

# D DEDICATED MICROS

## DIGITAL **sprite**<sub>2</sub> Setup Guide





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# Introduction

## What is the Digital Sprite 2?

The Digital Sprite 2 range has combined multiplexing, digital recording and dome telemetry control to offer a high performance DVR with advanced network features.

The Digital Sprite 2's intuitive configuration menu system with network server capabilities bring CCTV and Networking into a single box solution.

The Digital Sprite 2 range offers a feature rich product range which has been designed with sufficient flexibility to ensure the unit can fit into any environment whether it is a new installation or is easily integrated into an existing install.

## A video multiplexer

- Designed with security in mind.
- Easy to use.
- Operates like a traditional multiplexer, not a PC.
- All the feature you would expect from a Dedicated Micros multiplexer:
  - Main and Spot monitor.
  - Multiscreen displays.
  - Activity detection.
  - Alarm handling.
  - Schedules for day, night and weekend.
  - User defined record rates.
  - 485-bus networking.

## A digital video recorder

- Playback and record simultaneously, without affecting recording.
- 31 days or more of 24 hour time-lapse recordings in one box\*.
- Instant access to images recorded on the hard disk with no tapes.

\*Refers to the 320GB (or higher) model.

## Network transmission

- Web configuration in conjunction with on screen menus.
- View live and playback images across the network.
- Remote reporting for centralised monitoring.
- FTP, SMTP support for remote download of images.
- SMS support for transmission of text messages on alarm.
- Enhanced network features including on-board Firewall, Webcam functionality.
- No extra software to buy, Viewing software for Windows™ provided or viewing and control via a standard internet browser.

## Features:

### Installation

- Auto detect cameras on power up ✓
- Auto detect external storage on power up ✓
- Default 24-hour recording at Medium quality ✓
- Loop-through connections ✓

### Operation

- Play, record, copy and transmit simultaneously ✓
- Hidden camera option ✓
- Control via IR remote control ✓

### Playback

- VCR style playback ✓
- Full and multiscreen playback ✓

### Events

- Activity detection ✓
- Alarms ✓
- Event log with preview window ✓
- Autocopy events to CD or FTP Server ✓
- Pre and Post event times ✓

### Telemetry

- Coaxial support for BBV, Pelco & Dennard ✓
- Serial telemetry support for multiple third party protocols (Dennard, Pelco, Sensormatic and more) ✓
- Telemetry presets on alarm ✓

**Audio**

Record audio in real time ✓

**Remote keyboard control (optional)**

Remote keyboard compatible ✓

Control of multiple units ✓

Telemetry controller ✓

**Network viewing**

Live viewing ✓

Playback viewing ✓

Multiple simultaneous Users ✓

Telemetry control ✓

Copy images across networks ✓

E-mail on event activation ✓

**Storage devices**

Internal CD Writer ✓

RAID &amp; JBOD ✓

Plextor CDR (check for compatible models) ✓

The manual has two parts:

**1. Installation**

- giving details of how to install the Digital Sprite 2 and connect external devices.

**2. Setup**

- giving details of the configuration menus of the Digital Sprite 2.

# 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.



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.



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 Digital Sprite 2 range has some inbuilt protection for lightning strike, however it is recommended that isolation transformers be fitted to the system in areas where lightning is a common occurs.

## REGULATORY NOTES 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.,  
11 Oak Street, Swinton, Manchester M27 4FL.

The Digital Sprite 2 supports an integrated CD writer, the following are additional warnings associated with installing and operating the CD writer, please pay particular attention to this information.



- **Caution** - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- To prevent exposure to laser emanations (harmful to the eyes), do not attempt to disassemble this unit.

# Installing the Digital Sprite 2

## Before you start:

Check the contents of the box:

- Digital Sprite 2
- IR remote handset
- Mains cable with three pin plug fitted (North America)
- Mains cable with plug fitted (European)
- Mains cable without plug fitted (other regions)
- Rack mount kit (rack mount ears, rear supports, and fixing screws)
- 485-bus cable
- Setup Guide and Operator Guide, note the Networking Guide is stored on the unit and downloadable from the Web interface

## Choosing a location for installation

Digital Sprite 2 is designed to be rack or desk mounted. The following precautions must be taken when installing Digital Sprite 2:

- The rear supports **must** be used when rack mounting the unit, failure to use these may cause damage to the unit.
- If the unit is to be installed in a closed or multi-unit rack assembly, the maximum operating ambient temperature must not exceed 104°F (40°C).
- Ensure there is a 1" (2.54cm) gap on either side of the unit.
- Openings in the unit's case are provided for ventilation and to prevent overheating, these openings should not be blocked or covered.
- When stacking units, ensure there is at least a 1/2" (1.3 cm) gap between each unit.
- Ensure the unit is not located in an area where it is likely to be subjected to mechanical shocks.
- The unit should be located in an area with low humidity and a minimum of dust. Avoid places like damp basements or dusty hallways.
- Ensure there is reliable earthing of the mains outlet when fitted to supply connections other than direct connection to the branch circuit.
- When connecting the Digital Sprite to a branch circuit this must be rated 15 Amps.

- If using external storage, refer to the relevant JBOD or RAID instructions for placement details.
- It is recommended that a UPS (Universal Power Supply) be connected to the unit in case of power failure. This will ensure the continuous operation of the Digital Sprite 2.

## Typical Power Ratings

Voltage (VAC)	Typical Current (amps)	Power (W)
240	0.37	88.8
110	0.54	59.4

## A quick overview of digital recording

Digital multiplex recorders work in exactly the same way as analogue multiplexers except that they use hard disks and digital tape to store video, instead of VCR tapes. Analogue recording uses time-lapse recording to extend the length of time recorded onto a 3-hour tape - recording fewer pictures every second. Adjusting the number of pictures recorded every second also extends the length of time recorded onto the hard disk of a Digital Sprite 2. However, other factors also determine the amount of time that can be stored on the disk of a digital multiplex recorder:

- The image quality
- The record rate
- The hard disk capacity

### Image quality

Digital multiplex recorders store images in a compressed format, allowing images to be recorded more efficiently. The higher the compression, the smaller the file size, but the image quality will suffer. Digital Sprite 2 can compress images between 6KB and 45KB. Kilobytes and Gigabytes are units of storage:

1GB = 1024 Megabytes (MB)

1MB = 1024 Kilobytes (KB)

With analogue recording, the image quality is dependent on the type of VCR being used; VHS or S-VHS. Digital Sprite 2 allows the image quality to be altered by adjusting the image size, for example, low quality is 14KB, medium is 18KB, and high is 25KB\*.

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

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

### Standard record rate

The record rate is the amount of pictures recorded to disk in a second, or pictures per second (PPS). This is a system wide figure, so whether 1 or 16 cameras are recorded, the record rate remains the same. The update rate per camera can be worked out using the record rate:

$$\text{Update rate} = \frac{\text{No. of cameras}}{\text{Record rate}}$$

### Hard disk capacity

Using a larger hard disk will allow image quality, recording rate, or recording time to be increased. For example, an 80GB disk can record for 8 days at the default settings (24-hour time-lapse mode at Medium quality).

**Tip:** As a rule-of-thumb recording at the default settings\* will use 10GB of storage per day, i.e. an 80GB unit will record for 8 days.

### Calculating recording time

Digital Sprite 2 calculates the recording time automatically when the record rate and image quality are entered. Alternatively, an interactive record calculator is available for download from our web site:

[www.dedicatedmicros.com](http://www.dedicatedmicros.com)

\* 24-hour time-lapse mode, 6PPS, and medium quality images, 18KB.

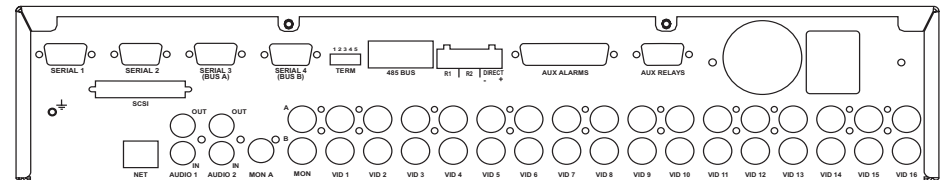
## Quick Install

### Rear Panel Connections

A Digital Sprite 2 can be installed in as little as 4 steps, and being plug-and-play, cameras will be detected and begin recording automatically.

#### Connections at rear of the Digital Sprite 2

The illustration shows the rear panel connections.



#### Video

VID1 to VID16	75 Ohm BNC composite camera connections (1V pk-pk) Digital Sprite 2 is available as a 6, 9 or 16 channel.
MON A	Main monitor, 75 Ohm BNC composite monitor connection (1V pk-pk).
MON B	Spot monitor, 75 Ohm BNC composite monitor connection (1V pk-pk).
MON A	Main monitor, S-video monitor connection.

#### Audio

AUDIO 1 IN	RCA (phono) socket, 47 KOhms 1V pk-pk.
AUDIO 1 OUT	RCA (phono) socket, 1V pk-pk.
AUDIO 2 IN	Not used, available for future expansion.
AUDIO 2 OUT	Not used, available for future expansion.

#### Data

SCASI	50-pin HD SCSI-2 connection.
NET	RJ-45 10-baseT Ethernet connection.
SERIAL 1 & 2	9-way (Male) D-type RS-232 serial port.
SERIAL 3 & 4 (BUS A & BUS B)	9-way (Male) D-type RS-232, RS-422 and RS-485 serial port.
TERM	Termination DIP switches for RS-485.



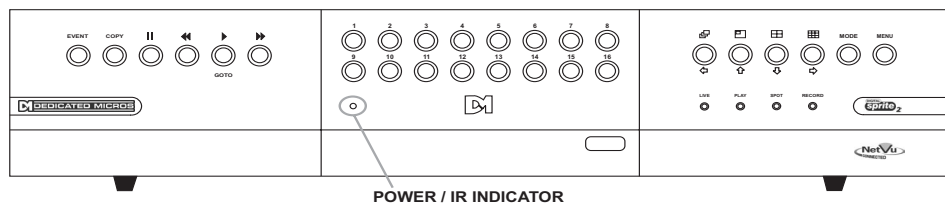
485 BUS 2x MMJ ports for DM 485-BUS accessories.

**Alarms and relays**

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

**Digital Sprite Front Panel**

The following details the keys and LEDs on the front panel of the Digital Sprite 2.





Note: The diagram shows a 16 channel unit.

**Camera Control**

- 1 - 16** Camera keys for camera selection.  
**Note:** The number of camera keys will depend on the number of video inputs supported on the product.

**Monitor Control**

-  Initiate a sequence on Main (MON A) or Spot (MON B) Monitor.
-  Show a Picture in Picture display on the Main (MON A) monitor.







Show a four way split screen display on the Main (MON A) monitor.



Show a multiscreen display on the Main (MON A) monitor.

**VCR Keys**

-  Pause the image in Live and Playback mode.
-  Rewind / Search images in Playback mode.
-  Playback recorded images and **GOTO**.
-  Fast forward / Search images in Playback mode.

**Additional Keys**

- EVENT** Access Event Log and Event Search Filter menu.
- COPY** Access Copy Images menu.
- MODE** Select between Live and Playback mode.
- MENU** Enter User or Installer menus.
- LEDs**
- LIVE** Unit is in Live mode when lit.
- PLAY** Unit is in Playback mode when lit.
- SPOT** Spot (MON B) monitor is being controlled.
- RECORD** Unit is recording video to the internal hard disk.
- POWER** Infra-Red control is enabled when green. The Infra-Red control is disabled when the LED is Amber.

## STEP 1. Connect cameras

Connect cameras to the video inputs marked VID1 to VID6 (6-Way unit), to VID9 (9-way unit) or to VID16 (16-way unit). Use the bottom row of connectors for looping through to other equipment.

## STEP 2. Connect monitors

Connect the video output marked MON A to the Main monitor (digital playback and multiscreens).

Connect the video output marked MON B to the optional Spot monitor (analogue full-screen images).

## STEP 3. Connect the external devices

If external devices need to be connected to Digital Sprite 2, go to the next section – ‘Connecting external devices’, before proceeding to Step 4.

## STEP 4. Connect power

Once the Digital Sprite 2 is in its final position and all external devices have been fitted and powered, connect power to the rear of the unit. The power-up procedure may take a few minutes before Digital Sprite 2 can be used.

**The unit will now record all cameras in a 24-hour time-lapse mode without any further programming!**

# Connecting external devices

Digital Sprite 2 uses 485-Bus networking to interconnect Dedicated Micros products and accessories. Storage devices can be connected to the SCSI port, and telemetry cameras can be connected to the serial ports. Devices that can be connected to Digital Sprite 2 include:

### Telemetry cameras

### Storage devices

### Ethernet networks

### Alarms and Relays

### Audio devices

### 485-Bus devices

## Connecting telemetry cameras

Digital Sprite 2 supports numerous protocols to control coaxial, serial (RS-232/485) and 485-Bus telemetry.

A remote keyboard is connected to the Digital Sprite 2 to gain control of the telemetry function of the connected camera, *refer to Connecting 485 Bus devices*.

The telemetry protocol type can be selected within the ‘Camera Setup’ and ‘Serial Telemetry Ports’ menus.

Coaxial Telemetry - Camera Setup Menu.

Serial Telemetry - Serial and Telemetry Ports Menu.

### Coaxial telemetry

Digital Sprite 2 currently supports Dennard, Pelco Coaxitron\* and BBV. Any of the camera inputs can be enabled for coaxial telemetry.

**Note:** Using a BBV RX-100 protocol converter with the Digital Sprite 2 allows control of most major manufacturer’s domes.

*\*The Tour, Patrol, and Auto-pan features are not available when using Pelco coaxitron domes on a Digital Sprite 2. If you require these features you must use either a BBV RX-100 protocol converter or serial telemetry.*

## Serial telemetry

Digital Sprite 2 currently supports a number of PTZ / dome protocols using serial telemetry, as well as various RS232 matrix protocols.

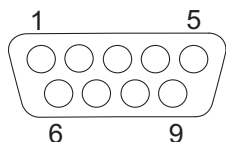
Serial telemetry requires a twisted-pair connection from the Digital Sprite 2's serial port to the dome.

Serial telemetry can be either star configured (from the Digital Sprite 2 serial port to each receiver), or delta configured (each receiver are linked (looped) together), or a combination of the two. Therefore each receiver needs to be addressed according to its camera number – consult your receiver documentation for details.

### Serial telemetry connection

There are four, 9-Way D-Type serial ports on the Digital Sprite 2. Serial 1 and 2 are allocated as full RS-232 only, with Serial 3 (BUS A) and 4 (BUS B) able to support RS-232, RS-422 and RS-485.

The 9-Way D-Type has the following pin connections and RS-232, RS-422, RS-485 pin allocation:



View from rear of unit

### RS-232

RS-232	Serial 1 & 2 Pin Allocation	Serial 3 & 4 Pin Allocation
Data Carrier Detect (DCD)	1	-
Receive Data (RX)	2	2
Transmit Data (TX)	3	3
Data Terminal Ready (DTR)	4	-
Ground (GND)	5	5
Data Set Ready (DSR)	6	-
Ready To Send (RTS)	7	7
Clear To Send (CTS)	8	8
Ring Indicate (RI)	9	-

### RS-422

RS-422	Serial 3 & 4 Pin Allocation
Transmit Data (TX+)	1
Transmit Data (TX-)	9
Receive Data (RX-)	4
Receive Data (RX+)	6

### RS-485

RS-485	Serial 3 & 4 Pin Allocation
Transmit Data (TX+)	1
Transmit Data (TX-)	9

**Note:** The screen from the cable should be connected to the connector frame.

The RS485 configuration is a bus topology, the maximum distance between the initial piece of equipment and the last piece is 1200 meters (4000 feet), this distance must not be exceeded. The bus should be terminated at each end with 120 Ohm resistance.

Important notice regarding EMC compliance - Use only screened cables when connecting to the Serial Port(s) of this equipment. The screen should be connected to the chassis of the Digital Sprite 2.

### Termination Dip Switches

The termination dip switches ensure the termination on the serial ports is correct. When connecting 485-Bus, RS-422 and RS-485 serial devices to Digital Sprite 2, it is important that the dip switches are set as follows:



- SW1 DM 485 Bus
- SW2 SERIAL 3 RS485 termination (TX)
- SW3 SERIAL 3 RS422 termination (RX)
- SW4 SERIAL 4 RS485 termination (TX)
- SW5 SERIAL 4 RS422 termination (RX)

On = Terminated  
Off = Not terminated

## Connecting storage devices

Images are recorded to the internal hard disk for instant playback and searching by the operator. The capacity of the internal disk affects the amount of images and time that can be recorded. For example, a 80GB Digital Sprite 2 can record for 8 days at default record rates, but a 320GB Digital Sprite 2 can record for 31 days at the same record rates.

The internal hard disk is a temporary storage device as the images are constantly being overwritten after a certain period of time.

If all images need to be kept for longer then external storage is required. The 50-way high density SCSI-2 port on the rear of the Digital Sprite 2 is used to connect to external storage devices.

There are two types of external storage devices which can be used:

### 1. RAID – Redundant Array of Independent Disks

RAID units contain hard disks which adds to the internal storage, effectively extending the number of images which can be recorded before being overwritten.

RAID units give protection if a fault occurs. If a disk fails in a RAID the images will continue to record to another disk in the array. RAID also allows faulty disks to be hot-swapped – replaced whilst the RAID is powered.

## 2. JBOD

JBOD units contain hard disks which adds to the internal storage, effectively extending the number of images which can be recorded before being overwritten.

Unlike RAID, JBOD units do not offer fault tolerance. Therefore, if a disk fails then the information held on that disk is lost. The disks in the JBOD are not hot-swappable.

### Connecting multiple external devices

Up to five external storage devices can be daisy chained from the SCSI port on the rear of the Digital Sprite 2.

Each device must have a unique address and the last device on the chain must be terminated. Check with the device documentation for details of addressing and termination and maximum cable length.

The table below gives capacity and typical uses of each storage device including the internal CD writer.

External storage	Capacity	Description	Typical use
RAID	Currently up to 10Tb	Disk array with fault tolerance	Longer term storage with instant access
JBOD	1 Tb	Disk array with no fault tolerance	Longer term storage with instant access
CD-R	640MB	Removable media	Clip storage

The table below shows the record time on CD for typical record rates, using an 18K file size. These values can be used when using the internal CD writer for additional storage.

	1PPS	2PPS	3PPS	6PPS	12PPS	25PPS
CDR-640MB	9h 46m	4h 49m	3h 12m	1h 36m	48m	23m
DVD-R	56h 22m	28h 11m	18h 47m	9h 23m	4h 41m	2h 15m

## Connecting to an Ethernet network

Digital Sprite 2 includes an enhanced video server allowing remote connectivity across an Ethernet network. Multiple users can connect simultaneously to the Digital Sprite 2 to view and control live or recorded video, download recorded images or review database details.

The Digital Sprite 2 can be connected to a standard 10/100-baseT Ethernet network and using the viewing application offers full control of the unit from a remote location.

### Network Connection

To connect a Digital Sprite 2 to a network you will need the following items:

- One RJ-45 network cable (CAT5 or equivalent).
- A static or DHCP IP address and Subnet mask (if accessed from beyond the LAN, a Default gateway IP address will also be needed. Consult the network administrator for advice).

*Refer to the Network Options in the Configuration section for full details on how to configure the units IP address.*

### Viewing images across the network

Digital Sprite 2 can use either a Web interface or network viewing software to view images across the network.

The network viewing software can be downloaded directly from the unit onto your local PC using the network connection, see below for details.

The recommended PC specification for viewing images over a network is:

- Pentium IV, 1.8GHz processor.
- 256MB RAM.
- 8MB of Video RAM.
- 16 Bit sound card for audio support.
- 1024 x 768 x 32bit colour monitor (min).
- 10/100Mbit Ethernet half duplex network interface card.
- Windows 2000, Windows XP.
- Internet Explorer 6 or Netscape Navigator 7.1.

Although the system will operate on lower specification computers this standard will provide high performance video quality and update rates. If lower specification processors are used this will affect the overall performance of the computer.

### Downloading the Viewer from the Unit

To connect to the Digital Sprite 2 for downloading the Viewing application:

1. Open your web browser on your PC.
2. Enter the IP address of the Digital Sprite 2 in the 'Address' box of Internet Explorer or Netscape and press **Enter**. Remove all preceding 0's, i.e. 123.123.123.001 in the Digital Sprite 2 should be entered as 123.123.123.1 in the web browser.

**Note:** If a password has been configured it will be necessary to enter the Username and Password information to gain access to the unit. The default user name and password are **dm** and **web**.

3. The main web page from the Digital Sprite 2 will be loaded. Click on the 'Downloads' option you will be presented with three options:  
Viewer Software  
System Manuals  
Language Files
4. The PC will require Java Runtime Environment to be installed. To install the JRE and viewer application, select Viewer Software and press the link for the appropriate file (*jre-x\_x\_x-windows.*). Follow the on-screen instructions.
5. Go back to the Downloads menu and select the System Manuals option, download the NetVu ObserVer User Guide (.pdf).
6. Go back to the Downloads menu and select 'Viewer Software', select the NetVu ObserVer windows link (*NetVuObserVer\_windows*), follow the on-screen instructions to install the viewer application.

**Note:** The viewer applications can be found in **Start > Programs > NetVu Observer or DV-IP Viewer**. Details of using the software can be found in the relevant 'User Guide'.

### ***Viewing images across the network using a web browser***

It is possible to use Microsoft Internet Explorer (version 6.X and above) and Netscape Navigator (version 7.1 and above) to view images from a Digital Sprite 2.

Follow the previous instructions to display the Digital Sprite 2 web page, but click on the 'Live' option instead of the 'Software' option.

The database from the Digital Sprite 2 will be downloaded to allow the Operator easy access to event recordings, this process may take a few seconds depending on the amount of information to be downloaded.

It will be necessary to enter a user name and password at this point, the default user name and password is dm and web.

**Tip:** The web viewer does not have all the features of the Viewing application, but it is useful if it is not possible to download the software, or if you want to view the images from an offsite location i.e. via the web.

### ***Viewing images across the network using an Apple Mac or Linux***

There is limited support for viewing images using an Apple Mac or Linux system based operating system, contact Technical Support for more information.

## **Connecting Audio devices**

Digital Sprite 2 supports the option to record audio alongside the recorded video images. The audio can then be played back in conjunction with the video locally on the monitor output or via the network connection using the viewing software.

There are two audio channels (Audio 1 and Audio 2) both with Audio IN and Audio OUT connections.

**Note:** The audio is not linked to any of the video inputs. It is independent of the video.

### ***Connecting a pre-amplifier to AUDIO IN***

Where additional microphone gain and/or adjustable gain is required, an external microphone pre-amplifier with adjustable gain is recommended.

A microphone pre-amplifier will provide a line level 1V pk-pk signal that can be connected to the RCA socket labelled Audio IN on the Digital Sprite 2.

The line level input has the following specification:

Audio IN                      47 KOhms input impedance, 1V pk-pk.

### ***Connecting the AUDIO OUT to an amplifier***

Connect the RCA socket labelled Audio OUT to an external amplifier or powered loudspeakers.

The line level output has the following specification.

Audio OUT      1V pk-pk

## **Recording audio**

Both the Audio in 1 and Audio Out 1 can be enabled for recording.

Once the microphone or pre-amplifier is connected to the Digital Sprite 2, enable the option to record audio in the System Options menu.

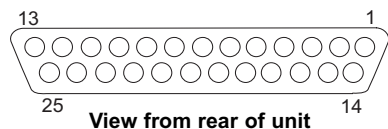
It is advised that you test the quality of audio playback as it may be necessary to increase the gain of the microphone.

## Connecting Alarms and Relays

### Connecting alarm inputs

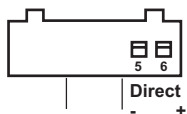
The Digital Sprite 2 supports up to 18 on-board alarm connections. By default inputs 1 to 16 are configured to trigger event recording on cameras 1 to 16 of a sixteen channel unit. There is an additional alarm, and a direct alarm.

The AUX ALARMS (alarms 1 to 17) are connected to the 25 Way D-Type Female Connector, the pin out and associated functionality are:



PIN	CONNECTION
1 - 17	1 - 17
18	Reserved
19	Reserved
20	Reserved
21 - 25	Ground

There is an additional alarm contact on a screw terminal labelled Direct - / +, which is used in conjunction with the schedule functionality of the system, and acts as the trigger for the keyswitch.



Both the AUX ALARMS and Direct alarm can replace or used in conjunction with external alarm modules (DM/CI01) as detailed within the *Connecting 485-bus Devices* section of this manual.

### Connecting relays

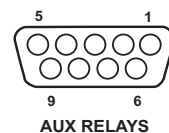
The Digital Sprite 2 supports six relays in total. These are divided between the 9 Way D-Type (AUX RELAYS) and the screw terminal (R1 / R2).

All of the relays are configurable within the menus.

R4, R5 and R6 can be configured to be triggered automatically on receipt of any alarm, refer to the *Alarm Zone Configuration menu*.

R1, R2 and R3 can be configured to be automatically triggered; on receipt of an alarm, notification of activity and notification of camera failure respectively.

The following details the pin connections and associated actions:



RELAY	PIN	CONFIGURABLE GLOBAL FUNCTION
R1	1 & 2	Global Relay
R2	3 & 4	Global VMD
-----		
R3 (AUX RELAYS)	1 & 6	Global Camera Fail
R4 (AUX RELAYS)	2 & 7	Reserved (AUX RELAYS)
R5 (AUX RELAYS)	3 & 8	Reserved (AUX RELAYS)
R6 (AUX RELAYS)	4 & 9	Reserved (AUX RELAYS)

View from rear of unit

**WARNING:** The maximum rating of all the relays is 500mA @ 48V, exceeding this load will cause damage to the relays.

### Connecting 485-bus devices

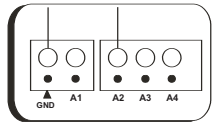
Digital Sprite 2 uses the 485-bus networking system to allow multiple Digital Sprites, remote keyboards, alarm modules, video switchers, and other accessories to be connected together. The total length of the 485-bus network can be up to 1500m (4900ft).

### Connecting additional alarm modules

Optional alarm modules (DM/CI01) can be added to the Digital Sprite 2 to increase the number of alarm inputs. The Digital Sprite 2 can support multiple alarm modules connected to the 485-bus.

To add alarms:

1. Connect the corresponding alarm contact to the alarm input, i.e. Alarm 2 would be connected between ground (GND) and A2.
2. If multiple alarm modules are required then each will need to be addressed; consult the alarm module documentation for details.
3. Connect the 485-bus cable from the alarm module to one of the 485-bus sockets on the Digital Sprite 2.
4. The polarity of the alarms (normally open/closed) is set in the 'Alarms and Presets' menu page.

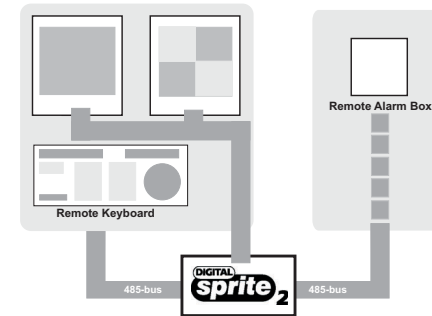


**Note:** The alarm contacts do not have to correspond to the equivalent camera number, for example alarm 2 could trigger camera 1, 2 and 3 into alarm mode, refer to *Alarms and Presets menu for configuration details*.

An alarm trigger can be programmed to perform any of the following:

Action	Menu Page
Close/Open relay	Alarm Options - Alarm Zone Configuration
Change the record rate	Alarm Options - Alarm Zone Configuration
Display the alarm camera on main / spot monitor	Alarm Options
Send a camera to a preset position	Alarms & Presets
Trigger a zone alarm	Alarm Options - Alarm Zone Configuration
Transmit an e-mail	Alarm Options - Alarm Zone Configuration & Email Settings
Remote alarm reporting	Alarm Options - Alarm Zone Configuration & Remote Reporting

An example of connecting a remote alarm box to the Digital Sprite 2.

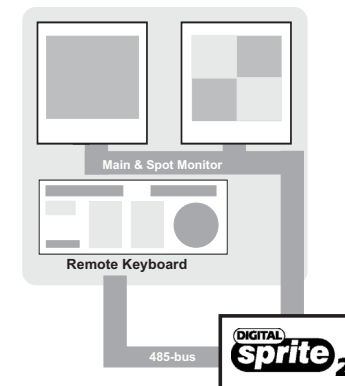


### Remote Keyboards

A remote keyboard (DM/KBS3) can be connected to the Digital Sprite 2 to provide extra functionality, such as:

- Remote control from a distance of up to 1500m (490ft).
- Control of multiple Digital Sprites.
- Control of on-board telemetry.
- Jog/Shuttle playback using the joystick.
- Panic alarm button - activates the system panic alarm zone input on the Digital Sprite 2.

The example below shows a remote keyboard connected to a Digital Sprite 2:

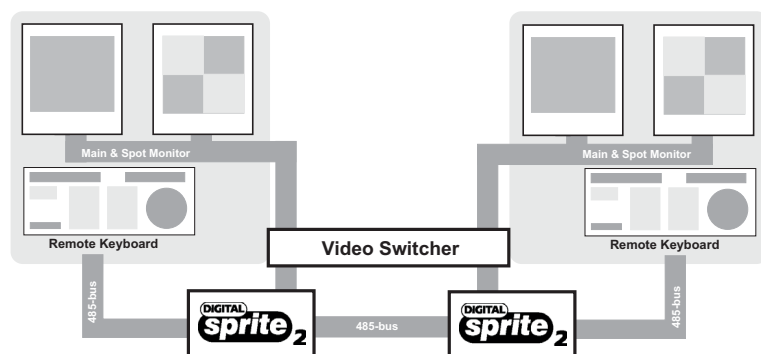




## Video Switchers

Video switchers allow multiple Digital Sprites to be controlled from a single pair of monitors. This allows the flexibility of controlling up to 256 cameras from a single location without having to purchase extra matrix equipment. The Video Switcher routes the monitors from the Digital Sprite 2 being controlled to the operator's monitors. Up to 16 control positions can have monitor switching.

The example below shows two Digital Sprites controlled from individual control points. The Video Switcher routes the monitor outputs from the DVR's to the control points:



**Tip:** Each 485-bus device is supplied with a 2m 485-bus cable. To extend the distance between devices, two 485-bus junction boxes and 12V-power supply are required. A total distance for the whole 485-bus network can be up to 1500m (4900ft).

## Configuring the Digital Sprite 2

### Using the menu

Digital Sprite 2 uses a paged menu system to guide the installer through the installation process.

#### Entering the menus

There are two types of menu; **User** and **Installer**.

##### User Menu

To enter the User menu tap the **Menu** key.

**Note:** If a password has been set and enabled it will be necessary to enter the User password to gain access to the menus. This is disabled by default.

The User menu will allow access to the 'Time, Date & Language' and 'Schedule' menus only.

The user has minimal configuration capabilities, these are to change the time (in minutes only), date format, language, shutdown the system and set the timezone in the Time, Date and Language menu and set the schedule options in the Schedule menu.

##### Installer Menu

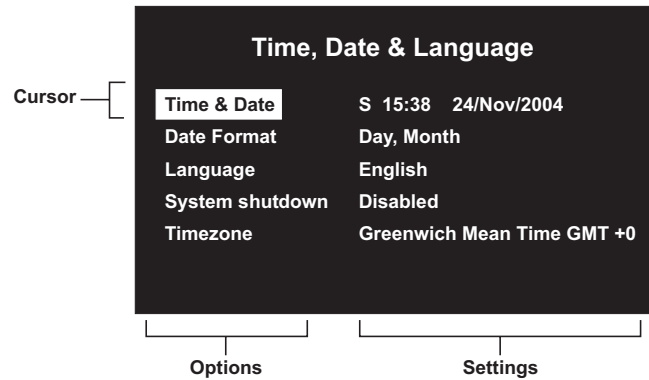
The Installer menu allows access to *all* configuration menus.

To enter the Installer menu, *press and hold* the **Menu** key.

**Note:** If a password has been set and enabled it will be necessary to enter the Installer password to gain access to the menus. This is disabled by default.

## Navigating a menu

The menus are displayed with options on the left-hand column and settings in the right hand column. A cursor (highlighted text) can be moved using the cursor keys  $\leftarrow$   $\uparrow$   $\downarrow$   $\rightarrow$  on the front panel, or the joystick on the optional remote keyboard.



## To view the next menu

Tap the **Menu** key to view the next page.

**Tip:** Tapping the  $\ll$  or  $\gg$  keys will allow you to navigate back or forward one page in the menus.

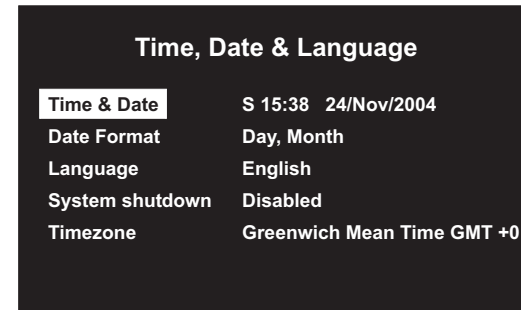
## To exit the menus

Press and hold the **Menu** key to exit the menus.

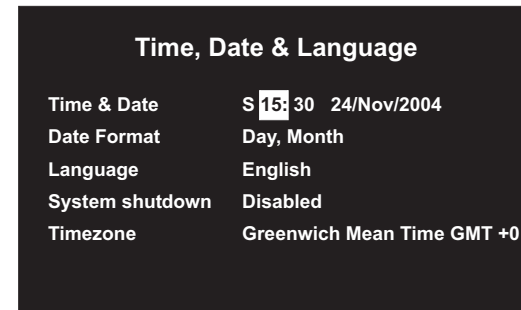
**Tip:** Cycling through all the menus by tapping the **Menu** key will also exit.

## Example of using the menu to change the time:

1. Press and hold the **Menu** key to enter the installer menu. The 'Time, Date & Language' page is displayed.





2. The 'Time & Date' option will be highlighted use the  $\rightarrow$  button or the keyboard joystick to move to the hours setting.




3. Use the  $\rightarrow$  button to highlight the minute setting.



4. Use the   button to change the settings, in this example 15:45.

Time, Date & Language	
Time & Date	S 15:45 24/Nov/2004
Date Format	Day, Month
Language	English
System shutdown	Disabled
Timezone	Greenwich Mean Time GMT +0

5. Use the  button to return to the left-hand side of the page and select another option. Or press the **Menu** key to move to the next menu.

Time, Date & Language	
Time & Date	S 15:30 24/Nov/2004
Date Format	Day, Month
Language	English
System shutdown	Disabled
Timezone	Greenwich Mean Time GMT +0



**WARNING:** Images may be overwritten if the time or date is adjusted whilst recording is in progress.

## Time, Date & Language

Time, Date & Language	
Time & Date	15:38 22/12/2204
Date Format	Day, Month <small>Month, Day</small>
Language	English <small>French, German, Spanish, Italian, Russian Czech, Polish, Dutch, Hungarian, Swedish</small>
System shutdown	Disabled <small>Enabled</small>
Timezone	Greenwich Mean Time GMT +0

### Date

As default, the date is entered DD:MM:YYYY, this can be changed using the Date format option below.

### Time

The time should be entered in 24 hour format (HH:MM).

### Date format

The date format can be changed from (Day, Month) to (Month, Day) depending on regional preference.

### Language

The menus can be displayed in a number of languages. Upon selection these are presented as a drop down list with the following language options:

English	German	Italian	Czech	Dutch	Swedish
French	Spanish	Russian	Polish	Hungarian	

## System Shutdown

The Digital Sprite 2 can be shutdown from this menu.

Some menu changes would require the unit to be reset, for example changes within the System Features menu.

To reset the Digital Sprite:

1. Use the  $\downarrow$  key to highlight the 'System Shutdown' option.
2. Select **Enable**, a prompt will be displayed.
3. Press and hold the Camera 1 key for 5 seconds. The unit will shutdown, where a prompt will appear to say you can switch the unit off.

To abort the reset, press the **Menu** or **Mode** key.

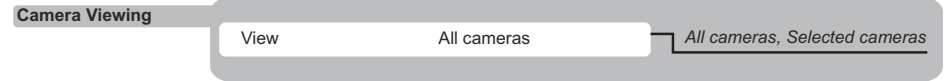
**Note:** Shutting down your Digital Sprite 2 by any other method will put the integrity of your DVR at risk. If your Digital Sprite 2 is shut down in any uncontrolled manor (power off at mains or removing the power lead) more than 5 times in one hour, it will go into Engineering Bootloader mode for approximately fifteen minutes and then will reboot in normal mode.

**Tip:** You can restart the unit from the 'System Shutdown' option by pressing and holding Camera 4.

## Timezone

There are numerous time zones supported on the Digital Sprite 2, select the zone for where the unit is installed so the time and date will reflect the local time and will change in conjunction with Daylight Saving Time.

# Camera Viewing



It is possible to define the cameras that can be viewed on the main or spot monitor, the options are all cameras or selected cameras. All the cameras can be viewed by default.

**Note:** Cameras that are selected within this menu for viewing will not affect the cameras that are selected to record.

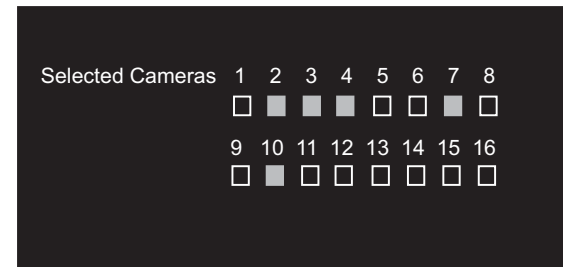
Cameras removed from the view option are not displayed on the main or spot monitor in live or playback mode and multiscreen display will show a blank segment where the camera should be.

## To change the cameras to be viewed

Press the  $\uparrow$  button to change the edit field to 'Selected cameras'.

A menu will display the cameras to be viewed.

Press a camera key to toggle the camera in or the viewing option. A filled box denotes cameras that can be viewed.



**Tip:** It is advisable to set a password to stop this setting being altered by unauthorised personnel.

# Schedule

A schedule can be used to record selected cameras at different times, change the record rates and determine whether alarms or activity is enabled.

Schedule		
Schedule Type	Timed	Zone Control, Timed
Night	On	On Between, 7 Day Timer, Off, On
Weekend	Off	On Between, Off
Keyswitch	None	Direct, Aux, Module 1 - Module 16, None

## Schedule Type

This determines how the schedule will operate, the options available are:

- **Timed** (default) - allows settings to be configured for set times during the day, night and weekend.
- **Zone Control** - This enables or disables Night Zone or Weekend Zone settings.

**Note:** Enabling Zone Control will override any timed Schedule setting and will switch into Night or Weekend mode when an alarm is activated. *Refer to Zone Configuration for more information.*

## Night

The Night option allows times to be configured to determine when the night settings would be applied.

The options are:

- **On** - Night settings would be permanently applied.
- **7 Day Timer** - This activates a sub menu where Day and Night times can be allocated, *refer to the 7 Day Timer section.*
- **On between** - this allows the start and end times to be set when the Night settings will be applied.
- **Off** - When the night option is off the Day settings will be applied at all times by default.

## 7 Day Timer

This sub-menu allows a schedule to be independently set for each day of the week.

7 Day Timer			
		Day	Night
Monday	Timed	09:00	18:00
Tuesday	Timed	09:00	18:00
Wednesday	Timed	09:00	18:00
Thursday	Timed	09:00	18:00
Friday	24Hr Day		
Saturday	24Hr Night		
Sunday	24Hr Day		

## 24 Hr Day

This enables the unit to record using the Day settings at all times.

## 24 Hr Night

This enables the unit to record using the Night settings at all times.

## Timed

The schedule will enable the Day settings during a set period and then switch automatically to the Night settings at a programmed time. The diagram shows that the unit will be active with the Day settings from 09:00 on Monday until it switches to the Night settings at 18:00. This is repeated each day until Friday when the settings will be switched to Day then over to Night settings on Saturday and back to Day on Sunday.

## Weekend

The weekend option allows times to be configured to determine when the weekend settings would be applied.

The options are:

- **On between** - this allows the start and end times to be set when the weekend settings will be applied.
- **Off** - When the weekend option is off the weekend setting will never apply.

## Keyswitch

The input which activates the keyswitch can be configured for one of the following options:

- **None** - There is no keyswitch operation enabled.
- **Direct** - The direct input on the rear panel has been allocated as the keyswitch trigger.
- **Aux** - The Aux input on the rear panel has been allocated as the keyswitch trigger, select a contact.
- **Module 01 - Module 16** - select any input on any module to be the keyswitch trigger.

The keyswitch is used to change the unit from one time mode (Day, Night, Weekend) to another when the input programmed in the settings is activated. If the Digital Sprite 2 is in Day mode operation, when the input is received the unit will switch to Night mode. If it is in Night mode the unit will still switch but it will remain in Night mode. If the unit is in Weekend mode again the unit will switch but remain Weekend mode.

As the keyswitch is switched off. If the Digital Sprite 2 has been configured for;

- Day mode the unit will stay in day mode, and apply day settings.
- Night mode the unit will switch to day mode and apply the day mode settings.
- Weekend mode the unit will switch to day mode and apply the day mode settings.

**Note:** If the Installer has manually configured an individual schedule mode on an alarm zone different to the rest of the zones or on a camera different to the rest of the cameras (ignoring 24Hr zones), the option will switch to a read-only field and display Custom.

## Standard Recording Schedule

The record rate and the image size determine how long cameras can be recorded for and the update rate for each camera. Settings can be applied to day, night and weekend schedules.

The record rate for the Digital Sprite 2 has a maximum record rate (Standard and Alarm) of 50PPS for PAL standard cameras and 60PPS for NTSC standard cameras.

The screen displayed for the Standard Record settings will depend on whether the Schedule Rate is enabled and the Schedule function has been enabled for Day, Night and Weekend Operation mode.

With the Schedule Rate function disabled, the record rate is the permanent record rate for the cameras enabled for recording.

Units	PPS	Standard Rate	Events Rate	Event Active	Event Mode
Day	6	6	6	Both	Unchanged
Night	6	6	6	Both	Unchanged
Weekend	6	6	6	Both	Unchanged
Image size			18KB		
Record cameras			Edit		
Maximum Record Time			-- Days --		
Maximum Storage (Protected %)					0300 GB (00%)
Earliest unprotected recording					31/May/2005 23:55

**Note:** The standard record rates set for each of the operation modes are the number of pictures per second across **all** cameras enabled in standard recording.

## Units

The settings within this menu can be configured in either the number of Pictures Per Second or Milliseconds. Using the ⇨ move the cursor to the PPS option and use ↓ to select ms (milliseconds).

## Standard and Event PPS

Select a record rate in pictures per second (PPS) to be recorded across all enabled cameras. The Standard Record rate will be the number of PPS recorded when the unit is in non-alarm mode. The unit will switch to the Alarm rate when an alarm is triggered.

**Note:** The maximum record rate is 25PPS/30PPS (PAL/NTSC) for a single camera.

The default record rate is 6PPS (00167 ms), which is equivalent to a VCR in 24-hour time lapse mode. For ease of use the following table demonstrates the equivalent record rates of a typical VCR time-lapse mode.

VCR time-lapse mode (hours)	Digital Sprite record rate (PPS)	ms
3(2)	25(30)	40(33)
12	12	83
24	6	167
48	3	333
72	2	500
168	1	1000

**Note:** Figures in brackets are for NTSC systems.

**Tip:** To work out the update rate per camera (the number of seconds before the camera is updated) divide the number of cameras included in the standard record setting by the selected record rate (PPS). For example, 16 cameras with a standard record setting of 6PPS will be:

$$\text{Update Rate (seconds)} = \frac{\text{Number of cameras}}{\text{PPS}} = \frac{16}{6} = 2.67 \text{ Secs}$$

To reduce the time between the camera being updated you will need to increase the record rate (PPS), or switch to milliseconds where you will specify the time between each image. This will result in an increase in the number of recorded images, however this will reduce the recording time available on the internal hard drive.

## Events Active

Select whether the alarms and activity are **On** or **Off** for day, night and weekend schedules.

**Note:** If any of the cameras or zones have been changed so the individual settings (day, night, weekend) are different to the other cameras within the group then the Events Active option will display 'Custom' to show that the settings are different.

The Standard Record menu will change if the Schedule Rates option within the Record Options menu is disabled. The day, night and weekend settings will be replaced with Rate setting which will allow permanent fixed rates to be set for the standard record rate and the event record rate.

Standard Recording	Units	PPS	Standard Rate	Events Rate	Event Active	Event Mode
	Rate		6	6	Both	Unchanged
					Disabled, Alarms, Activity, Both	Unchanged, Interleave Exclusive
	Image size		18KB			05 - 46KB
	Record cameras		Edit			
	Maximum Record Time		-- Days -- Hours			
	Maximum Storage (Protected %)		0300 GB (00%)			
	Earliest unprotected recording		31/May/2005 23:55			

**Note:** This also applies to the Variable Record Schedule.

## Event Mode

This allows exclusive or interleave recording to be selected within any of the operating modes (Day, Night, Weekend) and used to adjust the record sequence when an alarm is received. The options for event recording are:

- **Unchanged** – This sets the record sequence to remain the same whether an alarm is present or not.
- **Exclusive** – The Digital Sprite 2 will only record the alarm cameras.

- **Interleaved** – This will set the Digital Sprite 2 to record the alarm cameras more frequently than non-alarm cameras, by interleaving the two i.e. if camera 1 is in alarm the interleave recording would be 1213141516...

**Note:** By using event interleave, it is possible to keep the record rate constant but effectively increase the speed of alarm or activity recording.

## Image size

The image size determines the quality of the image that is recorded to disc. A larger file size will allow more detail to be captured within the image and therefore produce superior picture quality, but this does take more space on the hard drive, so less time will elapse before the images are overwritten.

The file size on the unit can be set between 5KB and 45KB, the table below shows the image quality at typical file sizes:

Image quality	File Size (KB)
LOW	14KB
MED	18KB
HIGH	25KB

**Note:** The equivalent image quality is representative in most cases, however it is possible that a camera view with large amounts of detail requires the file size to be increased from the standard setting to maintain the image quality.

## Record Cameras

Each camera can be individually included or excluded from the standard record settings.

Using the  button to highlight the **Record cameras** option and press  to enter the Record Cameras menu.

Use the corresponding camera key to select/deselect the camera, a blank box indicates the camera is **not** included in the record sequence.

**Note:** You can also use this menu to configure which cameras are included in the variable rate recording, which is covered in a later section of this manual.

## Maximum record/alarm time

This will show an estimate of the number of days and hours before the recorded images on the hard disc will be overwritten. The maximum record time is read only and will be displayed when the record or alarm rate (day or night) is highlighted. It will be automatically calculated by the Digital Sprite 2 when the standard or alarm record rate is changed, the maximum recording time will not include the audio if enabled.

**Tip:** Reducing the file size (KB) or record rate (PPS) will increase the maximum recording time.

## Maximum storage (protected %)

The maximum storage setting is read only. This displays the total video storage, in Gigabytes (GB), along with the percentage of video storage that is protected from being overwritten.

**Note:** The calculations for recording time assume there is no protected video. Video that is protected will need to be manually unprotected in the 'Image Protection' menu before it can be used for recording again.

## Earliest unprotected recording

The earliest unprotected recording displays the date and time of the first image on the disk that has not been protected.

**Note:** When the Schedule function is enabled the settings for the Standard Record screen changes to include Day and Night settings.

The standard record and alarm record rate can be configured for Day time operation and Night time operation allowing the system to automatically change the required number of PPS (or ms) between the two time schedules, e.g. day time could be during business hours, night time operation outside of business hours.



# Variable Recording Schedule

For cameras that are selected for variable recording, additional settings can be allocated to determine how the images are recorded.

Variable Recording	Camera		Camera 01		
	Units	PPS	Day	Night	Weekend
Record Operation	Off	Variable	Standard	Off, Standard, Variable, Both	
Record rate	N/A	006	N/A	N/A, 000 - 025	
Alarm rate	N/A	006	N/A	N/A, 000 - 025	
Pre-alarm rate	N/A	006	N/A	N/A, 000 - 025	
Pre-alarm Pics	N/A	014	N/A		
Pre-alarm buffer use	N/A	014%	N/A		

**Note:** The variable record rate is camera specific and applies to the camera being configured.

## Units

The settings within this menu can be configured in either the number of Pictures Per Second or Milliseconds. Using the ⇨ move the cursor to the PPS option, use ↓ to select ms (milliseconds).

**Note:** To specify record rates less than 1PPS it is necessary to use milliseconds.

## Record operation

This allows the record, alarm rate and alarm pictures to be determined when variable recording is enabled. The options available are:

- **Off** - Camera not recording.
- **Standard** - uses settings applied within the Standard Record menu.
- **Variable** - allows the record, alarm, pre-alarm rate and pre-alarm pictures to be configured for each camera.
- **Both** - applies both variable and standard recording to the selected camera.

## Recording Rate

The Record rate and Alarm record rate can be configured for each camera enabled in the Variable Recording settings. Select the camera to be configured by pressing the corresponding camera key.

## Record / Alarm Rate

This is the record rate for cameras selected in variable record rate. Select a record rate in PPS (or ms) to be recorded on the cameras selected for variable recording. The maximum record rate is 25PPS/30PPS (PAL/NTSC) for a single camera.

**Note:** This option is not applicable when standard is selected in the 'Record Operatoin' section.

## Pre-Alarm Rate

This determines the rate the images will be continuously recorded into the pre-alarm memory and are available for enhanced pre-alarm recording. Select a record rate in PPS (or ms) to be recorded on the camera being configured.

## Pre-Alarm Pics

When the pre-alarm record rate is set, it is also necessary to identify the number of pre-alarm pictures that are captured which will be added to the alarm recording and stored when an alarm is triggered.

**Note:** If the Schedule option is enabled the pre-alarm record rate can be set in any of the day, night or weekend modes.

## Pre-Alarm Used

The Pre-Alarm Used section is read only and identifies the overall usage of pre-alarm pictures for all cameras, (i.e. identifies how much alarm space is available).

**Important Note:** The menu options will change when the schedule function is enabled. The standard record and alarm record rate can be configured for Day time operation, Night time operation and Weekend operation allowing the system to automatically change the required number of PPS (or ms) between the two time schedules, e.g. Day time would be business hours, Night time would be outside of business hours.

# Network Options

This option allows you to allocate properties to the Network connection of the Digital Sprite 2.

Network Options		
DHCP	Disabled	Disabled, Enabled
TCP/IP address	172.016.080.007	
Sub net mask	255.255.000.000	
Default gateway	000.000.000.000	
More Network Options	Edit	
Remote Reporting	Enabled Edit	Enabled, Disabled
Email Settings	Enabled Edit	Enabled, Disabled
SMS Settings	Enabled Edit	Enabled, Disabled
Web Cam Settings	Enabled Edit	Enabled, Disabled
Firewall	Edit	

## DHCP

The Digital Sprite 2 needs a unique IP address and subnet mask to communicate over a network.

The Digital Sprite 2 can be installed in a DHCP network environment where an IP address, subnet mask and default gateway will be automatically allocated from the network DHCP Server. This is enabled by default.

Disabling this option would require a static IP address and subnet mask to be manually configured.

**Important Note:** A DHCP address is temporary and can change, therefore it is recommended that the unit be allocated a fixed (permanent) IP address, subnet mask and default gateway. Alternatively power up with DHCP enabled and once an address has been assigned disable DHCP. The assigned IP address will then be permanent.

## TCP/IP Address, Subnet mask, Default gateway

This allows a permanent IP address, subnet mask and default gateway to be allocated to the Digital Sprite 2. On an existing network this information is often obtained from the network Administrator. A Default gateway will be required if the Digital Sprite 2 is to be accessed from a remote location, such as via a WAN or dial-up using a router.

**Note:** DHCP must be disabled to configure a static IP address.

## More Network Options

This submenu allows advanced network settings to be configured.

More Network Options		
Bandwidth selection	Edit	
PPP selection	Edit	
Secondary web server port	0000	0000 - 9999
Primary DNS	000.000.000.000	
Secondary DNS	000.000.000.000	

## Bandwidth Selection

It is possible to set maximum limits for the bandwidth utilisation on the Network port of the Digital Sprite 2.

Bandwidth Selection		
Force 10 BaseT operation	Disabled	Disabled, Enabled
Type	LAN	CUSTOM, LAN, WAN, ISDN
Max Trans Rate	010000 KBits/Sec	000001 - 100000KBits/S
Tx Image Buffers	3	1 - 3
Ethernet MTU	1500	576 - 1515
Ethernet re-tx t/o	0250 ms	0000 - 5000ms

## Force 10 BaseT Operation

The Digital Sprite 2 supports a 10/100Mbps auto detecting connection, however this option forces the network port on the Digital Sprite 2 to be a 10BaseT connection if the local hub/switch requires this.

## Type

The Digital Sprite 2 can be configured for a specific value or it can be set to a default network setting, for example a WAN connection would automatically set the speed of the network port to 32Kbytes/second.

This will ensure the speed of the data from the Digital Sprite 2 does not exceed the speed of the network connection.

The options available are:

- **Custom** - this will allow the Administrator to select specific values.
- **ISDN** - This will set the maximum transmission rate to 64KBits/second for remote network connection via an ISDN link, it will also automatically alter the transmit image buffers and Ethernet re-transmit timeout.
- **WAN** - This will set the maximum transmission rate to 256KBits/second, and automatically alter the transmit image buffers and Ethernet re-transmit timeout.
- **LAN** - This will set the maximum transmission rate to 010000KBits/second for a local network connection, and automatically alter the transmit image buffers and Ethernet re-transmit timeout.

## Max Transmission Rate

This is a read only setting and shows the maximum transmission speed for the type of network selected.

**Note:** If Custom is selected in the Type option, it is possible to configure this setting between 000000 Kbits/s and 100000 Kbits/s.

## Transmission Image Buffer

This is a read only setting and shows the buffer size for the network type selected.

**Note:** If Custom is selected in the Type option, it is possible to configure this setting to 1, 2 or 3.

## MTU

The MTU (Maximum Transmission Unit) is the largest physical packet size, measured in bytes, that a network can transmit. Any messages larger than the MTU are divided into smaller packets before being sent.

Every network has a different MTU, which is set by the Network Administrator. Ideally, the MTU should be the same as the smallest MTU of all the networks between your machine and the final destination. If the MTU figure is too large they will be broken up (fragmented), which slows down transmission speeds, and in some cases cause a 'Connection to Unit Timed Out' message when using DM Network Viewing Software.

MTU sizes can vary for each connection and it may be necessary to use trial and error to find the optimal MTU. Suggested MTU sizes are as follows;

Network Connection	MTU Size
PPP (ISDN/PSTN routers)	576
Ethernet	1500 (default)
PPPoE (PPP over Ethernet, ADSL, Cable)	1458
PPPoA (PPP over ATM, ADSL)	1458
VPN	1350

Dedicated Micros recommend you obtain this information from your Internet Service Provider who will provide you with the optimal figure.

**Warning:** Changing the MTU size can have adverse affects on the transmission speed and operation over the network. Contact your network administrator for advice on MTU sizes for the network.

## Ethernet Re-transmit Timeout

The Ethernet Re-transmit timeout is the time the unit will wait to re-send a network packet if an acknowledgement is not received. When making a connection across WAN link, this figure should match the timeout figure for the router. Your Network Administrator can provide this information.

## PPP Selection

The Digital Sprite 2 supports Point to Point Protocol, this menu allows the PPP settings to be configured.

PPP Selection		
PPP IP	010.001.001.241	Disabled, Enabled
PPP idle line timeout	180 Seconds	000 - 500 Seconds
PPP link down timer	02 Minutes	00 - 60 Minutes

### PPP IP

Enter the IP address allocated to the PPP functionality. Use the ↑ and ↓ buttons to scroll through the available numbers.

### PPP Idle Line Timeout

This is the time the Digital Sprite 2 will wait before disconnecting the PPP link if no data is being transmitted or received.

### PPP Link Down Timer

This is the time the Digital Sprite 2 will wait before dropping the PPP connection should it be lost.

## Secondary Web Server Port

The Digital Sprite 2 can be configured to send video via a web port. If the standard web port (80) is already utilised on the network, it is possible to configure a secondary web server port.

To view the device, via a web browser, using the secondary web port, you will need to enter the following in the internet web address section or the Digital Sprite 2 viewing software;

*http://<IP Address of the Digital Sprite 2>:<secondary web port number>*

For example of the secondary web address allocated is 8000, with an IP address of 172.16.1.2 then the entry would be: *http://172.16.1.2:8000*.

## Primary DNS

The Digital Sprite 2 supports Domain Name Server allowing the unit to reference other devices by their name rather than the IP address. Enter the IP address of the primary DNS server.

## Secondary DNS

The Secondary DNS Server is a back up server in case the primary server fails. Enter the IP address of the secondary server.

## Remote Reporting

The Digital Sprite 2 supports remote alarm monitoring and can configured to automatically carry out actions to notify the remote station of events. This menu configures the remote reporting.

**Note:** It is recommended that the Remote Reporting feature be configured via the Web interface, *refer to the Networking Guide for full configuration information*.

## Email Settings

If the Digital Sprite 2 has been configured to transmit e-mails on alarm, camera fail, etc. It is necessary to configure the e-mail settings.

**Note:** It is recommended that the Email Settings option be configured via the Web interface, *refer to the Networking Guide for full configuration information*.

## SMS Settings

The Digital Sprite 2 can be configured to send SMS messages under specific circumstances; alarm, system startup, etc.

This menu allows the SMS settings to be configured to allow the messages to be transferred to the SMS Server.

**Note:** It is recommended that the SMS Setting option be configured via the Web interface, *refer to the Networking Guide for full configuration information*.

## Web Cam Settings

Any of the video inputs on the Digital Sprite 2 can be made available and transmitted via FTP to a web serving device. These images can then be incorporated into a web page and accessed via a standard web browser.

**Note:** It is recommended that the Web Cam Settings be configured via the Web interface, *refer to the Networking Guide for full configuration information*.

## Firewall Options

The Digital Sprite 2 supports enhanced network features, the firewall option adds security to the system. It ensures only authorised users gain access to the Digital Sprite 2 by utilising IP address and port filtering.

**Note:** It is recommended that the Firewall Options feature be configured via the Web interface, *refer to the Networking Guide for full configuration information.*

## Alarm Options

The Alarm Options menu provides the ability to configure parameters that are non specific to camera inputs.

Alarm Options		
Protect alarm images	Set period	000days <small>Set period, Indefinitely</small>
Main alarm display	Sequence	Alarm
Spot alarm display	Last	Both
Alarm buzzer	No	<small>No, Yes</small>
Camera fail buzzer	No	<small>No, Yes</small>
Relays	Edit	
Alarm zone config	Edit	
General contacts	Edit	

### Protect Alarm Period

It is possible to automatically protect alarm recordings to ensure these images are not overwritten and remain in the hard drive of the unit. The images can be protected for a set period of time (after which they will be automatically overwritten) or indefinitely.

**WARNING:** Protecting images reduces the amount of space on the hard disk and subsequently affects the storage capacity allocated to normal recordings. Only keep protected images for as long as necessary.

### Main and Spot Alarm Display

When an event occurs (Alarm, Activity or Both) on the Digital Sprite 2 it is possible to determine how the alarm images can be viewed by the Operator. The options available are;

#### **Main alarm display (MON A)**

- **Last** - If a number of alarms are triggered at the same time, the last alarm image will be displayed on the monitor.
- **Sequence** - This will display all alarm images in a sequence.
- **Multiscreen** - If an alarm is triggered the unit will automatically switch to a multiscreen display to allow all alarmed video inputs to be viewed.

## Spot alarm display (MON B)

- **Last** - If a number of alarms are triggered at the same time, the last alarm image will be displayed on the monitor.
- **Sequence** - This will display all alarm images in a sequence.

These settings can be applied for alarm triggers, activity detection, both or alternatively the option can be disabled by selecting Off.

## Alarm Buzzer

The unit has a built in alarm buzzer which can be configured to trigger when an alarm is received on the Digital Sprite 2.

## Camera Fail Buzzer

The unit has a built in buzzer which can be enabled to be automatically triggered if any of the video inputs no longer detects the 1Volt pk-pk signal.

This buzzer can be enabled or disabled within this menu, by default the option is disabled.

## Relays

The relays on the Digital Sprite 2 can be configured to automatically trigger under certain conditions. This option also allows the relay on the unit to be tested.

Relay Setup			
Global alarm	Enabled	(Aux Relay 1)	Enabled, Disabled
Global VMD	Enabled	(Aux Relay 2)	Enabled, Disabled
Global camera fail	Enabled	(Aux Relay 3)	Enabled, Disabled
Relay test	Edit		

## Global alarm

It is possible to allocate Aux Relay 1 to trigger on receipt of any alarm.

## Global VMD

It is possible to allocate Aux Relay 2 to trigger on receipt of notification on the system of video motion detection on any camera.

## Global camera fail

It is possible to allocate Aux Relay 3 to trigger on receipt of any of the video inputs having camera failure (video loss), this is when the video signal drops below the 1 Volt pk-pk threshold.

## Relay test

The relay test option provides access to a submenu where any of the relays (on-board and additional relay module) can be tested, i.e. manually triggered.

Highlight the relay test option and select Edit, this will display the submenu. Move the cursor to the Aux section and press  $\uparrow$  to switch between the Aux and Module option (the Module option is only displayed if an additional relay module is connected).

Highlight the relay and select it for test by using the  $\uparrow$  or  $\downarrow$  buttons. To test the relay, highlight the On / Off option and press  $\uparrow$  or  $\downarrow$  to trigger the relay. The corresponding box will be blank if the relay is off or filled if the relay is on.

**Note:** When an alarm module is selected, the number of relays shown on the menu will increase to 16.

Relay Test		
Relay test	Aux	Relay 1 Off
1	2	3
4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Alarm Zone Config

An alarm zone logically groups alarms and initiates actions when an alarm is activated. Each Alarm Zone can be individually configured within this menu.

Alarm Zone Configuration		
Zone	01	01 - 32
Zone 01 Activation	Edit	
Zone 01 settings	Edit	
Zone 01 actions	Edit	
Primary camera Zone 01	01	
Select zone 01 cameras	Selected cameras	Selected cameras, All cameras

### Zone

There are 32 zones that can be individually configured and allocated actions. Use the  $\uparrow$  or  $\downarrow$  buttons to scroll through the zones.

### Pre-Configured Zones

There are a number of pre-configured zones that have the following functions, however these can be reconfigured if required.

- Zone 1 to 16 - Camera Alarms.
- Zone 30 - Disk Low.
- Zone 31 - Disk Full.
- Zone 32 - Panic Alarm.

### Zone Activation

Each zone can be scheduled to be always enabled (24Hr) or individually activated during the day, night and at weekends.

Zone Activation			
Zone 01 Schedule Activation			
Activation Type	Schedule Activation		
Active	Day	Night	Weekend
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

24 Hour Activation

### Schedule Activation

This allows the Operator to configure when an alarm will be active, i.e. active during Day and Weekend but inactive at Night.

Move the cursor to the required setting and press the  $\uparrow$  or  $\downarrow$  to include or exclude from the Day, Night or Weekend options.

### 24Hr Activation

This would be the setting for alarms that do not want to change at any time and will remain as programmed, for example the Panic Alarm.

**Note:** Setting this option overrides the Event Active setting determined in the Standard Recording Schedule.

### Zone Settings

Each zone is allocated standard settings which can be modified to suit the requirement of the system.

**Note:** Select the Zone to be configured before entering the Zone Settings menu.

Zone 01 Settings		
Title	Zone 01	
Pre-Alarm Time	002 secs	000 - 999 seconds
Alarm Duration	010 secs	000 - 999 seconds
Zone Alarm Input	No contact	
Zone OR Input	No contact	
Zone AND Input	No contact	
Zone NOT Input	No contact	

### Title

A 24 character title can be allocated to each zone, this information is stored within the event database therefore a name with significance is recommended.

### Pre-Alarm Time

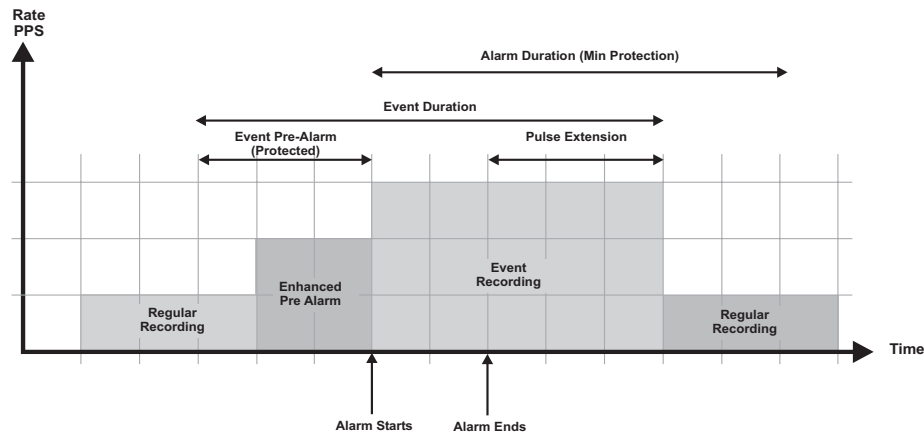
This is the period of time, prior to the alarm start that will be included along with the alarm recording for archive. These images will be protected from being overwritten with the alarm images.

The Digital Sprite 2 places a 'marker' in the regular recording that acts as the start of the pre-alarm recording, the number of images available will be dependant on the pre-alarm time set.

**Note:** If recording is not enabled there may not be any images on the disk. If pre-alarm recording is required, ensure recording is enabled.

### Alarm Duration

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



### Zone Alarm Input

This determines what input or system function will trigger the zone alarm. The options available are:

- **No Contact** - Default setting.
- **Presets** - When an alarm is triggered and a camera is sent to a preset position. It is possible to use this to trigger a zone alarm input. This is used in conjunction with the Alarms and Presets menu.
- **VMD** - If a camera has been configured for VMD or activity, it is possible to use this to trigger an alarm zone. This is used in conjunction with 'Activity Camera Setup'.

- **System** - There are a number of system features that can be used to trigger an alarm, these include Panic, Disk low, Disk Full.
- **General** - These contacts are configured in the General Contacts section.

### 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 *zone alarm input* or the *zone OR input* for the Digital Sprite 2 to initiate the alarm actions. The allocated alarm trigger can be any of these options; Aux, Module 1, VMD, Presets, System.

### Zone AND Input

An alarm trigger must be received on both the *zone alarm input* and the *zone AND input* for the Digital Sprite 2 to initiate the alarm actions. The allocated alarm trigger can be any of these options; Aux, Module 1, VMD, Presets, System.

### Zone NOT Input

The Digital Sprite 2 will only issue the alarm actions if the trigger is received on the *zone alarm input* and **not** on the *Zone NOT input*. The allocated alarm trigger can be any of these options; Aux, Module 1, VMD, Presets, System.

### Notes on Zone Alarm Input, OR, AND, NOT Inputs

The following example shows how the Digital Sprite 2 uses the OR, AND and NOT settings when all three parameters are configured:

#### Example

With the functions set to the following alarm inputs:

Base Input (Alarm Input) = Aux contact 1

OR input = Aux contact 2

AND input = Aux contact 3

NOT input = Aux contact 4

Result = [(Alarm1 OR Alarm 2) AND Alarm 3] NOT Alarm 4



The example translates into; an alarm must be received on input 1 AND input 3 but NOT on input 4 OR an alarm must be received on input 2 AND input 3 but NOT on input 4.

Be aware if an alarm is received on input 4 under the above circumstances the event will not be triggered.



## Zone Actions

This identifies the actions that will be allocated to the zone being configured.

**Note:** The actions are divided over three pages.

Zone 01 Actions		Page	Page 1
Text Only Alarm	Disabled		Enabled
Change Record Rate	Both		Standard, Variable, None
Create Database Entry	Enabled		Disabled
Connect on Alarm	Enabled		Disabled
Archive Alarms	Enabled		Disabled

## Page

This will scroll through all the available actions, there are three pages of actions. Use the   buttons to scroll through the pages.

## Change Record Rate

This allows the record rate to be switched to the alarm rate when the zone is active.

The options available are:

- **Standard** - switches cameras enabled for standard recording to the alarm record rate.
- **Variable** - switches cameras enabled for variable recording to the alarm record rate.
- **Both** - applies to both the variable and standard recording of the selected camera.

**Note:** When Both is selected the record rates set in the standard and variable record menus will be added, i.e. if standard is set to 6PPS for 6 cameras (1PPS per camera) and the variable is set to 3PPS, then that camera will record at 4PPS.

## Create Database Entry

An alarm entry will be added to the event database. The zone title will be used as part of the entry information.

## Connect on Alarm

The Digital Sprite 2 will automatically connect to the remote alarm monitoring station. This features is useful in applications where remote monitoring of multiple sites is required.

**Note:** The remote reporting settings must be configured and the viewing application must be enabled to receive remote alarm video, *for more details refer to the Networking Guide.*

## Archive Alarms

This will force the Digital Sprite 2 to automatically download the alarm images via FTP to a central FTP Server or directly to a local CD.

*Refer to Archive on Event in the Record Option menu.*

Zone 01 Actions		Page	Page 2
Protect Alarm Images	Enabled		Disabled
Close Relay	No Relay		Module 1 Relay 1, Aux Relay 1
Record Still Images	Disabled		Enabled
Email Image	Enabled		Disabled
Email Image Res.	Thumbnail		Low Res, Medium Res, Hi res

## Protect Alarm Images

If the recorded alarm images are to be automatically protected (indefinitely or for a set period) then the 'Protect Alarm Images' option **must** be enabled.

### Close Relay

It is possible to force a relay to close on receipt of an alarm trigger. The options available are:

- **Aux** - There are six on-board relays any of these can be selected within this option.
- **Module 1** - An additional relay module can be connected via the 485 bus, one of the sixteen relays can be selected within this option.

### Record Still Images

This will record a still image of the alarm camera along with the normal recording.

Still images are accessible through the Live page of the web interface.

### Email Image

When e-mail on alarm is enabled it is possible to attach an image to the e-mail. An e-mail will be automatically sent to a recipient when an alarm trigger is received.

### Email Image Resolution

This determines the resolution of the attachment within the e-mail. The options available are:

- Thumbnail.
- High Resolution.
- Medium Resolution
- Low Resolution.


It is important to take into account the speed of the remote network link when configuring this option.




**Note:** The resolution setting selected is a global resolution and will be common to all zone and VMD alarms.




Zone 01 Actions		Page	Page 3
Goto Camera Preset	Disabled	Enabled	
Apply zone 01 actions to	Zone 02	Zones 02 - 32, All zones	

### Goto Camera Preset

It is possible to action a camera to be sent to a preset position when an alarm zone is triggered.

Highlight the option and press the  button to enable this feature.

When enabled a Preset and Camera option will be displayed. Use the  button to move to the preset option, press the  or  to scroll through the preset options.

Use the  to move to the Camera, use the  or  to scroll through the camera numbers. This is the camera that will be automatically sent to the selected preset position.

### Primary Camera for Zone

Zones can be configured to contain one or more cameras.

A still image from the Primary Camera will be;

Used for 'E-mailing on Alarm'.

Added to the event database.

Will be the first to be displayed (if enabled) on the Operator's monitor.

Zones that contain more than one camera require this primary camera reference.

### Select Zone Cameras

The cameras that are to be switched to event rate by the zone actions can be individually selected, or all cameras can be switched.

When the selected cameras option is enabled, use the corresponding camera key to include / exclude that camera from the zone configuration.

### General Contacts

It is possible to configure the alarm contacts independently of camera specific alarms for specialist applications.

General Contacts			
General Contacts	1	2	>>
Enabled	<input type="checkbox"/>	<input type="checkbox"/>	
Module	Aux	Aux	
Contact	01	01	
Input Source	N/O	N/O	
Pulse extension (sec)	000	000	

### General Contact

The Digital Sprite 2 has 32 General Contacts that can be accessed and configured within this menu. Use the ➞ button to select the required contact.

### Enabled

Each input can be enabled or disabled. Highlight the option and use the ⬆ or ⬇ buttons to enable or disable the input.

### Module

The on-board (AUX) alarms and the on-board Direct Alarm modules can be selected for configuration, as well as module 1 through to module 16.

### Contact

Where multiple alarms are available, the relevant contact can be selected.

### Input Source

The alarm inputs can be configured as Normally Open (N/O) or Normally Closed (N/C).

### Pulse extension

A pulse extension (000 - 999 seconds) can be added to each alarm input. A pulse extension extends the trigger period to avoid double alarm triggers from occurring, i.e. If a second trigger occurs on the same alarm input within the pulse extension time period, the unit will not create a new event.

## VMD Options

The Digital Sprite 2 supports Video Motion Detection and Activity Detection functionality, this menu allows the global parameters of this feature to be configured.

VMD Options			
VMD protect period	Set period	000 days	
VMD pulse extension	002 secs		
VMD pre-alarm time	000 secs		
VMD alarm duration	002 secs		
Relays	Edit		
Cell display	Disabled		
VMD buzzer	No		

### VMD Protect Period

Any VMD event can be protected from being overwritten. The protection period can be set as a number of days or indefinitely, ensuring the files are always available. The files will be automatically overwritten after the configured period has expired.

**Note:** Protecting images will reduce the hard disk capacity. This should be taken into account when specifying hard disk requirements.

### VMD Pulse Extension, Pre-Alarm Time and Alarm Duration

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.

### Pre-Alarm Time

This is the period of time, prior to the VMD trigger, that will be included along with the VMD recording for archive and protected.

The Digital Sprite 2 places a 'marker' in the regular recording that acts as the start of the pre-alarm recording. The number of images available will be dependant on the pre-alarm time set.

**Note:** If recording is not enabled, there may not be any images on the disk. If pre-alarm recording is required, ensure recording is enabled.

### Alarm Duration

This is the minimum time period in seconds from the start of the VMD trigger that will be protected from being overwritten. This time will include the VMD recording, the pulse extension and any post alarm recording (if applicable). This does not include the pre-alarm images.

### Relays

The relays on the Digital Sprite 2 can be configured to automatically trigger under certain conditions.

### Cell Display

It is possible to enable or disable VMD Cell Display on the main monitor (Mon A) output of the Digital Sprite 2. This helps highlight areas of motion on the monitor, when reviewing VMD events.

### VMD Buzzer

The on-board buzzer can be enabled to automatically activate when VMD is detected on any of the video inputs.

## Display Options

Display Options		
P in P position	Top left	Top left, Top right, Bottom left, Bottom right
Quad sequence	Segment	Segment, Page
Main monitor text	Both	Both, None, Clock only, Title only
Spot monitor text	Both	Both, None, Clock only, Title only
Text background	On	On, Off
Sequence dwell	05 secs.	01 - 99 secs.
Multiscreen interlace	On	On, Off
Multiscreen titles	On	On, Off
Display unit number	On	On, Off
Base camera number	001	000 - 999

### Picture in Picture Position

This determines where the PinP will appear on initial selection of feature. The options are top left or right and bottom left or right.

### Quad Sequence

It is possible to decide the sequence format of the Quad display:

- A whole page (all segments) can sequence 1, 2, 3, 4 then 5, 6, 7, 8.
- A single segment at the bottom right of the screen, e.g. 1, 2, 3, 4 then 1, 2, 3, 5.

### Main Monitor Text

It is possible to select the text that will be displayed on the main monitor. The options are:

- **None** - switch all monitor text off (when used in conjunction with display unit number).
- **Clock only** - display the time, date and mode of operation (Day, Night, Weekend and Spot).
- **Title only** - display the camera number, the unit number, camera title and the mode of operation.
- **Both** - display both the clock and title information.

## Spot Monitor text

It is possible to select the information that will be displayed on the Spot monitor. The options are:

- **None** - switch all monitor text off (when used in conjunction with display unit number).
- **Clock only** - display the time, date and mode of operation (Day, Night, Weekend and Spot).
- **Title only** - display the camera number, the unit number, camera title and the mode of operation.
- **Both** - display both the clock and title information.

## Text Background

A black box appears by default behind the text. However it is possible to switch this box off.

## Sequence Dwell

The sequence dwell time can be set from 1 to 99 seconds. The dwell time is the length of time a camera is displayed before switching to the next camera in the sequence.

**Tip:** The cameras on the sequence can be edited by pressing and holding the Sequence button in Live mode.

## Multiscreen interlace

Turn multiscreen interlace off if images are flickering when viewed in a multiscreen display.

## Multiscreen titles

Camera titles can be removed when viewing in a multiscreen display.

## Display unit number

When multiple units are controlled from a single keyboard (e.g. using a VS16 video switch), the unit number (in the System Options page) is displayed on screen so the operator knows which unit they are controlling.

## Base camera number

When using multiple units, it may be preferred that the camera numbers are offset, for example, with two units the first unit would be camera 1 to 16 and the second 17 to 32, etc. This is for display purposes only.

# Passwords

The Digital Sprite 2 can be password protected to ensure only authorised personnel can gain access to the configuration menus of the system.

Local Password		
User password	Off	Off, On
Installer password	Off	Off, On
Playback Password	Off	Off, On

## User password

There are two menu options within the User configuration menus; 'Time, Date, and Language' and 'Schedule', this ensures only the authorised user with the correct password can gain access to these parameters for configuration.

**Note:** All other menus are within the Installer operation.

## Installer password

The Installer password allows authorised users to enter, configure and view all of the menu pages on the Digital Sprite 2.

## Playback Password

With the Playback password set to **On**, a password must be entered before images can be played back. In this case, the Playback password will use the same password that was set for the User Password.

**WARNING:** For security, lost passwords can only be reset by returning the unit to Dedicated Micros.

To set the password:

1. Set the User / Installer / Playback option to On.
2. Enter a password, which can be up to 9 digits long.
3. Re-enter the password. Once set, the password must be correctly entered to access the menus.

Make a note of your passwords here:

**User / Playback password:** .....

**Installer password:** .....

# System Options

System Options		
Unit number	01	01 - 16
System name	DS2	
Factory default	Reset	
IR Receiver	Enabled	Enabled, Disabled
Audio	Edit	
Serial & telem ports	Edit	
System logs	Edit	
Status page	On	

## Unit number

When multiple units are connected together via the 485-bus, a unit number must be set to identify each unit.

**Note:** Modifying the unit number will disable control via a remote keyboard. The new unit number should be selected to regain control of the unit.

## System Name

Each Digital Sprite 2 can be allocated a 20 character name to identify the unit to the Operator or System Administrator. It is recommended a name with purpose is used. The default system name is DS2.

## Factory Default

This will switch the majority of the settings back to factory default. However hardware specific settings such as the IP address, camera termination, etc. will remain unchanged.

## IR Receiver

If multiple units are being controlled from the same IR remote control, it is necessary to disable the IR reception on all but one unit to allow communication between the handset and the system.

The remote control mimics the front panel control of the Digital Sprite 2 and allows control of a single or multiple Digital Sprites (use the unit select option). However the remote control does **not** allow the configuration of the menus, or control of telemetry cameras.

When the IR receiver is enabled the IR LED on the Digital Sprite 2 is solid green, when it is disabled the IR LED switches to solid amber. The LED flashing green signifies an IR signal being received.

## Audio

Audio Configuration		
Record local	Disabled	Disabled, Enabled
Record line out	Disabled	Disabled, Enabled
Play local	Enabled	Enabled, Disabled
Play remote	Enabled	Enabled, Disabled

Two channels of audio can be recorded on the Digital Sprite 2; local and line out. This menu will enable or disable audio recording.

Audio recording takes up a small amount of storage, approximately 4KB/s, regardless of the image record rate (PPS). Enabling audio will affect the record time, which can be checked in the 'Record Schedule' menu. The options include:

- **Record local** - enable this when recording through the audio input.
- **Record line out** - enable this when transmitting audio across the network.
- **Play local** - enable this to play back the local recorded audio.
- **Play remote** - enable this to play back the line out audio.

## Serial & Telemetry Ports

This allows each serial port (Serial 1, 2, 3 (Bus A) and 4 (Bus B)) to be configured for a specific function. The Digital Sprite 2 supports a number of serial protocols, this menu allows the peripheral serial protocol to be selected.

Serial & Telemetry Ports		
Port	Serial 1	Serial 1, Serial 2, Serial 3, Serial 4
Port usage	Debug	Debug, General purpose, PPP, Telemetry, Text in Image, Off
Baud rate	38400	1200 - 115200
Parity	None	None, Odd, Even
Data bits	8	8, 7
Stop bits	1	1, 0, 2
Flow control	None	None, Hard, Soft

### Port

It is possible to configure all serial ports within this menu.

Use the ↑ or ↓ button to select the port for configuration, the ports are Serial 1, Serial 2 which support RS232 and Serial 3 (Bus A) and Serial 4 (Bus B) which support RS232 and RS485.

### Port Usage

This will define the functionality to be allocated to each of the serial ports, the options available are:

- **Debug** - This is the default setting for COM 1 and allows communication between a PC application (e.g. HyperTerminal™) and the Digital Sprite 2.
- **General Purpose** - This would be selected in systems where custom applications are used with the Digital Sprite 2.
- **PPP (PPP Link 2)** - If the unit is configured for PPP, this option must be selected, *this option is only available on Serial 1 and Serial 2.*
- **Telemetry** (RS232 or RS485 depending on port) - There are various telemetry serial protocols available, when this is selected the serial protocols list will be displayed, *refer to Telemetry Type.*

- **Text In Image** - The Digital Sprite 2 supports the ability to integrate text information from third party application with the video recorded on the Digital Sprite 2. Selecting this will allow the serial text device to communicate with the Digital Sprite 2.
- **Off** - If the serial port is to be disabled.

### Baud Rate, Parity, Data Bits, Stop Bits, Flow Control

These settings are displayed for protocols that may require some configuration.

These are the default settings of the selected serial device.

*Refer to the relevant manufacturer manual for the peripheral serial device for this information.*

### Telemetry Type

When the telemetry option is selected within 'Port Usage', the RS232 and RS485 serial protocols supported on the Digital Sprite 2 will be displayed.

The Digital Sprite 2 supports numerous protocols for control of PTZ cameras, Dome cameras and analogue control equipment. The supported analogue control equipment protocols are:

Option	Manufacturer
DM-Serial	Dedicated Micros
Philips 232	Bosch / Philips
AD-Matrix	American Dynamics
AD168-Matrix	American Dynamics
BBV-Matrix	BBV
VCL-Matrix	VCL/Ademco



The supported PTZ / Dome camera protocols are:

Option	Manufacturer	Model
BBV 485	BBV	All models
Dennard	Dedicated Micros	2050, 2055
Ernitec	Ernitec	Orion Series
JVC	JVC	TK-C675, TK-676, TKC-C553E
Kalatel	Airtech/Kalatel	CyberdomeTM
Mark Mercer	Mark Mercer	Quick Switch, Meridian
Panasonic WV CS600	Panasonic	WV CS600
Panasonic WV CS850	Panasonic	WV-CS850A, WV-C854, WV-CW860
Pelco-P	Pelco	Spectra II, Spectra III (twisted pair only)
Philips	Bosch / Philips	G3 series (RS232)
Samsung	Samsung	SOC-641
Sensormatic	Sensormatic	Speeddome IV, V, VI (RS422) & VII (RS422)
Ultrak	Ultrak	UltradomeTM Kd6
Vantage	Vantage	Juno Dome
VCL	VCL/Ademco	Orbiter MicrospheresTM / RapidDomeTM
Vista PD	Vista	Power Dome

## System Logs

There are a number of system logs supported on the Digital Sprite 2, these logs can be viewed and used for Administration purpose.

System Logs		
PPP connections	Disabled	<a href="#">Disabled, Enabled</a> <a href="#">View</a>
Anonymous FTP connections	Disabled	<a href="#">Disabled, Enabled</a> <a href="#">View</a>
Illegal file access	Disabled	<a href="#">Disabled, Enabled</a> <a href="#">View</a>
Telnet / FTP users	Disabled	<a href="#">Disabled, Enabled</a> <a href="#">View</a>
Archive	View	
Logfile	View	
Email log	View	
Sent message log	View	

Each log requires enabling to ensure entries are created by the Digital Sprite 2, refer to the Networking Guide for details on how to enable and view the system logs.

**Note:** If a log is not enabled, the option to view this log will not be displayed within this menu.

## Status Page

It is possible to switch the status page off on the Digital Sprite 2.

The status page will detail any alarms on the system, camera failure, main storage (protected) and the earliest unprotected recording.

# Record Options

Record Options		
Timed expiry	0000 Day(s)	0000 - 9999 Days
Disk configuration	Edit	
Image protection	Edit	
Archive on event	Disabled	Disabled, Enabled/Edit
Record mode	Standard loop	Standard loop, Write once
Schedule rates	Enabled	Disabled
Record text in image	Disabled	Enabled
Event database config	Edit	

## Timed expiry

Images recorded onto disk can be programmed to expire after a user-defined number of days and hours. This option has been designed to assist where the Installation requirements define the recorded images must adhere to legislation on retaining images for a maximum record time, for example 31 days.

**Warning:** Once the timed expiry has been set, all images older than the selected time will be no longer available.

## Disk configuration

The Disk configuration option displays the total size of the hard disks, before they are formatted for use with the Digital Sprite 2.

## Image protection

It is possible to protect images stored on the Digital Sprite 2 hard drives. These images will not be overwritten.

Image Protection			
From:	01/11/2004	12:16:00	
To:	24/11/2004	12:20:00	
Protect images	01 Days	Confirm	
Protect images	Confirm		
Unprotect images	Confirm		
List	05/11/04	14:39:39 - 05/11/04	16:50:31
	05/11/04	09:48:01 - 05/11/04	10:24:15
	25/11/04	17:14:54 - 25/11/04	17:51:04
	-----		
Press 1, 2 to page up down			

## From

Enter the date and start time for the period containing the recorded images.

## To

Enter the date and end time for the period to be protected.

## Protect Images

Select how long, in days, the images will be protected. Press the  $\Rightarrow$  button to confirm the settings. You will be prompted to confirm the settings, highlight 'Confirm' and press the **Menu** or **Mode** key. The images within the time period will be displayed within the list section.

## Protect Images

This allows the settings to be confirmed, press the  $\Rightarrow$  button to confirm, you will be presented with a prompt to confirm the settings, highlight 'Confirm' and press the **Menu** or **Mode** key. The images within the time period will be displayed within the list section.

**Note:** It may take some time to add protected images to the list.

## Unprotect Images

It is possible to manually un-protect images that have either been automatically protected or manually protected. Once the time and date information has been entered highlight the 'Unprotect Images' option and press  $\Rightarrow$ . You will be presented with a prompt. Highlight 'Confirm' and press the **Menu** or **Mode** key. The entries within the list section will be removed.

**Note:** It may take some time to remove protected images from the list.

## List

This shows all images that are protected. It is possible to highlight one of the entries in the list so that this can be copied to the Archive List. Using the  $\leftarrow \uparrow \downarrow \rightarrow$  keys highlight the relevant entry and press the **COPY** button. The file will be saved to the Archive List.

## Archive on Event

Archiving on Event allows alarms and VMD events to be automatically copied to a remote FTP server or to a local CD/DVD writer.

Archive On Event		
Event Destination	FTP	FTP, CD/DVD - Cd0:
Download options	Scheduled 00:01	Polled 000 - 999mins, Manual only, On connection
Clear video protection	Disabled	Disabled, Enabled
Watermark partition	Enabled	Disabled, Enabled
Download on demand	Start	

### Event Destination

This identifies where the images will be sent. The options available are:

- **CD/DVD** - This will store the images to a local CD/DVD writer.
- **FTP** - Images will be transmitted to an FTP Server via FTP.

**Note:** When FTP is selected it will be necessary to configure the FTP settings for the unit. *For further details on configuring Archive on Event to an FTP Server refer to the Network Guide.*

### Download Options

The download option determines when the download will occur, the available options are:

- **Scheduled** - It is possible to force the Digital Sprite 2 to archive images at a scheduled time daily.
- **Polled** - This will set the Digital Sprite 2 to activate archive download at regular intervals. The parameter, in minutes, is the time between the end of one archive download to the start of the next.
- **Manual only** - The archive action will only commence when the User initiates the action by pressing the Download on Demand.
- **On Connection** - This will automatically start the archive download when the unit detects the archive destination is present (CD/DVD or network).
- **On Full CD/DVD** - This will automatically start the archive process when the Archive List contains sufficient data that would fill a CD/DVD (CD/DVD only).

**Note:** A CD/DVD must be inserted in the writer if the archive destination is set to CD/DVD.

### Clear Video Protection

If the recorded images have been protected, this option will automatically remove the protection from the images once they have been successfully downloaded. The images on the hard drive can then be overwritten.

### Watermark Partition

This enables a watermark to be generated for each image partition and stored in a text file which will be downloaded with the video images to the archive destination.

The watermark is logged in the archive log file.

### Download on Demand

If a manual download option has been selected, highlighting this option will start the download process. A screen prompt will warn that the FTP download process will commence when the unit receives confirmation.

## Record Mode

The record mode option allows the unit to be configured to either Standard Loop recording (default) or Write Once recording.

### Loop Record Mode

This is the default setting for the Digital Sprite 2 and identifies how the unit stores images on the internal hard drives. The recorded images will be saved on the hard disk in a 'loop'. Once the hard disk reaches maximum capacity, the images that were stored at the start of the 'loop' will be automatically overwritten with the latest recordings (unless protected).

Images at the beginning of the record cycle will only be available for a set period of time before they are overwritten by more recent recordings.

There are a number of parameters within the menu that can be used to identify when the internal hard disk will reach maximum capacity and images will start to be overwritten. These can be used to ensure images are archived before the unit returns to the beginning of the 'loop'.

### Write Once Record Mode

When the 'Write Once' option is selected, the system creates a marker on the loop recording to mark the start of the write once record mode.

There are two record operations in the 'Write Once' mode; Overwrite and Stop.

Write Once Overwrite will behave in the same way as the loop record mode but will give a visual warning to the Operator to remind them that vital information (recorded images) is about to be overwritten and it is necessary to archive. If the alarm is ignored the unit will continue to record and the images at the beginning of the loop will be overwritten. A warning will inform the Operator that important information has been overwritten.

If Write Once Stop is selected the 'marker' will be created on the loop recording and the warning will be displayed to say archiving is required. If this warning is ignored, all recording will stop when the unit reaches the marker.

This is used in covert operation, where access to the recorded files can only be obtained at certain times, and ensures vital information is never overwritten.

## Write Once

The 'Write Once' submenu determines how the Digital Sprite 2 records images.

Write Once Options	
Reset write once rec.	Reset
Allow user reset	Disabled
Minimum low disk	20% 0064GB
On disk full	Overwrite
Write once last reset at	26/May/2005 09:48

Highlight the option and press the  $\Rightarrow$  button to access the Write Once Option configuration menu.

### Reset Write Once Record

This will reset the earliest 'Write Once' record time and date to the current time and date. This is necessary when archiving has been successful and the process is to restart.

To reset the Write Once record option, hold down the Camera 1 button for 5 seconds.

### Allow User Reset

This option will enable an Operator menu which will allow the operator to reset the Write Once record option. This is can be accessed from the 'Copy Images' screen as a submenu.

### Minimum Low Disk

This sets the minimum percentage disk space available. If the Write Once storage drops below this minimum setting, an alarm is triggered (warning will be displayed on the main monitor) which will be cleared once more disk space becomes available.

**Note:**This option is a percentage of the overall hard disk of the Digital Sprite 2, the equivalent in Gigabytes will be automatically calculated and displayed.

### On Disk Full

This option determines what action the Digital Sprite 2 will take when the disks become full. The options are;

- **Overwrite** - By default, the Digital Sprite 2 will overwrite the recorded images on the hard disk. A warning will also be displayed to inform the Operator that the disk is full.
- **Stop Recording** - The Digital Sprite 2 will stop recording. A warning will also be displayed.

### Write Once Last Reset

This displays the time and date the Write Once process was last reset.

## Schedule Rates

This option is enabled by default. With 'Schedule Rates' enabled, the Digital Sprite 2 provides the option to configure record rates for day, night and weekend operating mode in the 'Standard Record Schedule' and 'Variable Record Schedule' menu. Disabling this option will switch the scheduled recording options to a single set of rates to be used in all schedule (day, night, weekend) operation modes.

## Record Text in Images

It is possible to enable or disable the 'Text In Image' function.

## Event Database Configuration

The Digital Sprite 2 supports a database that stores events on the unit. This allows the user to configure the size of this database.

Event Database Configuration	
Last reset time	24/Nov/2004 15:43:01
Current number of entries	0006
Maximum number of entries	1000 <small>0000 - 9999</small>

### Last Reset Time

This read only setting is generated by the Digital Sprite 2 and shows the date and time of the last database reset (i.e. when the maximum entry database is changed, the database is reset).

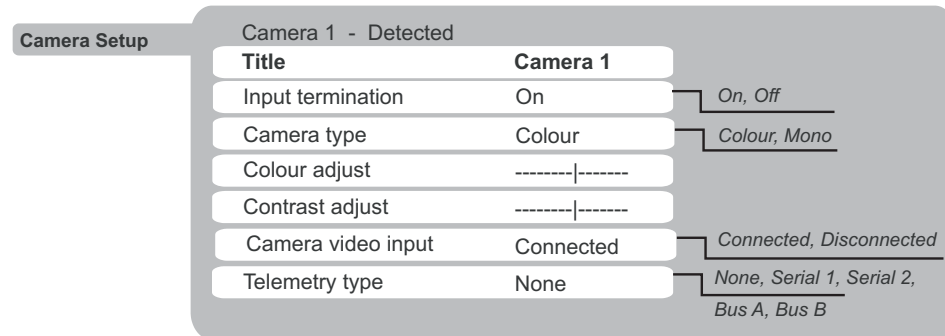
### Current Number of Entries

This read only setting identifies the existing number of entries within the event database.

### Maximum Number of Entries

This sets the maximum entries within the event database. Changing this will reset the event database and clear all previously stored events.

# Camera Setup



## Title

Each camera can be allocated a title. Use the  $\uparrow$  and  $\downarrow$  buttons to scroll through the available characters.

## Input termination

Termination can be set On or Off.

Note: Termination must be 'Off' for cameras that are looped through to other devices.

## Camera type

This option allows you to select the camera type, colour or mono.

## Colour adjust

When the colour adjust option is selected, use the  $\uparrow$   $\downarrow$  buttons to adjust the colour.

## Contrast adjust

When the contrast adjust option is selected, use the  $\uparrow$   $\downarrow$  buttons to adjust contrast.

## Camera video input

This option allows faulty cameras to be taken out of the 'Camera Fail' option, or disconnected cameras to be disabled.

Select 'Disconnected' if the camera is no longer present and will not be replaced.

Select the 'Connected - Ignore Cam Fail' option if the camera is temporarily offline to prevent the camera fail message and alarm being triggered.

**Tip:** The Camera Setup menu can be directly accessed by pressing and holding any of the camera keys.

## Telemetry

The Digital Sprite 2 supports control of coaxial and serial telemetry. This option allows the connected dome/PTZ camera to be configured.

Ensure the serial type has been selected in the 'Serial and Telemetry' menu. This option then allows these settings to be allocated to specific video inputs.

The options available are:

- Serial 1 - Selected RS-232 protocol (default disabled).
- Serial 2 - Selected RS-232 protocol (default disabled).
- Serial 3 - Selected Bus A RS-485 protocol (default Dennard).
- Serial 4 - Selected Bus B RS-485 protocol (default Pelco).
- Coax - Pelco.
- Coax - Dennard.
- Coax - BBV.
- None - Camera does not have an associated serial device.

Use the  $\uparrow$  or  $\downarrow$  buttons to scroll through the available options.

**Note:** The settings shown are an example of the options available.

# Alarms and Presets

Alarms and Preset

Camera 1 - Detected

Pulse extension 005 secs 000 - 999 secs

	Module /Aux	Contact	Input Source	Preset	Zone Input
>	Aux	--	N/O	000	<input checked="" type="checkbox"/>
>	01	01	N/C	001	<input checked="" type="checkbox"/>
>	02	02	N/C	002	<input type="checkbox"/>
>	03	04	N/O	003	<input type="checkbox"/>
>	Aux	--	N/O	000	<input type="checkbox"/>
>	---	--	N/O	000	<input type="checkbox"/>
>	---	--	N/O	000	<input type="checkbox"/>

## Camera XX

The currently selected camera number is displayed, along with its status – detected or not detected. Press a camera button to to configure alarms and presets for that camera.

## Pulse Extension

The pulse extension extends the trigger period to avoid double triggers of the same alarms occurring, i.e. if a second incident of alarm is received after the first alarm is finished, but still within this period, the unit will not create a new event.

## Module / AUX

Select whether you are using an external alarm module or the AUX inputs on the Digital Sprite 2. Up to 16 alarm modules can be connected to the 485-bus network. Select the relevant module number or Aux (the default setting is the Aux input).

## Contact

This setting identifies which contact the Aux or Module selection relates to. Each alarm module has 16 alarm inputs, each input can be used by any camera, or by multiple cameras.

## Input Source

Select whether the alarm contact on the alarm device is normally open (N/O) or normally closed (N/C).

## Preset

Camera telemetry presets can be automatically recalled when an alarm is triggered. Enter the preset number from 000 to 256 for the selected alarm contact.

## Zone Input

It is possible for a camera specific alarm to also trigger an alarm zone. If the input is to trigger a zone as well as send a camera to a preset position enable the corresponding Zone Input box.

The trigger will appear under 'Presets' in the Zone Setup menu.

**Note:** If the option is disabled, the alarm will still send a camera to a preset position but no further action will be taken.

# Activity Camera Setup

Activity Camera Setup

Camera 1		
Detection	Off	<i>Off, On</i>
Schedule activation	Edit	
Sensitivity	Indoor high	<i>Indoor high, Indoor low, Outdoor high, Outdoor low, Very Low</i>
Activity grid	Setup	
Activity test	Walktest	
Actions	Edit	
Advanced VMD zones	Disabled	<i>Disabled, Enabled/Edit</i>

## Camera

Each camera can be individually configured. Select the camera by pressing the corresponding camera key.

## Detection

Select whether activity detection is 'On' or 'Off' for the selected camera.

**Note:** If Detection is disabled, the sensitivity setting will still be used for Event Search.

## Schedule Activation

Each camera can be scheduled to be always enabled (24Hr Activation) or individually activated during the day, night and at weekends.

Schedule Activation

Camera 01 Schedule Activation				
Activation Type	Schedule Activation			<i>24 Hour Activation</i>
Active	Day	Night	Weekend	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

## Sensitivity

There are 5 levels of sensitivity for activity detection to ensure any scene environment can be covered.

**Note:** When setting the sensitivity it is recommended that an Activity test is run to ensure the correct sensitivity is selected.

Select the sensitivity level to suit the camera location:

- Cameras sited outdoors where there may be a lot of background movement, such as trees or rain, should be set to Outdoor high, Outdoor low or very low sensitivity.
- Cameras sited indoors where there is very little background movement can be set to Indoor high or Indoor low sensitivity.

The sensitivity levels are:

- Indoor High (most sensitive setting).
- Indoor Low.
- Outdoor High.
- Outdoor Low.
- Very Low (lowest sensitivity level).

## Activity Grid

A 16 x 16 grid can mask areas where activity detection is enabled. Select 'Setup' and follow the on-screen menus to configure the activity grid.

**Note:** An NTSC video source will display and activity grid of 16 x 14..

Use direction keys to navigate grid  
 Use camera 1 key to toggle cells on/off  
 Use camera 2 key to latch selection

Press MENU / MODE key to start setup  
 Press MENU / MODE key again to exit grid



When you enter the Activity Grid screen, a 16 x 16 grid will overlay the image. Edit the grid so that it covers the areas of the image that require monitoring for activity detection and remove the monitoring from the areas where there may be continuous movement (e.g. trees, bushes) causing false triggers.

Each cell can be individually enabled or disabled with the Camera 1 button.

Alternatively it is possible to latch the cursor and select a group of cells to enable / disable. To latch the cursor, move it to the required start location and press Camera 2. Use the cursor keys to move across the cells to be enabled / disabled and then press Camera 1 to toggle all the selected cells on or off.

## Activity Test

Once the Activity Camera Setup settings have been configured, it is possible to test the settings for each camera.



Select 'Walk Test'. The areas where the activity grid is enabled will highlight when activity is detected.

## Actions

Actions to be automatically activated when VMD is identified can be configured within this menu.

Camera 01 VMD Actions	Page	Next Page
Create database entry	Enabled	Disabled, Enabled
Change Record Rate	None	None, Standard, Variable, Both
Report VMD activity	Disabled	Disabled, Enabled
Create zone input	Disabled	Disabled, Enabled
Record still image	Disabled	Disabled, Enabled
Protect VMD images	Disabled	Disabled, Enabled
Archive event	Disabled	Disabled, Enabled
Email image	Disabled	Disabled, Enabled
Email image res.	Thumbnail	Thumbnail, Low res., Medium res., High res.
Apply camera 01 actions to	Camera 02	Camera 02 - 16, All cameras

### Page

The actions are separated into two pages. Navigate between them by highlighting 'Next Page' and pressing the  or  button.

### Create Database Entry

Enable this option to log VMD activity in the Event List.

### Change Record Rate

This allows the record rate to be switched to the alarm rate when VMD is active. The options available are:

- **Standard** - switches cameras enabled for standard recording to the alarm record rate.
- **Variable** - switches cameras enabled for variable recording to the alarm record rate.
- **Both** - applies to both the variable and standard recording of the selected camera.

## Report VMD Activity

A VMD activity trigger can be reported via an telnet message. If this option is enabled, the 'Remote Reporting' settings must be correctly configured.

## Create Zone Input

This turns the VMD camera into an alarm input for use in the Alarm Zones page. Select VMD XX (where XX is the camera number) instead of an alarm input to trigger the event.

## Record Still Image

This will save an additional still image as close to the event as possible alongside the normal video recordings of the event.

The still image is accessed via the 'Live' page of the web viewing interface, where it appears in the regular sequence of normal recordings.

## Protect VMD Images

It is possible to automatically protect VMD recordings to ensure these images are not overwritten and remain on the hard drive of the unit. Images can be protected for a set period of time or indefinitely.

## Archive Event

This will force the Digital Sprite 2 to automatically download the alarm images via FTP to a central FTP Server, or directly to a local CD/DVD.

*Refer to the Archive on Event in the Record Options menu.*

## Email image

It is possible to configure the Digital Sprite 2 to automatically transmit an e-mail, to a pre-configured address, on identification of motion.

## Email Image Resolution

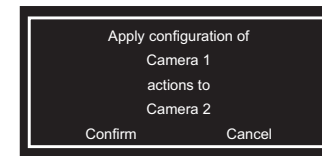
This identifies the resolution of the snapshot that will be attached to the e-mail, the options are:

- Thumbnail - Default.
- Low Resolution.
- Medium Resolution.
- High Resolution.

**Note:** The resolution selected is a global parameter and will be common to all Zone and VMD alarms.

## Apply actions to

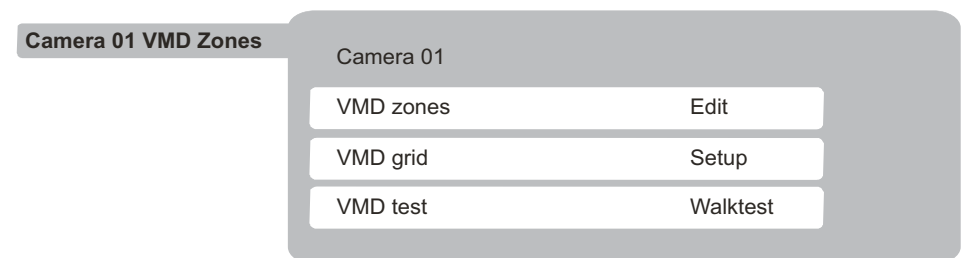
If the actions for cameras are the same or similar, it is possible to apply one set of actions to other selected cameras. Selecting this option will display a confirmation screen.



## Advanced VMD Zones

This option allows the advanced VMD zones 1 to 16 to be configured for each camera. Enable the option and select Edit.

**Note:** VMD 0 is reserved for activity detection.



## VMD Zones

This option allows the VMD Zone configuration options to be accessed.



### Zone

There are settings that can be configured for each of the 16 advanced VMD zones, each can be selected for configuration within this option. Use the ↑ or ↓ buttons to scroll through the zones.

### Zone XX Mode

The Zone Mode identifies when the reference image is taken for triggering VMD. The options available are:

- **Normal** - the reference image is updated approx. every second to allow small changes in the scene without triggering.
- **Last trigger** - the reference image is only updated when the VMD is triggered, and would be used under controlled lighting conditions to avoid false triggers due to ambient light changes.
- **Static** - the reference image is collected on startup and is never updated. This would be used in a "sterile" area where there are no changes expected.
- **Zone disabled** - this will disable the zone mode.

### Zone XX Pixel Count

This value equates to the percentage of pixels that must change in the selected zone for the VMD event to be triggered.

**Note:** This should be tested after configuration.

### Zone XX Pixel Change

This setting is a percentage value of the overall change required in the greyscale to be included in the pixel count. The percentage change is defined over the complete range of black to white, 100% pixel change would be a change from black to peak white.

**Note:** This setting should be tested after configuration to ensure the settings are sufficient to trigger a VMD event.

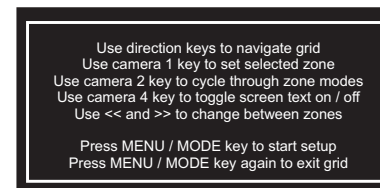
### VMD Grid

The VMD grid covers 16 default areas of the screen, it is possible to configure the grid to only cover the areas of interest.

**Note:** Ensure the camera to be configured has been selected prior to highlighting the Setup option.

When Setup is selected a prompt is displayed. Follow the instructions on screen to configure this option.

To edit the grid;



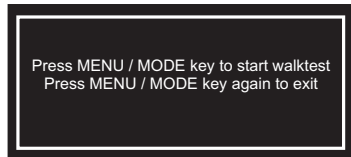
1. Move the '\*' to the start point of the zone to be created. Use the « or » to move between the default zones.
2. Press Camera 1 to switch to 'drawing' mode and to automatically delete the existing (if applicable) zone (see on-screen text to check the drawing option is selected).
3. Use the arrow keys to move to the end point for the zone (this will be diagonally opposite the start point to create a box).
4. Press Camera 1 to take the unit out of the drawing mode.
5. You can press Camera 2 to cycle through the modes available and select the mode that is to be applied to the created zone. This is the same as setting the VMD Zone mode.

## VMD Test

Once the VMD Camera Settings have been configured, it is possible to test the configuration.

**Note:** VMD must be enabled on the selected camera for the Walktest option to be selected.

When Walktest is selected, a prompt will be displayed. Follow the on-screen instructions.



If the settings are not satisfactory, adjust the settings and then carry out the walktest again.

## Text Insertion Setup

**Note:** This menu is only displayed if 'Text in Image' has been enabled in the 'Record Options' menu.

The Digital Sprite 2 supports the option to include text information, received from a peripheral device, alongside the recorded video. The images can then be searched on the text data, for review via web page.

Text Insertion Setup		
Camera 1		
Number of lines	20	00 - 20
Width of lines	50	01 - 50
Text colour	White	Black, White, Yellow, Magenta, Red, Cyan, Green
Text background	Off	Off, White, Black

### Camera

Each camera can be individually configured. Select the relevant camera by pressing the corresponding camera key.

### Number of Lines

This is the number of lines that will be displayed in live and replay using the OSD (On-Screen Display) on the main monitor, along with the relevant images. The default setting is 20 lines.

### Width of Lines

This identifies the length of the lines that will be stored with the image. The default setting is 50 characters, which is generally the full screen.

### Text Colour

It is possible to select which colour the text from the peripheral serial device will be displayed within the image.

The options are; Black, White, Yellow, Magenta, Red, Cyan and Green.

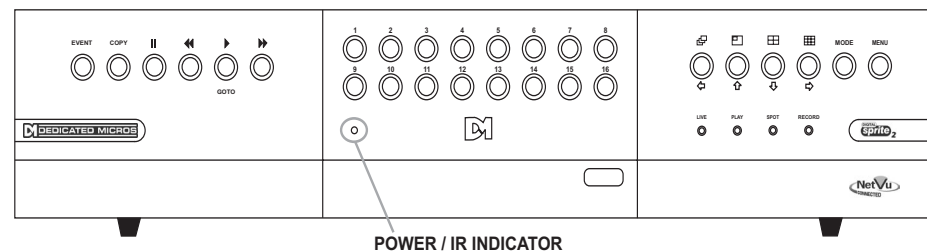
## Text Background

A background can be applied to the text within the image. This is disabled by default.

The options available are; Black or White.

# Operating the Digital Sprite 2

The illustration shows the front panel controls for the Digital Sprite 2.



16 Way model shown.

## Playing back images from disk

### Playback

It is possible to view images that have been recorded to the hard disk.

To playback images tap ◀ button to rewind to the desired location and then press ▶, to put the Digital Sprite 2 into Play mode.

Play mode will display real time viewing of recorded images, however to ensure real time playback the unit may drop frames if necessary.

When the unit is in Play mode, use the ◀ or ▶ to rewind or fast forward. Pressing these buttons multiple times will increase the search speed.

It is possible to pause the playback process, tap II to pause on the current image. Tapping ◀ or ▶ whilst paused will frame advance or rewind.

Press the ▶ to return to play mode.

When the unit is in Play mode, pressing the ▶ button again will switch to the unit into Review mode.

Review mode will display every recorded frame and if necessary the unit will slow down so each frame can be displayed.

### Goto time

To review images from an exact time and date it is possible to use the GOTO option.

Press and hold ▶ (GOTO) to access the Goto menu.

Enter the required time and date using the cursor keys, and press ▶.

**Tip:** The images are updated in the background automatically when the time and date is adjusted. Selecting a camera will display that camera.

**Note:** Tap the **Mode** key to exit playback mode. The Play LED will be off.

## Using the Event log

Alarms and activity detection are tagged and stored in the event log for easy retrieval. Each event is labelled with event type (alarm or activity), the camera title, time, and date. To view an event from the event log:

Tap **Event** from live mode this will display the Event Log menu.

Use  $\uparrow$  and  $\downarrow$  to select the event required, the selected event will be displayed in the preview window (bottom left corner of the screen). When the required image is highlighted, tap  $\rightarrow$  to view the event in full screen.

**Tip:** It is possible to use the  $\leftarrow$  and  $\rightarrow$  buttons to 'page' through the event log list.

**Note:** Tap **Mode** to exit the Event Log.



### Filtering the Event log

It is possible to filter the Event Log by; time and date, type of alarm, event state, or camera. To filter the Event Log (with the Event Log menu displayed) tap the **Event** key again.

**Note:** Pressing and holding the Event key from Live mode will take the unit directly to the Event Filter Menu.

Use the  $\uparrow$  and  $\downarrow$  to select the Search Type.

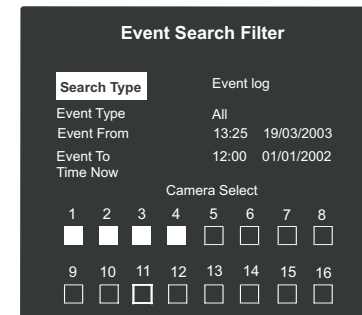
Highlight the Event Type and use  $\uparrow$  or  $\downarrow$  to scroll through the options.

Enter the time in the 'Event From' and 'Event To' parameters. Selecting 'Time Now' will change the 'Event To' section to the current time and date.

Use the camera keys to include / exclude cameras.

Press the **Event** key again to display the filtered event log.

**Tip:** It is advisable to filter the events before displaying them when recording over a number of days.



### Search Type

The search type allows you to select between Activity Data or Event Log.

Select 'Activity Data' to search recorded images for activity in specific areas of the images. This option will allow the user to search all the recorded video for activity on selected cameras even if activity recording has not been enabled.

Event Log will allow the user to filter the events stored in the event log.

### Event type

**Event Log** - With 'Event Log' selected, it is possible to filter the recorded images to find images associated with the following options:

- **Alarm** - any external alarms that have associated recorded images.
- **System** - any system functions that has associated video recordings.
- **VMD** - VMD triggered recorded images.
- **All** - this will select all of the above options and find all associated recordings.

**Activity Data** - It is possible to carry out an advanced search on recorded video images to find a specific incident or an section of the recording containing activity. Selecting Activity Data will allow the operator to create a activity zone over the selected camera and then the Digital Sprite 2 will review recorded images, looking for activity data within the selected area. Select 'Setup' to configure the activity grid, the configuration process is as described in the 'Activity Grid Setup'.

**Note:** The Activity Data search will be possible whether the Detection option is enabled or disabled, and the unit is continually record video images.

#### Filter from

Select the time and date of the first event to be displayed. If there is no event at the selected time, the next nearest event is displayed.

#### Filter to

Select the time and date of the last event to be displayed. If there is no event at the selected time, the next nearest event is displayed.

#### Time now

Moving the cursor onto the 'Time Now' text changes the 'Filter to' option to the current time and date.

#### Camera select

Use the camera keys to toggle a camera in or out of the filter. The Log will update and associated events will be displayed. In the example screen shown, only cameras 1 to 4 will be displayed in the Event Log.

The Digital Sprite 2 will search the hard disk for the relevant recorded images as configured. Once it has generated a list of 20 (PAL units) or 18 (NTSC units) events the Event Log will be displayed.

**Note:** The search can be cancelled at any time by tapping the Event key; any event found up to that point will only be displayed in the Activity List.

## Viewing cameras on the Spot monitor

To select control of the Spot monitor, press the **Mode** key (or **Spot** key on the remote keyboard). This will toggle the unit between Main and Spot mode which is indicated on the main monitor (SPOT) and the front panel LED's. Press a camera key to display the corresponding image on the spot monitor or tap the Sequence key to sequence the cameras.

To edit the Spot sequence, press and hold the Sequence key. Select the cameras that are to be included in the Spot sequence.

## Copying images to a CD/DVD-R or FTP Server

Recorded images stored on the unit's internal hard drives can be copied to external media for archive purposes, these include CD-R/DVD-R and an FTP Server. To copy images to a CD-R/DVD-R or FTP:

1. Press and hold the **Copy** key to display the following screen.

Copy Images	
Copy destination	FTP
Copy from time	12:01:00 01/12/2001
Copy to time	12:02:00 01/12/2001
Watermarking	Enabled
Unprotect on archive	Disabled
User write once	Edit

Copy destination	It is possible to either copy images to a CD/DVD writer or to a remote FTP Server using file transfer protocol.
Copy from time	Select the time you wish to copy images from.
Copy to time	Select the time you wish to copy images to.
Watermarking	A unique watermark can be added to images as they are copied.
Unprotect on archive	If an image has been manually or automatically protected, it is possible to remove this protection as the image is archived to ensure archived images can be over-written.
User Write Once	This option will only be displayed if the option has been enabled in the system menus. This will allow an operator to reset the Write Once.

2. If images are to be copied to the internal CD/DVD writer, insert a blank CD-R or DVD-R into the CD/DVD writer drive and select the CD-R/DVD option.

If the images are to be copied to an FTP Server, select the FTP option. All FTP settings must be configured in the 'Record Options - Archive on Event' Menu.

3. Use the cursor keys to change the time to copy To and From.

4. Tap the **Menu** key to display the following menu:

#### CD/DVD



#### FTP



Add next	Add the selected times to the archive list.
Clear list	Removes all entries from the list.
Archive	This will start the archive process to the CD/DVD or FTP Server as specified in the Archive on Event menu.
Archive & Verify	<b>CD/DVD Option only.</b> This option will verify the archive has been successful.

These menus allow selected files to be added to the relevant archive list. The Disk option also displays the amount of disk space available (CD Use).

### Copy Playback Images

It is also possible to copy images that are being reviewed in playback mode directly to the Disk Archive List for burning to the internal CD/DVD writer. To copy images in playback:

1. Press **◀** to rewind (search) the recorded images to the start position of the images that are to be copied.
2. Press the **Copy** key on the front panel of the unit.
3. Press **▶** or **▶▶** until the recording reaches the end point of the required video recording.
4. Press the **Copy** key to stop the copy process.

The recorded images will be added to the Disk Archive List and can be selected to be saved to the internal CD/DVD.

## Viewing Single Images

### Full

Pressing a camera key will display a full screen image of that camera.

### Zooming an image

Press the same camera key to toggle zoom on and off.

When zoom is enabled, use **←** **↑** **↓** **→** to scroll around the image.

### Freezing an image

Double tap the camera key or press the Hold key on the remote keyboard to toggle freeze frame on or off.

## Viewing multiple cameras

### Picture in Picture

Press the PIP key to toggle the main and PIP image.

Press and hold the PIP key to edit the display, use **←** **↑** **↓** **→** to select the segment, press the required camera key to fill that segment.


It is possible to select Live, Play or Review images in each of the PIP segments. With the segment selected, pressing the camera to be viewed will display a live image, pressing the **▶** button will display a playback of the recorded camera, pressing **▶** again will switch the unit into Review mode.

Press Menu to exit.





## Quad

Press the QUAD key to switch to quad display.

Press and hold the QUAD key to edit the display, use  to select the segment, press the required camera key to fill that segment.


It is possible to select Live, Play or Review images in each of the quad segments.

With the segment selected pressing the camera to be viewed will display a live image, pressing the  button will display a playback of the recorded camera, pressing  again will switch the unit into Review mode.



Press Menu to exit.

## Multi-screen

Press the Multi-screen key to toggle between 9-way, 8+2, 12+1\*, and 16-way\* displays.

Press and hold the Multi-screen key to edit the display, use  to select the segment, press the required camera key to fill that segment.

It is possible to select Live, Play or Review images in each of the multiscreen segments.

With the segment selected pressing the camera to be viewed will display a live image, pressing the  button will display a playback of the recorded camera, pressing  again will switch the unit into Review mode.

Press Menu to exit.

*\*16 channel version only.*

## Sequencing cameras

### Sequence

Press the Sequence key to toggle the main monitor sequence on or off.

Press and hold the Sequence key to edit the full screen sequence.

Use the camera keys to include or remove cameras from the sequence.

Press Menu to exit.

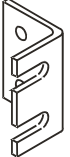
**Note:** The spot monitor sequence can only be activated or edited in Spot mode.

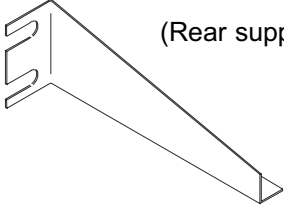
# Appendix 1

## Rack mounting kit

A rack mounting kit is supplied with this product. It is important to use this correctly. The kit contains:

4 x  (Rack mount screws)

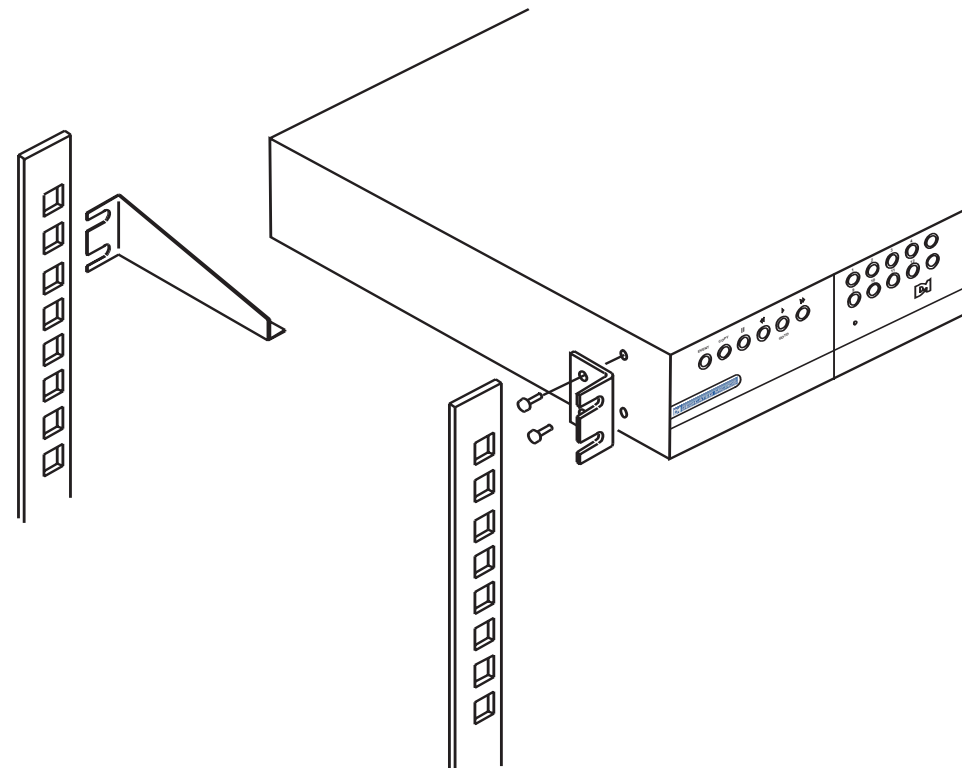
2 x  (Rack mount ears)

2 x  (Rear supports)

## Installation

Before connecting cables to the back of the Digital Sprite 2;

1. Attach the rear supports to the rack.
2. Using the supplied screws, attach the rack mount ears to each side of the unit.
3. Position the unit on the rear supports.
4. Attach the rack mount ears to the front of the rack.

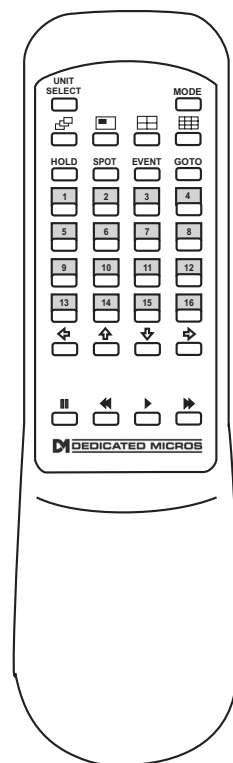


# Appendix 2

## Using the remote control

The remote control included with the Digital Sprite 2 duplicates the front panel. See the operator card for details.

To use the remote control, the '**IR receiver**' option needs to be enabled in the '**System Options**' menu page.



The remote control provides the following functions:

**UNIT SELECT** Press **UNIT SELECT** followed by a camera key to log onto another unit.

**Note:** The remote control does not have the ability to control a DM video switcher.

**MODE** Press to toggle Spot mode on and off, or to return to Live mode when playing back.

**HOLD** Toggle freeze frame On and Off.

**SPOT** Toggle Spot mode on and off, Selects operation of the spot monitor.

**EVENT** Press to display the Event log.

**GOTO** Press to display the Goto time option.  
1 - 16 Camera selection keys.

↔↑↓↔ Use to control the cursor in menus, or scroll around the screen when in zoom mode.

**Note:** If multiple Digital Sprite 2 units are networked together via the 485 bus in the same location, it will be necessary to disable the 'IR receiver' option in the System Options menu on all but one of the units.





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