

SD

Installation and Programming

Training Reference Notes



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Introduction

At the very heart of Dedicated Micros new SD Range, is a philosophy to provide the widest range of video surveillance solutions possible.

The SD Range provides flexibility and scalability whilst ensuring that existing investments are protected.

Dedicated Micros belief is that any new CCTV developments, must work seamlessly with existing systems without the need for a complete refit. To simply illustrate this, DM's founding core principles of NetVu Connected, is that everything must work together, both old and new.

Investing in new technology solutions, provides added and enhanced capability, but wherever possible, does not force obsolescence on existing infrastructure, This flexibility and scalability ensures that existing investments are protected.

Product choice is no longer based on features but on key capabilities of recording and video management as all SD Products have the same enhanced features.

The SD of products provide the widest range of capabilities

- Seamless integration of existing or newly deployed analogue and up to 4 x IP Cameras, either DMs' own generation or selected 3rd party for both Recording and Viewing (8 & 16 channel units only)
- Decoding to multiple viewing clients in real-time, viewed both locally and remotely to match the network performance and capability that has been provided.

NetVu Connected Technology Guarantees interoperability between all products in the range.

- All NetVu Connected Clients including NetVu ObserVer, NetVu Console and Pick-a-Point can seamlessly control any NetVu Connected DVR and Server including the entire SD range.

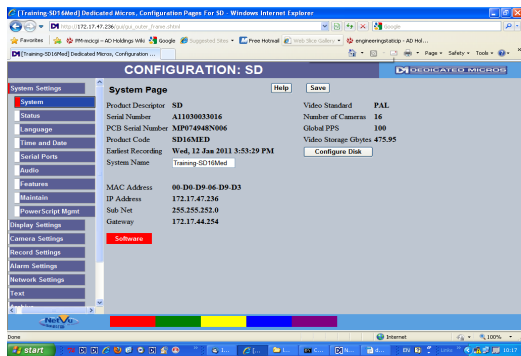
The SD range of products provides enhanced performance, delivered through the latest Gen3 Architecture. The enhanced system performance has been provided in all of these crucial areas performance includes:

- Improved Disk performance
 - SATA disks provide 8x Read/Write Speeds of PATA/IDE
- Increased Processor Power and Memory Enhancements
 - more than double the processing power
 - 64bit RAM doubles memory throughput
- Enhanced Codec Capability
 - latest generation Chipwrights ViSP devices deliver improved performance through greatly increased clock speeds, memory and computation power
- Improved Bus Architecture
 - separate buses for Disk Drive and other peripherals increases total data throughput.

Configuring the SD Range

The SD can be programmed using either the On Screen Display menus displayed on the main monitor of the unit or via a set of web-pages using a standard web browser application.

The Product Configuration pages are now unified so that they are the same on the Main Monitor and the remote webpages. This makes the SD easy to program and reduces the training requirement because install operatives only have to become familiar with one set of pages and can freely choose which method to use.



A Remote Webpage



The same Configuration Page shown on the local Main Monitor

Set up is further simplified by the use of colour-coded 'soft-keys', on the front panel, on the keyboard and remote webpages, which give rapid access to all the related pages which may need to be accessed during feature configuration.

Passwords

By default, no usernames and passwords are required to access the unit.

Dedicated Micros recommend that all DVR passwords are configured by the install operative at the time of installation, to ensure system security. It is possible to establish usernames and passwords which can limit access to all or selected users accessing the unit locally or remotely.

To configure passwords on the unit please refer to the User Accounts section of this document.



Using the Local Configuration Pages with the Remote Control

Press the **MENU** key to open the menus on screen. The currently open menu will be shown with a red cursor next to it.

Press the **Down** key to highlight the next menu in the list, press OK to open the highlighted menu.

Press the **Right** key to highlight the first editable parameter on the page.

Use the **Left** and right keys to move the cursor (highlighted field) between editable fields.

Use the **Up** and **Down** keys to change the settings within an editable field.

Use the **OK** key to accept a new setting.

Use the coloured keys to select options highlighted in that colour i.e. red key to select the red option.

Press **EXIT** or **LIVE** to exit the menus.

Note: The 'OK' key emulates the left button on a USB Mouse. Therefore, as with a USB Mouse, 'Double Clicking' the 'OK' key will access the selected field.

Using the Configuration Pages with a USB Mouse

Enter the configuration Menus either by pressing the **MENU** key on the SD Remote control or the **MENU** button on the KBC keyboard.

Navigate the pages by clicking on the tabs on the left of the main page.

Highlight an editable field by clicking directly on it.

Use the drop down menu to change the setting.

Note: The selected item in the drop down list is highlighted.

Navigating away from a page (clicking on a different tab on the side panel) will automatically save the new settings.

Use the '**Cancel**' button to revert to the previous settings and then navigate away.

Virtual Keyboard

On some pages it may be necessary to enter text, e.g. programming camera captions. To simplify this when using the Remote Control or USB Mouse a 'Virtual Keyboard' has been included.

Position the cursor into the Camera Title Box, '**press OK Twice**' on the keyboard, Front panel or Remote control.



Use the up, down, left and right keys to move around the keyboard, use the OK button to select a letter.

Note that the keys will scroll. Pressing left when the cursor is on the last left key in a row will move the cursor to the right most key on that row.

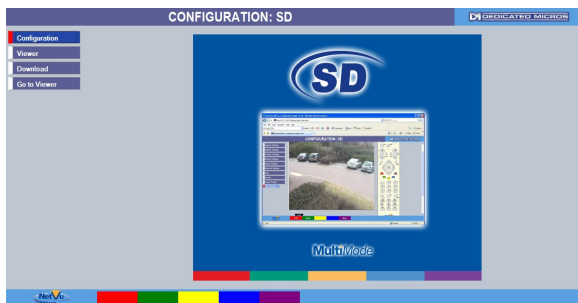
Note also that a standard USB keyboard can also be used.

SD Configuration Remote Web Pages

The SD Range of DVRs can be configured remotely through a standard web-browser such as Internet Explorer using a set of intuitive and easy-to-use WebPages.

Dedicated Micros recommends that access to the SD Configuration Web Pages are password protected. This is to prevent unauthorized access. Refer to Passwords within this document.

The Web Pages can be readily accessed via the browser or through NetVu ObserVer by first connecting to the unit and then on the toolbar select **Tools, Config Image Server via Browser**. The following page will appear:-



Next click on the 'Configuration' Tab and the configuration pages will be accessed. If a 'Web page' password has been configured the following window will appear:

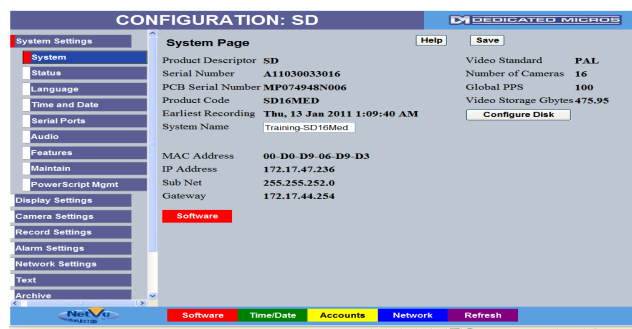


Enter the User Name and Password. If you wish these to be remembered for future connections 'tick' the box as shown.

Note:

The SD does not come pre-configured with Password set. Therefore it is extremely important that Passwords are configured during installation to ensure system security.

Once a valid username and password has been entered the **System Settings** page will be displayed.



Configuration Page Structure

The configuration pages are arranged into logical groups.

Softkeys

The five coloured buttons at the bottom of many pages give immediate access to related configuration pages. Press the corresponding button on the Remote control or control keyboard to go straight to that page.

Using the Web Pages

Important: Any changes made to settings are actioned as soon as another page is selected or the same page is reselected.

Note that there is also a **SAVE** button on all pages with changeable settings. This allows the install operative to save any changes on that page without Navigating to another page.

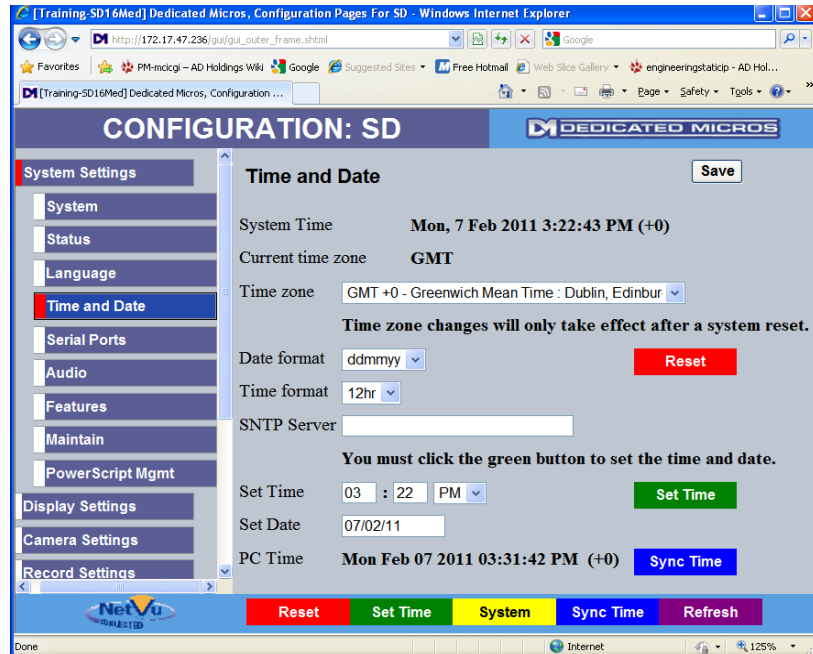
The **Refresh** button can be pressed to reverse any changes that have been made in error. All the settings on the page will revert to how they were set when going on to the page. This is a useful safety feature and will help avoid programming errors.

On-Board Help Videos

The New SD (with front Panel Control) includes on board help videos for assistance on both User and Configuration features. Accessible from both the local and remote viewer the help videos cover all major operation and configuration topics including: Basic Live and Playback control, telemetry control, alarm configuration, event reviewing, network settings and archiving.

Time and Date Configuration

As the core function of the SD is to possibly provide evidential standard information it is essential that that information is correctly 'time stamped'. The SD provides the ability to set the DVR to correspond with the particular time zone that it is operating within, can be easily synchronised to the PC that is being used to configure the unit and if necessary can be provided with its' time reference from a network time server. Note the 'Time and Date' Page below



1. Select the correct Time Zone for the location of the DVR from the drop down menu.
2. Select the Date and Time format.
 - a. This will determine the format of the time and date as displayed on the DVR.
3. Set the desired time using:
 - a. Manual input of the time in the 'Set Time' fields.
 - b. Select the **Sync Time** Softkey and the DVR will synchronise to the current time of the PC (to the minute).
 - c. Enter the network address of the Network Time server within the 'SNTP server' field.

Note: Any Time zone changes will only take effect after a system reset.

Language

The SD is available for deployment throughout the world and can also be configured to operate within a Wide Area Network that covers various time zones throughout the world. With this in mind it is important that the primary users of the SD are able to configure the DVR to suit their language of choice whilst not restricting the language choice of other users.

With these requirements in mind SD can be configured to provide Menu titles in a Language of choice. The 'Session language' option provides a change of language to facilitate the possibility that the configuring engineer may have a preferred language different from that of the 'System' language.

System Language

The System language setting provides the install operative with the ability to select from a List of languages to provide an overall System Language. Choose from:

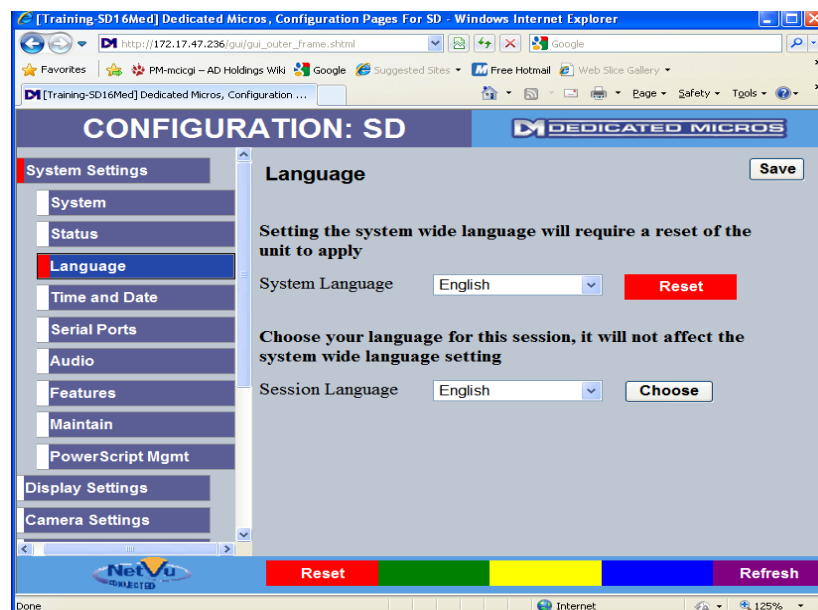
English	English (US)	Czech	Swedish
Spanish	Spanish (Americas)	Danish	Dutch
French	Italian	Finnish	
German	Russian	Norwegian	

Session language

The Session Language provides the install operative each remote user with the ability to configure a Language of choice that is to be used each time that they Log on to that member of the SD .

This is true so long as the remote user logs on using the same remote PC and the same user profile from that PC

Note: The above operation is also true if the 'Session Language' is configured Locally. The set 'Session Language' will always override the 'System Language' setting.



Advanced Features

The SD has the ability to provide a number of Advanced features which further enhance the integration of the DVR. Features such as:

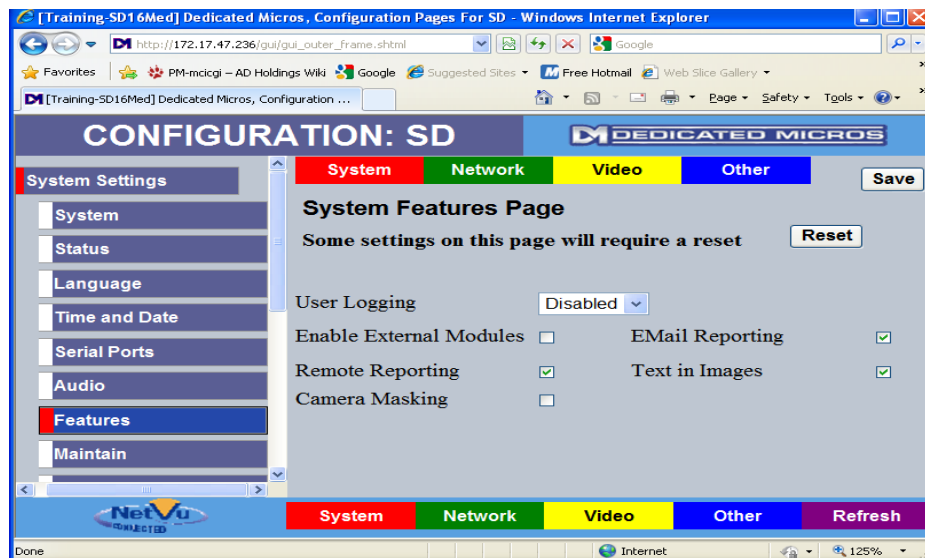
Remote Reporting; E-mail on alarm or system event; Web cam support etc.

These enhanced features are primarily activated using the Features Webpage this ensures that only the required features are enabled thus ensuring that the SD only processes required features.

Configuring Features

All Advanced features must be activated within the Features Webpage any additional settings i.e. e-mail server address are configured within specific webpages for that feature.

1. Navigate to the Features webpage (see below)



2. Check the feature that is required to enable it.
3. Select Save
4. Navigate to the Individual configuration pages for the enabled feature.

Note :

After selecting a Feature, The SD Unit may require a reset for these features to operate.

Viewer defaults

The viewer default page is used to determine the default format of the local monitor and remote viewers including the Multiscreen format. As the configuration of this page is dependant on each particular installation and end user specifications each menu within this page is explained below:

Default image format Is the image format (MPEG4 or JPEG) that will be requested from the server locally and remotely.

Default Image Req Provides the install operative with the ability to select the desired quality of video stream that is to be requested from any connected 'IP Cameras / Video sources' for display or, the Live transmission from the SD should the remote viewer be used. The actual Video Stream is defined by the Installation Operative by navigating to the following Configuration page: Network settings > Live Trans on either the SD or the Video source.

Default Quad Req provides the install operative with the ability to match the 'desired' quality of image with the available bandwidth and display format. Consider one quadrant of a Quad display compared to a FULL screen. The resolution of the 'small' quadrant of the Quad screen does not need to be as high as that of a FULL screen display to provide an image of the required quality. This can assist in reducing network traffic when the remote viewer is used or an IP camera is to be displayed on the Main Monitor.

Default Multi Req As with the 'Default Quad Req' this option allows the Transmission required to produce a suitable quality display to be matched to the Display type and/or the transmission bandwidth available.

Default Multi display provides the install operative with flexibility with regards to the number of cameras that will be displayed in multi screen.

Note: If the End User is only to be able to select one Multi screen format e.g. 9 way, then that format should be selected here. If the user is to be able to select from a number of Formats, then select 'None'.

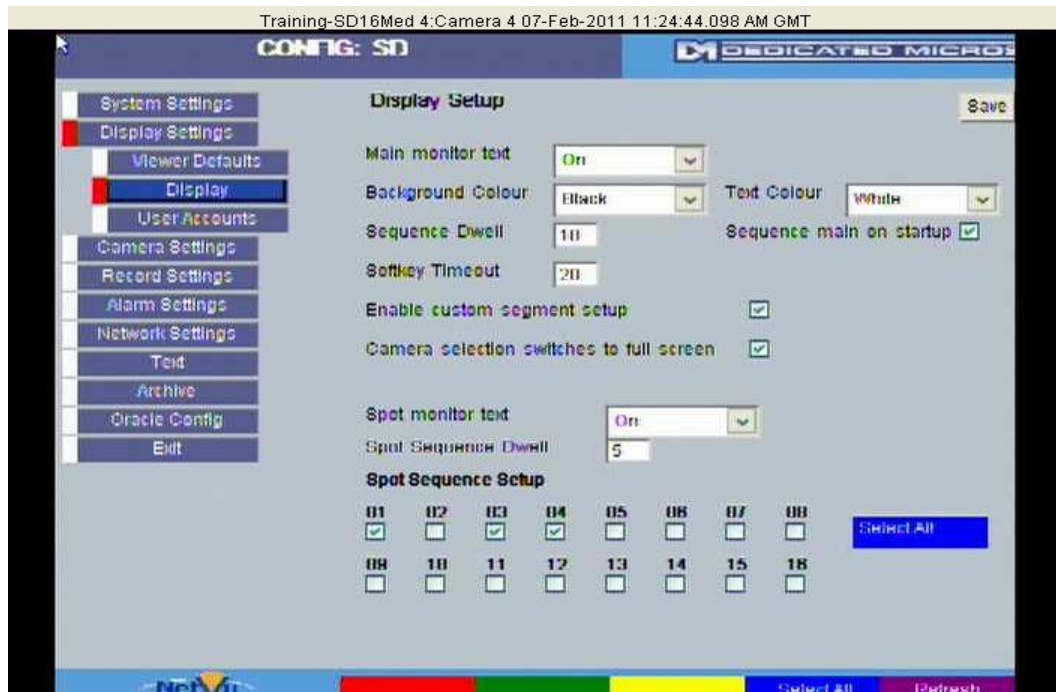
Video Output Mode Select from PAL reduced or PAL default to match the format of the display



SD Display Options

The Display page provides the Install operative with the ability to determine how the Main and Spot monitors are displayed. This includes sequencing of Main and Spot Monitors and features such as Custom Segment Set up.

I



Enable Custom Setup.

This allows a multiscreen to be amended, to show cameras in the positions that an end user may specify. If the cameras are always to be shown in the correct sequential order, then this option should be unticked.

Camera selection switches to full screen

If this option is selected, then when a multi-screen is displayed and a camera is selected – the selected camera will be shown full screen. If the option is not selected, the multi-screen will 'start' from the selected camera.

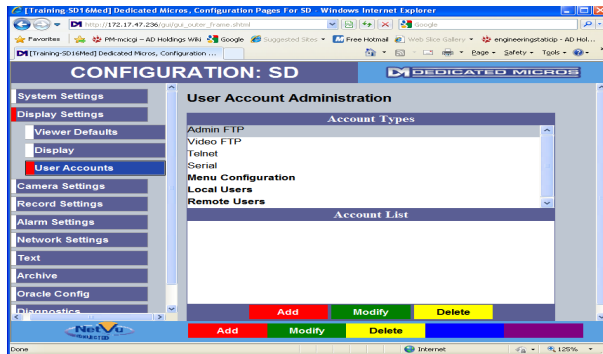
SoftKey Timeout.

This option can be amended to increase or decrease the number of seconds that the on-screen softkeys are displayed on the Main monitor.

User Accounts

User accounts set the usernames and passwords access for FTP, Telnet and webpages. Only one username and password can be set for each function. To edit an existing System Account complete the following:

1. Select Display Settings-> *User Accounts*, the following screen is displayed. Note the page may take several seconds to open as the data from the unit is being downloaded for display.



2. The current usernames and passwords can be edited from this web page.

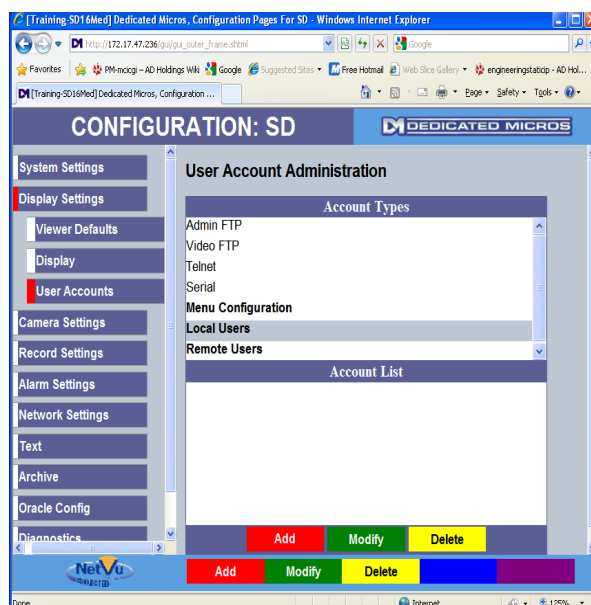
IMPORTANT It is highly recommended that these usernames and passwords are configured as soon as possible following installation and system handover in order to maintain system security.

Note: Please ensure all configured Usernames and Passwords are retained as loss of this information may result in the unit being returned to Dedicated Micros.

Adding new User Accounts

The Video Account section allows operators to be added to the system. When a user is added it will be necessary to enter the correct username and password when connecting to the device using the NetVu ObserVer.

1. Select Console Settings -> *User Accounts*. Note the page may take several seconds to open as the data from the units is being downloaded for display.
2. Select Local Users from the list



3. Press the **Add** button within the Video Accounts Administration section.

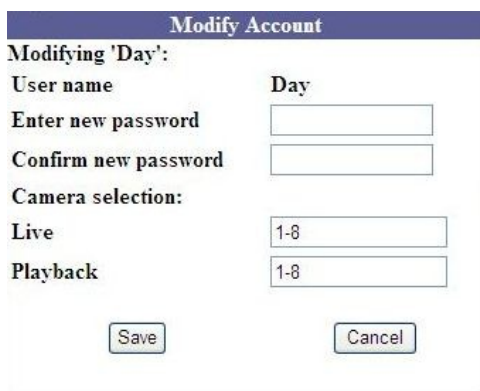


4. Enter the new User Name, Password and which cameras on the system will be available to the user in Live and Playback mode.
5. Press Save, the User Account will be updated and added to the list.

Editing / Modifying User accounts

Once added user accounts can be edited or deleted.

1. Highlight the account name and press the **Modify** button.



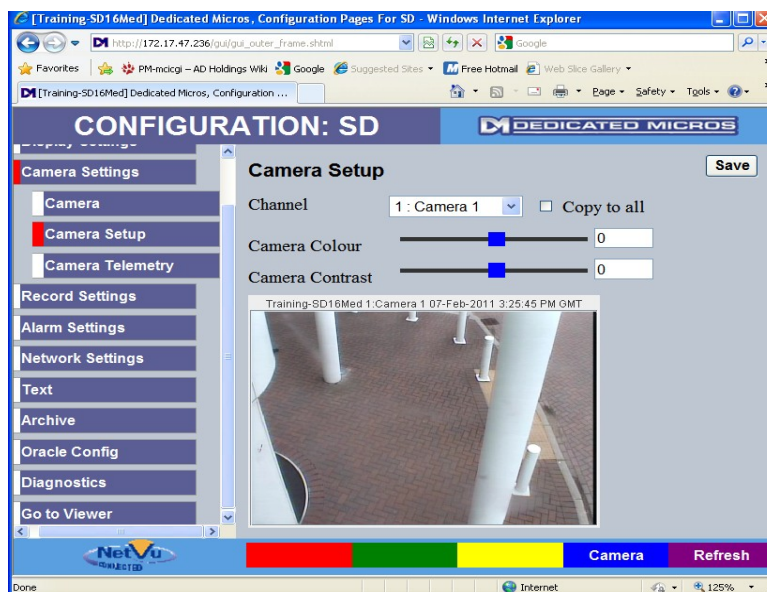
2. Modify the information as required.
3. Press Save, the unit will update the information.

Deleting User Accounts

1. Highlight the user account.
2. Press the **Delete** button.
3. You will be prompted to check if the account is to be deleted, select Yes.

Camera Setup

Manual adjustments to both Colour and Contrast can be made on images from analogue cameras. These adjustments are made within the Camera Setup page



Camera Telemetry

The desired telemetry protocol for each Camera, can be chosen from an extensive list.

The list of 3rd party dome and telemetry protocols comprises :-

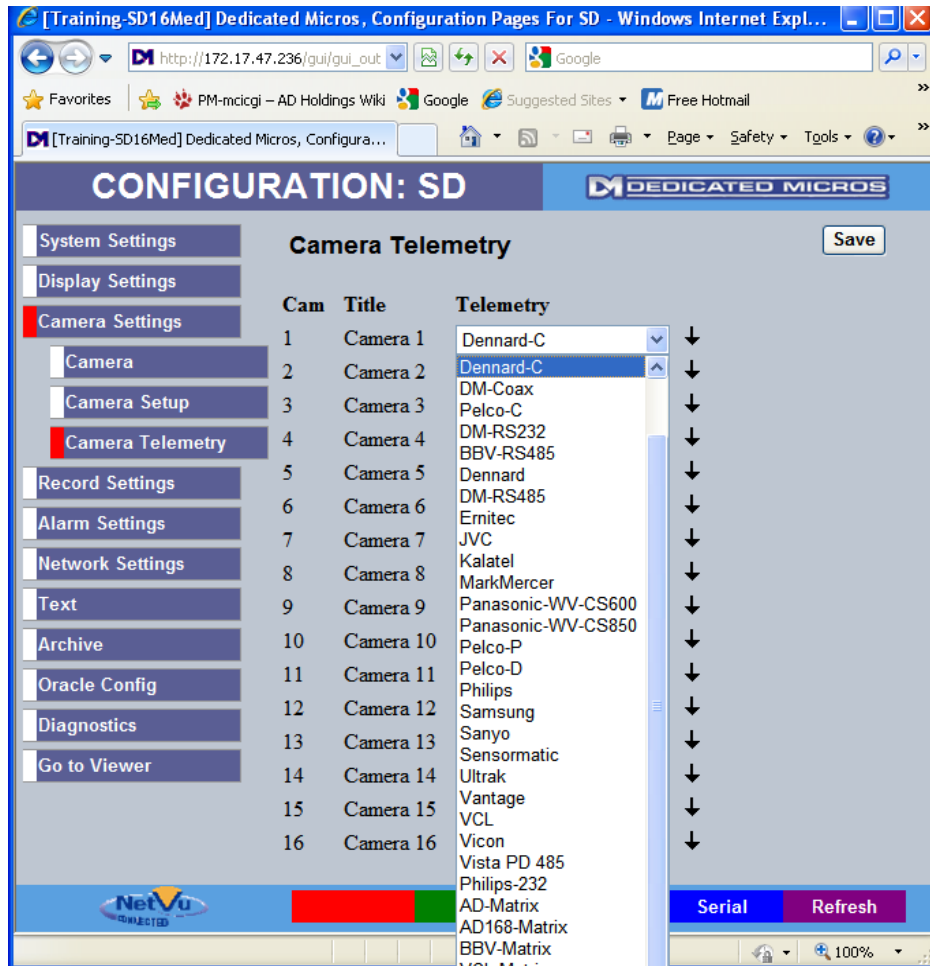
Dennard	Dennard-C	DM-RS232	DM-RS485	BBV-C
Panasonic WV-CS600 & WV-CS850			Pelco P	Philips
Samsung	Sanyo	Sensormatic	Ultrak	Vantage
VCL	Vicon	Vista PD 485	DM-Serial	Baxall-C
Mark Mercer	Ernitec	Pelco-C	Pelco-D	Kalatel
JVC	Philips-232	DM Coax		
Philips 232	AD Matrix	AD168 Matrix		
BBV Matrix	VCL Matrix	BBV RS485		
DM-IP	AXIS-IP	JVC-IP		

Telemetry Capabilities

The SD is equipped with two RS485 ports (Serial Ports 3 and 4) that can be used for telemetry transmission. Coaxial transmission either BBV, Dennard or Pelco-C or Baxall can be set, camera by camera. Support for a number of 3rd party matrix switchers (VCL, BBV, AD168, AD-Matrix) is also provided, making the SD very flexible in the telemetry applications that can be met.

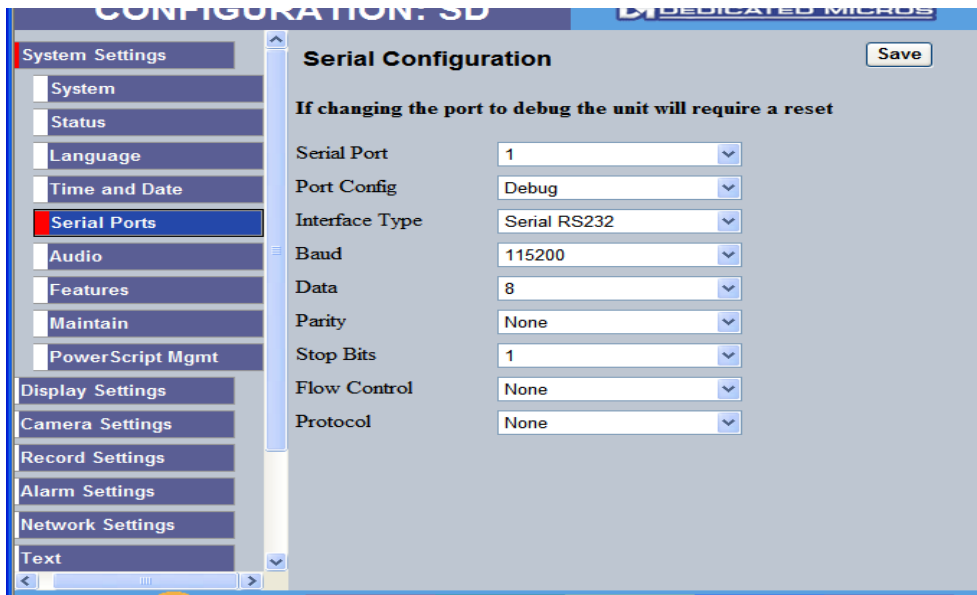
If using Serial telemetry, then a quick link to Serial port configuration is available at the bottom of the screen.

Simply select the blue softkey or click on [Serial](#)



Serial telemetry settings

If Serial telemetry is to be utilised then the configuration of the Serial port has to be completed within the System Settings > Serial Ports page (see example below).



1. Select the Serial Port that is to be used
2. Select the 'Port Config' from the drop down list.
 - a. Select 'telem' for telemetry configuration
3. Define the interface type. Select from:
 - a. RS232, RS485 or RS422.
4. Select the correct Baud Rate, Data, Parity, Stop Bits and Flow Control for the camera that you are connecting to.
5. Finally identify the protocol that is to be used from the drop down list (should be the same as the Protocol selected on the Camera telemetry Page) and Select 'Save'

Note: An example application is explained, within the Annex section of this document

Record Settings

The SD provides a varied range of recording Capabilities

- SD seamlessly integrates Analogue Camera recording and playback.
 - The New SD will, following a forthcoming software release, be able to accept up to 4 IP video streams from IP devices.
- SD is **MultiMode** Recording Capable
 - Dynamically-switchable resolution, record-rate & compression per camera, switchable on an event, a schedule or using a keyswitch

Record

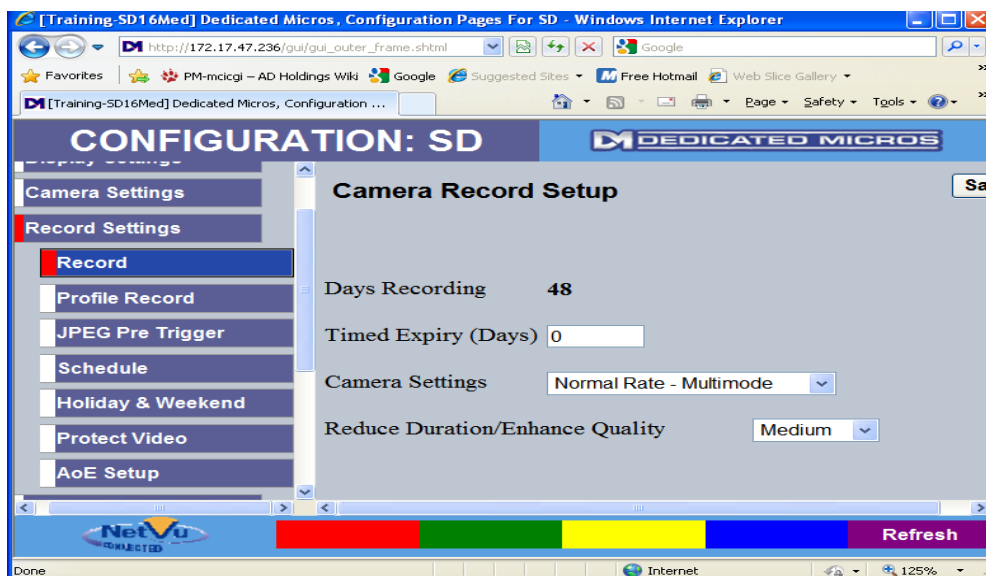
The record page provides a facility for easy off the shelf set-up of all analogue cameras to one of three default recording profiles.

1. Select from the drop down menu's the record provide that you wish to be applied to all cameras.
 - a. XX Rate Multimode
 - i. Switches an MPEG recording per channel switching to JPEG recording per channel on event.
 - b. XX Rate MPEG
 - i. This will apply a MPEG record profile to all channels
 - c. XX Rate JPEG
 - i. This will apply a JPEG record profile to all channels

Note: XX refers to the Low, Medium or Normal Rate record settings which are detailed below:

Normal Rate Recording provides 5pps per camera in MPEG4 or 1pps in JPEG
Medium Rate Recording provides 2pps per camera in MPEG4 or 0.5pps in JPEG
Low Rate Recording provides 1pps per camera in MPEG4 or .25pps in JPEG

2. Select the Duration of recording you wish the DVR to provide.
 - a. A reduced Record Duration can be selected by 'increasing' Record Quality settings
 - b. An Increased Record Duration can be selected by 'decreasing' the Record Quality setting



Profile Record

For applications demanding individual record settings on a Camera-by-Camera basis, switching on Event and Schedule, then Profile Recording can be used

Two 'levels' of configuration complexity are available 'Simple' and 'Advanced':

Simple Profile Record

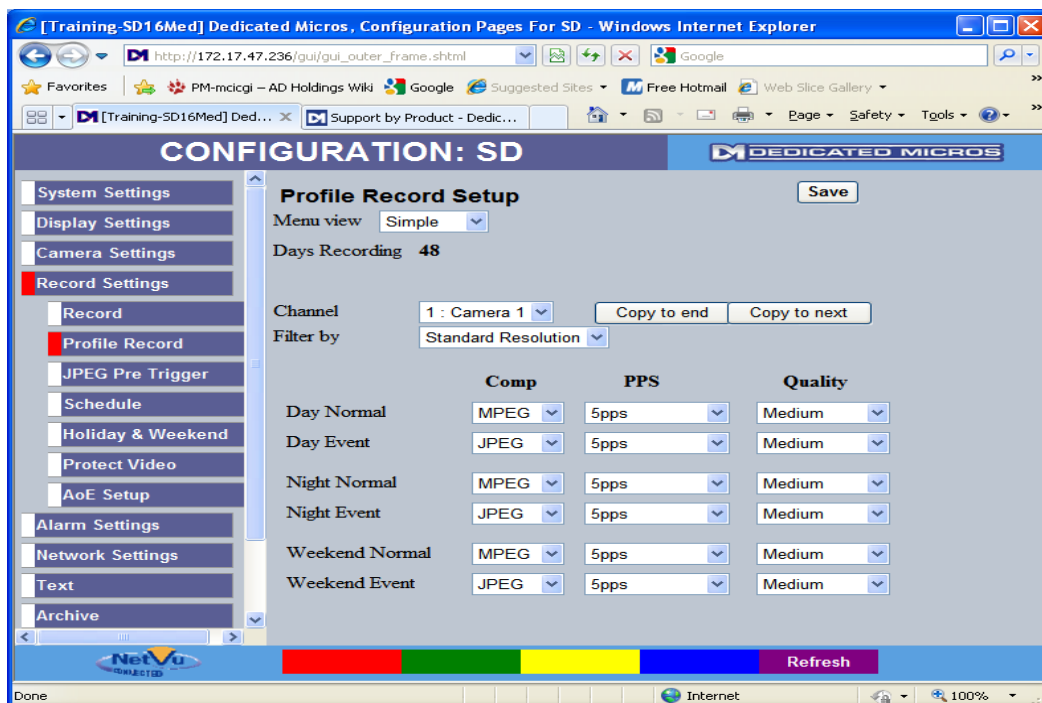
The Simple Profile Record consists of pre-defined profiles that the Install operative may choose from. To configure using 'Simple':

1. Select the Camera / Channel that you wish to configure
2. If any Pre Trigger (pre alarm) is required then navigate to Record settings . JPEG Pre Trigger configuration page and select 'Enable' for each camera where this feature is required. The Pre-trigger duration (secs) will be calculated and displayed in an un-editable format (any direct editing of the Pre trigger Duration must be done within the 'Advanced' settings)

Note: Pre trigger is only available when event recording is set to JPEG.

Note: The Pre trigger duration is calculated using the event PPS rate. The higher the PPS rate the lower the Pre-trigger duration.

3. Next develop the record profile from:
 - a. Compression type MPEG4 or JPEG
 - b. Pictures Per Second PPS (½ Real-Time etc, 6 PPS etc)
 - c. Quality (5 Levels –Maximum to Very Low)
4. If **MultiMode** recording is to be utilised it may be configured:
 - a. On a Camera by Camera Basis
 - b. In Normal or Event
 - c. On a schedule



Advanced Profile Record

The Advanced Profile Record provides the ability to be specific on exactly what an individual record profile is. To configure using 'Advanced':

1. Select 'Advanced' in the Menu view field. An example of the Advanced page is shown below:

The screenshot shows the 'CONFIGURATION: SD' window with the 'Profile Record Setup (Advanced)' tab selected. The 'Menu view' is set to 'Advanced'. The 'Days Recording' is 48. The 'Channel' is '1: Camera 1'. The 'Filter by' is 'Standard Resolution'. The table below shows the recording profiles:

	Comp	Res	rate_kbps	size	pps	gop
Day Normal	MPEG	2CIF	180		5	5
Day Event	JPEG	2CIF		24	5	
Night Normal	MPEG	2CIF	180		5	5
Night Event	JPEG	2CIF		24	5	
Weekend Normal	MPEG	2CIF	180		5	5
Weekend Event	JPEG	2CIF		24	5	

2. Select the Camera / Channel that you wish to configure
3. When using MPEG4 the number of P-frames for every I-frame can be configured by amending the 'gop' (Group Of Pictures – This determines how often the I-Frame is recorded)
 - a. In the example above the GOP is set to 5 and the pps is set to 5 this will result in an I frame being recorded every second.
4. If any Pre-Trigger (pre alarm) is required enter the 'Pre-Trigger Duration' (JPEG Event Recording only)
5. Next develop the record profile from:
 - a. Compression type MPEG4 or JPEG
 - b. Resolution QCIF to 4CIF
 - c. Quality of MPEG4 images (bit rate bps)
 - d. Quality of JPEG Images (file size KBytes)
 - e. Pictures Per Second PPS
6. If **MultiMode** recording is to be utilised it may be configured:
 - a. On a Camera by Camera Basis
 - b. In Normal or Event
 - c. On a schedule

Note: If the Advanced page has any setting changed after navigating from Simple, the Simple page can not be reselected. If the simple page is to be re-accessed a 'Global Profile' must be selected and saved from the 'record' page. Then the Profile record page can be accessed with the 'Simple' option available.

Performing this operation will 'clear' any 'Advanced' or 'simple' settings that have previously made.

Note: The number of PPS that the SD can perform is determined by the maximum performance of the Hardware codecs resident in the SD. Each Hardware codec can provide 25pps at 4CIF however this performance is shared between the connected cameras. To confirm which cameras are connected to which codec navigate to System Settings> Settings >Unit status within the configuration pages where this information is displayed.

It is important to ensure that the Maximum PPS is not exceeded during Normal or Event recording.

SD Default Record settings:

The SD is available in 4, 8, 16 and 32 camera models and is designed to be easily configured. A comprehensive digital recording solution, the SD is a stand-alone high performance recording system offering reliable, networked, scalable CCTV at an affordable price. Its size and design make it the ideal desktop solution and perfect for installations where high record rates and network capabilities are required.

The Default record settings on the SD are MPEG 2CIF, 6pps 360Kb/sec

The SD provides up to 100pps @ 4CIF

The Default record settings of the SD are dependant on the model selected i.e. the Normal, Medium or Low

	MPEG	JPEG
Normal	5pps	1pps
Medium	2pps	0.5pps (1picture every 2 seconds)
Low	1pps	0.25pps (1 picure every 4 seconds)

Schedule

The SD is equipped with a powerful scheduler which can set and unset alarm and Activity Detection responses and alter the recording rates of cameras to meet different site operating modes during the day, night and weekend.

Timer functions

The schedule option allows the install operative to define different record profiles at different times / days. To configure the schedule:

1. Navigate to the Schedule page (see example below)
Note: 00:00 means 24Hr Day Mode
2. Define the start of day and the start of night
 - a. For each day of the week

CONFIGURATION: SD

Schedule

Mode	Title	
Unset	Day	
Set	Night	Current Mode = Day
Override	Weekend	

Day	Day Time	Night Time
Sunday	00 : 00 ↓	00 : 00 ↓
Monday	00 : 00 ↓	00 : 00 ↓
Tuesday	00 : 00 ↓	00 : 00 ↓
Wednesday	00 : 00 ↓	00 : 00 ↓
Thursday	00 : 00 ↓	00 : 00 ↓
Friday	00 : 00 ↓	00 : 00 ↓
Saturday	00 : 00 ↓	00 : 00 ↓

If both 00.00 then defaults to Day. If 24.00 then Night.

Keyswitch:

Refresh

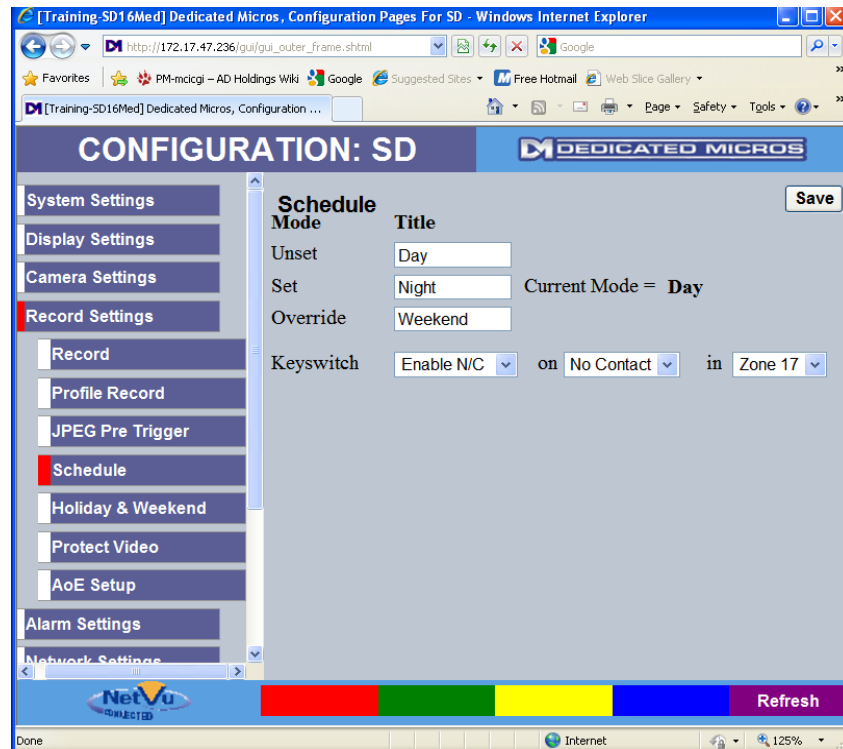
Keyswitch

A Keyswitch can be used to Set and Unset the system, changing the record profile of cameras and also enabling and disabling the alarms. Note that the Keyswitch cannot be used in conjunction with the Schedule facility.

To configure the Keyswitch:

1. Select 'enable'
2. Select the contact that the keyswitch is assigned to (one of 20 contacts)
3. Select the Alarm Zone that the keyswitch is within.
4. Define the keyswitch as N/O or N/C, simply 'tick' the box
5. If End of line monitoring is to be configured on the keyswitch then 'tick' the box.

See example below:



Note: If keyswitch is enabled, then the schedule configuration option will disappear.

Note: If contact 20 is not to be used as a keyswitch then select 'Disable' at keyswitch option. Alarm Input 20 will now be available as an alarm input within the 'Alarm Inputs' webpage.

Holiday and Weekend

Multiple Holiday periods can be defined and Weekends may be defined to Start and End at the choice of the install operative.

Holidays

To add a holiday:

1. Enter the data of the holiday
2. Select 'Add'
3. Continue to add dates to cover the full holiday period.

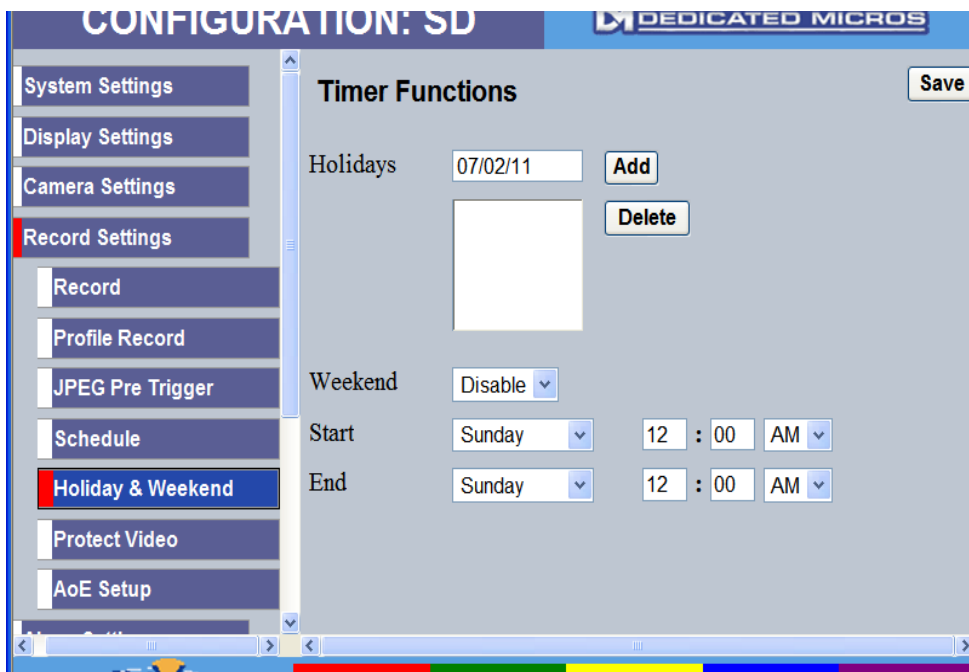
To delete a holiday:

1. Highlight the date that is to be deleted
2. Select 'Delete'
3. Continue to delete dates to cover the period that is to be removed.

Weekends

To configure weekends:

1. 'Enable' the Weekends box
2. Define the start of the weekend
3. Define the end of the weekend.
4. select 'Save'



Protect Video

Multiple Selected images can be protected, via local and remote access, from being overwritten. This helps to prevent important periods of video capture from being overwritten.

To protect video:

1. Enter the Start Date and time of the Video
2. Enter the End date and time of the Video
3. Enter the period that the video is to be protected for.
4. Select the **Protect** soft key
5. Ensure that the Protected period is added to the List

To Unprotect video:

1. Generate a list of the protected Video for the period you are interested in
 - a. Enter 'List From Date' and 'time'
 - b. Enter 'List To date' and 'time'
 - c. Select 'Reload list' button
2. Highlight the video that is to be Unprotected
3. Select the **Unprotect** softkey.
4. Ensure that the Unprotected period is removed from the List.

CONFIGURATION: SD **DEDICATED MICROS**

Protect Video Data

Start Date: 07/02/11 Start Time: 01 : 04 PM

End Date: 07/02/11 End Time: 01 : 04 PM

Protect period from start date (days): 30 **Unprot All** **Protect**

There are currently no protected PAR files on this unit

List From Date: 07/02/11 Time: 01 : 04 PM

List To Date: 07/02/11 Time: 01 : 04 PM

Reload List **Select None** **Select All** **Unprotect**

Unprot All **Protect** **Unprotect** **Refresh**

Network Settings

The SD provides easy-to-configure network settings to aid with reducing installation time.

The SD provides a DHCP client for integration into a Dynamic IP (DHCP) network. This greatly simplifies the process of deploying the SD on a network.

The SD can be configured with a static IP address, this is the recommended method of installing the SD in remote monitoring and event reporting applications. This feature ensures that Remote Maintenance, Viewing and Administration of the SD is achievable.

The SD network settings can be configured to match most Network types to ensure the most efficient deployment of the Range within a network and to maintain 'Network friendliness'

Network Configuration

All network settings are made within the Network page, this includes the IP address.

The SD has an in-built DHCP client. This allows the DVR to be used in a network with a DHCP server (i.e dynamic IP)

Static IP is preferred, particularly where remote-access or dial out on alarm is required

The screenshot displays the 'CONFIGURATION: SD' web interface. On the left is a sidebar menu with options: System Settings, Display Settings, Camera Settings, Record Settings, Alarm Settings, Network Settings (highlighted), Network, Live Trans, Multicast Setup, E-mail, Remote Reporting, Firewall, Text, Archive, Oracle Config, Diagnostics, and Go to Viewer. The main area is titled 'Network Setup' and contains fields for: Server Name (Training-SD16Med), IP Address (172.17.47.236), Sub Net (255.255.252.0), Gateway (172.17.44.254), and Primary DNS (0.0.0.0). Below these is a table for network configuration:

	Address	Sub Net	Gateway	DNS
DHCP	0.0.0.0	0.0.0.0	0.0.0.0	0.0.0.0

Below the table are fields for: Max Transmission Rate kbits/sec (0, with a note '= No limit'), Tx Image Buffers (3), Ethernet MTU Bytes (1500), Max Transmission Timeout ms (250), PPP Base IP (10.0.0.1), PPP idle Line Timeout s (180), PPP Link down Timer mins (2), and Hangup After Alarm (checked). A note states 'This will require a reset'. At the bottom are buttons for Reset, Rem Report, E-Mail, and Refresh.

Bandwidth Settings:

Ethernet MTU (Max Transmission Unit = Max packet size (default 1500 bytes)

For LANs use 1500,
ADSL uses either 1492 or 1458,
ISDN normally uses 576 Bytes.

Max Transmission Rate kbytes sec defines the bandwidth limit of how much data the DVR will impose on the connected network.

Max Transmission Timeout (ms) is the Re-Transmit Timeout period. This is the time the unit will wait before resending a packet if an acknowledgement is not received. When making a connection across a WAN link this figure needs to be increased and should match the timeout figure for the router.

Note that there is no Custom setting as each value can be changed away from the default to match each network independently.

Live Transmission

The SD can be configured to provide multiple simultaneous independent Transmission streams, each with its own viewing parameters. Each stream can be optimised for users who are connected allowing a different viewing profile to be set for users connecting over Local, Wide Area and Low Bandwidth Connections

- LAN
- WAN
- Very Low Bit Rate (VLBR) connections e.g. Mobile.

The SD can even Transcode high quality recorded images into a stream that matches the connection bandwidth between the SD and the remote viewing clients. This means that the viewing of recorded video can be tailored to suit the available network bandwidth.

- The original recording quality is not affected

The settings for transmitted video streams to NetVu Connected clients such as NetVu ObserVer or NetVu Console, are accessed within the 'Live Trans' page. The High, Medium and low settings for JPEG and MPEG4 define the stream parameters when selected from within the viewing clients

In the example below the 'MPEG High LAN stream' will provide a Live stream to the requesting client of:

2CIF, 1536kbits, Real Time, GOV, CBR, 25.

i.e. when a single stream is requested the Bandwidth will be 1536kbits.

Comp	Res	Size/Rate (kbytes/kbits)	PPS	MPEG Type & Quality	I Frame Ratio
High LAN					
JPEG	2CIF	25	5pps		
MPEG	2CIF	1536	Real Time	GOV CBR	25
Medium WAN					
JPEG	2CIF	18	2pps		
MPEG	2CIF	256	3pps	GOV CBR	3
Low VLBR					
JPEG	CIF	12	1pps		
MPEG	CIF	64	3pps	RAW CBR	3

Six Viewing Profiles can be set on each SD unit, enabling video transmissions to be optimised to match Network Connection Bandwidth. The transmission profiles can be defined by the installer from:

- High, Medium or Low MPEG and JPEG
- Resolution
 - 4CIF to QCIF
- Quality
 - Bit rate (MPEG)
 - File size (JPEG)
- MPEG Compression type
 - RAW
 - This includes an initial I-frame and then P-frames only
 - Ideal for VLBR connections
 - Default for low VLBR transmission profile
 - GOV (Group of Video)
 - This includes all I-frames and P-frames

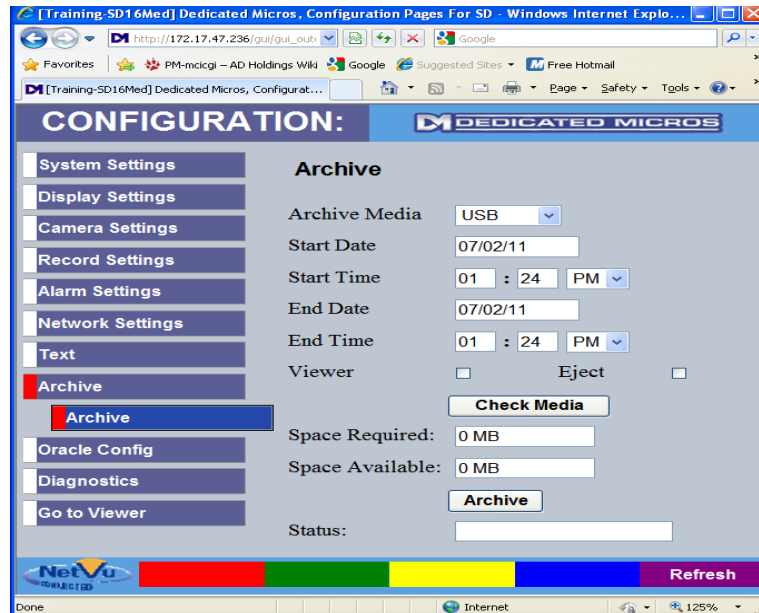
Remember that the bandwidth limit in the Network Configuration pages will have priority over the settings shown here. If update rate or quality is not what is expected, firstly check that the bandwidth limit has not been set too low to achieve the quality level or update rate required.

Archiving Video

The SD provides the ability to archive a period of video to USB, CD-R or DVD-R via the configuration webpages. This is particularly useful where remote access is available and a period of video requires to be archived. This feature only requires that the record medium is physically placed into or, connected to the Unit.

Archiving Video using Webpages

1. Navigate to the Archive webpage



2. Select the medium to which the video is to be archived.
3. Enter the Start and End Date/Time.
4. If the Viewer is to be included on the archive then check the 'Viewer' box.
5. Insert the medium as required
6. Select 'Check Media'
7. Select 'Archive'
8. When the archive is complete a message stating 'Complete' will be displayed within the 'Status' field.

Note: The archive will include all connected Cameras.

Intelligent PTZ Cameras

The Oracle Dome and Infiniti Cameras integrate directly with the SD. This integration provides access to a number of features such as:

- Configuration file for the Camera is held on the DVR
 - Provides rapid deployment of New / replacement hardware.
- Configuration of the Dome is via the Webpages of the DVR
 - For ease of configuration of Presets, sectors, Patrols etc.

Oracle Configuration

Each Oracle Dome needs to be 'assigned' to the channel that it is connected to before additional configuration can take place. To do this:

1. Navigate to the 'Status' webpage as shown below:



2. From the drop down menu select the channel that the Oracle dome is connected to.
3. Select 'Save'.
4. Note the options to configure the actual dome are now displayed.

Configuring Presets

The Oracle Dome can be configured with 99 preset camera positions. To configure each preset via the SD Webpages complete the following steps:

1. Navigate to the 'Presets' Webpage. See below:



2. Select the Preset position that you wish to Store from the 'Preset' field.
3. Enter a Name for the preset In 'Preset Name' field.
4. To select the view that you wish to be displayed use the control to drive the dome to the desired view and the + and – icons to Zoom the view in and out as desired.
5. When the desired view is displayed select the **Store** Softkey.
6. Confirm that the desired preset has been stored by driving the Dome away from the stored view

Now select the 'Preset' number and then select the **Goto** Softkey. The Dome should now drive to the stored view for that preset.

Alarms and Alarm Zones

The SD provides Comprehensive Alarm Management. The System can be set on Schedule, Keyswitch or Remote from Authorised Operator. The powerful Alarm Zone capability minimises false activations and improves system reliability.

The SD provides Alarm Reporting to Remote Video Response Centre (RVRC). Tamper Proof Alarm Inputs can be configured for increased system security. Nuisance Count & Stuck Timers are provided to reduce false Alarm activation. Primary & Secondary Alarm Signalling Paths increase reliability of reporting. All fully compliant with British Standard BS8418

Comprehensive System Status Information is viewable both locally & remotely. This helps to reduce system commissioning and maintenance costs.

Comprehensive alarm response capability is a common feature set across the SD :-

- Alarm Inputs
 - The SD supports 20 Normally open/closed tamper proof alarm inputs or a Global keyswitch with specific inputs configurable as entry/exit alarms
- 32 Easily configurable Alarm Zones
 - Enabling Advanced alarm detection & false alarm rejection
- Activity Detection
 - Built in as standard & configurable on every camera including domes!
- Virtual Alarms
 - Ideal for Advanced custom solutions via TCP/Ethernet
- Alarm Reporting
 - To RVRC

Display of Alarm and Activity Detection Events

Alarm and Activity Detection events can be displayed on the Main monitor.

This is set in the **Alarm Settings, Global Actions** menu page.

Global Actions

CONFIGURATION: SD DEDICATED MICROS

Global Actions Save

Image Protection Period: 1 days

Alarm Display Mode: No Action

Revert Display Mode: ☐

Alarm Display Alert: ☐

Normally	On	Contact	Module
Local Relay 1: Open	<input type="checkbox"/>	Relay 1	Local
Local Relay 2: Open	<input type="checkbox"/>	Relay 2	Local
Local Relay 3: Open	<input checked="" type="checkbox"/>	Relay 3	Local
Local Relay 4: Open	<input type="checkbox"/>	Relay 4	Local
Zone	<input type="checkbox"/>	Relay 1	Local
VMD/Activity	<input type="checkbox"/>	Relay 2	Local
Camera Fail	<input checked="" type="checkbox"/>	Relay 3	Local
System Set	<input type="checkbox"/>	Relay 4	Local
Dial Out	<input type="checkbox"/>	Relay 1	Local
System Override	<input type="checkbox"/>	Relay 2	Local
Camera Masked	<input type="checkbox"/>	Relay 3	Local
Is Recording	<input type="checkbox"/>	Relay 4	Local
Not Recording	<input type="checkbox"/>	Relay 1	Local
HDD problem	<input type="checkbox"/>	Relay 2	Local

Done Status Alarm In Zone Act Refresh Internet 125%

Alarm Display Mode can be selected to 'Jump to Primary'. This will cause the main Monitor to switch on Alarm or Activity detection events

Revert Display Mode After Alarm defines what happens to the Main Monitor after the event has finished

Alarm Image Protection periods can be set, so that images are not overwritten and are accessible for review and archiving for a set number of days

Alarm Inputs

The SD provides the following alarm input capabilities:

- 20 Inputs via a 25 way D connector
 - Each input can be Normally Open/ Normally Closed
- EOL Monitoring
 - Detects open/short circuit cables
- Nuisance Count
 - Detects repeated false activations
- Stuck Timer
 - Detects alarms that are in an active state for a prolonged period
- Pulse Extension
 - Used to prevent double triggers on an alarm

The Alarm Input web page is demonstrated below:

The screenshot displays the 'CONFIGURATION: SD' web interface. On the left is a sidebar menu with categories: System Settings, Display Settings, Camera Settings, Record Settings, Alarm Settings (highlighted), Network Settings, Text, Archive, Oracle Config, Diagnostics, and Go to Viewer. Under 'Alarm Settings', 'Alarm Input' is selected. The main area shows a table for 20 alarm inputs. Each row has columns for Enabled (checkbox), N/O (checkbox), EOL (checkbox), Pulse Ext (s) (text box), Nuisance (text box), and Stuck Time (min) (text box). All inputs are currently configured with Enabled checked, N/O checked, EOL unchecked, Pulse Ext set to 10, Nuisance set to 10, and Stuck Time set to 17. At the bottom of the table are buttons for Reset, Relays, Status, Zone In, and Refresh. The browser's address bar shows 'Internet' and a zoom level of 125%.

	Enabled	N/O	EOL	Pulse Ext (s)	Nuisance	Stuck Time (min)
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
15	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
16	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	0	0
18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17
20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	10	17

Note: If Alarm input 20 is not displayed. This is because it is set as a keyswitch input at factory default. To enable as a standard Alarm input then refer to 'Schedule / Keyswitch' section of this document.

Alarm Zones

Alarm Zones allow events such as contact closures or Video Motion Detection (VMD) to be combined to produce powerful alarm responses.

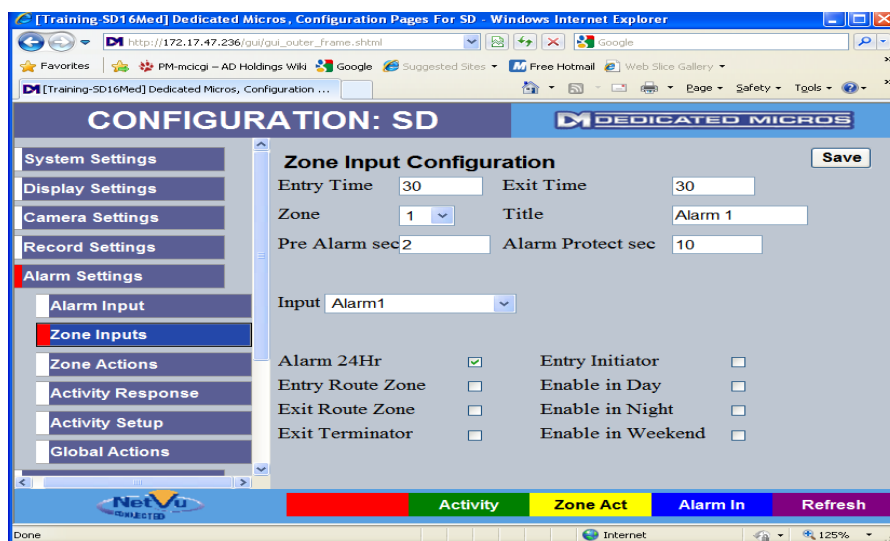
Up to 32 Alarm Zones can be programmed.

Inputs can be :-

- Contact inputs (known as Alarm Inputs, 20 Max.)
- Activity on any camera
- Virtual Alarms
- System Events (Disk Low, Disk Full or Panic Button Press)
- Keywords

Each Alarm Zone can be scheduled to be enabled during the Day and/or Night and/or Weekend or 24-hours.

The Alarm Zone web page is shown below:



Each Alarm Zone can be configured during installation to determine when the Zone is active For example:

- Alarm 24Hr All the time
- On a schedule Day
- Night
- Weekend

The Alarm Zone can also be configured to show if the Zone is on an Entry or Exit route. If it is then:

1. The Entry Time and Exit Time should be entered
2. The Entry Route Zone and / or the Exit Route Zone should be 'ticked'.

The Alarm Zone can be configured to provide an **Exit Terminator**

1. Tick this option for this zone to terminate the exit timer and set the system

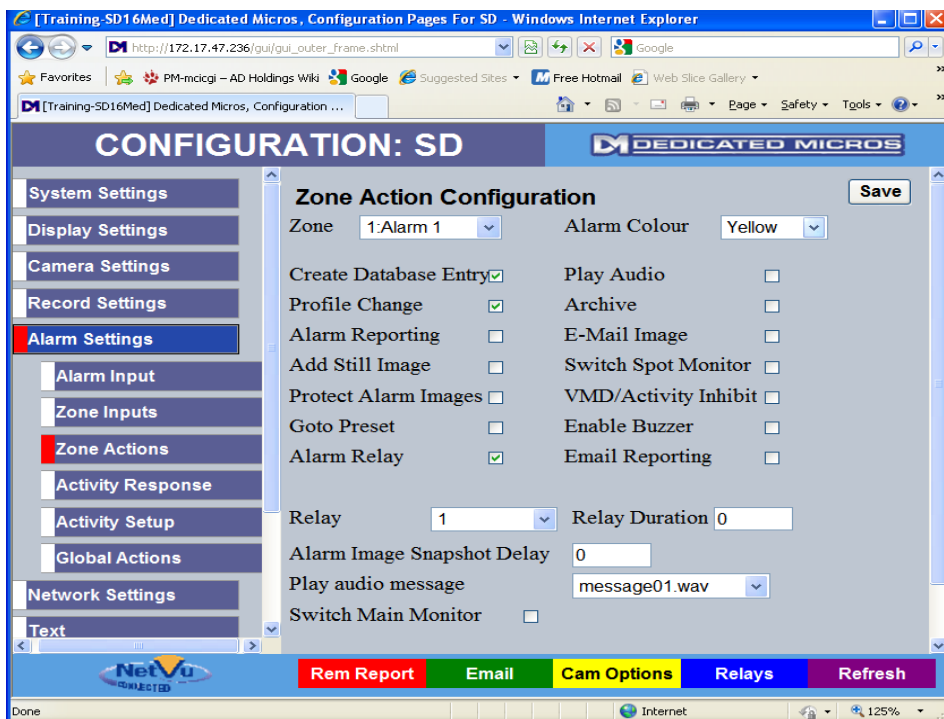
The Alarm Zone can be configured to provide an **Entry Initiator**

1. Tick this option for this zone to start an entry timer to allow access to the unset zone e.g. keypad or control panel.
 - a. This allows Zones on the entry route to be passed through without creating an alarm condition.

Alarm Zone Actions

When an Alarm Zone is activated there are a large number of responses that the Zone can be configured to perform. This comprehensive Alarm Handling capability is a common feature across the SD range. The following actions can be programmed:

- Change the record profile (On a Primary and any other Cameras Select **Cam Options** to configure).
- Alarm reporting (to RVRC)
- Goto Preset
- Close a Relay
- Play Audio message (up to 32 pre recorded messages)
- Send an E-mail (with or without a .jpg image attached)
- Archive Alarms and Automatically protect Alarm images




And lots more.....

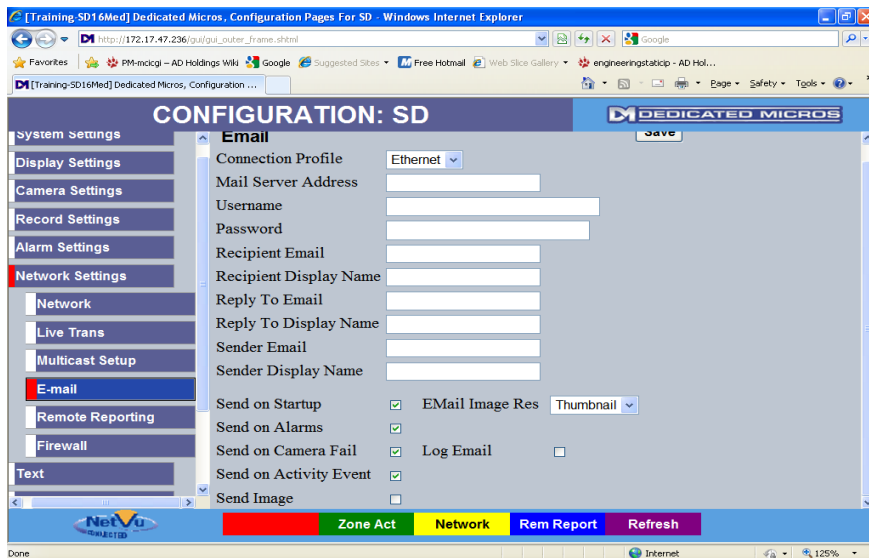
E-mail

The SD can be configured to send an e-mail to advise of 'events' such as Alarms and Activity. This provides additional notification other than to Remote receiving centre. System Events can generate e-mail notification to allow events such as Camera Fails and System Start ups to be acted upon by engineering personnel. An image of the defined event can also be e-mailed. This provides additional assistance with prioritising events which will ultimately improve response to event situations.

Configuring E-mail

To configure e-mail details complete the following steps:

1. Check the 'Email reporting' option within the Features webpage (see Advanced features)
2. Check the 'Email reporting' option within the 'Zone Actions' webpage for each zone that is to generate an e-mail.
3. If the email is to include an image from the Primary camera of that zone then check the 'E_mail Image' option for each zone that is to generate an e-mail.
4. Navigate to the E-mail configuration page
 - a. When in 'Zone Actions' web page select the  softkey.



5. Populate Configuration page with details as requested. Below is an example of these settings.
6. Select when the mail is to be sent
 - a. Start up, Alarm, Camera Fail or Activity event
7. Select what will be contained within the mail
 - a. Thumbnail, Hi, Med or Low quality
8. Select 'Save'
9. Once the configuration is complete reset the DVR via the 'Maintain' webpage to activate the E-mail feature.

Activity Detection

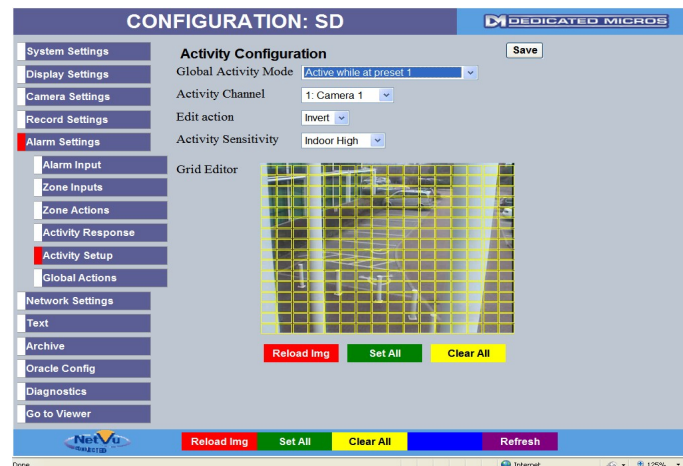
Activity Detection has enhanced configurability for improved detection and reduction in the number of false alarms.

A 16 x 16 (PAL) rectangular grid can be programmed so that areas where movement can legitimately occur or where up to 256 zones can be configured for each camera.

Please Note that DM does not recommend the use of Activity Detection for outdoor applications.

Setting up Activity Detection

This is enabled camera by camera within the **Activity Response** and then Configured on the **Activity Setup** page:-



1. Select 'Global Activity Mode' from the list *(the selection will be applied to ALL channels with Activity Detection Enabled)*:
 - a. 'Active while at preset 1'
 - b. 'Active while camera not in motion'
 - c. Always Active
2. Select the channel that is to be configured 'Activity Channel'
3. Edit the area of the Image that is to have activity configured using the softkeys or USB mouse.
4. Select the sensitivity from the options provided within 'Activity sensitivity'
5. Complete the above activities for each channel that is to be used.

Note: Options for Activity sensitivity to be selected for 'outdoor' are provided however, DM does not recommend the use of Activity detection for outdoor applications.

Note: If Activity detection is enabled on static and PTZ cameras and 'Active while at preset 1' is selected the SD assumes the Static cameras to be 'at preset 1'.

Activity Response

Activity to Trigger: 'Simple Response'.

Create Database Entry	Creates a Database Entry to simplify reviewing of Events
Profile Change	Changes to Event record profile on specified camera
Alarm Reporting	Alerts an RVRC of the Activity event. (see section on Alarm Reporting for further details)
Alarm 24Hr	Activity will be enabled at all times
Enable Day, Night or Weekend	Each camera input can be programmed to enabled during the Day, Night or Weekend.
Protect Alarm Images	Will protect images until the 'Image protection period' expires. (refer to 'Global Actions' within this document).
Switch Spot Monitor	Will switch the spot monitor output to the Camera that has the activity detected.

CONFIGURATION: SD

Activity Response Setup [Save]

VMD Pulse Ext (s)

Channel ☐ Copy to all

Detection type

Activity to trigger

Create Database Entry <input checked="" type="checkbox"/>	Alarm Relay <input checked="" type="checkbox"/>
Profile Change <input checked="" type="checkbox"/>	E-Mail Image <input type="checkbox"/>
Alarm Reporting <input type="checkbox"/>	Switch Spot Monitor <input type="checkbox"/>
Alarm 24Hr <input checked="" type="checkbox"/>	Enable in Day <input type="checkbox"/>
Add Still Image <input type="checkbox"/>	Enable in Night <input type="checkbox"/>
Protect Alarm Images <input type="checkbox"/>	Enable in Weekend <input type="checkbox"/>

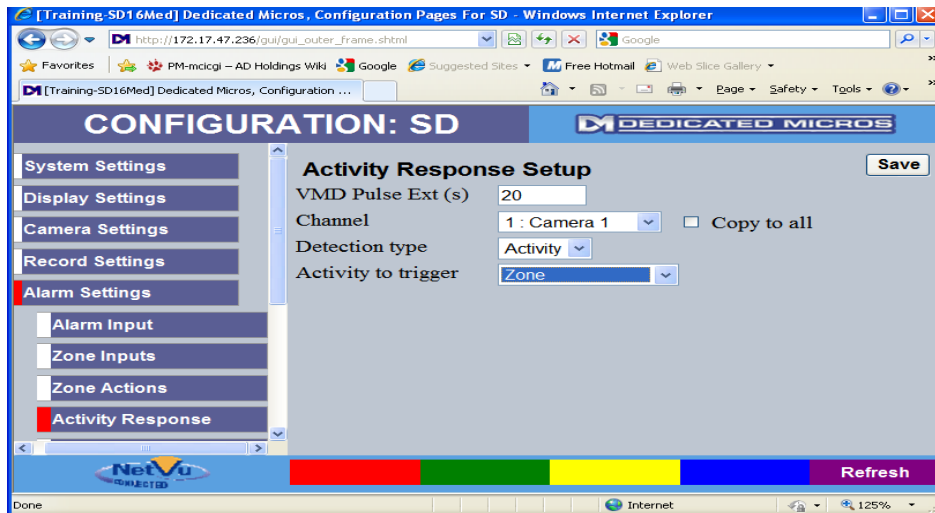
Refresh

Activity to Trigger: 'Zone'

In the example below the 'Activity to trigger' option has been selected as 'Zone'.

This selection will allow any Activity detected on the selected channel to produce a 'VMD/Activity' input in Zones inputs. For this example the input will be VMD/Activity1 as the Channel being configured is Camera 1.

This input can then trigger a number of Zone Actions as detailed in 'Alarm Zone Actions'



Remote Reporting

Events caused by a number of inputs such as alarm contacts, Activity, etc can be reported immediately over a network.

Previously a remotely-monitored CCTV system required the SD DVR for local recording as well as a dedicated Video Transmitter to report alarms to a monitoring station.

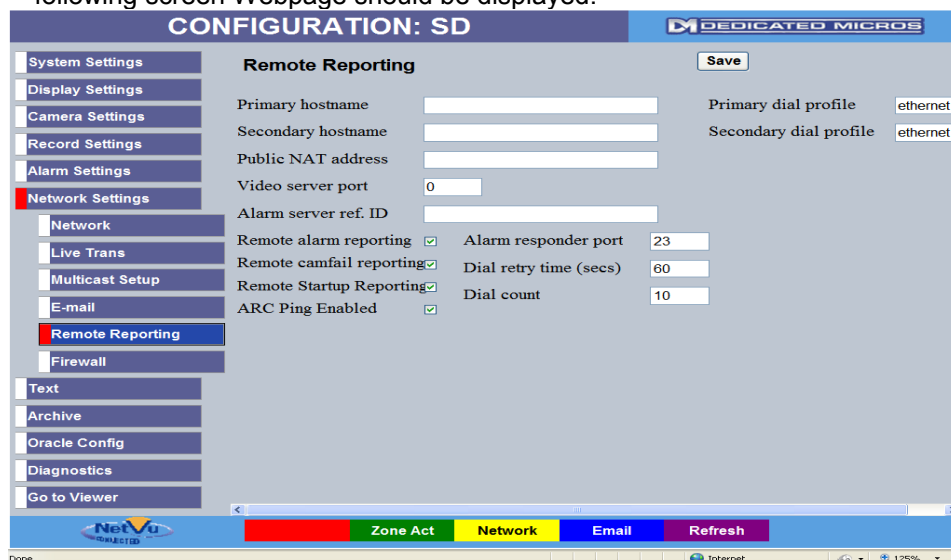
The SD provides these two major CCTV control functions, Recording and Transmission, in one box.

These alarms and Video transmissions can be displayed by NetVu ObserVer when used in combination with Event Distribution Point Software.

Alarm Reporting to a Remote Site or RVRC using Menus

To configure The SD to report alarms or other system events the following steps should be followed:

1. Check the 'Remote Reporting' option within the Features webpage is enabled and reset the SD (see Advanced features)
2. Navigate to the 'Remote Reporting' webpage by selecting the **Rem Report** Softkey. The following screen Webpage should be displayed:



3. A number of fields within this Webpage need to be populated. Below is a brief description of each field:

- | | |
|-------------------------------|--|
| Primary hostname | IP address of the Remote Monitoring equipment
e.g. The IP address of the PC running the EDP software |
| Secondary hostname | IP address of a secondary PC running Monitoring software
For BS8418 compliance |
| Public NAT address | The IP provided by the internet service provider. |
| Primary dial profile | Allows the profile for the primary path to be selected |
| Secondary dial profile | Allows the profile for the secondary path to be selected
Normally PPP, should be different path to primary for
BS8418 compliance. |
| Video server port | This identifies the port that video is to be transmitted on if different
from default (0 = port 80) e.g. if port forwarding were to be used |
| Alarm server ref ID | This is the ID that will be displayed by the Monitoring site on receipt
of the remote alarm. Should be kept the same as the system name |

4. Now select the types of events that are to be reported by checking the appropriate options from:

- a. Alarm events
 - b. Camera Fail events
 - c. VMD / Activity events
 - d. System Startup events
5. Enter the 'Alarm Responder Port' number that the event is to be communicated on
 - a. Done via Telnet therefore normally port 23
 6. Enter the 'Dial retry time (secs)'
 - a. This is the time taken between attempts at making a connection.
 7. Enter the Dial Count
 - a. This is the number of times that connection will be attempted before the Secondary dial profile is attempted.
 8. On completion of selections press 'Save'.

If Alarms are to be monitored by NetVu ObserVer then there must be one NetVu Event Distribution Point running in the same subnet as the ObserVer Workstation. See notes on NetVu ObserVer for more details.

SD Alarm Reporting and RVRC Data Requirements

When a SD unit reports an event, it first PINGs the host (RVRC). If it receives a reply, then the SD will pass the event message to the host via a telnet message.

Hence for Alarms to be received correctly by an RVRC is it necessary for it to reply to PINGs and for it to receive event notifications via telnet, usually via Port 23.

NetVu ObserVer Alarm Reporting

Alarm events, video motion activation, camera-fails and other system events can now be reported to a Remote Video Response Centre using NetVu ObserVer.

A NetVu Event Distribution Point must be running in the subnet in which the NetVu ObserVer resides.

For a NetVu ObserVer client to respond to alarms from the Event Distribution Point it is necessary to configure it to respond to alarms. For further information on how to configure Event Distribution Point refer to the operating instructions for the EDP

NetVu Connected devices' alarms are sent into the Event Distribution Point and then this will 'distribute' them out to NetVu ObserVer clients. If more than one NetVu ObserVer is logged onto the Event Distribution Point, new events will be served to one Observer but all others ObserVers will be notified of the incoming event. If another alarm is received from a site which is already being handled by a NetVu ObserVer, subsequent alarms will be served to the same ObserVer client

An alarm event will maximise a minimised NetVu ObserVer. It will also bring a NetVu ObserVer window to the front if at the back.

Sounding Alarms in NetVu ObserVer

A site-specific sound to alert the operator of an event can be programmed. To incorporate this facility, obtain the required wav file (which must be in PCM format). Copy this file to the site folder of the respective site. Rename the file **alsite.wav** . This sound will now play whenever an event is received from the corresponding site.

Audio Features of SD

Bidirectional audio recording and network transmission for audio challenge is incorporated on the SD as standard and the following modes of operation are supported:

- Challenge – one way audio, DVR to camera, optionally recorded
- Listen – one way audio from the camera to DVR, optionally recorded
- Help Point – two way audio, optionally recorded.

The audio channel is not associated to a particular camera and the audio input is line level 1V pk-pk with input impedance of 47kohms and so a microphone pre-amplifier is required.

Both local and remote audio can be recorded and this is synchronized with the video recording.



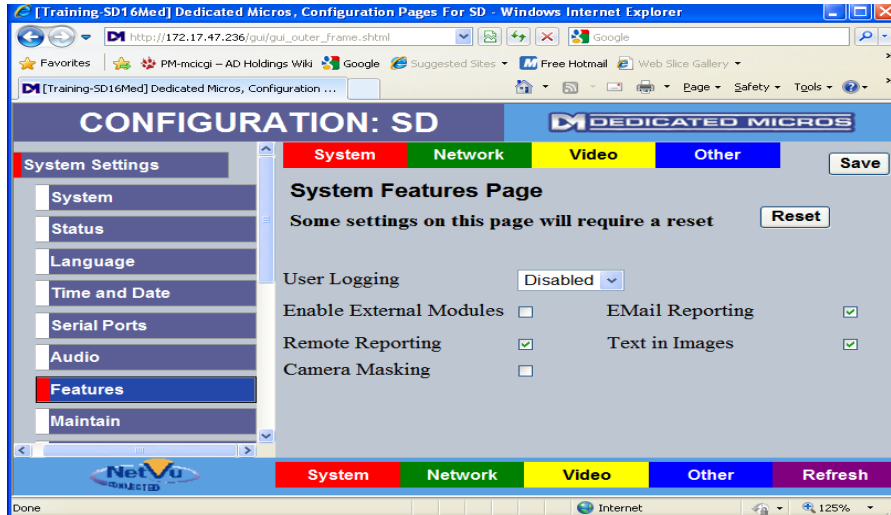
This audio stream can be optionally recorded by selecting 'Enable' within the Audio Recording box. Note that if the input audio stream is being recorded then this will reduce the amount of storage available for video recording.

The Audio output (challenge) can be optionally recorded by checking the 'Record Audio Challenge' box.

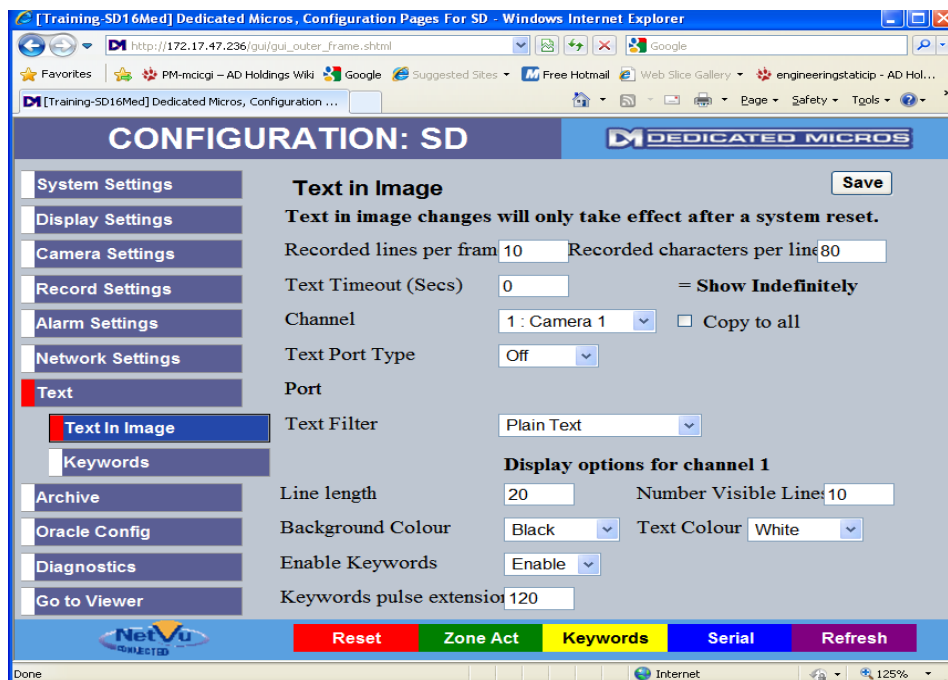
Displaying and Recording Text Data

Data can be recorded alongside video information. This provides a powerful solution, particularly in retail surveillance systems to make recording more intelligent

How the data is displayed is set up on the Text In Image page. This page needs to be activated before it can be accessed. To do this tick the 'Text in Images' box within the 'Features' page and select 'save'. See example below:



Once saved, navigate to the 'Text' menu item then the 'Text In Image' web page:



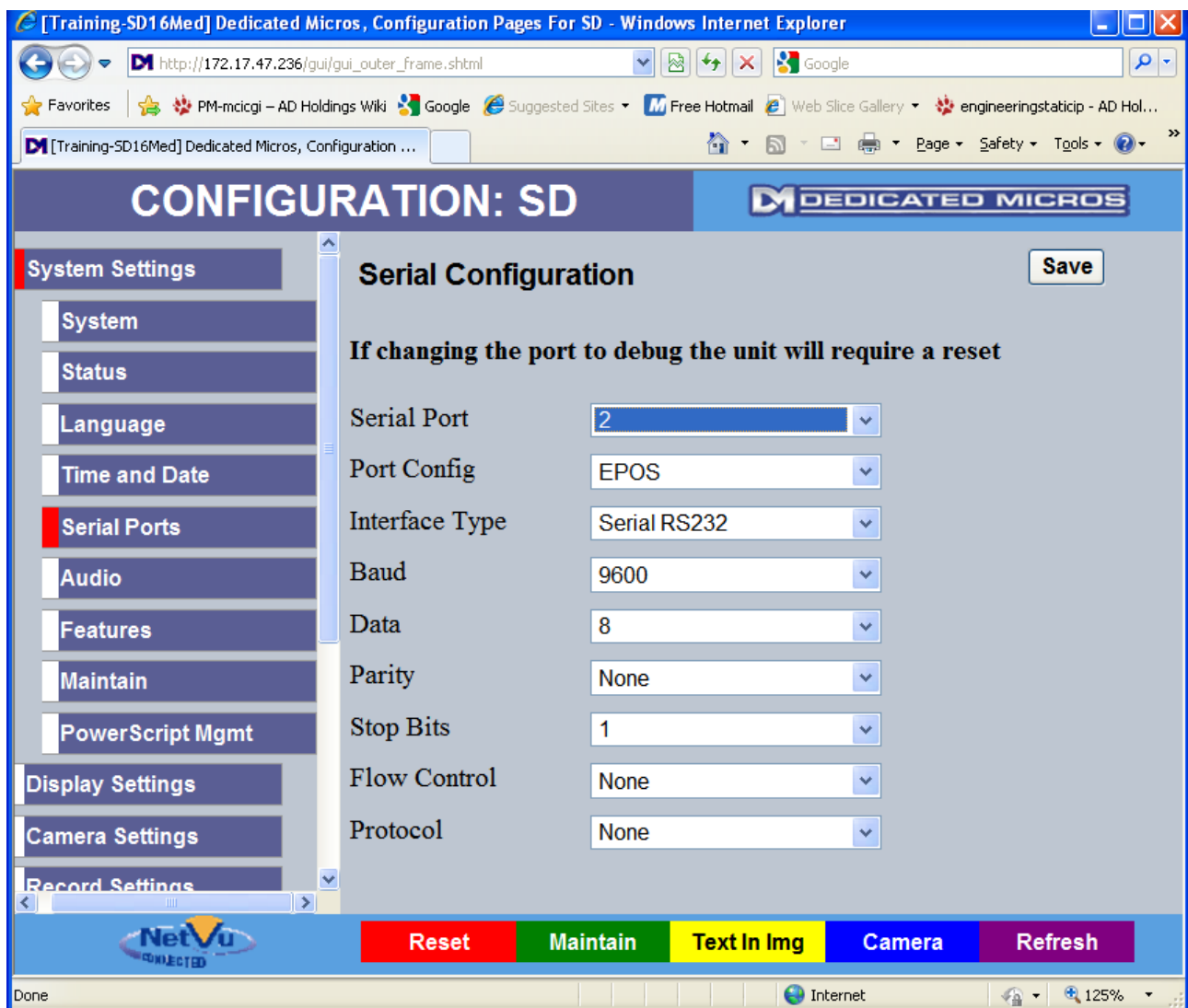
Set the lines and number of characters per line to suit the data from the POS equipment etc.

Channel defines which camera the data should be associated with and recorded alongside.

Set the port to where the data is connected - serial or network.

If Serial data is used then select **Serial** button.

Set up the serial port(s) to receive text-in-image data. An example is shown below.



Note: Text in Images changes will only apply after a System reset

Keywords

The SD can have 32 'Keywords' entered in the Text> Keywords configuration page.

When any of the keywords is 'matched' to Text from a POS or other text generating device the Keyword can be used as a 'Zone input' and a response can then be configured in the 'Zone Actions' Webpages in the same way that an 'alarm Contact' or 'Activity' can.