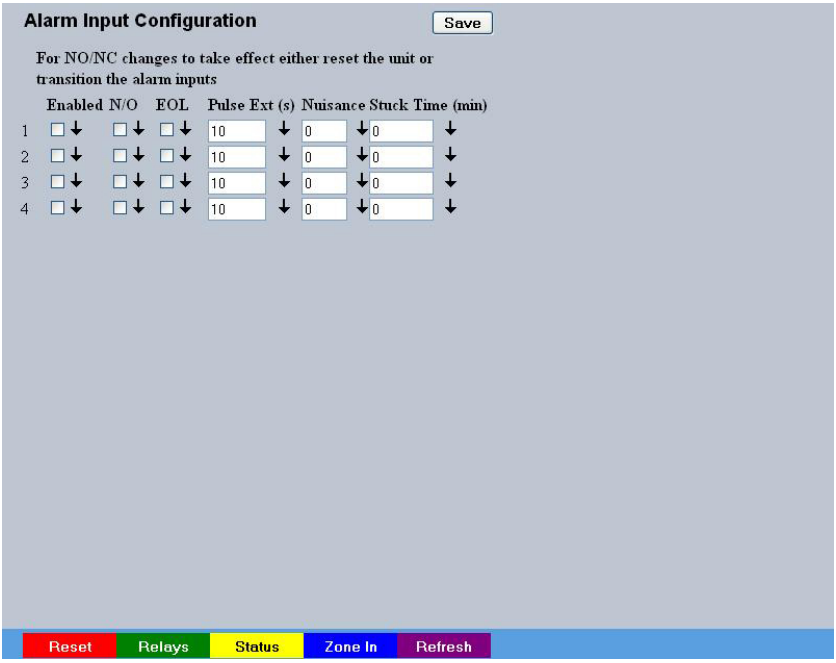
The Activity page allowed activation and configuration of the Activity feature on all video inputs. The Activity feature enables cameras to automatically detect any movement/changes within the video scene. This can trigger a number of operations such as FTP alarm notification or an increase in the recording rate.

The VMD page enables the unit's VMD (Video Motion Detection) to be set-up. VMD allows a camera to automatically detect if there is any movement/changes within specific areas of the video scene.

The Global Actions page allows the two onboard relay connections and global relay settings to be configured.

Inputs

This menu allows configuration of the alarm settings, refer to 'Installing the Unit' for hardware installation guidance.



Number	This identifies which input is being configured. The unit supports 4 on-board alarms.
Enabled	Each input must be enabled to function. If the input is not enabled and an alarm is received, the unit will not acknowledge the alarm.
Contact	Select the Contact within the module to configure.
N_O (Normally Open Contact)	N_O indicates the non-alarm state of the input. Tick the N_O checkbox to set the corresponding input to Normally Open. The alarm will then trigger when the input is closed (shorted). If left as Normally Closed (the default setting), the alarm will trigger when the input is opened.

Note: *If EOL alarms are to be used, this option should not be selected i.e. leave set as Normally Closed.*

EOL	The End Of Line (EOL) option enables the inputs to detect any changes in the electronic input resistance. A change outside the expected values will result in a Tamper Alarm (short circuit or open circuit) being detected and the system switching to alarm mode.
Pulse Ext (s)	A pulse extension is used to prevent double triggers on a single alarm. The pulse extension time starts on an alarm trigger. If that contact is triggered again after the first alarm has finished but within the pulse extension, the second trigger will not restart the alarm, but will extend the current alarm duration. Enter the time in seconds for this extension.

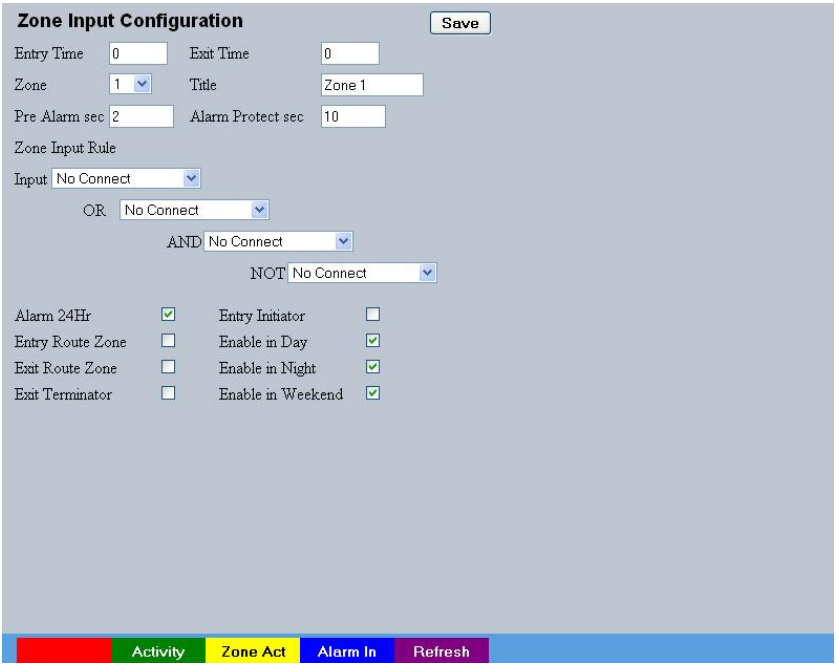
Nuisance	This is a repetitive detector value. When an alarm is received on the unit, it will store the alarm time and monitor the number of times the same detector is triggered within an hour period. If the detector is triggered the number of times entered here, the unit will de-activate this detector from triggering an alarm for an hour. The unit will continue to monitor the detector and check how many times it is triggered during this period. If it is again triggered more than the amount set in the nuisance counter, it will remain de-activated for another hour. This will continue until the trigger value falls below the nuisance count setting. To disable this feature, leave the setting as '0'.
Stuck Time (min)	If any of the alarms/detectors are active for a period longer than specified here, they will automatically be omitted. This time period is set in minutes.

Note: *The arrow button displayed next to each textbox allows settings to be replicated for those cameras listed below. This will only affect the adjacent option i.e. Enabled arrow will replicate the Enabled setting to cameras below the clicked arrow.*

Relays (Green)	Select to open the Alarm->Global Actions menu
Status (Yellow)	Select to open the System->Status->Alarm menu
Zone in (Blue)	Select to open the Alarm->Zone Input menu
Refresh (Purple)	Refreshes the information on the current page

Zone Inputs

This menu allows the configuration of established alarm zones. A single or multiple trigger can be used to generate an alarm. It is possible to allocate up to 32 alarm zones to carry out a combination of actions. Use these options in conjunction with the Zone Actions menu.



Entry timer	This is the number of seconds allowed for the user to enter the zone and disable the alarms. If the alarm is not disabled within this period the alarm will be triggered..
Exit timer	This is the number of seconds from the alarm being set within which the user must exit the set zone. If the user is still within the zone after this time period the alarm will be triggered.
Zone	An alarm zone can be established to logically groups alarms and initiate actions when an alarm is activated, there are 32 configurable zones.
Title	This information is stored along with the relevant images in the database, ensure this has relevance to the alarm zone.
Pre-Alarm sec.	This is the time period prior to the start of the alarm included with the alarm recording for archive. These images will also be protected from being overwritten.

Note: *It is recommended that the Pre-Alarm option be set to the same value as the Pre-Trigger setting in the "Profile Record" menu. This will ensure successful playback of high quality Pre-Trigger images. High quality pre-trigger images will only playback properly if review (playback) starts prior to the pre-trigger initiation.*

Alarm Protect sec.	This is the minimum time period in seconds (from the start of the alarm) that is protected from being overwritten. This time will include the alarm trigger, the pulse extension and any post alarm recording. It will not include pre-alarm images.

Zone Input Rule	This determines which input(s) will trigger the zone alarm:
Input	This sets an input or system function as the primary alarm trigger. Select from Preset 1- 4, Disk Low, Disk Full, Panic, Archiving Slow, Archiving Fault, Virtual 1-16, and Keyword Channel 1 (which will trigger the Alarm if any of the programmed keywords are detected).
Zone OR Input	The Zone OR Input identifies an alternative input that can also be used to trigger the zone alarm. This means an alarm trigger can be received on the Zone Alarm Input or the Zone OR Input for the zone to be activated.
Zone AND Input	The Zone AND Input identifies that an alarm trigger needs to be received on both the Zone Alarm Input and the Zone AND Input for the zone to be activated and the alarm action to the automatically initiated.
Zone NOT Input	The unit will only issue the alarm actions if the trigger is received on the zone alarm input and NOT on the Zone input.
Alarm 24hr	This option can be enabled for alarms that do not require change at any time and are to remain as programmed i.e. Panic Alarm. When this is selected, the Set, Unset and Override options are disabled.
Entry Route Zone	This creates deferred alarms along a specified route while the entry time is active. This is in compliance with BS8418 (the British Standard for remote video reporting centres). Diverting from the entry route during the countdown will result in the alarm being triggered immediately. This allows staff entry without triggering an alarm prior to switching the system to Set mode.
Exit route Zone	This creates deferred alarms along a specified route while the exit time is active. This is in compliance with BS8418 (the British Standard for remote video reporting centres). Diverting from the exit route during the countdown will result in the alarm being triggered immediately. This allows staff to exit without triggering an alarm.
Exit Terminator	This will trigger the exit timer if the system is set. A countdown timer will automatically start when the alarm is activated and ensure the alarm system is not activated by other specified alarm triggers for the Set time i.e. allowing a Guard to exit a building.
Entry Initiator	This will trigger the entry timer if the system is set. A countdown timer will automatically start when the 'primary' alarm trigger i.e. front door, is actioned. This ensures the alarm system is not activated by other specified alarm triggers for the set time
Enable in Unset	Each alarm can be configured to be active when the unit is in a specific operation mode. Enable this for the zone alarm to be active in Unset operation mode.
Enable in Set	Each alarm can be configured to be active when the unit is in a specific operation mode. Enable this for the zone alarm to be active in Set operation mode.
Enable in Override	Each alarm can be configured to be active when the unit is in a specific operation mode. Enable this for the zone alarm to be active in Override operation mode.

Note: *Unset, Set and Override modes can be given more recognisable titles i.e. Day, Night, Weekend via the Schedule menu (Record Settings->Schedule).*

Activity (Green)	Select to open the Alarm->Activity menu
Zone Act (Yellow)	Select to open the Alarm->Zone Actions menu
Alarm in (Blue)	Select to open the Alarm->Inputs menu
Refresh (Purple)	Refreshes the information on the current page

Zone Actions

This menu allows actions to be allocated to individual alarm zones; Primary and Secondary cameras can be allocated to the zone and actions undertaken following alarm activation. This page should be configured in conjunction with the Zone Inputs menu.



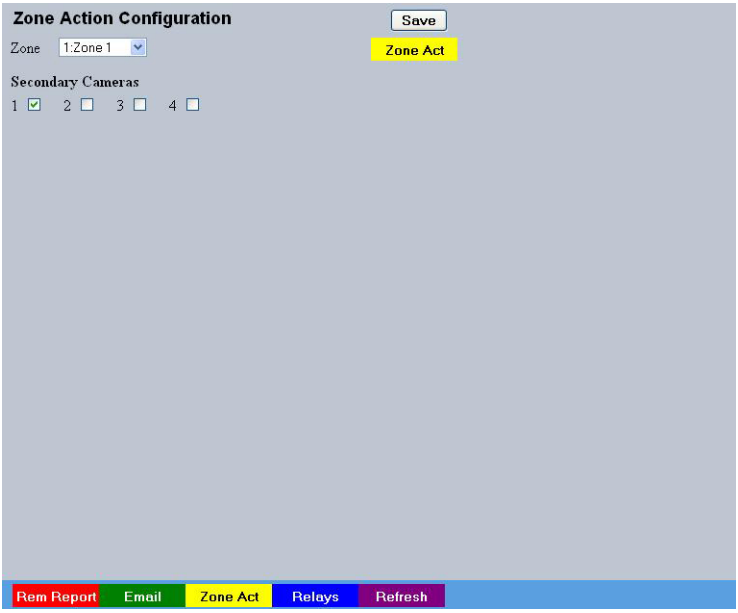
Zone	Select a zone (alarm) to configure.
Alarm Colour	This displays the local alarm text in the selected colour and can be useful in prioritising alarms. Options available are Red, Green, Blue, Yellow, Cyan and Magenta.
Primary Camera	This allows a camera to be assigned as the primary camera associated with the Alarm Zone. The primary camera will be displayed when an alarm in this zone is triggered.
Create Database Entry	An alarm activation will be added to the database. The zone title will be used as part of the entry information.
Alarm Relay	Select to trigger an alarm relay following zone activation. Select the specific relay via the 'Relay' option.
Profile Change	Select to enable the unit to switch from Normal to Event recording following alarm zone activation.
Play Audio	It is possible to play associated audio upon zone alarm activation.
Alarm Reporting	This must be enabled to allow the unit to send an alarm notification to an external destination i.e. an RVRC reporting via NetVu ObserVer.
Archive	Select to ensure the unit automatically downloads alarm images via an FTP connection to an FTP server.

Add Still Image	This will record a still image of the trigger along with the standard recording. This can then be sent on to an external destination.
E-mail Image	If this option is selected, a JPEG will be added to the reporting e-mail (if E-mail Reporting is selected).
Protect alarm Images	Alarm images can automatically be protected from being overwritten.
Goto Preset	It is possible to action a camera to automatically be sent to a preset position when an alarm is triggered.
E-mail Reporting	The unit can send an e-mail when an alarm is detected. For further information refer to 'Network->E-mail'.
Alarm Rate Change	Select to change to the alarm mode recording rate on zone action.
VMD/Activity Inhibit	Select to inhibit (ignore) the VMD/Activity detection feature. for further information refer to 'Alarm Settings->Activity Setup'.
System Set	Select to change to the 'Set' mode recording rate on zone action.
Enable Buzzer	Select to activate the unit's internal buzzer upon alarm receipt.
Relay	Select an onboard or external relay to automatically close on receipt of an alarm.
Relay Duration	Enter (in seconds) how long the relay is to remain closed.
Alarm Image Snapshot Delay	This figure allows a delay to be introduced before an alarm snapshot is taken. This is used when the alarm relates to a PTZ camera which has to travel to a preset position.
Play Audio Message	Following a Zone alarm trigger, a specific audio message can be played.

IMPORTANT: *Audio messages must be uploaded to the unit in mono 8k wav format only. The following naming convention must be used: messageXX.wav i.e. message00.wav, message01.wav etc. An FTP client should be used to place the wav files in the following folder: \mdd0\messages folder .*

Switch Main Monitor	Select to display the alarm zone Primary camera on the Main Monitor.
System Override	Select to change to the 'Override' mode recording rate on zone action.
Preset Camera	The preset camera is the camera which will be sent to a designated preset position upon alarm activation.
Preset	Enter the preset position number for the selected camera here, refer to 'Unit Operation-PTZ Program' for more information on establishing camera preset positions.
Cam Options (Yellow)	Select to open the *Zone Action Camera* Configuration menu.
Rem Report (Red)	Select to open the Network->Remote Reporting menu
E-mail (Green)	Select to open the Network->E-mail menu
Cam Options (Yellow)	Select to open the Alarm->Zone Actions->Zone Action Configuration menu
Relays (Blue)	Select to open the Alarm->Global Actions menu
Refresh (Purple)	Refreshes the information on the current page

Zone Actions Camera

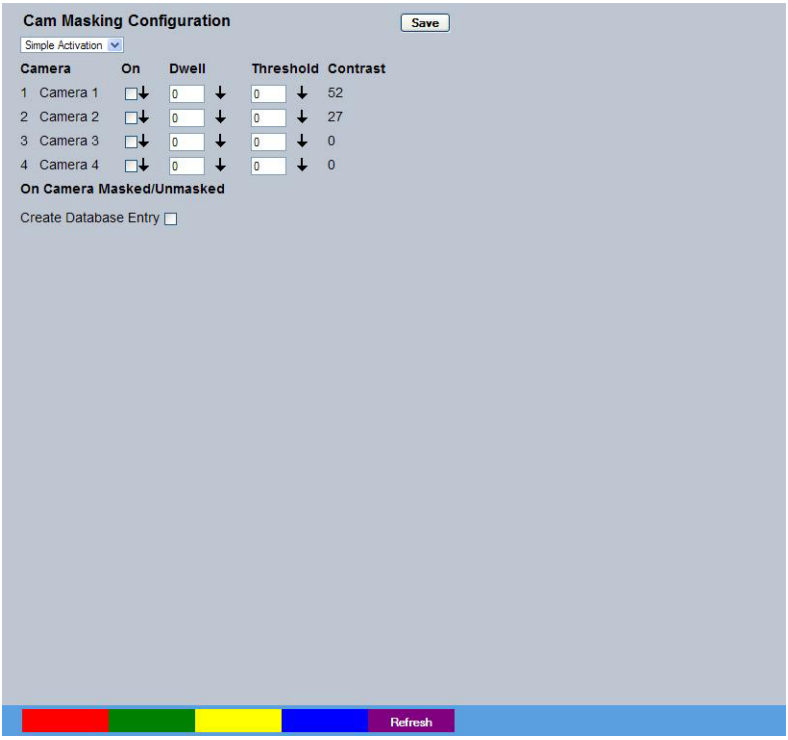


Zone	Select a zone (alarm) to configure.
Primary Camera	This allows a camera to be assigned as the primary camera associated with the Alarm Zone. The primary camera will be displayed when an alarm in this zone is triggered.
Secondary Cameras	This setting gives the facility to assign additional cameras to the zone. These cameras will become part of the alarm sequence shown in the Viewer menus when the alarm zone is triggered.
Zone Act (Yellow)	Select to open the Alarm->Zone Actions menu
Relays (Blue)	Select to open the Alarm->Global Actions menu
Refresh (Purple)	Refreshes the information on the current page

Masked Cam Detection

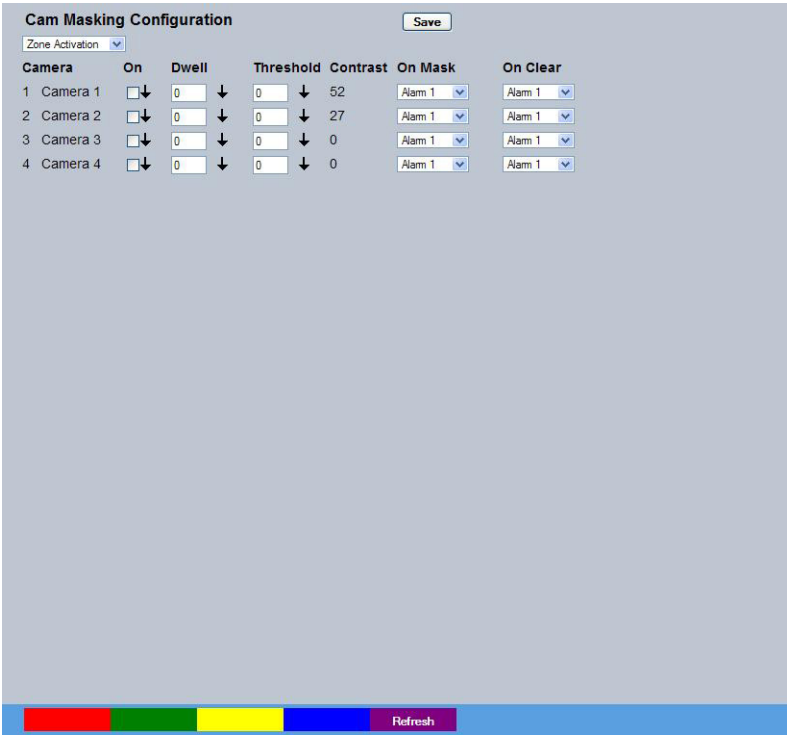
The unit has the capability to identify if a video input has been covered (by hand, spray paint, etc.) to prevent video images being viewed and recorded. The Camera Masking option identifies normal levels of contrast and uses them as a base line. It then compares these against a user defined minimum contrast level. If the video input goes below this user defined level an event is generated on the unit.

Simple Activation



Simple/Zone Activation	Select from 'Simple' or 'Zone' Activation. When 'Zone Activation' is selected, specific zone actions can be initiated on masking/ unmasking. Select Zone Activation for further options.
Camera	Displays the camera number and camera title as configured on the Camera Setup page.
On	Enables or disables the feature on the camera.
Dwell	This is the delay the unit will wait before declaring the camera is masked.
Threshold	Defines the threshold the system uses to define that a camera is masked.
Contrast	Defines the contrast threshold the system uses to define that a camera is masked. Different cameras have different characteristics, it will be necessary to adjust this figure to avoid false alarms.
Create Database Entry	Select to add an entry to the database following activation. This option is only available in Simple Activation.

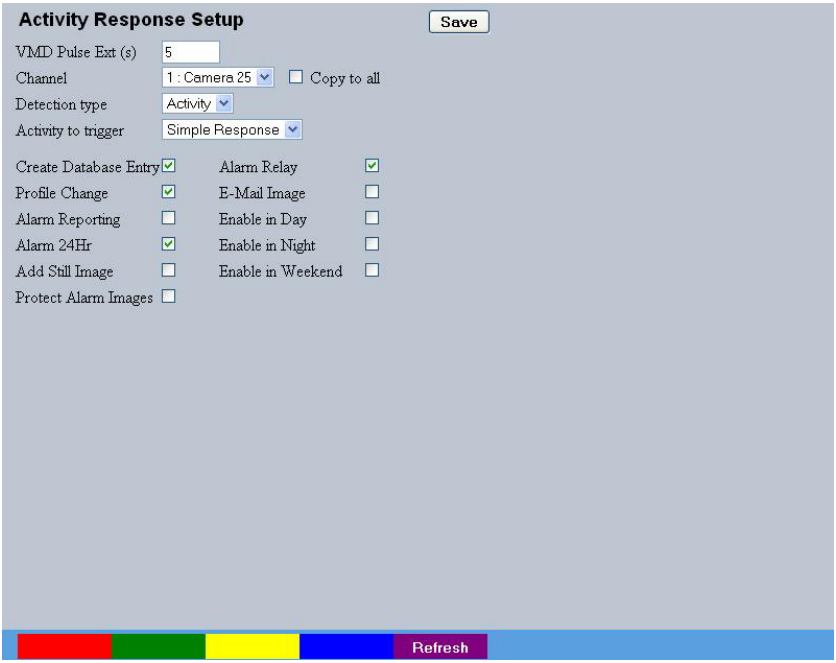
Zone Activation



On Mask	Defines the Zone trigger that will be activated when the view is masked.
On Clear	Defines the Zone trigger that will be activated when the view is unmasked.

Alarm Response

This menu enables response configuration following activity trigger on the camera channel.



VMD Pulse Extension	The pulse extension extends the trigger period to avoid double triggers of VMD occurring, i.e. If a second incident of VMD is received, after the first alarm is finished but within this period, the unit will not create a new event.
Channel	Select the camera input for configuration from the drop down list.
Detection Type	Each camera input can be configured for either 'VMD' or 'Activity' detection. To assign no detection settings to the camera, select 'None'

Note: *Whichever Detection option is selected here, will result in the camera channel being only available for editing in the relevant configuration menu i.e. if Activity is selected; this channel can only be edited for Detection in the Activity Setup menu and not the VMD Configuration menu.*

Activity To Trigger	Following Activity activation, select 'Simple Response' to trigger specific chosen responses from the options detailed below. Select 'Zone' to apply the Zone Input rules as configured in the Zone Input menu. *Refer to 'Zone Input' for more information.*

Note: *When Activity to Trigger is set to 'Zone'; the options detailed below are unavailable.*

Create Database Entry	When selected, an alarm entry will be added to the Event database.
Profile Change	Select to enable the unit to switch from Normal to Event recording following alarm activation.
Alarm Reporting	This must be enabled for the unit to automatically connect on alarm.

Alarm 24hr	This will ensure that Activity Detection is permanently enabled on this camera channel.
Add Still Image	This will record a still image of the trigger along with the standard recording. This can then be sent on to an external destination.
Protect Alarm Images	Select to automatically protect alarm images from being overwritten.
Alarm Relay	*This feature is for future development.*
E-mail Image	If this option is selected, a JPEG will be added to the reporting e-mail (if E-mail Reporting is selected).
Enable in Unset	This will enable Activity Detection when the unit is in Unset operation mode.
Enable in Set	This will enable Activity Detection when the unit is in Set operation mode.
Enable in Override	This will enable Activity Detection when the unit is in Override operation mode.

Note: *Unset, Set and Override modes can be given more recognisable titles i.e. Day, Night, Weekend via the Schedule menu (Record Settings->Schedule).*

Refresh (Purple)	Refreshes the information on the current page

Activity

The unit supports Activity Detection on all video inputs. It enables cameras to automatically detect any movement/changes within the video scene; this can trigger a number of operations such as FTP alarm notification and an increase in recording rate.
A still image of the selected camera will be shown in the Grid Editor screen. To establish an Activity zone, edit the cells displayed across the image.
This option should be used in conjunction with the Zone Inputs and Zone Actions menus.



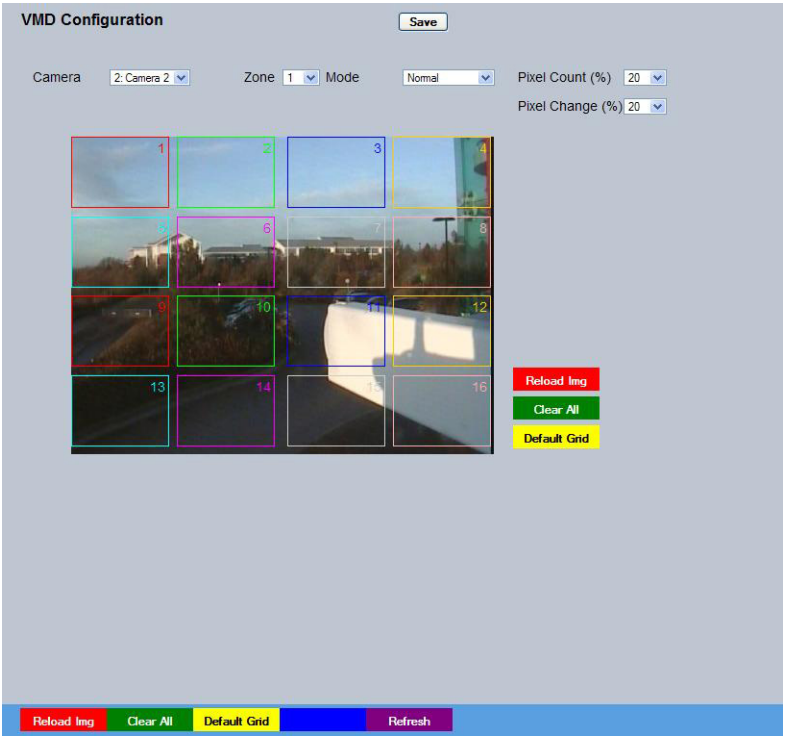
Global Activity Mode	Three options are available for Activity activation (specifically in relation to a PTZ camera). Selecting 'Active while at Preset 1' will result in Activity mode functioning only when the camera is at preset position 1. Select 'Active while camera not in motion' for Activity mode to function only when the camera is still. Select 'Always Active' for Activity mode to be in constant operation.
Activity Channel	This is a drop down list of the video inputs on the unit, selecting an input will display images from the corresponding video source.
Activity Sensitivity	This option allows the sensitivity setting to be established for the activity grid being configured. There are five settings to choose from: Indoor High, Indoor Low, Outdoor High, Outdoor Low, Very Low.

Grid Editor	Use the Grid Editor by placing cells in areas of the camera view where movement will trigger an alarm. To enter cells navigate across the image via the Directional buttons of the I.R Remote Control). If viewing on a local monitor place a cell by pressing the OK button. If viewing via the webpages, use the mouse to navigate across the image, use the left mouse button to place a cell.
Reload Img (Red)	This option will update the still image displayed in the Grid Editor.
Set All (Green)	This option will insert a default square of 16 x 16 cells across the displayed video image.
Clear All (Yellow)	This option will clear all entered cells.

VMD

The unit supports VMD (Video Motion Detection) on all video inputs and allows cameras to automatically detect if there is any movement/changes within the video scene.

Note: *Video Motion Detection enables a greater degree of control over detection settings and configuration than the Activity Setup function. Each of the 16 VMD Zones can be directly sized and configured to suit specific requirements. VMD can only be accessed and configured remotely via the webpages.*



Camera	This is a drop down list of the video inputs on the unit, selecting one of the inputs will display the corresponding video source. Ensure this corresponds with the selected Channel.
Zone	There are 16 VMD zones within the image that can be individually configured, select the zone from the drop down list. A selected zone can be re-sized by clicking the mouse button (use the USB mouse if viewing on a local monitor) and then moving and clicking the mouse again. A rectangle will then be displayed based on these two selected points.

Mode	The zone mode identifies when the reference image is taken for triggering VMD. The options are: Normal - The reference image is updated approx every second. This will only allow small changes in the scene without triggering Last trigger - The reference image is only updated when the VMD is triggered and is best used under controlled lighting, i.e. so there are no false triggers due to ambient light changes. Static - The reference image is collected on startup and is never updated. This would be used in 'sterile' areas where there are no changes expected. Zone disabled - This will disable the zone mode.
Pixel Count (%)	This value is set as a percentage and equates to the percentage of pixels in the selected zone that must change for the VMD event to be triggered. The default setting is 20%.
Pixel Change (%)	This setting is a percentage value of the overall change required in the grayscale to be included in the pixel count. The percentage change is defined over the complete range of black to white, a 100% pixel change would be from black to peak white. The default setting is 20%.
Reload Image (Red)	This will update the reference image to the latest view during set up.
Clear All (Green)	Removes all defined zones from the image.
Default Grid (Yellow)	Displays the default 16 zone grid across the whole image.

Global Actions

This menu allows configuration of the default relay actions supported on the unit.
The unit supports one onboard relay connection and global relay settings. This global relay can be triggered under specific conditions i.e. on receipt of any alarm or notification of Activity Detection.

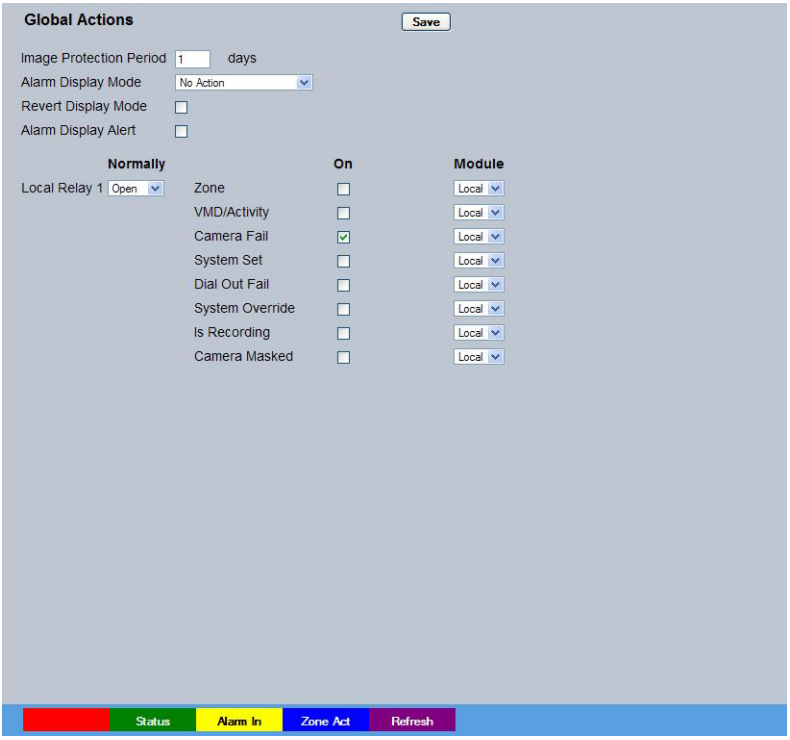


Image Protection Period	Select a time period (in days) that images associated with an alarm will be protected from deletion.
Alarm Display Mode	When a relay has been triggered, the primary camera associated with that relay can immediately be displayed on the local monitor. Select 'Jump To Primary Camera' from the drop down list to activate this function.
Revert Display Mode	Enable this setting to make the unit return to the view displayed before the alarm activation once the alarm has ended.
Alarm Display Alert	Enable this setting to display an alarm text alert in the colour specified in 'Alarm Colour' in the Zone Actions Menu.
Normally	Select whether the normal state of the relay contact should be Open or Closed.
On	Select to enable detection of the accompanying condition. Options available are; VMD/Activity, Camera Fail, System Set, Dial Out, System Override, Camera Masked, Is Recording, Not Recording and HDD problem.
Contact	Specifies which Relay will be triggered when the associated alarm is received.

Network Settings

The Network Settings menus allow configuration of the unit's network functionality. Key network settings can be established such as 'fixing' the unit's IP address and maximum transmission rate. E-mail, remote reporting on alarm and FTP download can also be configured. Refer to the individual menus for further details.

The Network Settings page allows configuration of the unit's network connections such as the name assigned to the unit and its IP address.

The Live Trans(mission) page enables JPEG and MPEG profiles to be created for transmitting images via a High, Medium or Low quality network connections to any viewing software or to another unit using this one as an IP source.

The Multicast page allows recordings from the unit's camera inputs to be forwarded to a port address; enabling multiple viewers to view live data using a suitable media player without the need to directly connect to the unit.

The E-mail page allows configuration of the E-mail feature. The unit can automatically transmit an e-mail to an SMTP Server following an event i.e. on receipt of an alarm or a camera failure notice.

The Remote Reporting page allows a Remote Video Receiving Centre's (RVRC) configuration details to be entered. The RVRC will then be contacted following a selected event occurring i.e. reported alarm or camera failure.

The Web Cam page configures images from one camera input to be sent to a web server at a preset interval for display on a web page.

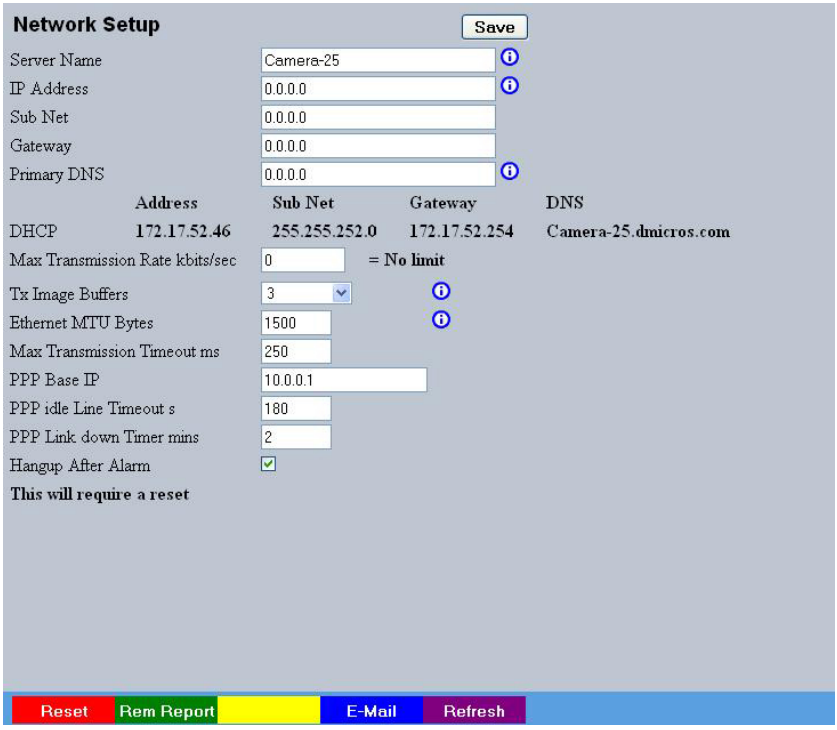
The FTP Download page allows data to be archived to a central FTP server. This could be on receipt of an alarm, Activity activation or at a scheduled time to back-up recorded video.

The Firewall page allows the user to block access to the unit via specific network port(s)

The Connections Page lists all current connections to the NV1

Network

This menu allows additional network settings to be configured if required.



Server Name	This field can be edited to allocate a name to the unit. This would be used if accessing the unit via a Domain Name Server (DNS).
IP Address	This is the IP address allocated to the unit.
Sub Net	This is the subnet of the network were the unit is located.
Gateway	This is the IP address of the default gateway (router).
Primary DNS	This is the primary DNS server IP address for applications utilising domain names.
Max Transmission Rate	Shows the maximum transmission speed for the network type.
Tx Image Buffers	This is used in order to improve the picture delivery over Ethernet when using a slow connection i.e. 256Kbps. A buffer setting of 1, 2 or 3 is available.
Ethernet MTU bytes	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.
Mx Transmission Timeout ms	This is the time (in milliseconds) the unit will wait to re-send a packet if an acknowledgement is not received.
PPP Base IP	Base address for the PPP port
PPP Idle Line Timeout s	This is the time (in seconds) the unit will wait before disconnecting the PPP (Point to Point Protocol) link if data has not been transmitted or received.

PPP Link Down Timer mins	If for any reason the PPP connection is lost, this is the time (in minutes) before the unit will be forced to drop the PPP connection.
Hangup After Alarm	Select to close the network connection following transmission of alarm data.
Reset (Red)	Select To Reset The Unit
Rem Report (Green)	Select to open the Network->Remote Reporting menu
E-Mail (Blue)	Select to open the Network->E-Mail menu
Refresh (Purple)	Refreshes the information on the current cage

Live Transmissions

The unit transmits live images using JPEG or MPEG formats.
The NetVu Connected remote viewing software will use the settings configured on this page as the defaults for JPEG & MPEG; High, Medium and Low settings.



Filter by — The resolutions available for selection will depend on the camera types connected i.e. Standard Resolution or Megapixel Resolution. Note that the Megapixel Resolution option will only be available if a megapixel camera is connected.

IMPORTANT: *There are three classifications of IP camera:*

1. Standard Resolution - QCIF,CIF,2CIF,4CIF
2. Standard Resolution (VGA) - VGA,SVGA,QVGA,Q2VGA
3. Megapixel - VGA,SVGA,UXGA,QVGA,Q2VGA,XGA,XGA+,SXGA+,QXGA

The classification of each connected camera channel can be viewed via the CamConfig menu (System Settings->Status->About->CamConfig).

High LAN/Medium WAN/Low VLBR — This shows the transmission settings configured for a High quality LAN (Local Area Network) connection, Medium quality WAN (Wide Area Network) connection or a Low quality VLBR (Very Low Bit Rate connection).

Comp — Settings can be established for JPEG and MPEG compression.

Res — For MPEG and JPEG transmission, select image resolution settings (4CIF, 2CIF, CIF or QCIF).

Size_rate	For JPEG, the figure entered will be the size of the JPEG transmitted (in Kbytes). For MPEG4 the figure will be the bit rate allocated. A higher rate will provide better quality picture display. JPEG file sizes can be configured in the range of 5-45Kbytes and MPEG bit rates in the range of 45-2500Kbits/second.
PPS	This shows the number of pictures transmitted per second. For JPEG, the actual images transmitted will depend on the bandwith of the link, increasing the pictures sent per millisecond may introduce time lag if bandwith is not sufficient. On MPEG transmission, increasing the pictures sent will also reduce the quality of the images (as more images are transmitted for the defined bit rate).
MPEG Type	Select whether transmitted MPEG4 images are sent as RAW data or in GOV (Group of Video) format. RAW mode transmits a single I frame and then a sequence of P frames (until a change in transmission is detected). GOV mode sends I and P frames in a standard format i.e. I to P frame ratio as set by the I Frame Ration option.
MPEG Quality	The Quality of the MPEG data transmission can be set from CBR (Constant Bit Rate) to High 32. A higher quality setting may result in a lower transfer speed.
I Frame Ratio	Select the ration of I Frames recorded between each P Frame.

Note: An MPEG I-frame is considerably larger than a P-frame. Therefore the higher the IP ratio, the higher the disk space required to store recorded images.

Turbo Prefs (Red)	Select to open the Turbo Mode Profile Overview menu
Refresh (Purple)	Refreshes the information on the current page

Multicast Setup

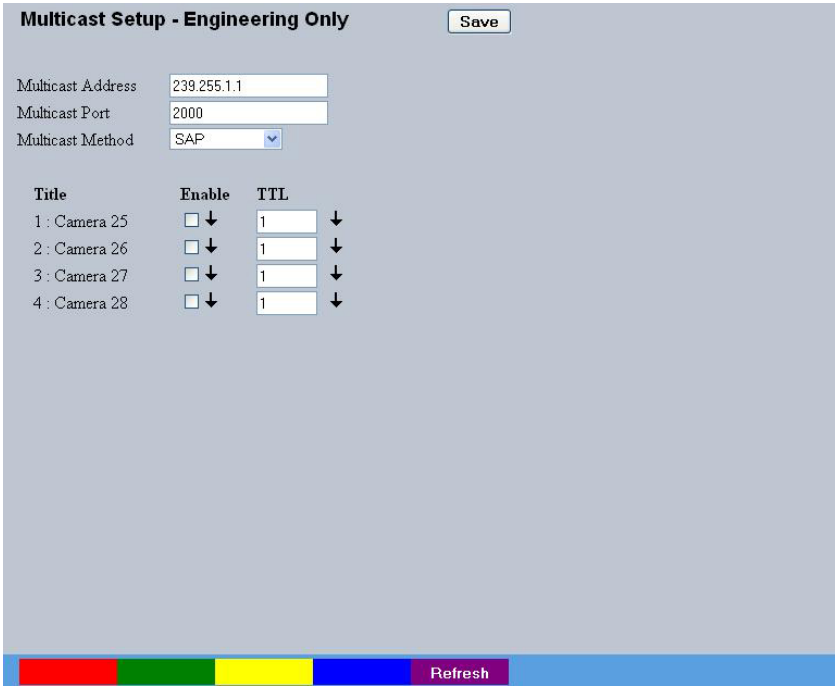
The Multicast page allows recordings from the unit's camera input to be forwarded to a port address; enabling multiple viewers to view live data using a suitable media player without the need to directly connect to the unit. In multi viewing scenarios, the demands on the unit are significantly reduced; improving overall performance.

This system has been validated using the 'Videolan VLC media player for MS Windows. The Videolan VLC media player can be downloaded free of charge from:

www.videolan.org/vlc/download-windows.html

Please refer to Appendix E for guidance on configuring the Videolan VLC media player.

Note: *Multicast can only used for live viewing, requests for stored images and events will still need to be made via the Viewer menu.*

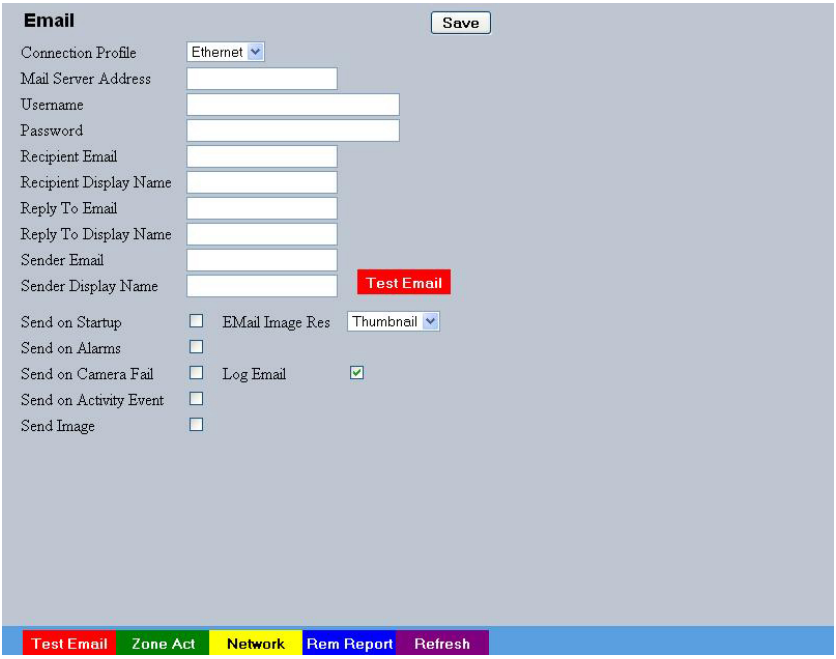


Multicast Address	Assign a unique IP address. This address is not assigned to any 'physical' unit. The VLC program will use this address (when configured to do so) as its multicast group and access any broadcast images via the configured port address (see below). If there are multiple units using multicast, each one must have a unique IP address.
Multicast port	Following configuration of the IP address, configure the port address. The address will default to 1234.
Multicast Method	Select the multicast forwarding method. Select from 'SAP' (to use session announcement protocol operation), 'HTTP' (to use cgi control operation) or 'SAP+HTTP' (both methods used simultaneously).

Enable	Tick this option to enable multicast.
TTL (Time to Live)	This option can be configured to limit which users can access the images. Enter one of the following numbers: 0 - restricts video to the same host 1 - restricts video to the same subnet 32 - restricts video to the same site 64 - restricts video to the same region 128 - restricts video to the same continent 255 - is unrestricted in scope
Refresh (Purple)	Refreshes the information on the current page

Email

The unit can automatically transmit an email to an SMTP Server under numerous conditions i.e. on start up, on receipt of an alarm, camera failure etc. This allows the unit to be installed in unmanned applications where a Remote Video Response Centre (or Manager etc.) would be notified by email if any of these conditions occur.



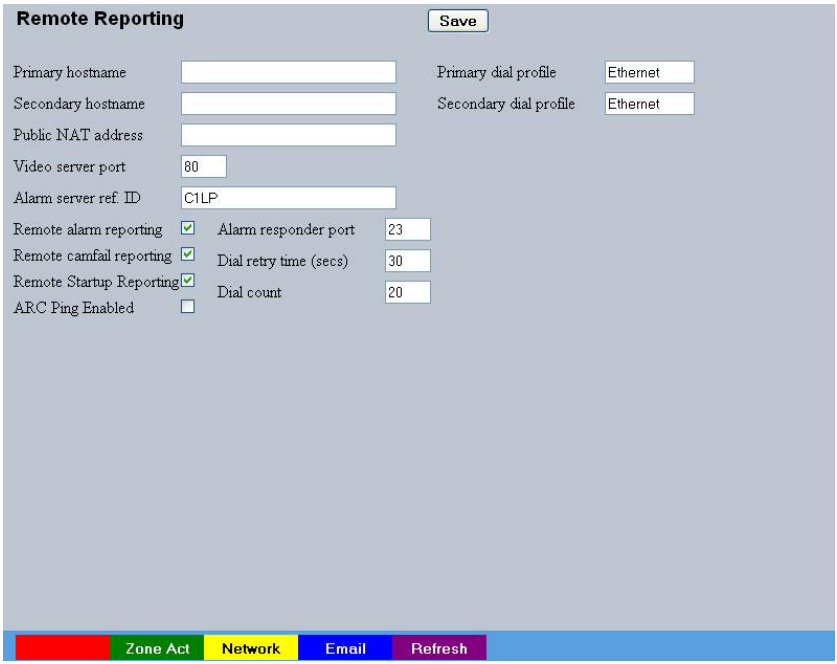
Connection Profile	It is possible for the e-mail to be transmitted via the Ethernet network or dial up connection (PPP 'Point to Point Protocol'). This setting presumes that a modem has been connected or configured and the unit is connected to a LAN or WAN and allocated a valid IP address.
Mail Server Address	This is the IP address or URL of the SMTP Server that the e-mail will be sent to. The SMTP server will then forward this to the intended recipient.
Username	Enter the login details for the email account used above.
Password	Enter the login details for the email account used above.
Recipient Email	This is the e-mail address of the intended recipient.
Recipient Display Name	This is the addressee name that will be shown in the e-mail name field.
Reply to E-mail	This field must be configured if the recipient is to reply to an e-mail. The unit does not accept incoming emails therefore ensure this is a valid e-mail address.
Reply To Display Name	This is the 'reply to' name that will be shown in the e-mail name field.
Sender E-mail	These optional fields indicate the source of the e-mail notification. If the fields are left blank the unit will use the system name to create a sender name.
Sender Display Name	This is the sender name that will be shown in the e-mail name field.

Send on Startup	Select to send e-mail notification on startup.
Send on Alarms	Select to send e-mail notification on alarm activation.
Send on Camera Fail	Select to send e-mail notification on camera fail.
Send on Activity Event	Select to send e-mail notification on activation of the Activity Detection feature.
Send Image	Select to send accompanying image from supporting primary camera.
E-mail Image Res	Select resolution settings for images sent as 'thumbnail' attachments. Choose from: Thumbnail, LO (low res), MED (medium res) and HI (high res).
Log E-mail	Select to log every e-mail transaction that the unit issues.
Test E-mail (Red)	Select to send a test e-mail to the configured recipient.
Zone Act (Green)	Select to open the Alarm->Zone Actions menu
Network (Yellow)	Select to open the Network->Network menu
Rem Reporting (Blue)	Select to open the Network->Remote Reporting menu
Refresh (Purple)	Refreshes the information on the current page

Remote Reporting

This menu details the configuration requirements for the unit to report to a Remote Video Receiving Centre (RVRC) following alarm activation.

Note: *This menu will only be displayed if 'Remote Reporting' is selected in the System Settings->Features menu.*



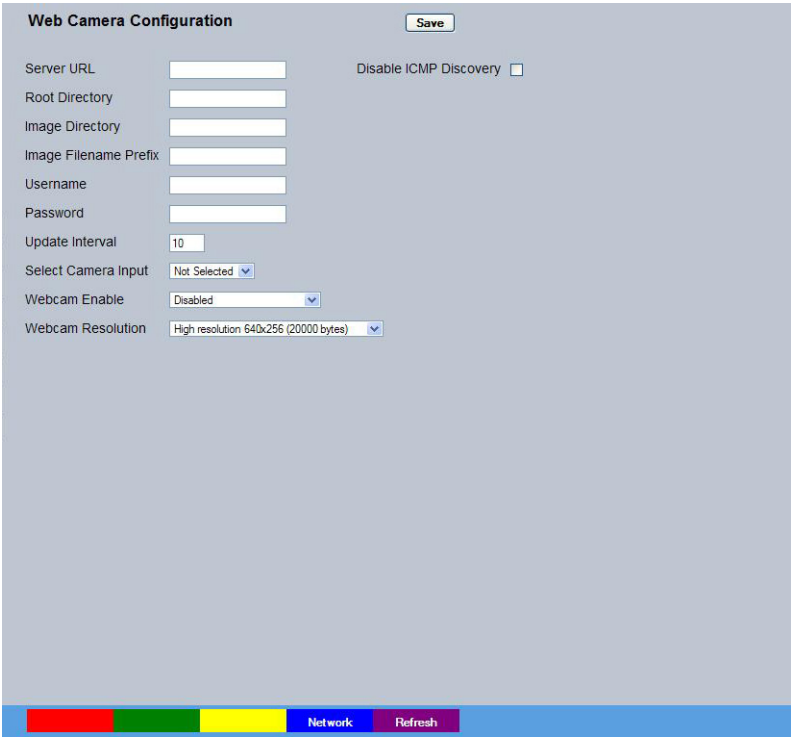
Primary Hostname	This is the IP address or URL of the initial host that the unit will transmit an alarm message to.
Primary Dial Profile	It is possible for the alarm message to be transmitted via the Ethernet network or a dial up connection.
Secondary Hostname	If the unit is unable to contact the primary host, an alternative route can be identified via a secondary host. If there is only one alarm receiving IP address, you must enter the details in both the primary and secondary connection settings.
Secondary Dial Profile	It is possible to select a separate dial profile for the secondary host.
Public (NAT) Address	This is the public IP (or domain name) for a unit connected to the Internet via a NAT Router or Firewall. This field should be left blank if NAT is not used e.g. a private network.
Video Server Port	This field allows the RVRC to connect to the unit through a router that is using port forwarding e.g. if the video server does not appear on port 80 (HTTP), to the external network. Enter the port number used for forwarding here if required.
Alarm Server ref. ID	This is the reference name/ID that will be presented to the RVRC viewing application. It should therefore have some significance to the Operator.

Remote Alarm Reporting	This must be enabled for the unit to automatically connect on alarm.
Remote Cam Fail Reporting	Enabling this option ensures the unit reports camera failure on any of the inputs to the RVRC.
Remote Startup Reporting	This will send an alarm report when the unit starts up. Any system resets will be identified.
ARC Ping Enabled	Should the modem/router at the Alarm Receiving Centre be dormant, the unit will 'Ping' the ARC prior to sending reporting data.
Alarm Responder Port	This specifies the network port number used for reporting to the alarm server. In normal circumstances this should be left at the default value (23).
Dial Retry Time (secs)	If the initial connection attempt fails, the unit will wait for the specified time period (in seconds) before attempting to re-connect.
Dial Count	This identifies the number of times the unit will attempt to connect after a failed attempt. A setting of '0' means no limit and the unit will continue to try and connect until successful.
Zone Act (Green)	Select to open the Alarm->Zone Actions menu
Network (Yellow)	Select to open the Network->Network menu
E-mail (Blue)	Select to open the Network->E-mail menu
Refresh (Purple)	Refreshes the information on the current page

Web Cam

Any of the video inputs on the unit can be made available for transmission to a webserver via a designated webcam server. These images can then be incorporated into a web page and accessed via a standard web browser.

Note: *This menu will only be displayed if 'Webcam Support' is selected in the System Settings->Features menu.*

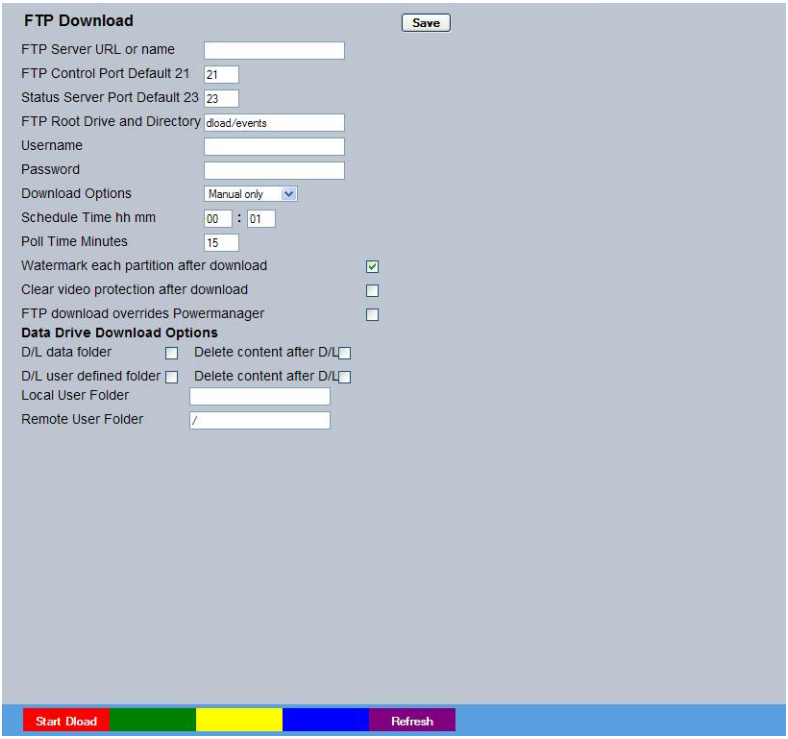


Server URL	This is the IP address, URL or Domain Name of the WEBCAM Server. Images will be uploaded from the unit to this server at specified time intervals.
Disable ICMP Discovery	When enabled, the unit will not attempt to 'Ping' the configured webserver but will begin immediate data transfer.
Root Directory	This is the main/root directory on the webcam server where the image directory will be located.
Image Directory	This directory will be created when the initial image is uploaded to the webcam server, it is the directory where all images will be saved on the server.
Image Filename Prefix	This is an identifier for images sent from the unit and will be stored as a prefix to the file name.
Username	If it is necessary to use an authentication process to access the webcam server, enter the relevant username here.
Password	If it is necessary to use an authentication process to access the webcam server, enter the relevant password here.

Update Interval	This is the minimum update interval between each image transmitted from the unit.
Select Camera Input	This allows individual video inputs to be enabled for upload to the webcam server.
Webcam Enable	The Web Cam function can be: ‘Always Enabled’, ‘Enabled when system SET’, ‘Enabled when system UNSET’ or ‘Disabled’.
Webcam Resolution	Select a High, Medium or Low webcam resolution settings to best match the monitor settings of the operator receiving the images.

FTP Download

The unit can archive images to a central FTP (File Transfer Protocol) server. This could be on receipt of an alarm, activation of the Activity Detection or at a scheduled time to backup recorded video. Using FTP in a multi-unit application ensures that all files are stored in one central location for each of the units, offering efficient file management and easy review capabilities.

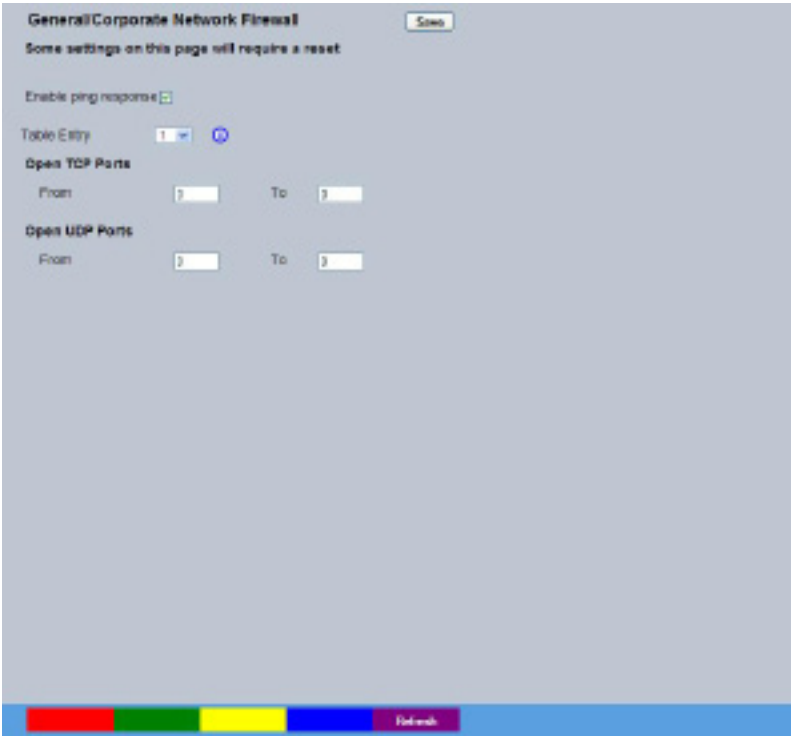


FTP Server IP URL or name	This is the IP address, URL or name of the FTP server the unit will connect to for FTP image download purposes.
FTP Control Port	The default port for FTP use is port 21. If this port has already been allocated on the network, it is possible to identify and allocate an alternative port.
Status Server Port Default	The default port for the Server Status function is port 23, if this port has already been allocated on the network, it is possible to identify and allocate an alternative port number.
FTP Root Drive and Directory	This is the directory where the images are to be stored, it is recommended that a name associated with the unit be used for ease of retrieval.
Username	If it is necessary to use an authentication process to access the FTP server, enter the relevant username here.
Password	If it is necessary to use an authentication process to access the FTP server, enter the relevant password here.

Download options	Select one of the following options from the drop down menu: On Connection This will automatically start the Archive download when the unit detects the archive destination is present. Scheduled It is possible to force the unit to archive images at a scheduled time, enter a time to activate this function each day. Polled This will set the unit to activate archive download at regular intervals, the time is in minutes and is the period between the end of one archive download and the start of the next. Manual only The archive process will only commence when the user initiates the action.
Schedule time hh mm	If 'Scheduled' has been selected in Download Options, enter a time for the download to take place each day.
Poll time Minutes	If 'Polled' has been selected in Download Options, enter the number of minutes which will elapse between the conclusion of one archive download and the start of the next.
Watermark each partition	This enables a watermark to be generated and stored in a text file downloaded with the video to the FTP server (for each image partition). This watermark is logged in the log file.
Clear video protection after download	This automatically clears the image protection from successfully downloaded images.
Data Drive Download Options	
D/L data folder	Tick to enable the local download data folder detailed below
D/L user defined folder	Tick to enable the local download data folder detailed below
Delete content after D/L	Tick to delete the remote content once it has been downloaded to a local drive.

Firewall

This menu allows the user to block access to the unit via specific network port(s).



Enable Ping Response	Enabling this option will allow an external client to receive a response when attempting to 'ping' the unit. Disabling this option will make the unit less visible on the network.
Table Entry	Up to 32 Configuration settings may be entered.
Open TCP ports	This option can identify which system TCP ports are available. If a host tries to communicate with the unit using a TCP port that is not within the 'open' range (even with a valid IP address), access will not be granted to the unit. The enabled ports can be a range or single port address, if a single port is needed then enter the same port number in the to and from section.
Open UDP ports	This option can identify which system UDP ports are available. If a host tries to communicate with the unit using a UDP port that is not within the 'open' range (even with a valid IP address), access will not be granted to the unit. The enabled ports can be a range or single port address, if a single port is needed then enter the same port number in the to and from section.
Refresh (Purple)	Refreshes the information on the current page

Connections

This page shows the IP addresses of users connected to this unit. It is for information only and cannot be edited or configured.



Features & Text

The Features and Text menus allow activation of the units analytics and third party IP camera features plus configuration of the unit's text in image and keywords functionality. Refer to the individual menus for further details.

The Features menu allows activation of the units analytics and third party IP camera features. . Please call Dedicated Micros on + 44 (0) 845 600 9500 for further information.

The Text In Image page allows the unit to integrate text data with recorded images i.e. a cash register with a camera positioned at the point of sale.

The Keyword page can be used in conjunction with the Text in Image function. Keywords can be entered, which when detected, will trigger an alarm. Up to 30 keywords can be created.

Analytics & Third Party IP Cameras

Dedicated Micros has created a range of analytics solutions designed to work with the **Analytics***Capable SD Advanced. The range of applications include: Automatic Number Plate Recognition (ANPR), Object Left and Removed, Access Control, People Counting, and Perimeter Protection. The unit also has a Third Party IP Camera feature which when unlocked, allows for the deep integration of non Dedicated Micros IP Cameras. Incoming third party IP camera streams in JPEG format can be recompressed to MPEG or an alternative Quality/Resolution setting. Third party IP cameras can then also be used with Dedicated Micros advanced Video Motion Detection (VMD) and Activity Detection features.*

- *For further information regarding the range of Dedicated Micros Analytics solutions and the Third Party IP Camera feature, please contact Dedicated Micros Customer Services on: + 44 (0) 845 600 9500.*

Installing An Advanced Feature License

To activate an **Analytics***Capable function or the Third Party IP Camera feature, please contact Dedicated Micros Customer Services on Tel +44 (0) 845 600 9501 or contact us via our website: www.dedicatedmicros.com.*

The Customer Services team will provide details of how to unlock the **Analytics***Capable potential of the unit or activate the Third Party IP Camera feature.*

A License key and an Activation code (along with your Feature System code) are required to unlock the Third Party IP Camera feature or any **Analytics***Capable* function. This information is obtained from the Dedicated Micros Customer Services team on +44 (0) 845 600 9501.

Dedicated Micros will then send an email containing the purchased License key.

When this is received, contact the Customer Services team with both the License key and the unit unique Features System code. The Features System code can be found in the ‘Activate New Features’ menu.

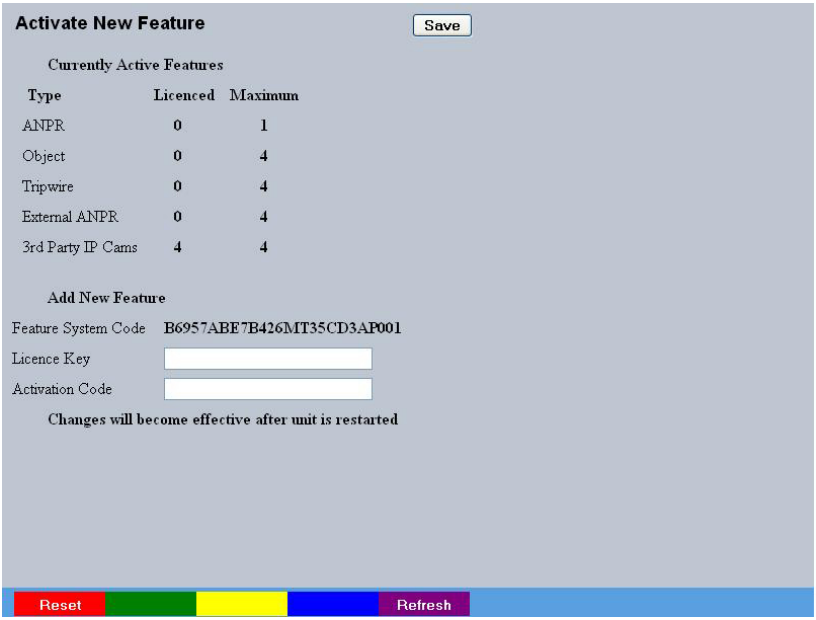
When Customer Services receive the License key and the Features System code, the Activation code will be provided.

Enter both the License key and the Activation code into the ‘Activate New Feature’ menu and select ‘Save’. The Feature will be enabled.

Activate New Feature

The Activate New Feature menu allows new **Analytics***Capable licenses to be added to your unit and the Third Party IP Camera feature to be unlocked. It details the Features System Code that Dedicated Micros Customer Services require to provide the Activation Code. Also detailed are all advanced features currently activated on the unit (and the maximum number of each type of license allowed).*

IMPORTANT: *To open the 'Activate New Feature' menu, navigate to the Features & Text->Features menu and select the Activate (Purple) option.*



Currently Active Features	Any advanced features currently installed on the unit will be detailed here.
Type	The available variants of feature licenses will be listed.
In Use	The total number of each license type currently installed on the unit will be displayed.
Maximum	This shows the maximum amount of each license type that can be installed on the unit.

Note: **Analytics**Capable licenses *are purchased per unit, with the exception of ANPR licenses which are per camera channel.*

Features System Code	This code ***must be*** provided to the Dedicated Micros Customer Services team (Tel +44 (0) 845 600 9501) to obtain your Activation code. On receipt of this information, DM will provide you with your Activation code.
License Key	Enter the License key details here. The License key will be provided by Dedicated Micros Customer Services team.
Activation Code	Enter the Activation Code details here.

Note: *Both the License Key and Activation Code are case sensitive. Be careful to differentiate between number '0' and letter 'O'.*

Note: *Navigate to System Settings->PowerScript Mgmt to view DM PowerScript software currently active on your unit (and limit which scripts will automatically run at start-up). When any* **Analytics***Capable licenses have been activated, the 'analytics.c' option must remain checked for the feature(s) to operate correctly.*

To *view the PowerScript Mgmt page it is necessary to install and run webpage software release version 1.0 (2285) or above. The latest software release for your unit can be downloaded from the Dedicated Micros website: www.dedicatedmicros.com/software_release/index_firmware.php*

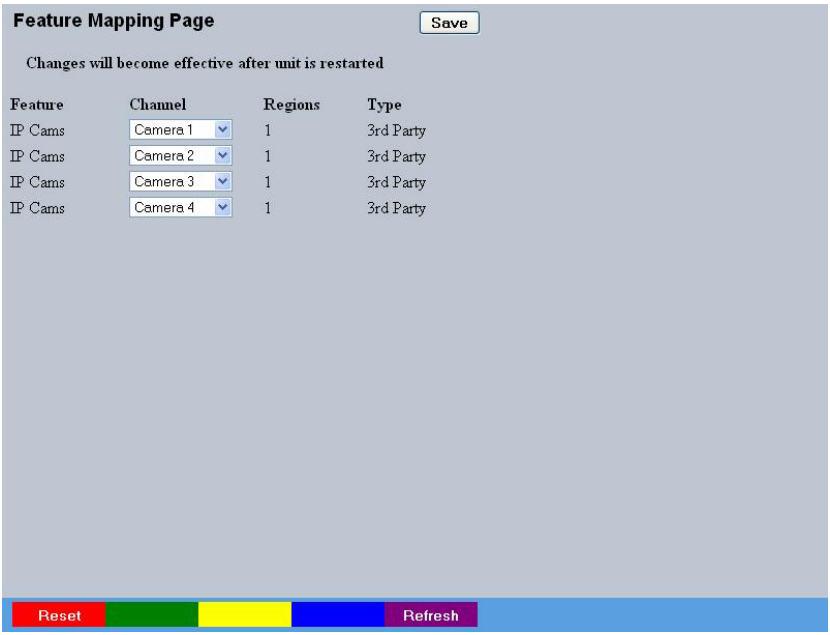
IMPORTANT: *For* **Analytics***Capable features to function correctly, the 'Enable Keyword' function* ***must be*** *enabled on the unit. Navigate to the 'System Settings->Features' menu and ensure the 'Text In Image' option is selected. Then navigate to the 'Features & Text->Text In Image' menu. Set the Enable Keywords option to 'Enable'.*

Reset (Red)	Select to reset the unit.
Refresh (Purple)	Refreshes the information on the current page

Feature Mapping Page

The following menu allows purchased advanced feature licenses to be assigned to specific Third Party IP camera channels

Important: *This menu will only be available when an* **Analytics***Capable license or the Third Party IP camera feature has been unlocked.*



Feature	All installed advanced licenses will be listed by type i.e. ANPR, Tripwire, IP Cams etc.
Channel	Assign the license to a camera channel via the drop down list.
Region	This is the number of detection areas available for each license. Most licence types have 16 detection zones available (except ANPR licenses were only 1 is available).

Important: *'Region' is not relevant for the Third Party IP Camera feature.*

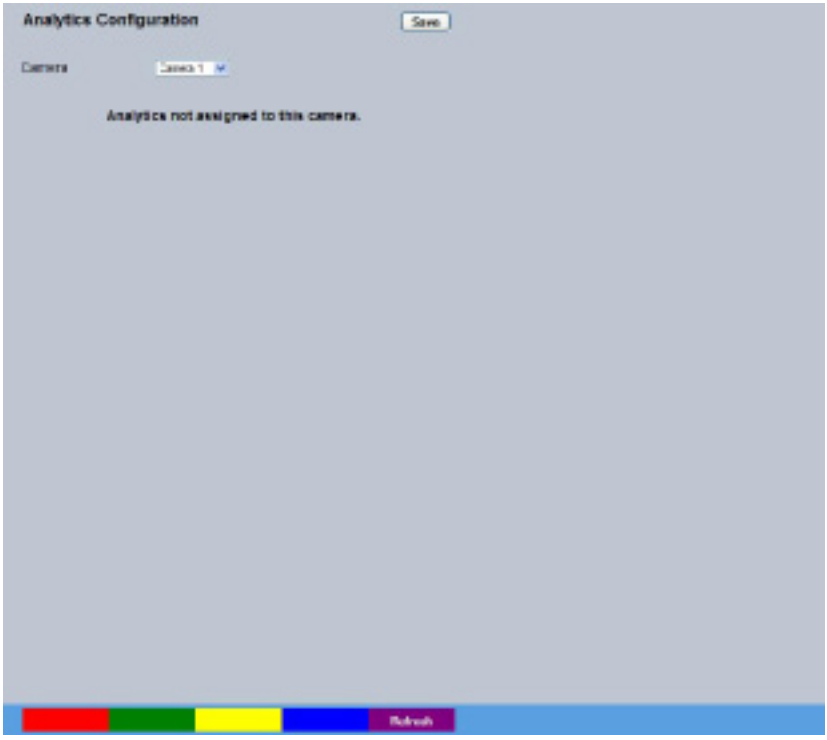
Type	Details the Feature type currently installed.
Reset (Red)	Select to reset the unit.
Refresh (Purple)	Refreshes the information on the current page.

Analytics Configuration

Detailed instructions on Analytics Configuration are provided in the specific Analytics Manual.

The Analytics Configuration menu allows **Analytics***Capable features to be configured (except ANPR licenses, refer to the ANPR Setup section for guidance on configuring an ANPR license).*

The page requires camera selection to edit the features associated with the selected camera. When a channel is selected (that has been assigned an **Analytics***Capable license), the options available to that selection will be displayed according to the license type assigned (licenses are assigned via the Feature Allocation menu).*



Refresh (Purple) Refreshes the information on the current page

Depending on the **Analytics***Capable* license assigned to the selected camera channel, one of the following set of menu pages will be displayed:

- Object Left / Removed
- Detection Tripwire
- Tripwire

Object Left / Removed

Object Left / Removed is used to define specific areas of the camera view where an alert can be generated if an object is detected as being removed or added.

An **Analytics***Capable license enables this feature for all connected analogue cameras.*

On a single camera, up to 16 regions of the camera view can be specified to be monitored for object changes.

Camera Options will configure settings for the camera. Region Options effect only the region (detection area) currently being configured.

To size and position the detection area, use the mouse to click, drag and release the white selection points in the corners of the detection area.



Camera Options

Noise Tolerance	This sets the background 'noise' level which the camera will ignore. Setting the noise tolerance level too low could result in a false alarm. Dedicated Micros recommend that a well maintained camera viewing an adequately illuminated scene should be set at '8'.

Change Threshold	This sets the threshold level for the rate of change required within any region to trigger an alarm. The current image is compared against the reference image (see 'Detection Time'). The region specific values for pixel or % change (see 'Scale') are then used to decide if a trigger should occur. A lower Change Threshold level means that all regions are more sensitive to change. Dedicated Micros recommend for a well illuminated scene the Change Threshold be set at '10'.
Detection Time	This sets the time period (in seconds) when a new reference image will be taken. The reference image is compared to the current view to detect any changes in the scene i.e. object removed.

Note: *Care is required when setting the Detection Time on a live site i.e. if a person is walking through the scene when the reference image is recorded, that person will considered part of the background scene.*

Region Settings

Region	To define a region, click on the Region drop down list and select a number (1-16). A box will now appear on the camera view. Up to 16 individual regions can be created per camera. The detection region can be moved and resized by clicking and dragging the corners of the box.
Analytic Type	Select 'None' to deactivate a specific region (not all regions on the camera).
Scale	This defines the change parameter the system will use when comparing the reference image against the current image (for the selected region). Select 'In pixels' or 'As a % of region size'. If 'In pixels' is selected, the system will use the rate of pixel change within a region to generate an alarm. If '% of Region' is selected, the system will use the percentage of the region that changes to generate an alarm.
Min Size	If 'In pixels' has been selected via the Scale option, enter the minimum amount of pixel change that will trigger an alarm. If '% of Region' has been selected via the Scale option, enter the minimum percentage change that will generate an alarm.
Max Size	If 'In pixels' has been selected via the Scale option, enter the maximum amount of pixel change that will trigger an alarm. If '% of Region' has been selected via the Scale option, enter the maximum percentage change that will generate an alarm.

Note: *For quick setup, Dedicated Micros recommend selecting '% of Region' , a min size of '5' and a max size of '100'.*

Min/Max Aspect Ratio:	This setting allows the system to be configured to detect specific shaped objects i.e. tall and narrow or short and wide. The text boxes allow the minimum and maximum width to height ratio to be entered i.e. a minimum setting of 2:1 would result in objects twice as high as wide triggering an alarm. A maximum setting of 1:4 would limit detection to objects no more than 4 times as wide as high.

Note: *If the Min/Max Aspect Ratio settings are left at '0', the function is deactivated.*

Colour	Each tripwire (region) can be assigned a different colour to aid configuration.
Trigger Alarm	When a trigger occurs, you can set the system to activate a Virtual Alarm. Virtual Alarms can be used as an Input in an Alarm Zone.
Reload Img (Red)	Refreshes the camera view on the page
Refresh (Purple)	Refreshes the information on the current page

Tripwire

Tripwire is used to define a virtual line within the camera view where an alert can be generated if an object is detected crossing the line. The Tripwire can also count the number of activations and perform actions based on the count rule. This could be when a set amount of people have entered / exited an area. Additionally, a calculated balance of In and Out triggers can be used to trigger alarm when a maximum total number of people are on one side of the tripwire.

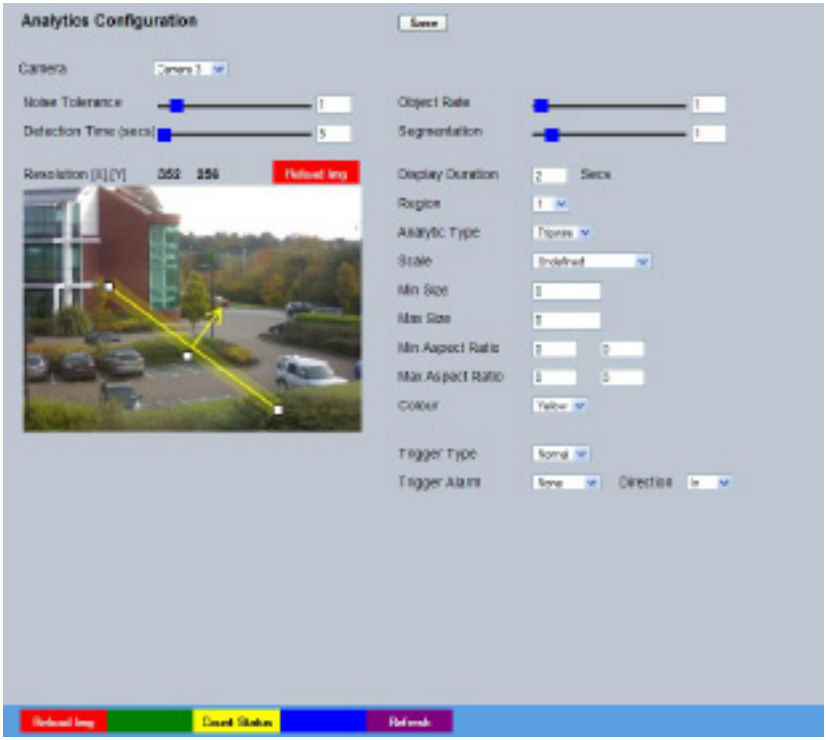
An **Analytics***Capable license enables this feature for all connected analogue cameras.*

Up to 16 tripwires can be specified per camera within the view

The Camera Options will configure settings for the camera. Region Options affect only the region (detection area) currently being configured.

To size and position the Tripwire, use the mouse to click, drag and release the selection points at either end of the tripwire. Note the Direction arrow, a tripwire can raise an alarm depending on which direction an object travels across it.

The shaded area denotes the tolerance zone. For an object to register as having crossed the tripwire, it must be deemed to have entered and exited this tolerance zone. To change the size of the zone, use the mouse to click, drag and release the centre selection point.



Camera Options

Noise Tolerance

This sets the background 'noise' level which the camera will ignore. Setting the noise tolerance level too low could result in a false alarm. Dedicated Micros recommend that a well maintained camera viewing an adequately illuminated scene should be set at '8'.

Object Rate	This sets the maximum distance in pixels that an object can travel between captures to still be considered the same object (and therefore tracked). When the system is monitoring a moving object, it calculates the object's area and uses this as a reference to calculate its movement.
Detection Time	This sets the time period (in seconds) when a new reference image will be taken. The reference image is compared to the current view to detect any changes in the scene i.e. object crossing the tripwire.

Note: *Care is required when setting the Detection Time on a live site i.e. if a person's arm is in the scene when the reference image is recorded, the system will consider it part of the background scene.*

Segmentation	This sets the threshold level for the rate of change required within any region (tripwire) to trigger an alarm. The current image is compared against the reference image (see 'Detection Time'). The region specific pixel or % change settings (see Scale) are then used to decide if a trigger should occur. A lower Segmentation setting means all regions are more sensitive to change. Dedicated Micros recommend for a well illuminated scene Segmentation be set at 10.

Region Settings

Region	To define a region, click on the Region drop down list and select a number (1-16). A Tripwire will now appear on the camera view. The Arrow will identify the 'IN' direction. Up to 16 tripwires can be created per camera. The tripwire can be moved and resized by clicking and dragging.

Note: *It is recommended that the tripwire should only be used to monitor objects that pass within 30 metres of the camera view. Beyond this point objects maybe too small to monitor.*

Analytic Type	Select 'None' to deactivate a specific region (not all regions on the camera).
Scale	This defines the change parameter the system will use when comparing the reference image against the current image (for the selected region). Select 'In pixels' or 'As a % of region size. If 'In pixels' is selected, the system will use the rate of pixels change within the defined Tripwire region to generate an alarm. If '% of Region' is selected, the system will use the percentage of the defined Tripwire region that changes to generate an alarm.
Min Size	If 'In pixels' has been selected via the Scale option, enter the minimum amount of pixel change that will trigger an alarm. If '% of Region' has been selected via the Scale option, enter the minimum percentage change that will generate an alarm.
Max Size	If 'In pixels' has been selected via the Scale option, enter the maximum amount of pixel change that will trigger an alarm. If '% of Region' has been selected via the Scale option, enter the maximum percentage change that will generate an alarm.

Note: *For quick setup, Dedicated Micros recommend selecting '% of Region' , a min size of '5' and a max size of '100'.*

Min/Max Aspect Ratio:	This setting allows the system to be configured to detect specific shaped objects i.e. tall and narrow or short and wide as they cross the tripwire. The text boxes allow the minimum and maximum width to height ratio to be entered i.e. a minimum setting of 2:1 would result in objects twice as high as wide triggering an alarm. A maximum setting of 1:4 would limit detection to objects no more than 4 times as wide as high.

Note: *If the Min/Max Aspect Ratio settings are set to '0', the function is deactivated.*

Colour	Each tripwire (region) can be assigned a different colour to aid configuration.
Trigger Type	Select ‘Count’ to activate the Tripwire function. Select ‘Normal’ to set as Detection Tripwire.
Trigger Alarm	When a trigger occurs, you can set the system to activate a Virtual Alarm. Virtual Alarms can be used as an Input in an Alarm Zone.
Trigger Condition	The Trigger Condition will generate an alarm depending on the following parameters:

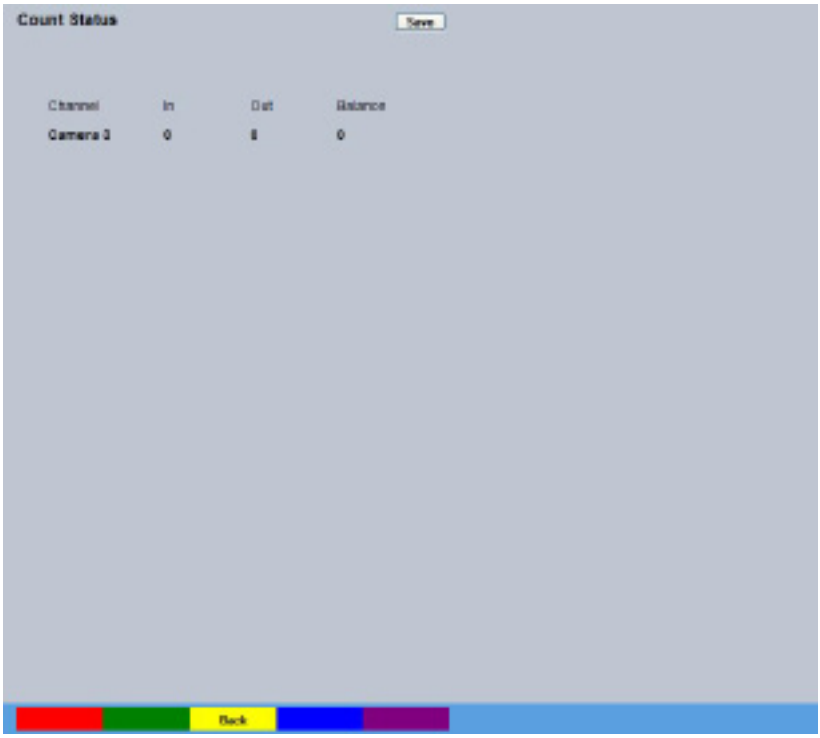
In	Select ‘In’ to use the number o objects crossing the tripwire in the direction of the arrow.
Out	Select ‘Out’ to use the number of objects crossing the tripwire in the opposite direction of the arrow.
Balance	Select ‘Balance’ to use the total number of objects which have crossed the tripwire in either direction to identify the balance currently on the arrow facing side of the tripwire.
>	Select ‘>’ to trigger an alarm when a figure greater than that identified in the Object Total textbox has been reached.
>=	Select ‘>=’ to trigger an alarm when a figure equal to or greater than that identified in the Object Total textbox has been reached.
=	Select ‘=’ to trigger an alarm when a figure equal to that identified in the Object Total textbox has been reached.
<	Select ‘<’ to trigger an alarm when a figure less than that identified in the Object Total textbox has been reached.
<=	Select ‘<=’ to trigger an alarm when a figure equal to or less than that identified in the Object Total textbox has been reached.
Object Total	Enter the required object total.

Examples: *A setting of ‘In > 10’ would trigger an alarm when more than 10 people had crossed the tripwire (in the direction of the arrow).*
A setting of ‘Out <= 10’ would trigger an alarm when 10 or less people had crossed the tripwire (in the opposite direction of the arrow).
A setting of ‘Balance > 10’ would trigger an alarm when a balance of more than 10 people are designated as currently being on the arrow facing side of the tripwire.

Current Status	This details the current number of objects which have crossed the tripwire in either direction. The balance of objects currently on the arrow facing side of the tripwire is also shown. Please note that the ‘In’ and ‘Out’ totals can manually be overridden and new figures entered. Entering new data here will change the Balance figure.
Reload Img (Red)	Refreshes the camera view on the page
Count Status (Yellow)	Displays the tripwire tally.
Refresh (Purple)	Refreshes the information on the current page

Count Status

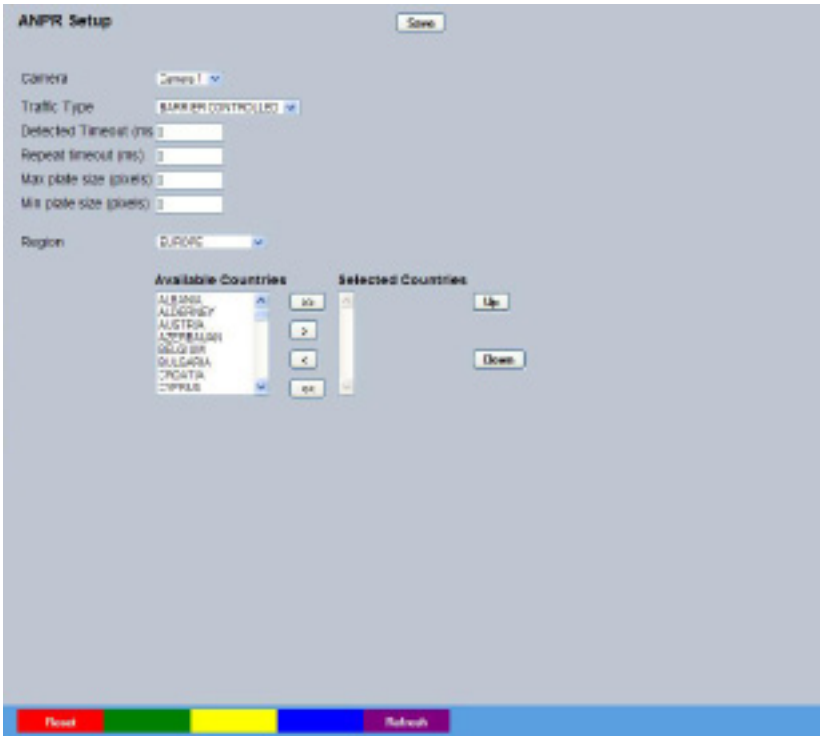
This menu is accessed off the Tripwire configuration page and displayed the total detected tripwire activations



Back (Yellow) Returns to the Features & Text->Features->Analytics Page

ANPR

The ANPR Setup menu allows an allocated ANPR Analytics license to be configured. The ANPR software can be set to function most effectively at Barrier Control (vehicles travelling at less than 20mph) or Normal Traffic flow (vehicles travelling in excess of 20mph).
It is important to set the Region data correctly. The ANPR software will use this information to interpret the target number plates as efficiently as possible.



Camera	Select the relevant camera channel. Only those camera channels assigned an ANPR **Analytics***Capable* license will be available.
Traffic Type	The camera can be configured for different traffic monitoring scenarios; 'Barrier Controlled' or 'Normal'. In Barrier Controlled mode, vehicles are expected to be travelling at a speed less than 20mph. Normal mode is intended for use in free flowing traffic scenarios were vehicles are expected to be travelling in excess of 20mph.
Detected Timeout (ms)	This is the delay between number plate detection and a barrier opening to allow the vehicle to enter/exit.

Note: *The time is entered in milliseconds (ms).*

IMPORTANT: *The Detected Timeout function is only relevant when 'Barrier Control' has been selected in the Traffic Type option.*

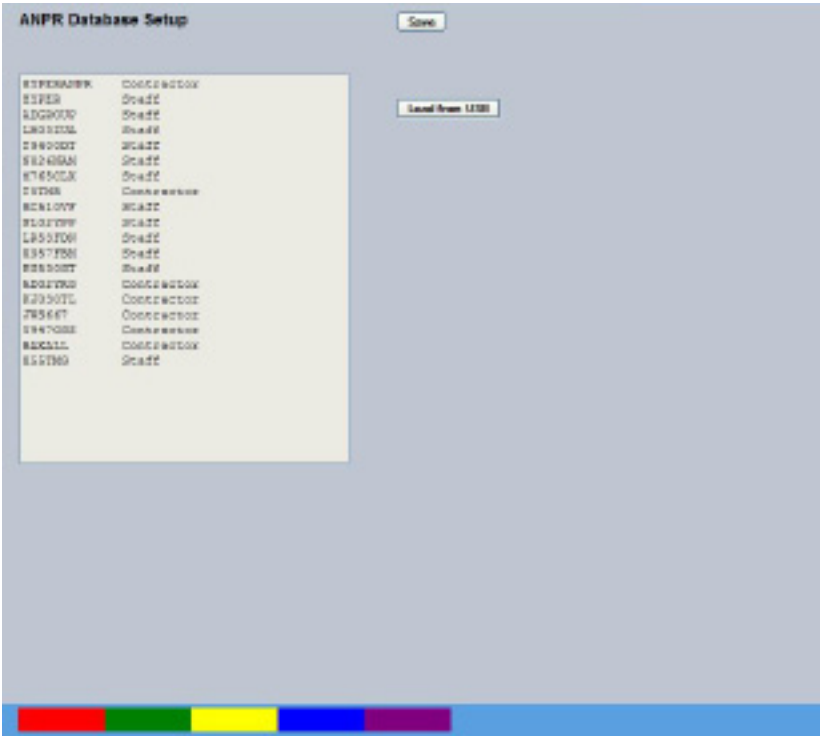
Repeat Timeout (ms)	This setting stops the software reporting the same number plate twice. A repeat plate reading is not reported during the selected timeout period. For example, a vehicle may be required to halt at an entry checkpoint. If it is deemed acceptable that the vehicle should in usual circumstances have cleared this checkpoint within 10 seconds, 10000ms should be entered to prevent the vehicle's details being reported again within this time period.

Note: *The time is entered in milliseconds (ms).*

Max plate size (pixels)	A limit can be set for the maximum number of pixels within the image that the target number plate assumes. Above this limit, the ANPR software will not attempt to interpret the number plate. The recommended maximum setting is 50000 pixels.
Min plate size (pixels)	A limit can be set for the minimum number of pixels within the image that the target number plate assumes. Below this limit, the ANPR software will not attempt to interpret the number plate. The recommended minimum setting is 1000 pixels.
Region	The ANPR software can be configured to most effectively read the various styles of number plates used throughout the world. It is important that the software be configured for the standard number plate format used in your territory. The appropriate region should be selected along with a list of selected countries. Countries are added to the Selected Countries list from the Available Countries list by using the '>' button. Similarly countries are removed from the selected list using the '<' button. All available countries can be added/removed via the '>>' and '<<' buttons. The list of countries can be reordered using the '+' and '-' buttons. The order determines the priority in which syntax checking is applied when performing a plate reading.
Reset (Red)	Select to reset the unit.
Refresh (Purple)	Refreshes the information on the current page

ANPR Plate DB

The ANPR Plate DB menu allows an external database of number plate details to be uploaded to your DVR. The ANPR software will then use this information to raise alarms whenever a matching number plate is recorded.



Load from USB — Add the required number plate database to a USB device and connect it to your DVR. When connected, select the 'Load from USB' (grey) button to upload the database. When loaded, the database will be displayed on screen.

IMPORTANT: *The database must be saved to the USB device for uploading to the unit as a zip file. The following naming details must be adhered to.*

- Name the txt file containing the number plate data 'plates.txt'
- Create a folder and name it 'QNC'. Add 'plates.txt' to this folder.
- Create a zip file and name it 'upgrade-plate.zip'.
- Add the 'QNC' folder to this zip file.
- Add upgrade-plate.zip to the USB device.

Note: *For help with creating the zip file, contact Dedicated Micros Technical Support* (Tel +44 (0) 845 600 9502).

Vehicle Control

The Vehicle Control menu allows recorded vehicle number plates to be compared to the information held in the database (uploaded via the ANPR Plate DB menu). When interrogating the database, the ANPR software will search for keywords (configured here). If a keyword is associated to a recorded number plate, an alarm response can be initiated and a screen alert displayed.

IMPORTANT: *For this option to function correctly, the 'Enable Keyword' function* ***must be*** *enabled on the Dedicated Micros DVR. Navigate to the 'System Settings->Features' menu and ensure the 'Text In Image' option is selected. Navigate to the 'Analytics & Text->Text In Image' menu and set the Enable Keywords option to 'Enable'.*

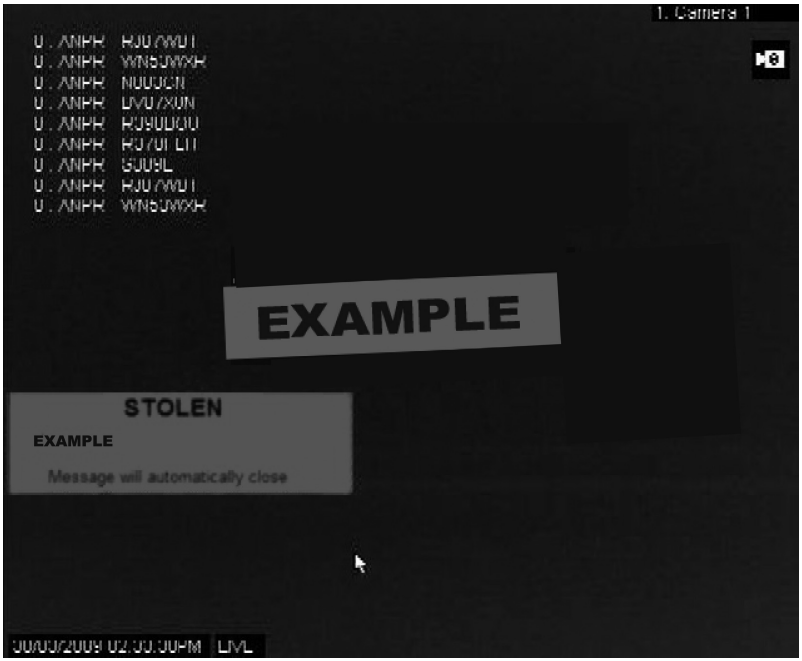


Camera	Select the relevant camera channel for configuration.
Pre Alarm (secs)	When creating a record in the event database, the Pre Alarm setting will include recorded images prior to the point of activation (for the time period entered here). DM recommend a setting of 2-3 seconds.
Primary Camera	This is the Primary camera. In normal circumstances it will be the camera channel being configured
Secondary Camera	This is the assigned Secondary camera. This may give an overview of the area were the ANPR camera reads passing number plates i.e. a gatehouse.

Note: *The Dedicated Micros ANPR camera has an in-built overview camera facility. This will give a full view of the car being analysed.*

Keyword/Unmatched	Enter up to two Keywords. When a number plate is detected and recognised, the ANPR database will be searched for a match. If a match is found, it will look at the associated keyword. If the keyword matches that entered here, the programmed alarm and/or on-screen alert can be raised (see below). A response can also be configured if no keyword relating to the read number plate is matched within the database.
Alarm	The ANPR software will search the database for each number plate as it is detected and read. If a match is found, the software compares the associated keyword to any entered in the 'Keyword' option in this menu. Following a Keyword being matched, a 'Virtual Alarm' can be raised. Refer to your unit's Installation & Operation manual for guidance on configuring a response to the raising of a Virtual Alarm.
Database	Select this option to add a log of the event to the database. In most operating circumstances this feature should remain selected.
Screen Alert	If a Keyword is matched to a read number plate, an on-screen alert can be displayed to assist an operator viewing live images. The on-screen alert will include the number plate details plus the associated Keyword. The text can be displayed in a variety of colours to match the severity of the alert i.e. the Keyword 'Resident' could result in the alert displayed in Green, the Keyword 'Stolen' could result in the on-screen alert messages displayed in Red.
Refresh (Purple)	Refreshes the information on the current page

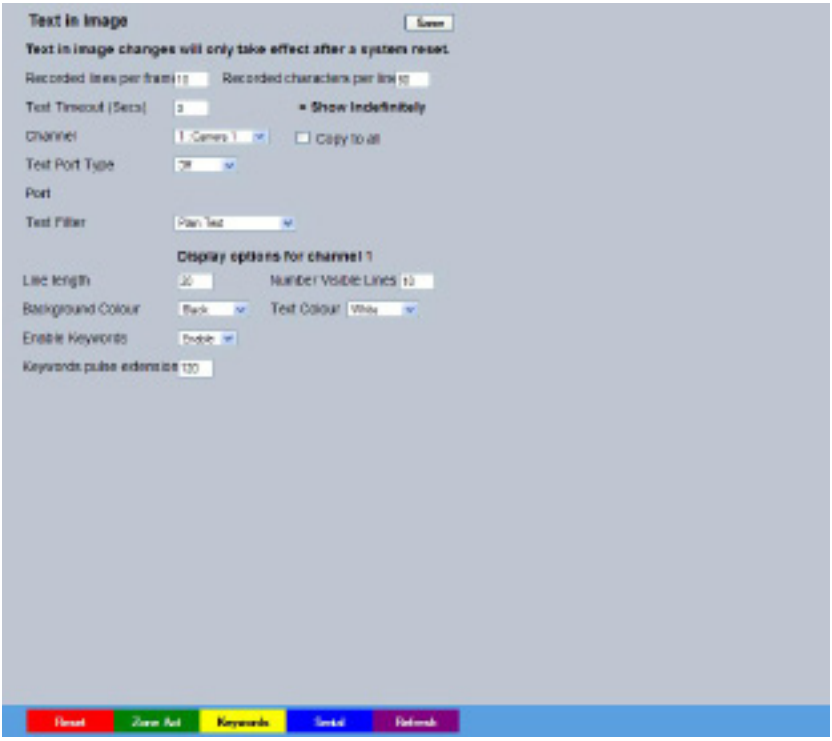
Example of On-Screen Alert Message



Text In Image

It is possible to integrate the unit into a system were text information can be stored with relevant images for review. This would be most useful in a Retail or Finance application were text data originating from a cash register could be displayed in real time with the video images of the same Point of Sale.

Note: *This menu will only be displayed if 'Text in Image' is selected in the System Settings->Features menu.*

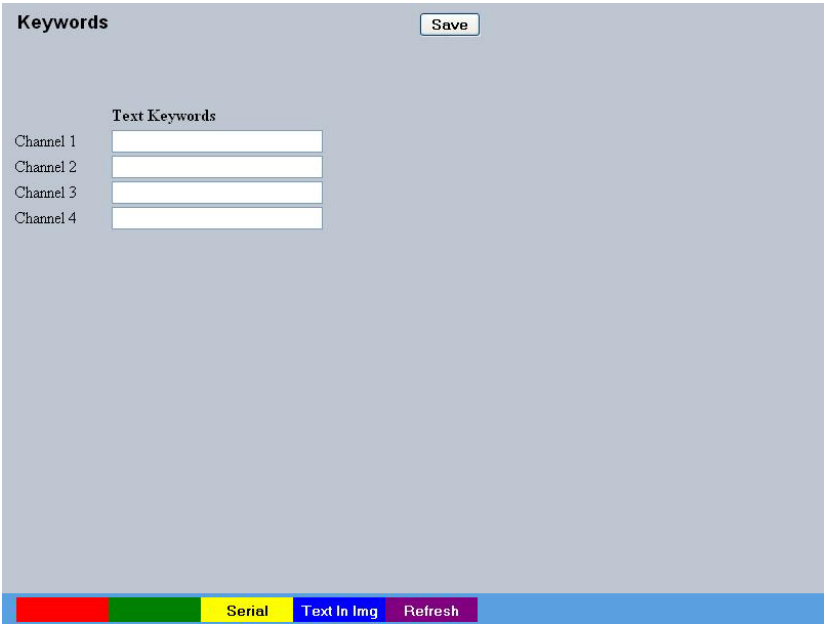


Recorded lines per frame	This controls how many lines of text are stored on the server, and not how many are displayed on screen. This allows more data to be saved than is shown.
Recorded characters per frame	This controls how many characters of text are stored on the server, and not how many are displayed on screen. This allows more data to be saved than is shown.
Text Timeout	This setting controls how long, in seconds, the text is shown on screen (selecting 0 will show the text indefinitely).
Channel	Select the camera input for configuration from the drop down list.
Copy To All	Select to copy the current text in image settings to all camera channels.
Text Port Type	Select the input source for Text in Image data. Select 'Off' to switch the function off, select 'Network to use the unit's Network port or 'Serial' to use one of the unit's serial ports (see 'Port' below).

Port	All serial ports on the unit support the option for Text In Image. For serial transmission ensure one of the serial ports is configured appropriately, refer to System Settings->Serial Ports'. Select the configured port from the drop down list.
Text Filter	Select the text filter option from the drop down list. The options are: Plain Text (default), RAW, EPSON, Laserjet, DM POS Receipt, DM POS Journal, TVC-1066
Line length	This identifies the length of the lines that will be stored with the image. The default setting is 20 characters i.e. typically full screen.
Number Visible Lines	To enable the text information to be viewed successfully, it is necessary to establish how many lines of text will be visible on screen.
Background Colour	A black background box appears by default around the text. It is possible to change the colour of this box. Select from the drop down list.
Text Colour	The colour of the displayed text can be changed. Select from the drop down list.
Enable Keywords	This enables or disables the Keyword feature, allowing the unit to treat certain pre-programmed words received via the text stream as event triggers. Refer to 'Keywords' for guidance on creating Keyword triggers.
Keywords pulse extension	This time period allows multiple instances of a word received within a period of time to be treated as a single event (i.e. if a configured Keyword is detected again within the first Keyword's pulse extension period, the second (and following) occurrences of the word will be ignored).
Reset (Red)	Select to reset the unit.
Zone Act (Green)	Select to open the Alarm->Zone Actions menu
Keywords (Yellow)	Select to open the Features & Text->Keywords menu
Serial (Blue)	Select to open the System->Serial Ports menu
Refresh (Purple)	Refreshes the information on the current page

Keyword

This menu allows specific keywords received via the text stream to be configured and enabled as event triggers. The 'Enable Keywords' function need to be activated in the 'Text in Image' menu for this feature to operate.



Text Keyword	The unit can be configured to react to defined keywords appearing in text data and treat them as alarm zone inputs. In turn this generates events in the event database. The advantage of this feature is that it allows the user to see exactly which keyword triggered an alarm. A total of 32 Keywords can be configured and each can be up to 20 characters in length. All of the keywords will be active on the selected Zone keyword channel, *refer to "Zone Input -> Input"*.

Note: *Increasing the number of keywords can significantly increase the number of stored events.*

Note: *Refer to 'Text In Image' and 'Serial Ports' for further guidance on integrating text data.*

Serial (Yellow)	Select to open the System->Serial Ports menu
Refresh (Purple)	Refreshes the information on the Current Page

Oracle Dome Configuration

If a camera channel has a Dedicated Micros Oracle dome camera connected, the Oracle Configuration menus can be used to view settings and establish Presets, Patrols and Privacy Masks.

IMPORTANT: *The 'Restrict public access (Eth B)' setting (Closed IPTV-> Settings) must be enabled if using Oracle IP domes in the Closed IPTV environment.*

The Status page details fundamental information regarding the status of the Oracle Dome i.e. the model type and the version of software/firmware installed.

The Presets page allows Preset positions to be configured and stored.

The Sectors page enables the cameras 360 degree field of view to be effectively split into 32 segments. These segments can be named and displayed via the On Screen Display (OSD Advanced).

The Patrols page allows camera patrol sequences to be established and configured. The Patrol feature uses established preset positions to automatically pan, tilt and zoom the camera in the selected sequence.

The Privacy Masks page allows privacy masking to be established and configured. The Privacy Mask feature can be used to 'blank out' sensitive or private areas which appear in the camera field of view.

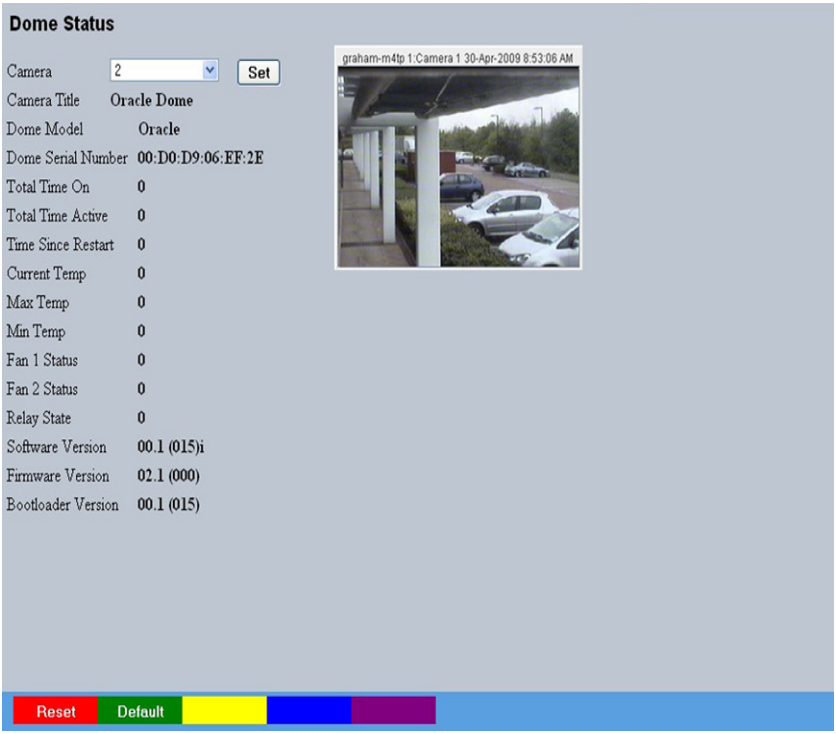
The OSD Advanced Settings page allows the Oracle Dome OSD Advanced (On Screen Display) information to be configured. This text will accompany displayed camera images in the Viewer menus.

The Camera Settings page enables features such as white balance and shutter speed to be configured.

The Event Settings page allows actions to be established and configured for the Oracle Dome camera following an alarm. A Home position can be established and the delay time set for what period of inactivity is required before the camera will be sent to its home position.

Status

This menu details information regarding the status of the Oracle Dome, notably the model type, current temperature and the version of software/firmware installed.



Camera	Select a camera channel. The menu will only display successfully if the chosen camera channel has an Oracle Dome camera connected.

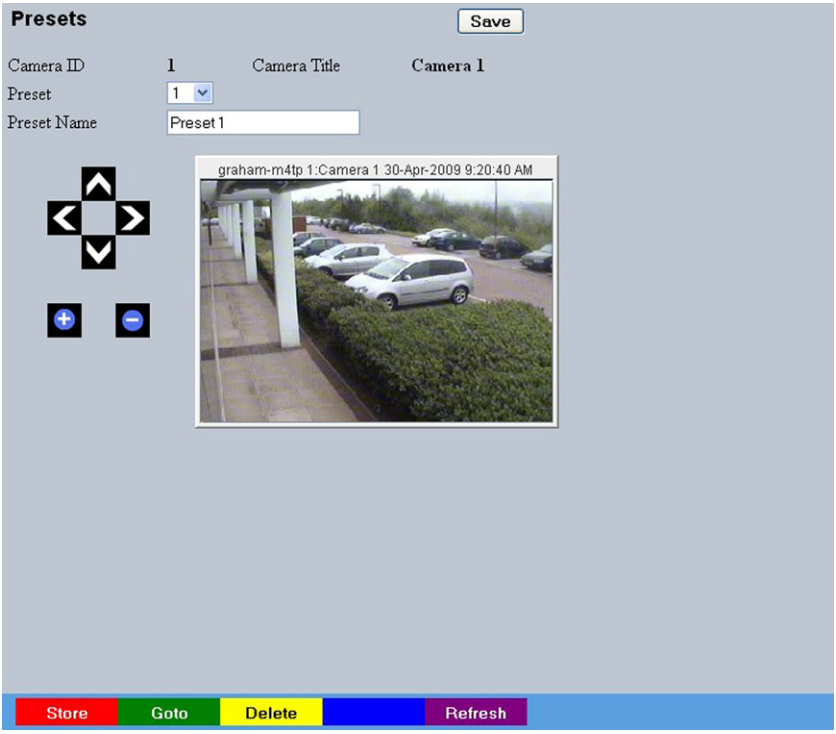
IMPORTANT: *All subsequent Oracle Configuration menus will relate to the camera selected here. Camera selection is only possible via this Status menu.*

Camera Title	Title assigned to the selected camera channel.
Dome Model	Details the product model.
Dome Serial Number	Identifies the serial number of the specific camera.
Total Time On	Details the operational life time of the camera to date.
Total Time Active	Details the total time the unit has been active (in motion).
Time Since Restart	Details the time since the camera was last reset.
Current Temp	Details the current temperature of the camera unit.
Max Temp	Details the maximum temperature the camera unit has reached.
Min Temp	Details the minimum temperature the camera unit has reached.
Fan 1 Status	Details the operational status of installed Fan 1.
Fan 2 Status	Details the operational status of installed Fan 2.
Relay State	Details the operational status of the camera unit's relay.

Software Version	This identifies the version of software the camera unit is running.
Firmware Version	This identifies the version of firmware the camera unit is running.
Bootloader Version	This identifies the bootloader version of the camera unit is running.

Presets

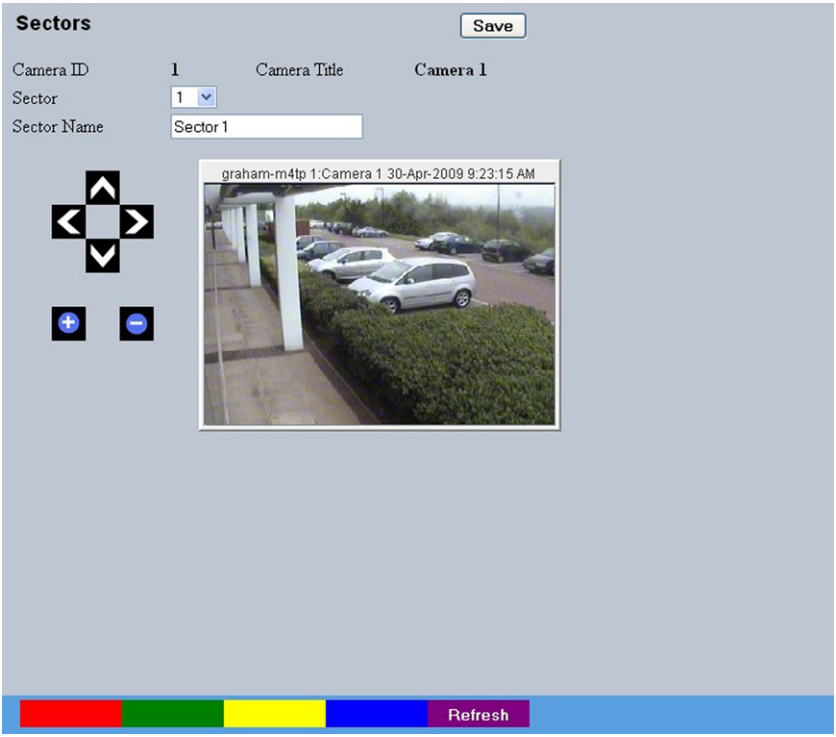
This menu allows Preset positions to be configured and stored for the Oracle Dome camera.



Camera ID	Selected camera channel.
Camera Title	Title assigned to the selected camera channel.
Preset	Select a preset number (1 to 100).
Preset Name	Enter a recognisable name for the Preset (up to a maximum of 25 characters).
+	Use the + button to zoom the camera view IN.
-	Use the - button to zoom the camera view OUT.
Navigation Buttons	Use the four navigation buttons to position the camera view.
Save (Grey)	Select to save the entered preset title to the unit and the Oracle Dome camera memory.
Store Preset (Red)	Select this button to store the current preset position to the Oracle Dome camera's memory.
Goto Preset (Green)	Select this button to immediately send the camera to the currently stored preset position.
Delete Preset (Yellow)	Select this button to delete the currently displayed preset configuration.
Refresh (Purple)	Refreshes the information on the current page

Sectors

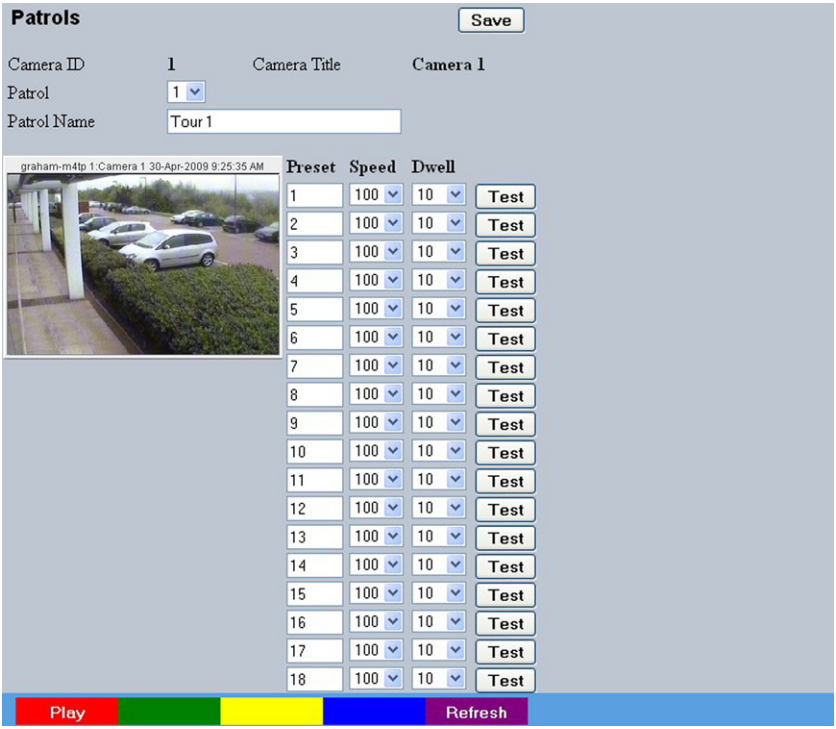
This menu allows the Oracle Dome cameras 360 degree field of view to be split into 32 segments. These segments can be named and set to accompany the displayed camera image via the OSD Advanced menu. They can be used to aid an Operator in quickly identifying the current camera position.



Camera ID	Selected camera channel.
Camera Title	This is the title assigned to the selected camera channel.
Sector	Select from sector 1-32.
Sector Name	Enter a name for the selected sector (up to a maximum of 25 characters).
+	Use the + button to zoom the camera view IN.
-	Use the - button to zoom the camera view OUT.
Navigation Buttons	Use the four navigation buttons to position the camera view.
Refresh (Purple)	Refreshes the information on the current page

Patrols

This menu allows camera patrol sequences to be established and configured for the Oracle Dome camera. The Patrol feature utilises established preset positions to automatically pan, tilt and zoom the camera in the selected sequence.



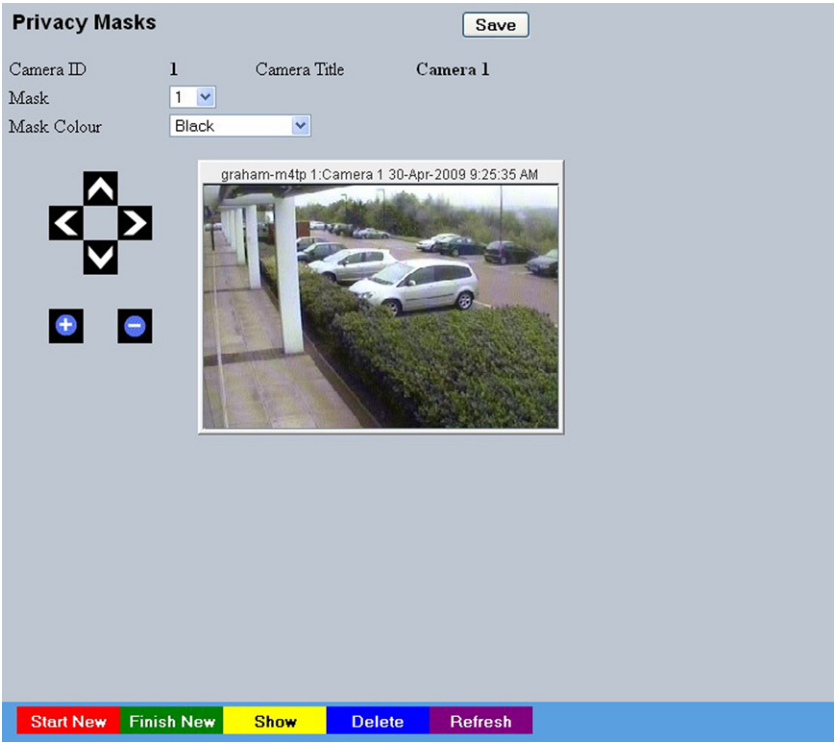
Camera	Selected camera channel.
Camera Title	Title assigned to the selected camera channel.
Patrol	Up to four Patrol sequences can be established.
Patrol Name	Enter a recognisable name for the Patrol.
1-32	Up to 32 individual positioning manoeuvres can be added to a Patrol.

Note: *Selecting one of the 1-32 buttons will send the camera to that Preset position.*

Preset	Select a pre-established Preset.
Speed	Select the Speed the Patrol will progress to the next Preset position (the speed can be set as a percentage of maximum capability).
Dwell	Select the Dwell time (in seconds) the Patrol will remain at this Preset position.
Save (Grey)	Select to store the preset sequence to the unit and the Oracle Dome camera memory.
Play (Red)	Select to activate (play) the current patrol sequence.
Refresh (Purple)	Refreshes the information on the current page

Privacy Masks

This menu allows Privacy Masks to be established and configured for the Oracle Dome camera. The Privacy Mask feature can be used to 'blank out' sensitive or private areas which appear in the cameras field of view.



Camera	Selected camera channel.
Camera Title	Title assigned to the selected camera channel.
Mask	Up to 24 separate masked areas can be created.
Mask Colour	The colour of the mask can be selected from the drop down list. The default is black.

Note: *Select 'Start New' (Red) to begin creation of a privacy area. A black rectangle will then be displayed superimposed across the camera view. It is recommended that the camera be navigated to the exact centre of the area requiring the privacy mask before pressing the 'Start New' button.*

+	Use the + button to zoom the camera view IN.
-	Use the - button to zoom the camera view OUT.
Navigation Buttons	Use the four navigation buttons to position the camera view.

Note: *When 'Start New' has been selected, the +/- and Navigation buttons can be used to set the size and shape of the Privacy Mask.*

Save (Grey)	Select to store the mask colour.
Start New (Red)	Select this option to begin creation of privacy mask.
Finish New (Green)	Select this option to finish creation of privacy mask.

Show (Yellow)	Select this option to show camera view with existing privacy mask displayed.
Delete (Blue)	Select this option to delete the currently displayed privacy mask.
Refresh (Purple)	Refreshes the information on the current page

OSD Advanced Settings

This menu allows the Oracle Dome OSD Advanced (On Screen Display) information to be configured. This text will accompany displayed camera images in the Viewer and on a local monitor.



Preset Title Position	Select desired position to locate the Preset Title information.
Sector Title Position	Select desired position to locate the Sector Title information.
PTZ Display Position	Select desired position to locate the PTZ Display information.
Alarm Name Position	Select desired position to locate the Alarm Name Position information. For all above functions, the available positions are: Top Left, Top Right, Bottom Left, Bottom Right and Off (No information displayed). All options are then split into three further sections; 1,2 and 3. This relates to the display line i.e. Top Left 1 would be the very top line, Top Left 2 would be the line below etc. This enables information to be 'stacked' in one segment of the screen.
Engineer Display	Toggle to switch the Engineer Display text On/Off. This function is intended for future development.
Save (Grey)	Select to store OSD Advanced Settings to the unit and the Oracle Dome camera memory.
Refresh (Purple)	Refreshes the information on the current page

Camera Settings

This menu allows settings for the Oracle Dome camera to be established and configured.

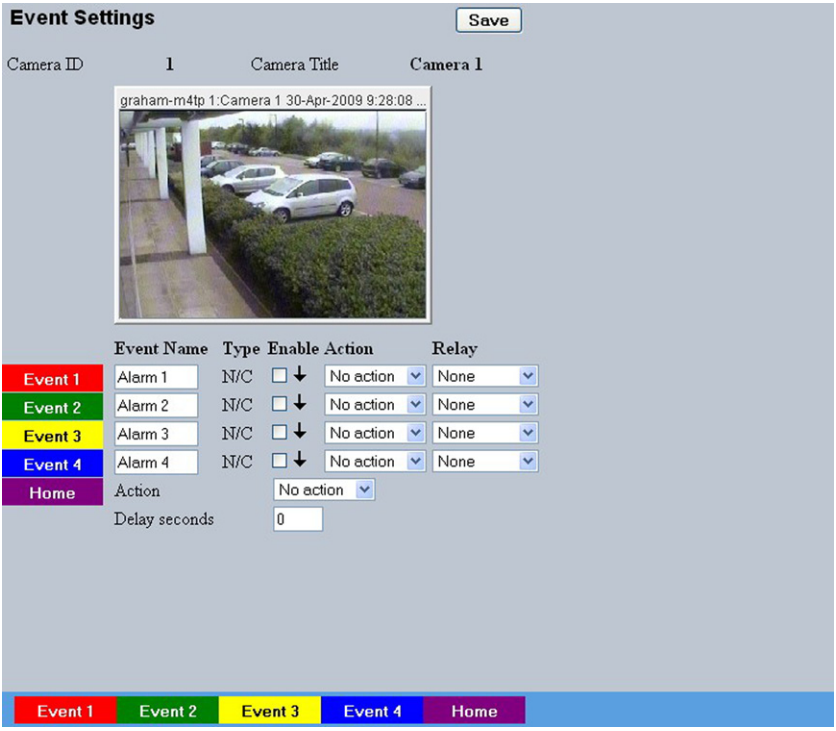


Camera	Selected camera channel.
Camera Title	Title assigned to the selected camera channel.
Backlight Comp	Select to activate Backlight Compensation. This feature compensates for back-lit scenes by enhancing objects which would previously have been in silhouette.
Auto Slow Shutter	The Oracle Domes auto slow shutter feature enables the camera to automatically decrease the shutter speed in low light settings to help maintain quality of displayed images.
Auto Focus	The Oracle Domes Auto Focus feature enables the camera to best focus on its current view. Select to activate.
Auto Flip	When the Oracle Domes Auto Flip feature is activated, it will rotate a camera 180 degrees when it reaches its maximum upper or lower extremity i.e. pointing directly upwards or downwards. This enables a camera to continue a tilt manoeuvre i.e. if tilting in an upwards direction, when the camera is pointing directly up, it will rotate 180 degrees and begin tilting down. If unselected, a camera will stop when it reaches its maximum upper or lower extremity.
HyperD Mode	If the connected Oracle Dome camera is part of the HyperD non-wide dynamic range, select to activate the unique wide dynamic function.
Digital Zoom	Select to activate the Digital Zoom function e.g. the camera will zoom within the actual image.

Optical Zoom Limit	Select to limit the Oracle Domes optical zoom function. By default '100x' is selected and the camera can zoom to its maximum capabilities. The optical zoom function can be limited to between 75% and 100% magnification.
ICR	Oracle Domes with day/night cameras have an Infrared Cut Removal (ICR) function which can enhance the camera's sensitivity in low light conditions as well as allowing infrared illumination to be used (infrared is blocked by the IR cut filter). When ICR is ON, the camera switches to monochrome mode, the IR cut filter is removed and the camera is at its most sensitive. The default setting for the camera is AUTO ICR where the filter is controlled automatically dependent on the scene brightness determined by the camera. The camera can be forced to stay in colour mode by setting ICR to OFF, or can be forced into mono with maximum low light sensitivity by setting ICR to ON. Alternatively ICR switching can be triggered in response to an alarm input. This allows a photocell sensor to be connected to one of the dome's alarm inputs to control the ICR. This method can be used to avoid instability that may occur when the camera controls the ICR switching in marginally low light conditions. Removing the IR cut filter due to low light can cause enough of an increase in scene brightness and video level to make the camera return the IR cut filter and switch immediately back to colour mode (at which point the video level drops and the process is repeated).
White Balance	The Oracle Domes White Balance feature enables the camera to compensate for different lighting scenarios which can effect the colour quality of the displayed image. Select 'Auto' for the camera to auto-compensate for white balance depending on current view. Select 'Indoor' to permanently set for best results in an indoor setting. Select 'Outdoor' to permanently set for best results in an outdoor setting.
Exposure	The Oracle Domes Exposure setting can be set to maintain optimum contrast settings for the viewed image/camera location. Select 'Full Auto' for the camera to auto-compensate for best exposure settings depending on current view. Select 'Manual' to manually configure exposure settings. Select 'Shutter Priority' to manually enter the shutter speed.
Shutter Speed	If the Exposure feature is to be manually configured, enter the shutter speed settings.
Coax Gain	If the camera feed to the unit originates from the coax output of the Oracle Dome camera, the video signal can be boosted by increasing the coaxial gain setting. The default gain is 0 to increase it select a value between 1 and 100 until the optimum image quality is reached.
Coax Lift	If the camera feed to the unit originates from the coax output of the Oracle Dome, the video signal can be boosted by increasing the coaxial lift setting. Coaxial lift differs from gain as only the high frequency end of the video signal spectrum is boosted, to compensate for the greater attenuation of high frequencies in coax cables. The default gain is 0 to increase it select a value between 1 and 100 until the optimum image quality is reached.
UTP Boost	If the camera feed to the unit originates from the twisted pair output of the camera. Two levels of boost can be activated to improve image quality by compensating for losses in the cables.
Refresh (Purple)	Refreshes the information on the current page

Event Settings

This menu allows actions to be established and configured for the Oracle Dome camera following an alarm event. A Home position can be established for the camera and the delay time set for what period of inactivity is required before the camera will be sent to its home position.

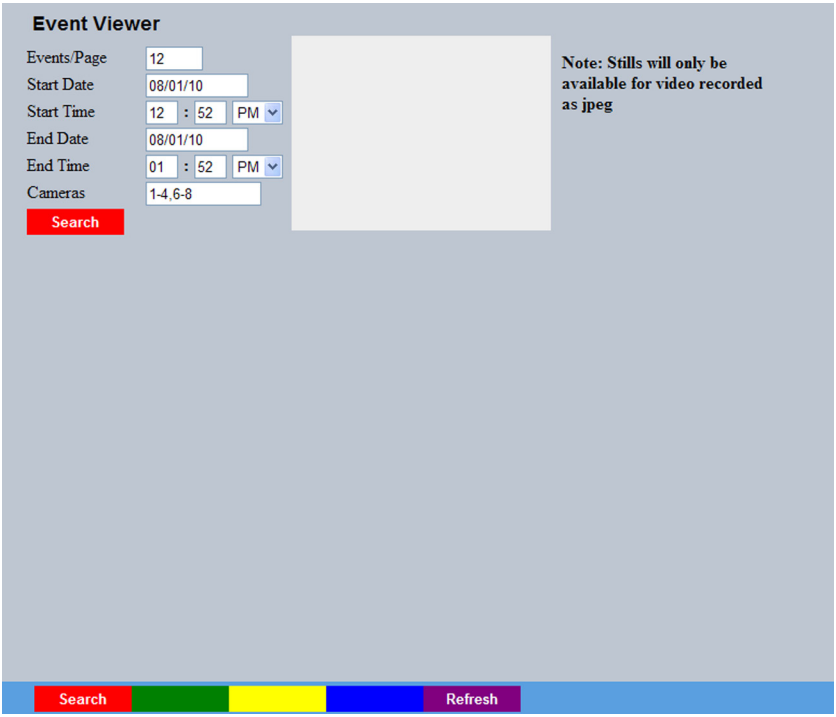


Camera	Selected camera channel.
Camera Title	Displays the title assigned to the selected camera channel.
Event Name	If required, enter a specific name for the alarm event.
Type	Select the alarm type from: EOL (End of Line), NC (Normally Closed), NO (Normally Open) or Disabled.
Action	Select a preset position or a patrol action for the camera upon alarm event.
Relay	Select an action for the relay. Select 'Momentary' for the relay to momentarily switch state. Select 'Duration' to switch relay status for the duration of the alarm.
Home (Purple)	Select to send the camera to its predetermined home position.
Action	Select a preset or patrol from the accompanying drop down list. This preset/patrol will now be set as the cameras 'home' position.
Delay	Select the time (in seconds) for which the camera is inactive i.e. no operator input, before returning to its home position.
Save (Grey)	Select to store Event Settings to the unit and the Oracle Dome camera memory.

Event Search

The Event Search menu allows recorded event images to be quickly searched for and reviewed. The Search criteria can be limited to a specific date/time and/or individual cameras.

Note: *Event Search will only be available when the 'Enable Event Search Page' option is enabled via the System Settings->Features menu.*



Event/Page	Select the amount of event Still images (thumbnail size) to be displayed per results page.
Start Date	Enter a Start Date for the Event Search.
Start Time	Enter a Start Time for the Event Search.
End Date	Enter an End Date for the Event Search.
End Time	Enter an End Time for the Event Search.
Cameras	Select the camera channel(s) to be included in the Event Search. A range of cameras can be selected by entering a hyphen between the first and last required camera i.e. 1-8. A selection of individual cameras can be chosen by entering a comma between each camera i.e. 1,3,5,8. Events captured by cameras not in this selection will be ignored.
Search (Red)	When the Event Search parameters have been entered, select 'Search'.
Refresh (Purple)	Refreshes the information on the current page

Event Search Results

After selecting 'Search' (Red), a still image of each captured event (within the chosen search criteria) will be displayed. It may be necessary to scroll through the results pages to view all events. If the number of events exceeds the events displayed per page (configured in Event/Page).



Click on the thumbnail image to playback an event. That event will then playback in the window at the top of the menu.

Note: *To zoom into the event currently in playback mode, right click it with the mouse. The 'Set Zoom Level' option will be displayed. The image can be set to display at up to 800% of its recorded size. Note that the view window will not increase in size, use the scroll bars to navigate the enlarged image.*

IMPORTANT: *Still event images will only be available for video recorded in JPEG mode (MPEG4 thumbnail Stills will appear 'blank'); however event data recorded in either JPEG or MPEG4 mode can be replayed.*

Refresh (Purple) Refreshes the information on the current page

Operating the Viewer

Navigation is via a colour coded softkey system. The colour bar provides an intuitive approach to operator and installer use.

The function of the keys will change according to whether the unit is in Live or Playback mode. Below and overleaf are described the available Viewer menu pages.

IMPORTANT: *The Viewer menus will only be available when Operational Mode is set to 'Console' in the Features->System menu (System Settings->Features->System)*

Connection Profile

The connection to the Viewer menus can be optimised depending on whether it is via a high quality LAN (Local Area Network) or medium quality WAN (Wide Area Network) connection.

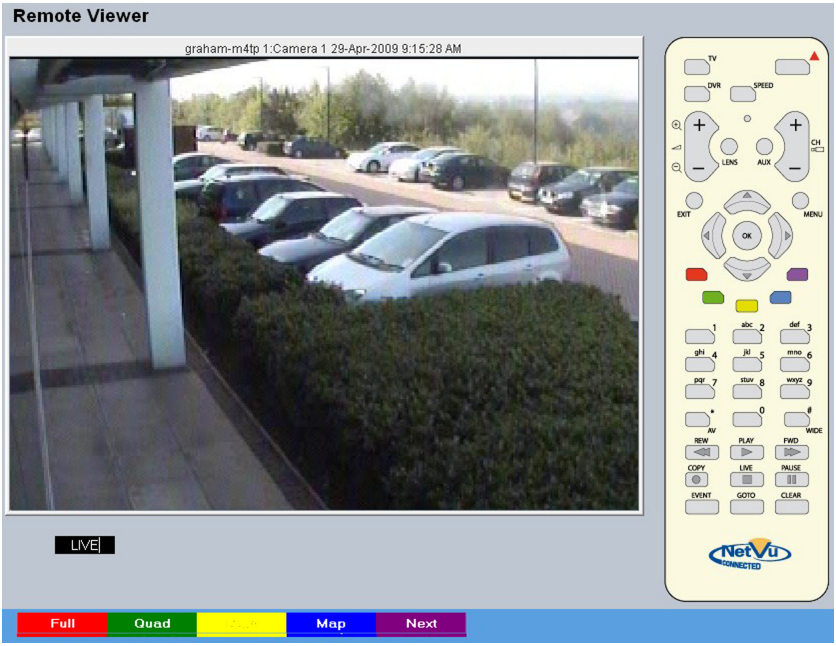
The optimised / default settings used will be those entered within the Viewer Defaults menu (Configuration Menu:Console Settings->Viewer Defaults).

The 'Connection profile' option menu is displayed in the top right of the Viewer menu. Select from 'LAN' or 'WAN'.

Note: *This option is only available when viewing remotely via an IP connection.*

View Control

The View Control page allows the connected video input to be displayed full screen



Red	Full	Show currently selected camera full screen.
Green	Quad	Displays four images on-screen, putting the currently selected camera in the top left segment of the four, and will increment all cameras by one if pressed again i.e. if cam 1 is shown top left, cam 2 top right etc. then the views will increment to cam 2 top left, cam 3 top right etc.

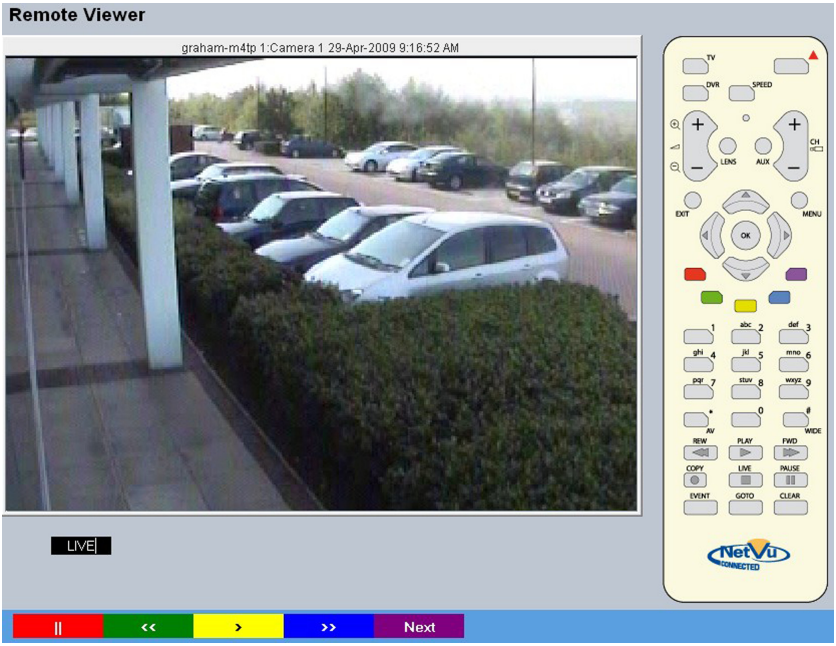
Note: *When a camera button is pressed to select a new camera, the new selection will be displayed in the top left hand corner of the display. The next three connected cameras will be displayed in the following three positions.*

Blue	Map	Displays either the default camera selection map or a specific site map (if one has been configured) with 'hotspots' showing camera locations. A camera can be viewed by selecting the corresponding hotspot.
Purple	Next	Opens the next page of the Viewer menu.

Note: *For information on creating Camera Selection maps. Refer to the Display Setting->Map Config' section for further information.*

Video Control

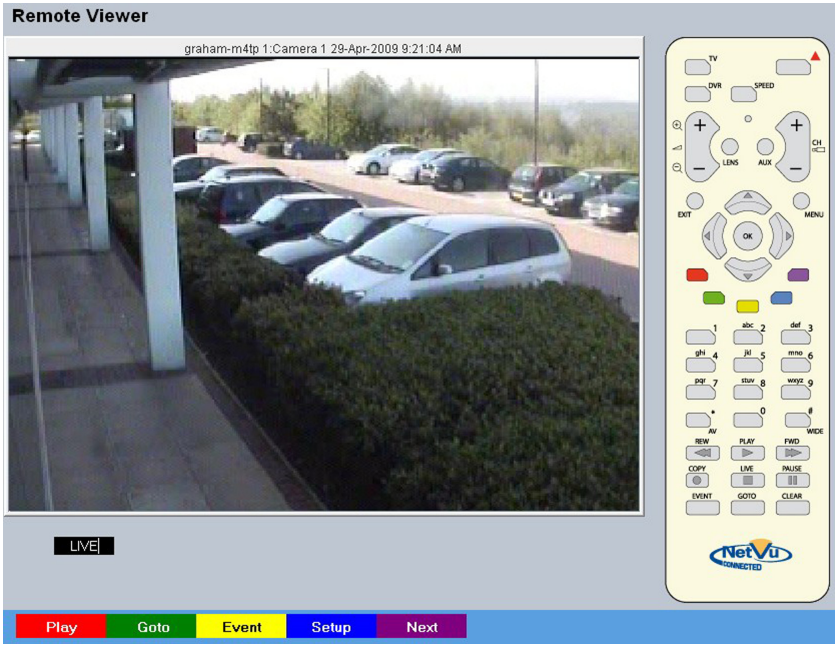
The Video Control page offers video playback functions i.e. play, pause, rewind and fast forward.



Red	II	Freezes current video display.
Green	<<	Rewinds current video.
Yellow	>	Plays from current position.
Blue	>>	Fast forwards video up to current recording position.
Purple	Next	Opens the next page of the Viewer menu.

Selection Page

The Selection page allows access to various image and event playback functions.



Red	Play	Switches the selected camera(s) shown on screen into Play mode.
Green	Goto	Opens the GoTo menu.
Yellow	Event	Displays the Events menu.
Blue	Menu/Setup*	Opens the Configuration menu pages.

IMPORTANT: *Selecting this option will exit the Viewer menus. This will be logged in the User Activity Log as the current user terminating the session, refer to 'Appendix C' for further information regarding the User Activity Log.*

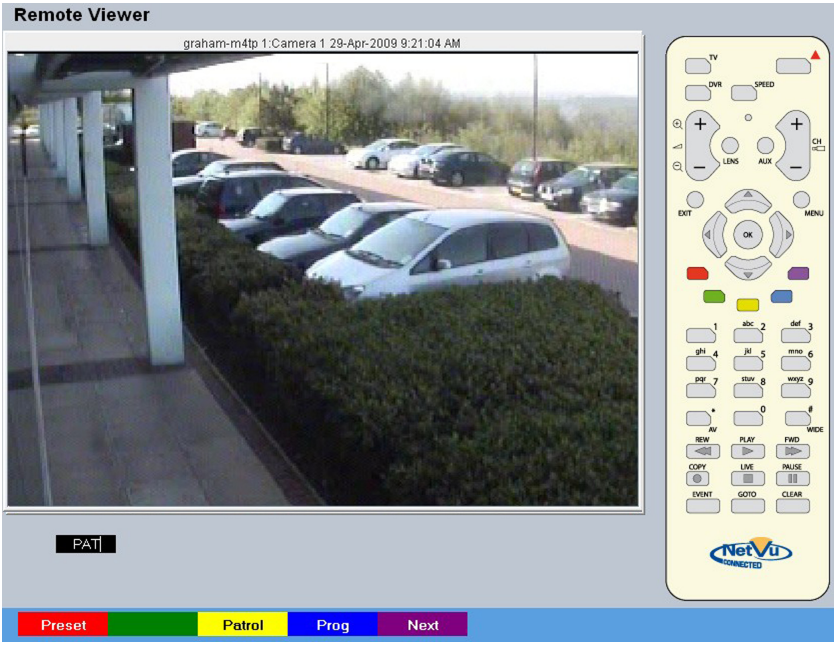
Purple	Next	Opens the next page of the Viewer menu.

* *'Menu' will be displayed in the local viewer, 'Setup' will be displayed in the remote viewer*

PTZ Program Option

The Program page allows preset settings for PTZ cameras to be established and an 'Origin' base position established for a camera.

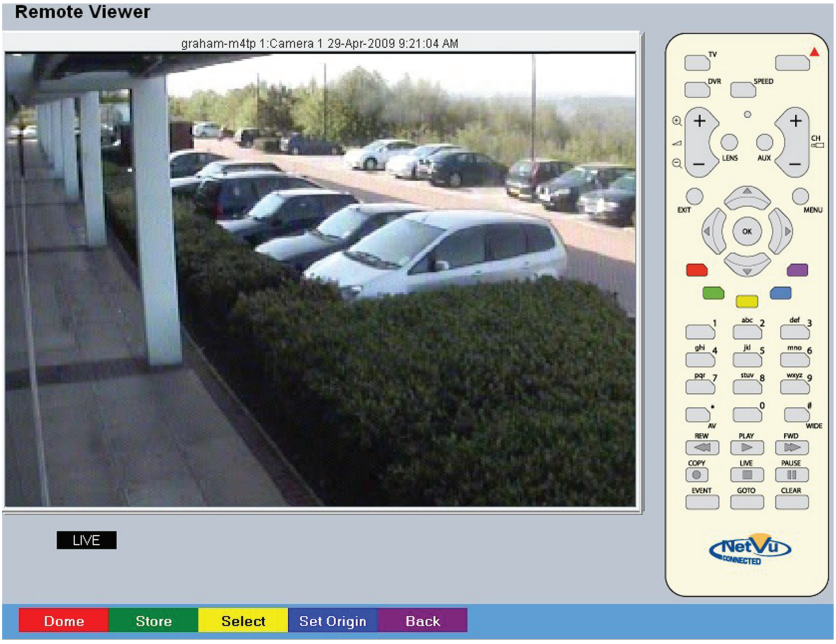
Note: *This page will not be available for all cameras.*



Red	Preset	If Preset positions have been established for the PTZ camera, select the Preset option and enter a preset number. Refer to the 'Presets' menu page for further details on establishing preset positions.
Yellow	Patrol	If Patrols have been established for the camera, select the Patrol option and enter a number. Refer to the 'Patrols' menu page for further details on establishing Patrols.
Blue	Prog	Opens the 'Dome Menu Option' page.
Purple	Next	Opens the next page of the Viewer menu.

Program Page

The Program Menu page allows the PTZ configuration on the currently selected Telemetry camera to be accessed and configured (if such menus are available).



Red	Dome	Select to display the Dome Menu page.
Green	Store	Use to save the current view as a Preset for this camera. To re-send the camera to this position, select the camera, then press Next -> Preset -> (preset number).

Note: *When entering a new preset, any previous preset assigned to that number (for the same camera) will be overwritten.*

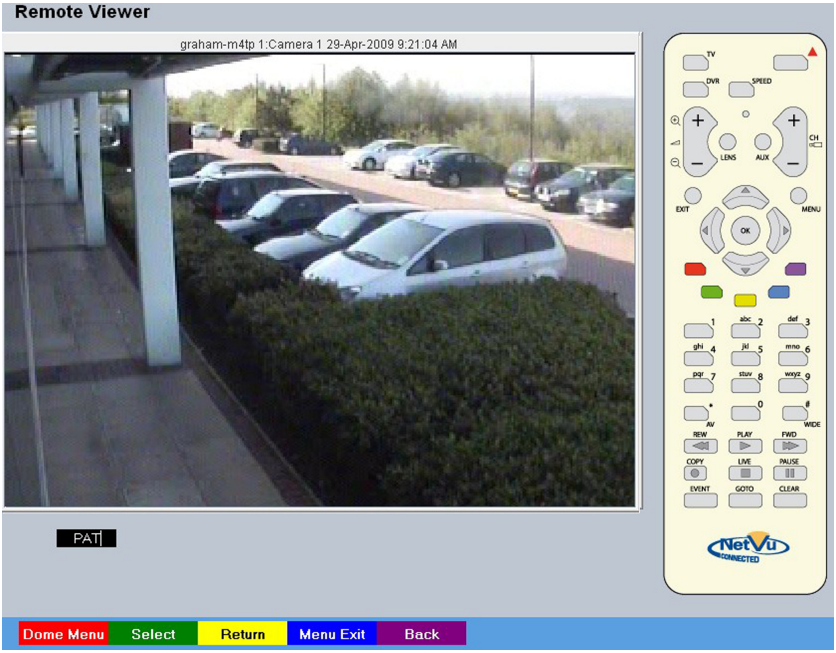
Yellow	Select	This option will send the camera to the stored 'Preset1' position.
Blue	Set Origin	The Origin option allows a base position to be established for the Oracle dome camera. The camera will register this position as zero degrees. Any command that sends the camera to a coordinate will use this origin as its starting point.

Note: *This option is only available for DM Oracle dome cameras.*

Purple	Back	Return to the 'PTZ Program Option' page.

Dome Menu Option

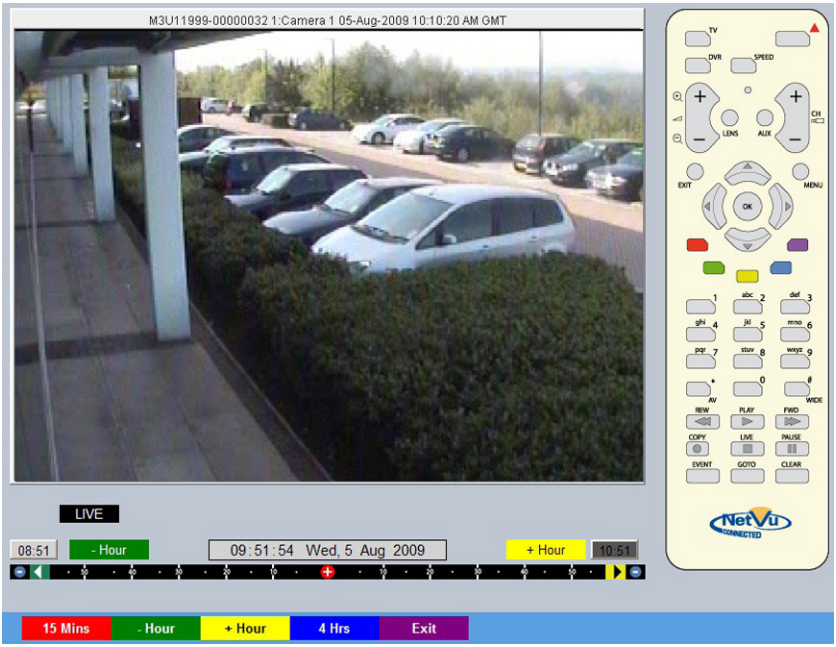
The Dome Menu page allows camera specific menus imbedded on the currently viewed Telemetry camera to be accessed and configured (if such menus are available).



Red	Dome Menu	Select to view camera specific sub-menus embedded on the Telemetry camera (if applicable). The camera specific menus will be overlaid across the screen.
Green	Select	This option enables sub-menu content selection (dependent on the protocol selected). Please refer to the specific camera documentation for further guidance.
Yellow	Return	This option enables sub-menus to be exited (dependent on the protocol selected). Please refer to the specific camera documentation for further guidance.
Blue	Menu Exit	This option will fully exit any embedded camera sub-menus currently being viewed.
Purple	Back	Return to the previous page of the Viewer menu.

Timeline Navigation

The Timeline Navigation page and the accompanying Video Timeline feature allows quick and easy investigation of recorded video data. The Goto button opens the initial Timeline Navigation page.



Softkeys

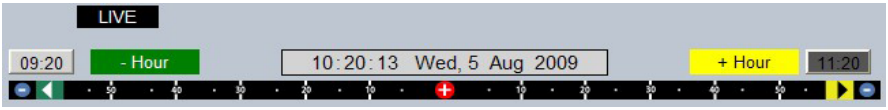
The coloured softkey options will change depending on the scale used to review the recorded images. In the above example:

- Selecting the 15 Mins (Red) button will change the softkey options to 15 minute segments i.e. the user can progress 15 mins from/prior the current playback time.
- Selecting the -Hour button (Green) will progress the video to a point exactly one hour prior to the time shown in the date/time display.
- Selecting the +Hour button (Yellow) will progress the video to a point exactly one hour in advance of the time shown in the date/time display.
- Selecting the 4Hrs (Blue) button will change the softkey options to four hour segments i.e. the user can progress four hours from/prior the current playback time.
- Selecting the Exit (Purple) button will always exit the Timeline Navigation menu.

Note: *Depending on the scale used to review the video i.e. Seconds, Minutes, Hours, or Days; the above softkey options will differ, however the same intuitive principles remain.*

Video Timeline

The Video Timeline allows intuitive, rapid navigation within recorded video. To aid navigation, the timeline can be set to display periods ranging from 15 seconds to four weeks. The timeline can be clicked anywhere in the scale to instantly play recorded images from that point.



Date/Time Display (Grey) — Shows the currently selected date/time.

Note: *The Date/Time Display shows the last time selected via the timeline. During playback, the Date/Time Display remains static while the 'running' time is shown in the bottom left corner of the playback image.*

Timeline 

The timeline allows navigation from the time and date currently shown in the Date/Time Display window. The scale changes to correspond to the time period chosen for investigation i.e. if a scale of one hour is selected it will be possible to move up to one hour prior, or one hour in advance of the displayed time (unless that selected time has not been recorded yet). For example, with a scale of one hour, click '10' on the left side of the timeline to play video from 10 minutes prior to the Date/Time Display. To advance in time, click on the right side of the timeline.

Time Scale Options

- 15 seconds
- 1 minute
- 15 minutes
- 1 hour
- 4 hours
- 1 day
- 1 week
- 4 week

Change Scale

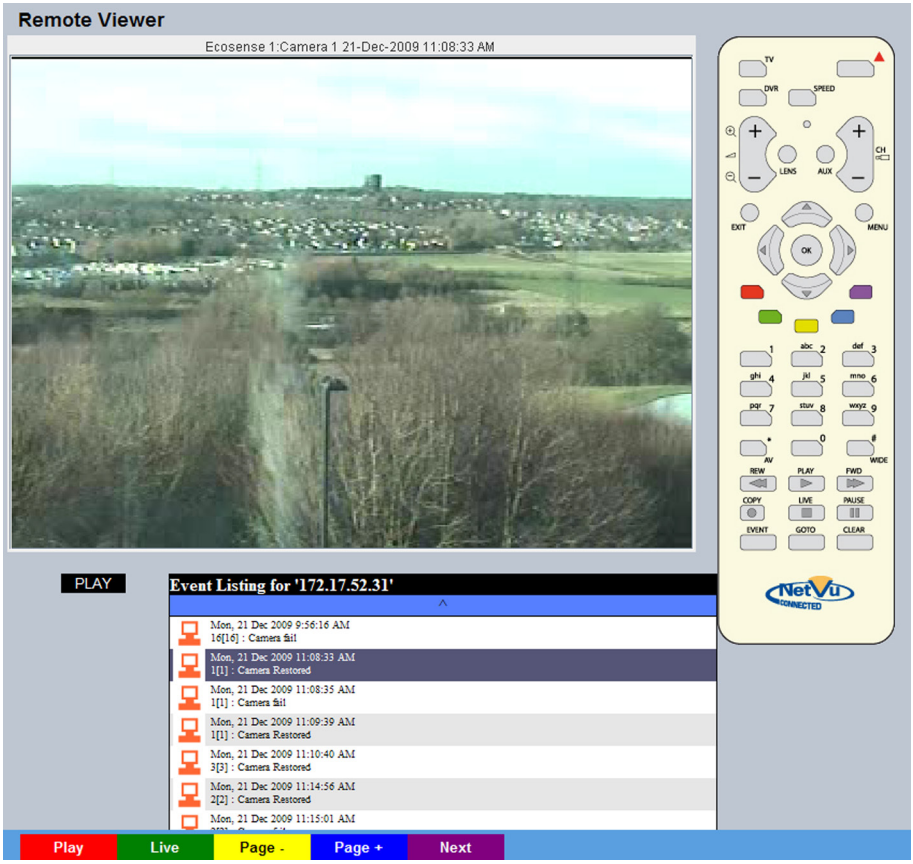
Utilise the buttons shown below to change the scale.

Note: *The coloured softkey buttons can also be used to alter the scale, refer to "Softkey Guidance" for further details).*

Decrease Scale button (Red) 	Decreases the scale of the displayed timeline by one step i.e. if the scale is currently one hour, selecting this button will reduce it to 15 minutes, selecting it again will reduce it to one minute etc.
Increase Scale button (Blue) 	Increases the scale of the timeline by one step i.e. if the scale is currently one hour, selecting this button will increase it to four hours, selecting it again will increase it to one day etc.
Left Navigation Arrow (Green) 	Selecting the left navigation arrow will play recorded images from the maximum prior time available via the current timeline i.e. if a one hour time scale is displayed, selecting the Left Navigation Arrow will play video from one hour prior. This can also be selected via the Green softkey button.
Right Navigation Arrow (Yellow) 	Selecting the right navigation arrow will play recorded images from the maximum future time available via the current timeline i.e. if a one hour time scale is displayed, selecting the Right Navigation Arrow will play video from one hour in advance. This can also be selected via the Yellow softkey button.

Event List

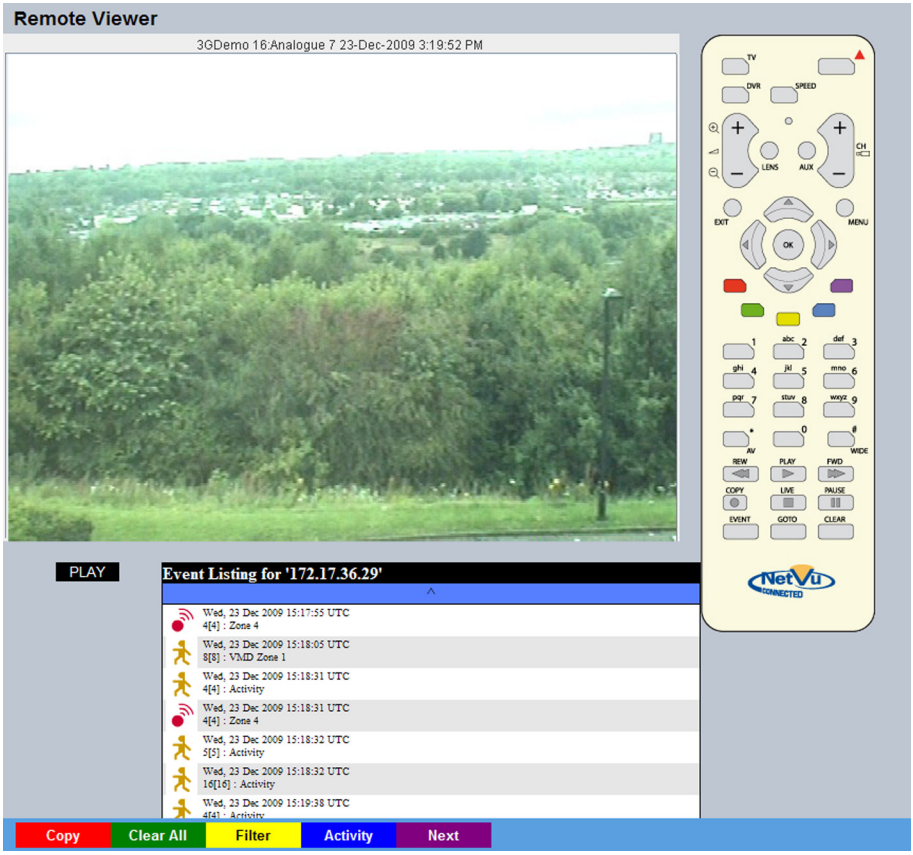
Alarms and activity detection, plus system Events i.e. camera fails, are tagged and stored in the Event List. Each Event is labelled with an event type (alarm, activity or system) and its time and date. To view any additional pages of Event data, use the Yellow/Blue Softkeys Highlight a chosen event with the mouse to playback.



Red	Play	Select to playback the highlighted event.
Green	Live	Select to view live images from the currently selected camera.
Yellow	Page -	Select to display the previous page of Event data.
Blue	Page +	Select to display the next page of Event data.
Purple	Next	Select to open the Event Copy and Search menu.

Event Copy and Search Menu

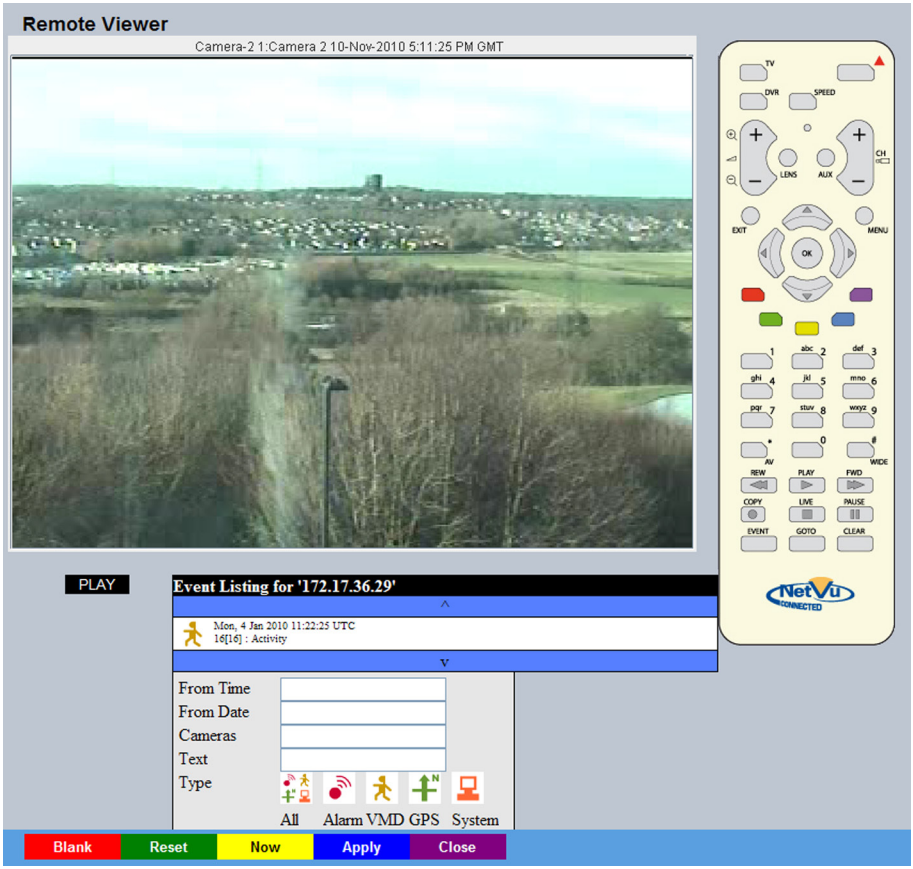
The Event Copy and Search menu allows events to be sent to the Copy menu via the Copy Option. All events currently held within the 'Copy' menu can be deleted via the 'Clear All' option. The 'Filter option' allows access to the 'Filter Search' menu.



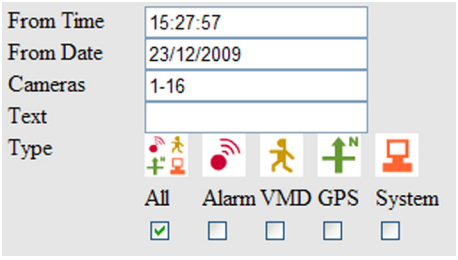
Red	Copy	Select to add the currently highlighted event to the Copy menu.
Green	Clear All	Select to clear ALL events from the copy menu.
Note:	*Single events can be deleted via the Copy menu.*	
Yellow	Filter	Select to display the Filter Search menu, *refer to; Operating The Viewer->Filter Search for further guidance.*
Blue	Activity	Select to open the Activity Search menu, *refer to; Operating The Viewer->Activity Search for further guidance.*
Purple	Next	Opens the Play menu for the currently selected camera.

Filter Search Menu

When searching a large number of stored events, the Filter Search menu allows events to be filtered by time, camera channel and category.



Filter Search Box

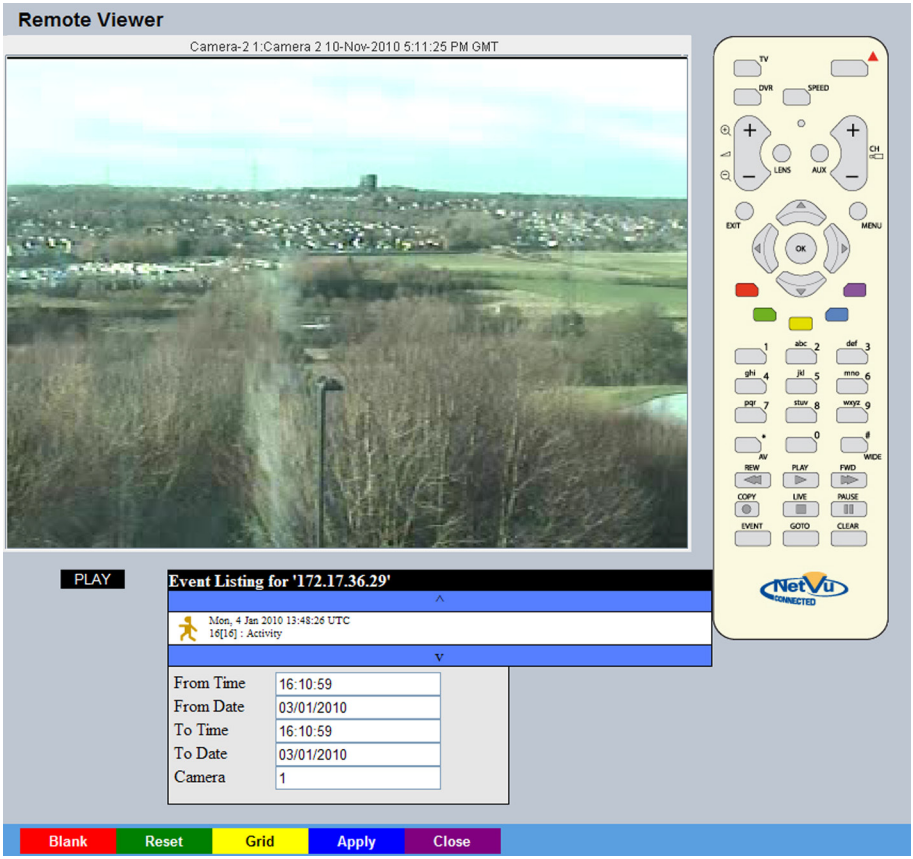


From Time	Select a start time for the Event filter. Events prior to this time will be ignored.
From Date	Select a start date for the Event filter. Events prior to this date will be ignored.

	Cameras	Select which cameras are to be included within the Event search. A range of cameras can be selected by entering a hyphen between the first and last required camera i.e. 1-8. A selection of individual cameras can be chosen by entering a comma between each camera i.e. 1,3,5,8. Events captured by other cameras will be ignored.
	Text	If searching for text in image events, enter the required text here.
	Type	The event search can be filtered to include all, or specific event types only. The event types are: Alarm, VMD, GPS and System. Each type is assigned a specific symbol, these symbols accompany each listed event for easy recognition.
Red	Blank	Select to remove all data currently displayed in the Filter Search Box.
Green	Reset	Select to reset the Filter Search box. The current Time/Date will be displayed plus all available cameras.
Yellow	Now	Select to enter the current Time/Date. Any additional displayed search criteria will remain.
Blue	Apply	Select to apply any changes made to the Filter Search box.
Purple	Close	Select to return to the Event Copy and Search menu.

Activity Search Menu

The Activity Search menu allows the search criteria to be further narrowed to only include events which have occurred within specific segments of the camera view. Firstly, enter a start/end Time and Date, then select a camera channel. Use the Grid option to select a specific segment of the camera view.

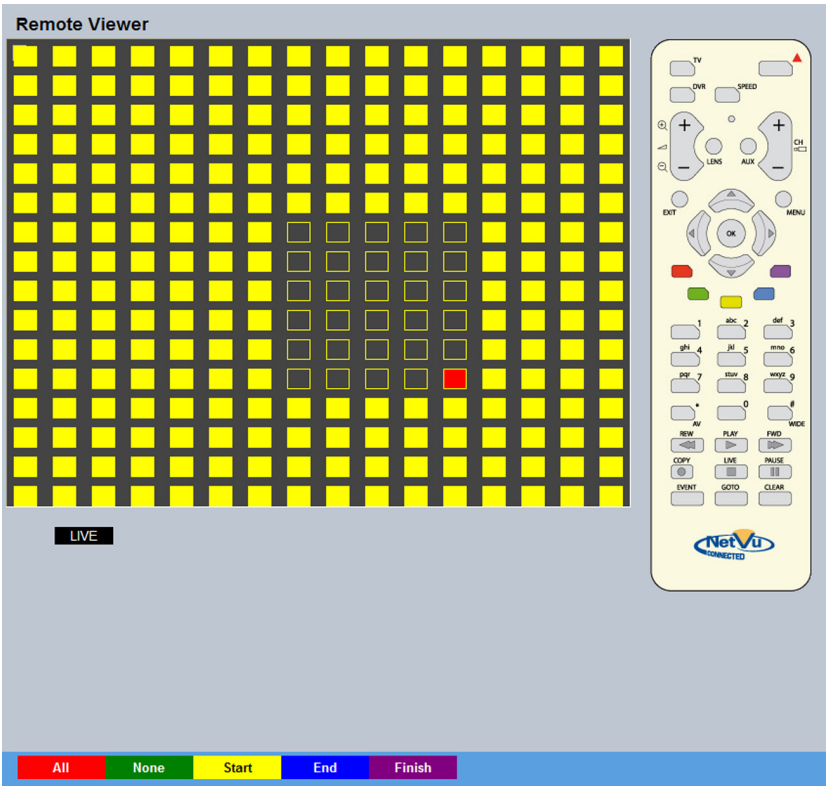


From Time	Select a start time for the Activity filter. Events prior to this time will be ignored.
From Date	Select a start date for the Activity filter. Events prior to this date will be ignored.
To Time	Select an end time for the Activity filter. Events after this time will be ignored.
To Date	Select a end date for the Activity filter. Events after this date will be ignored
Cameras	Select which camera to include within the Activity search. A range of cameras can be selected by entering a hyphen between the first and last required camera i.e. 1-8. A selection of individual cameras can be chosen by entering a comma between each camera i.e. 1,3,5,8. Events captured by other cameras will be ignored.

Red	Blank	Select to remove all data currently displayed in the Filter Search Box.
Green	Reset	Select to reset the Filter Search box. The current Time/Date will be displayed plus all available cameras.
Yellow	Grid	Select to open the Grid menu.
Blue	Apply	Select to apply any change made to the Filter Search box.
Purple	Close	Select to return to the Event Copy and Search menu.

Activity Grid Menu

The Activity Grid menu allows the event search criteria to be further narrowed to only display events which have occurred within a segment of the camera view. A grid will be displayed across the camera image. Using the options outlined below, the grid can be configured to create activity zones within the image. Only events which have occurred within these zones will then be displayed in the Activity Search menu for the chosen camera channel.



Red	All	This option will display a default rectangle of 18x16 cells across the video image.
Green	None	This option will delete all cells from the displayed video image.
Yellow	Start	Highlight a cell and select Start (Yellow). This will mark the start point of the area NOT to be included in the activity zone.
Blue	End	Highlight a cell and select End (Blue). This will mark the end point of the area NOT to be included in the activity zone.

A zone can also be created directly via the mouse. Simply click on a cell and then on a separate cell. An area NOT to be included in the Activity zone will be created linking these points.

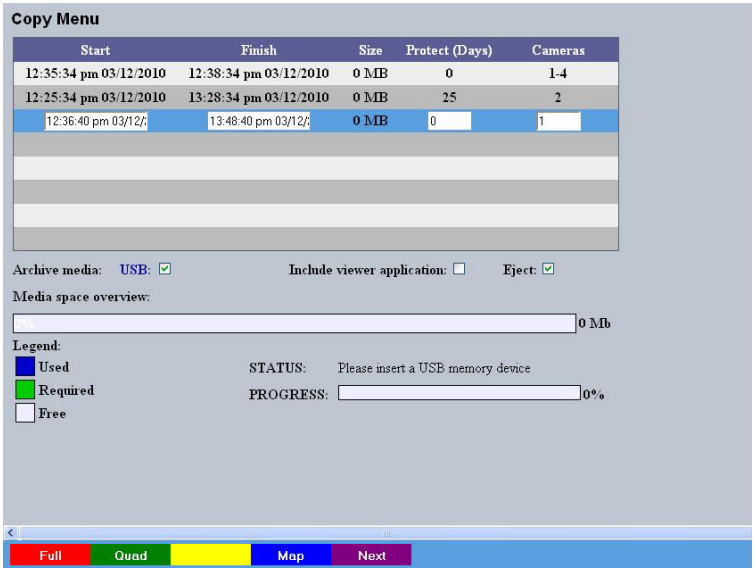
IMPORTANT: *The area (cells) highlighted yellow constitutes the activity detection zone. Any activity events occurring within the area created using the Start and End points will be ignored.*

Note: *Multiple zones can be created within the same camera view.*

Purple	Finish	Select to return to the Activity Search menu.

Copy Menu

Images and events can be copied to a USB Media for remote reviewing away from the unit (for evidential or monitoring purposes). The Copy Menu can be accessed via the 'Archive' (Yellow) button on the Archive Selection page.



The Copy menu will display the Archive periods added to the Copy Event List. The Start and Finish date/times will be shown along with the estimated size of the download.

Archive Media	Select the media device (USB) for archive purposes.
Include Viewer Application	Select whether the application required to view archived data is included in the download.
Eject	N/A
Used (Blue)	Displays the space (as a percentage) already used on the chosen media device.
Required (Green)	Displays the space (as a percentage) required to download the selected archive(s).
Free (White)	Displays the space (as a percentage) that will remain following the download.
Status	Displays messages relevant to the archive process i.e. 'Archive In Progress'.
Progress	Displays the progress of the current archive (as a percentage of completion).

To Copy Events/Images to a USB Device

1. Insert a USB Device into the USB port on the front of the unit.
2. Select USB from the Archive Media checkbox.
3. Select the Copy option (Red) to start archive.
4. Selected items are then saved to the USB device.
5. The USB export progress is displayed as a %. On completion the status will read 'Archive Complete'.

Using the Optional Keyboards

The unit can also be controlled using an optional Dedicated Micros keyboard. This is connected via the KBD connector on the rear of the unit and provides the same control functions as the I.R Remote Control. The following keyboards are supported:

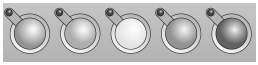
DM/KBC1 Keyboard



DM/KBC2 Keyboard



Note: *Not all buttons detailed below are relevant for both models of keyboard.*

Key	Function
	Displays the Softkeys menu if not currently on screen. Selects the colour coded item displayed on screen.
	Switches from Playback to Live mode.
	Toggles the visibility of on-screen text and status bar if no Softkeys are on screen. (For future use).
	For future use.
	Displays the Softkey options for the Audio functions (for future use).
	Forces all the cameras to record in alarm mode for three minutes, or until the button is pressed again (for future use).
	Play mode - Marks start and end of archiving point. Live mode - Opens the Archive Copy menu.
	Live mode - No functionality. Play mode - Starts fast forwarding from play time. Rewind mode - Starts fast forwarding from play time. Pause mode - Steps forward one frame.
	Live mode - Puts unit into reverse playback from current time. Play mode - Starts rewinding from play time. Rewind mode - Increases the rewind speed. Pause mode - Steps back one frame.
	Live mode - Freezes the current display window Play mode - Pauses video in playback.
	Live mode - puts the unit into playback using the last stored playback time
	Displays the Events list menu.



Opens the GOTO menu



For future use.



Toggles control from Main to Spot monitor.



Allows the numeric selection of a camera (numeric selection defaults to camera selection).



Allows entry of camera and Preset and numbers.



For future use.



For future use.



Triggers the wash function on a telemetry camera.



Triggers the wipe function on a telemetry camera.



Switches on the lamp on a telemetry camera.



Adjusts the focus to objects nearer the camera.



Adjusts the focus to objects further from the camera.



Closes the Iris on a Telemetry camera.



Opens the Iris on a Telemetry camera.



Zooms in on a telemetry camera and also provides electronic zoom out.



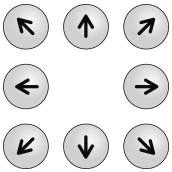
Zooms out on a telemetry camera and also provides electronic zoom in.



Sends a Patrol command to a telemetry camera.



Instructs the selected telemetry camera to automatically pan (on cameras that support this function).



Used as menu and on-screen navigation keys.
Pan and tilt control for telemetry cameras.



In Play mode: Used to Mark Start/End positions.

In Live mode: Displays the Copy List and archive controls.



Exits menus.

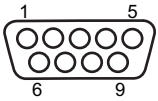
Appendix A - Pin-outs

Alarm & Serial Pin Outs

Using Serial Ports

It is possible to connect a variety of telemetry cameras to the unit, use the following table as a guide to the serial port connections.

Note: *The Serial 1 port and the keyboard connector utilise the same 485 bus which can provide either keyboard support or telemetry. Both Encoder and DVR mode defaults to telemetry, Console defaults to keyboard operation.*



Alarms

The unit supports 4 normally open/closed alarm inputs via the back panel or one Global keyswitch input with camera specific inputs configurable as entry/exit alarms.

Alarm Connections

Pins	Connections
1 - 4	Alarm Inputs 1-4
5	Auxiliary Alarm Input
6-9	Ground

Relays

The unit support up to two 24V 200mA relays

Relay Connections

Pins	Connections
6 & 7	Relay 1 signal
8 & 9	Relay 2 signal

Appendix B - User Logging

User Activity Logging

User Activity logging can be enabled or disabled via the System Setting:-Features menu. When this feature is enabled, the unit will record all actions performed via the user interface. These actions include Viewing the live stream, activating telemetry, altering the unit configuration, viewing recorded video, archiving video and any system events such as restarting the unit.

Data recorded will include the user name, login time and date, what action was performed, which channels were viewed and which telemetry instructions were issued.

The log files will be retained on the unit for as long as any related video files are kept. One log file will be created daily as a text file and will be named automatically (using the date of creation), and stored in the logs directory on the unit. This can then be downloaded via ftp if required.

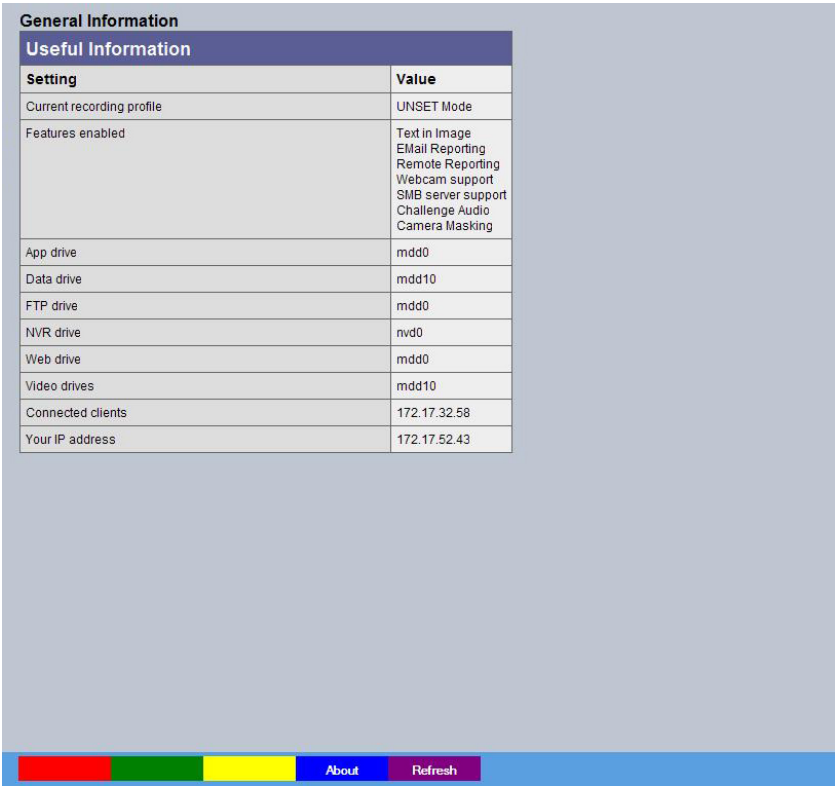
Action	Stored Data
User Login	Username, Login
Local Archive	Username, Media
Remote Raw Archive 1	http Username, Submission requesting archive time
Remote Selective Archive	http Username, Submission requesting archive time
Remote Raw Archive 2	FTP Username, List of downloaded files
Telemetry	IP address of user, Local or Remote, Channel Controlled, Command sent
Configuration	Username, Local or remote, Menus changed, Items changed
Playback	Username, Remote, Channel viewed, From time
Live	Username, Remote, Channel viewed
System Events	Username, Event Info

Appendix C - ‘About’ Pages

The following pages detail the menus available via the ‘About’ configuration option (System->Status->About).

General Information

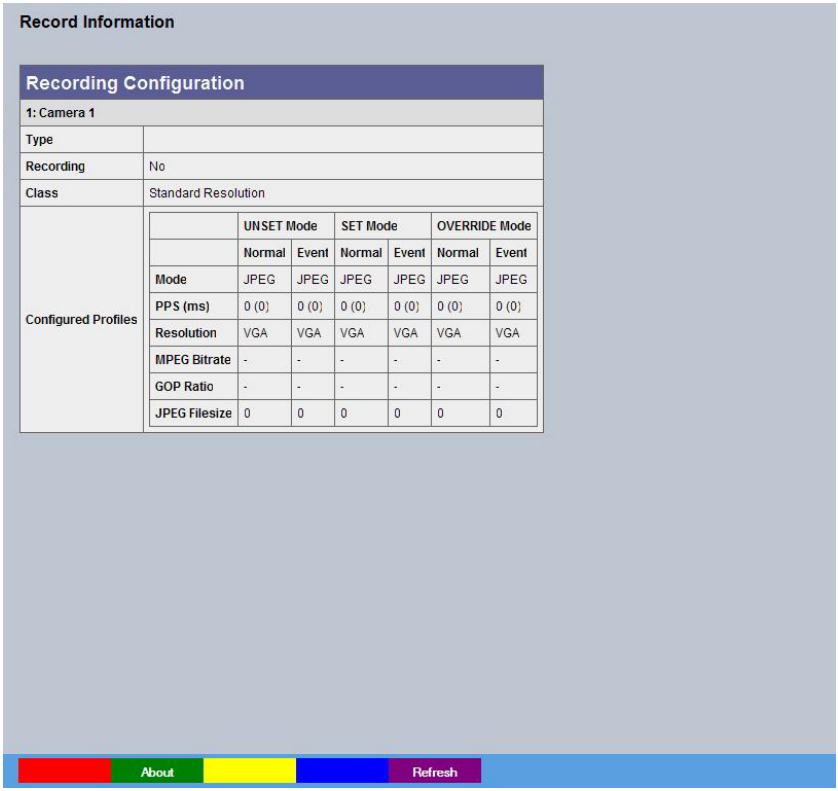
This page gives an overview of the units current settings including IP address, connections to the camera, the locations that data is being read from and written to, and which recording profile is active.



About (Blue)	Opens the *About* page
Refresh (Purple)	Refreshes the current page

Record Details

This page displays the configured recording settings for the unit. The current record mode being used by the unit can be found on the General Information page.

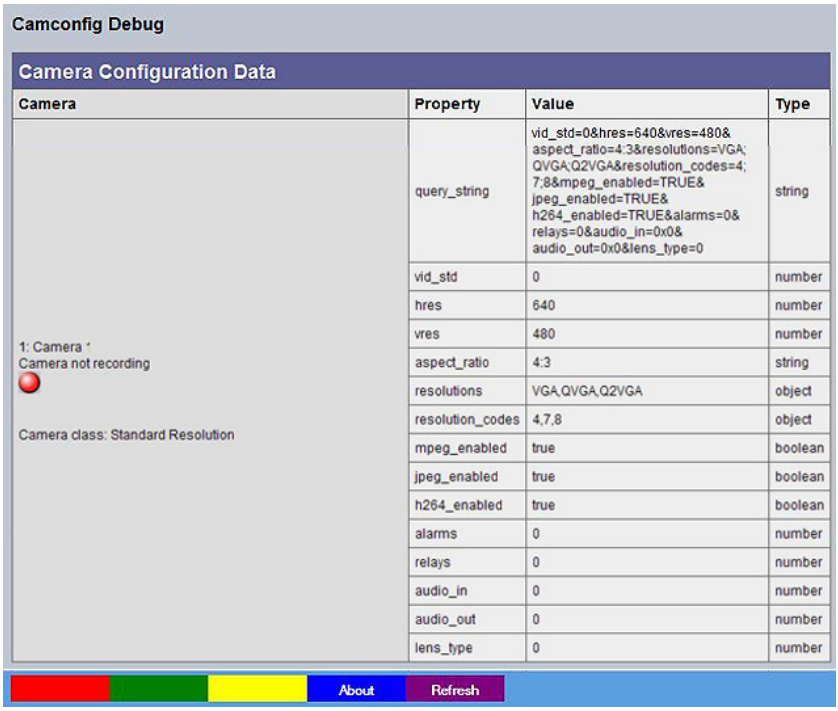


About (Blue) — Opens the *About* page

Refresh (Purple) — Refreshes the current page

Camconfig Details

This page displays the capabilities of the camera in terms of resolution and supported compression formats. This camera does not support audio, alarms, relay or lens de-warping so all these parameters return 0.



Camconfig Debug

Camera Configuration Data

Camera	Property	Value	Type
1: Camera * Camera not recording Camera class: Standard Resolution	query_string	vid_std=0&hres=640&vres=480&aspect_ratio=4:3&resolutions=VGA;QVGA;Q2VGA&resolution_codes=4;7;8&mpeg_enabled=TRUE&jpeg_enabled=TRUE&h264_enabled=TRUE&alarms=0&relays=0&audio_in=0x0&audio_out=0x0&lens_type=0	string
	vid_std	0	number
	hres	640	number
	vres	480	number
	aspect_ratio	4:3	string
	resolutions	VGA,QVGA,Q2VGA	object
	resolution_codes	4,7,8	object
	mpeg_enabled	true	boolean
	jpeg_enabled	true	boolean
	h264_enabled	true	boolean
	alarms	0	number
	relays	0	number
	audio_in	0	number
	audio_out	0	number
	lens_type	0	number

About (Blue)	Opens the *About* page
Refresh (Purple)	Refreshes the current page

Capabilities

This information page shows the capability settings for the camera. These parameters determine how the camera performs and what options are available on the web pages.

Unit Capabilities

GUI

Capability	top.capability.	Yes	No
Has help videos available	has_help_videos		X
Unit has map support	maps		X
Diagnostics menu available	diagnostics	X	
Goto command will show the timeline	goto_timeline	X	
Colour hotkey buttons are provided in the menus	has_colourbar_menus	X	
Unit supports touch screen interface	supports_touch_screen		X
Show time and date on OSD	show_time_date	X	
Show video status on OSD	show_video_status	X	
Show camera number prefix on OSD	prefix_camera_number	X	

Network

Capability	top.capability.	Yes	No
Supports gigabit network	gigabit_network		X
Has IP camera streaming and recoding (remote codec)	ip_streaming	X	
Unit has multicasting	multicast	X	
Unit has network interface	has_network	X	
Unit has turbo mode, locked record/transmission profiles	turbo_mode		X

Recording

Capability	top.capability.	Yes	No
Unit supports recording images	has_recording	X	
Unit has h264 recording/streaming	supports_h264	X	
Can record to ATA over Ethernet (AoE) devices	aoe	X	
Unit supports recording schedules	has_rec_sched	X	

Alarms

Capability	top.capability.	Yes	No
Alarm counters capability	alarm_counters	X	
Unit has physical alarm inputs	has_physical_alarms		X
Unit has keyswitch	has_keyswitch		X
Unit supports combinatorial alarm conditions	zone_or_and_not	X	

Archiving

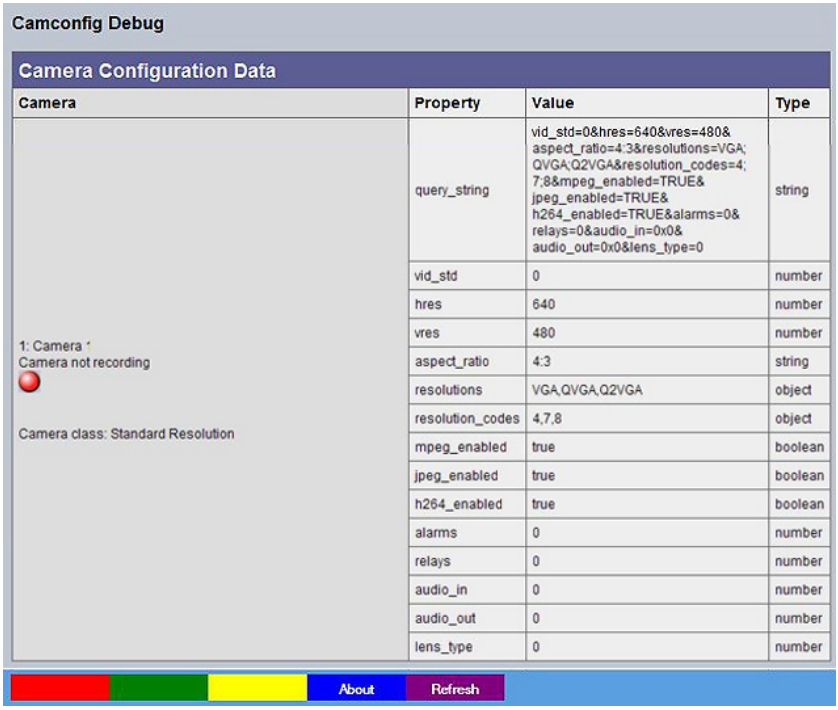
Capability	top.capability.	Yes	No
Unit provides archiving to CD/DVD	cd_dvd_archive		X

About (Blue) — Opens the *About* page

Refresh (Purple) — Refreshes the current page

UI Information

The UI page shows the settings stored in the camera which configure the user interface.



Camconfig Debug

Camera Configuration Data

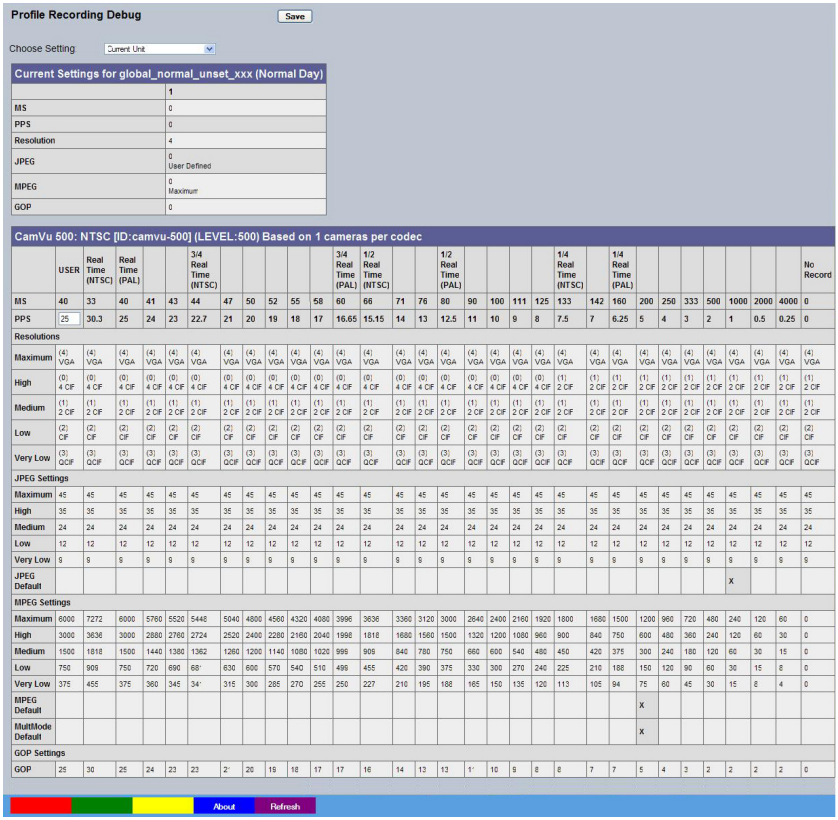
Camera	Property	Value	Type
	query_string	vid_std=0&hres=640&vres=480&aspect_ratio=4:3&resolutions=VGA;QVGA;Q2VGA&resolution_codes=4;7;8&mpeg_enabled=TRUE&jpeg_enabled=TRUE&h264_enabled=TRUE&alarms=0&relays=0&audio_in=0x0&audio_out=0x0&lens_type=0	string
	vid_std	0	number
	hres	640	number
	vres	480	number
1: Camera * Camera not recording	aspect_ratio	4:3	string
	resolutions	VGA,QVGA,Q2VGA	object
Camera class: Standard Resolution	resolution_codes	4,7,8	object
	mpeg_enabled	true	boolean
	jpeg_enabled	true	boolean
	h264_enabled	true	boolean
	alarms	0	number
	relays	0	number
	audio_in	0	number
	audio_out	0	number
	lens_type	0	number

About (Blue) — Opens the *About* page

Refresh (Purple) — Refreshes the current page

Profile Record Tables

This page shows the different settings available in the record configurations. The current default settings are indicated by crosses.



Profile Recording Debug Save

Choose Setting: Current Unit

Current Settings for global_normal_unset_xxx (Normal Day)

	1
MS	0
PPS	0
Resolution	4
JPEG	0 User Defined
MPEG	0 Maximum
GOP	0

CamVu 500: NTSC [ID:camvu-500] (LEVEL:500) Based on 1 cameras per codec

	USER	Real Time (NTSC)	Real Time (PAL)			3/4 Real Time (NTSC)					3/4 Real Time (PAL)	1/2 Real Time (NTSC)			1/2 Real Time (PAL)				1/4 Real Time (NTSC)		1/4 Real Time (PAL)								No Record
MS	40	33	40	41	43	44	47	50	52	55	58	60	66	71	76	80	90	100	111	125	133	142	160	200	250	333	500	1000	2000	4000	0
PPS	25	30.3	25	24	23	22.7	21	20	19	18	17	16.65	15.15	14	13	12.5	11	10	9	8	7.5	7	6.25	5	4	3	2	1	0.5	0.25	0
Resolutions																															
Maximum	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA	(4) VGA
High	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(0) 4 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF
Medium	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF	(1) 2 CIF
Low	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF	(2) CIF
Very Low	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF	(3) QCIF
JPEG Settings																															
Maximum	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
High	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Medium	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Low	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Very Low	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
JPEG Default																											X				
MPEG Settings																															
Maximum	6000	7272	6000	5760	5520	5448	5040	4800	4560	4320	4080	3996	3636	3360	3120	3000	2640	2400	2160	1920	1800	1680	1500	1200	960	720	480	240	120	60	0
High	3000	3636	3000	2880	2760	2724	2520	2400	2280	2160	2040	1998	1818	1680	1560	1500	1320	1200	1080	960	900	840	750	600	480	360	240	120	60	30	0
Medium	1500	1818	1500	1440	1380	1362	1260	1200	1140	1080	1020	999	909	840	780	750	660	600	540	480	450	420	375	300	240	180	120	60	30	15	0
Low	750	909	750	720	690	68	630	600	570	540	510	499	455	420	390	375	330	300	270	240	225	210	188	150	120	90	60	30	15	8	0
Very Low	375	455	375	360	345	34	315	300	285	270	255	250	227	210	195	188	165	150	135	120	113	105	94	75	60	45	30	15	8	4	0
MPEG Default																								X							
Multimode Default																								X							
GOP Settings																															
GOP	25	30	25	24	23	23	2	20	19	18	17	17	16	14	13	13	1	10	9	8	8	7	7	5	4	3	2	2	2	2	0

About Refresh

About (Blue)	Opens the *About* page
Refresh (Purple)	Refreshes the current page

Appendix D - IP Address via Serial

For guidance on locating the unit's IP address via a serial port connection, please see below:

Locating the unit IP address using the serial port

1. With the mains power off, connect a standard 9DF-9DF RS232 communications cable from the PC to one of the serial port connections on the rear of the unit.
2. On the PC, click Start->Programs->Accessories->Communications->Hyperterminal and create a new connection via the COM port using these settings.

Bits per second	115200
Data Bits	8
Parity	None
Stop bits	1
Flow Control	None

3. Power the unit, the Power LED on the unit will illuminate.
4. Hyperterminal will display the communications information as the unit boots up. This will include the IP address, Subnet and Gateway.

Appendix E - Multicast

The Multicast page allows recordings from the unit's camera input to be forwarded to a port address. To utilise the Multicasting function (refer to Configuration Menu: Network Settings->Multicast SetUp for guidance).

This system has been validated using the 'Videolan VLC media player for MS Windows. The Videolan VLC media player can be downloaded free of charge from:

www.videolan.org/vlc/download-windows.html

Note: *Multicast can only used for live viewing, requests for stored images and events will still need to be made via the Viewer menu.*

To configure your PC to utilise VLC

Version 1.0.5

* Select Media | Services Discovery | SAP announcements
* Select View | playlist | SAP Announcements

All video servers with multicast enabled should then appear in the playlist window. Double click a server to start streaming data from it.

Version 0.8.6

* In VLC select Playlist -> Manage -> Services Discovery -> SAP Announcements
* Wait for the server to appear under "Session Announcements (SAP)" in the Playlist window.
* Click on one of the items advertised by the server.

The server broadcasts SAP announcements periodically, the packets contain SDP entries which describe the stream contents for each multicast enabled camera. VLC listens for SAP announcements and adds them to the playlist.

Appendix F - Monitor Output

Open a File Transfer Protocol (FTP) client to connect to the unit, refer to the FTP client's supporting documentation for guidance on how to connect to the unit.

Note: *The URL of the unit will be required before a connection can be made.*

No username/password is required for an FTP connection by default. If they have been assigned however, these must be entered before access will be allowed. FTP access username/passwords can be configured via the 'Admin FTP' option displayed in the 'User Accounts' menu (Display menu->User Accounts).

When access to the unit has been granted, navigate to the 'etc' folder.

Within this folder, located the voutconfig.example.ini file.

Rename it to voutconfig.ini and reset the machine. This will provide more default screen options which may better suit the monitor in use.

If this does not provide a better alternative, contact Technical Support.

Appendix G - Unit Specification

LANGUAGES

Currently: English, French, Italian, German, Spanish, Russian, Czech, Danish, Finnish, Norwegian, Swedish & Dutch.

DV-IP NV1 DATA

2 port 10/100 Ethernet switch

4 analogue 75 Ohm video inputs

1 analogue 75 Ohm video output

1 HDMI output

3 USB ports

2 serial ports (sharing a single 9 way D connector)

1 keyboard port compatible with KBS1 and KBS2

1 port for IR remote control extender

CAMERAS

4 analogue inputs. Auto detection on power up. Alarm on Camera Fail. 8 camera streams supported of which 4 can be analogue with the remainder being made up of IP streams.

RECORDING

Real-time recording or encoding at up to 200/240pps CIF across all connected cameras

For example: 4 cameras 25pps @ 2CIF per camera.

2 cameras 25pps @ 4CIF

1 camera, 25pps @ 720p/1080p or

2 Megapixel (4:3)

MULTICASTING

The DV-IP NV1 can push any live video stream onto a network to enable multiple viewers to view the same data stream (using a suitable media player) without having to connect and request images. This form of multicasting reduces the demands on the unit and improves system performance.

DECODING

Decode up to 400pps @ CIF in MPEG4 or 200pps @ CIF in H.264

For example: Decode up to 3 real time 4CIF streams in MPEG4

Decode up to 12 real time CIF streams in MPEG4

Decode 12pps 2MP or 720p/1080p stream to a 720p HDMI monitor output

AUDIO

1 line audio input

1 line audio output

TELEMETRY

Built-in RS485/Twisted pair protocols including but not limited to the following:

- Dedicated Micros 2040
- Dedicated Micros 2060
- Dedicated Micros Oracle Dome
- Honeywell
- VCL Orbiter & Jupiter Micro-spheres
- GE CyberDome
- BBV RS485
- StarCard Bosch/Philips G3
- American Dynamics
- Panasonic
- Pelco P
- Pelco D

STORAGE

32GB of on-board storage via Micro Sd Card (2GB card supplied, optional 16 or 32GB available). Additional storage available via Hi speed 2.0 USB (480Mbit/s) port or AoE.

AoE support for localised external video storage

NETWORK SUPPORT

DCCP, DHCP, ICMP, TCP, UPP, IP, ARP,RTP, Telnet, FTP, AoE and SNMP

WEB PAGE CONFIGURATION
Simple Web page configuration will allow the following functions to be configured: Unit setup, Manual update of viewing profiles, Network, Audio and Alarm settings

BROWSER:
IE 5.5 / Firefox 2.0 and above

DEVELOPER:
Java via Dedicated Micros SDK

POWER SUPPLY:
12W External Power Supply

POWER OVER ETHERNET
IEEE 802.3af-2003 (12.95W). End span and bridging injectorssupported

DIMENSIONS:
125 (L) including connectors x 58(H) x 130 (W)

WEIGHT :
0.77Kg

MATERIAL:
Extruded aluminium case

ENVIRONMENTAL OPERATING TEMPERATURE:
-10º to +50ºC (14º to 122ºF)

STORAGE TEMPERATURE:
5º to + 40ºC

RELATIVE HUMIDITY:
10% to 85% relative humidity, non condensing

WARRANTY
3 years

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

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 Benelux
Joseph Chantraineplantsoen 1,
3070 Kortenberg, Belgium

Dedicated Micros Germany
Hamtorstaße 9
41460 Neuss, Germany

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

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

Dedicated Micros (Malta) Ltd.
BLB017, Bulebel Industrial Estate,
Zejtun, ZTN3000, Malta

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

Installed by

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