DIGITAL sprite 2

Setup Guide

DEDICATED MICROS

www.dedicatedmicros.com

	Warning: Do not move the unit whilst the power is connected.
⚠	**Important note:** Do not place heavy items on the Digital Sprite 2.

Contents

Introduction

What is Digital Sprite 2?

Digital Sprite 2 is a cost effective and easy to use video multiplexer, digital video recorder, single channel audio recorder, and network video transmitter in a one box solution.

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.

Single channel audio recorder?

- Record a single channel of audio stream along with the images.

Network transmission?

- View live and playback images across the network.
- No extra software to buy, Network Viewing software for Windows™ provided.
- Copy images across the network

Refers to the 320GB model

Features:

Installation

Auto detect cameras on power up	✔
Auto detect external storage on power up	✔
Default 24-hour recording at S-VHS quality	✔
Loop-through connections	✔

Operation

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

Playback

VCR style playback	✔
Full, Quad, and PIP playback	✔

Events

Activity detection	✔
Alarms	✔
Event log with preview window	✔
Autocopy events to Zip® and Jaz®*	✔
Pre and Post event times	✔

Telemetry

Coaxial – BBV, Dennard, Pelco	✔
Serial – Ultrak, Ademco/VCL, JVC, Dennard, Panasonic, Aritech/Kalatel, Sensormatic, Pelco-P	✔
DTMF/485-bus – Dedicated Micros	✔
Telemetry presets on alarm	✔

Check for compatible models and availability for models.

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	✔
Up to 5 network users at once	✔
Telemetry control	✔
Copy images across networks	✔
E-mail on event activation	✔

External storage devices

Zip® and Jaz®*	✔
RAID	✔
Hewlett Packard DDS	✔
Yamaha/Plextor CDR (check for compatible models)	✔

The manual has two parts:

1. An operators card
– giving details of installation and operation.

2. A Setup guide (this document)
– giving details of configuring the Digital Sprite 2 and external devices.

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.

⚡ WARNING

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.

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 CATV 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

This product is marked with the CE symbol and 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.

Installing Digital sprite 2

Before you start:

Check the contents of the box:

❏ Digital Sprite 2

❏ IR remote handset

❏ PSU

❏ Mains cable with three pin plug fitted (North America)

❏ Mains cable without plug fitted (other regions)

❏ Rack mount kit (rack mount ears, rear supports, and fixing screws)

❏ 485-bus cable

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:

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

• When stacking units, ensure there is at least a $\frac{1}{2}$" (1.5 cm) gap between each unit.

• Ensure there is a 1" (3cm) gap on either side of the 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.

• If using external storage, refer to the manufacturer's instructions for placement details.

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, VHS quality is 14KB, S-VHS is 18KB, and greater than S-VHS 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, S-VHS 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.

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:

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

A table of common record rates can be found in Appendix 2.

Hard disk capacity

Analogue VCRs use 3-hour tapes which record a finite number of images. Unlike a VCR, the number of images that can be recorded to a digital multiplex recorder can be increased by using a larger capacity hard disk. Digital Sprite 2 has a range of hard disk sizes, at the time of writing 80, 160, and 320GB disk sizes are available.

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 S-VHS 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

* 24-hour time-lapse mode, 6PPS, and S-VHS quality images, 18KB

Quick install

Digital Sprite 2 can be installed in as little as 4 steps, and being plug-and-play, cameras will be detected and recorded automatically.
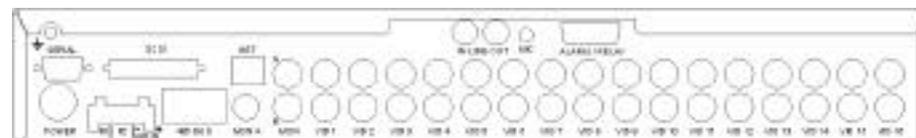
STEP 1. Connect cameras

Connect cameras to the video inputs marked VID1 to VID9 (9-way unit) or 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 the PSU to the rear of the unit and apply the power. The power-up procedure may take up to one minute before Digital Sprite 2 can be used.

 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 port. Devices that can be connected to Digital Sprite 2 include:

Telemetry cameras

Storage devices

Ethernet networks

485-Bus devices

Audio devices

Connecting telemetry cameras

Digital Sprite 2 has in-built coaxial, serial (RS-232/485), and 485-Bus telemetry, and DTMF telemetry using an optional telemetry adaptor. A remote keyboard is used to control telemetry from the Digital Sprite 2.

The brand of telemetry must be set in the 'Alarms and Presets' menu.

Coaxial telemetry

Digital Sprite 2 currently supports Pelco Coaxitron* and BBV, using a BBV RX-100 protocol converter 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 domes using serial telemetry. Serial telemetry requires a twisted-pair connection from the Digital Sprite 2's serial port to the dome. Serial telemetry can be star configured – from the Digital Sprite 2 serial port to each receiver, or delta configured – each receiver daisy chained together, or a combination of the two. Each receiver needs to be addressed according to its camera number – consult your receiver documentation for details.

Serial port connection

The serial port on Digital Sprite 2 is a 9-way male D-type connection. A 9-way D-type female plug is required with the following pin-outs:
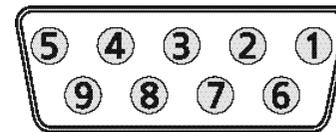
Viewed from the solder side.

PIN	RS-232	RS-485
1	nc	Data A
2	RX	nc
3	TX	nc
4	GND	GND
5	GND	GND
6	nc	nc
7	RTS	nc
8	CTS	nc
9	nc	Data B

nc = no connection

Note: The serial port must be configured for serial telemetry in the System Options menu.

485-Bus/DTMF telemetry

Dedicated Micros telemetry receivers can be controlled using 485-Bus or DTMF (telephone tones). When using 485-Bus telemetry the receiver is connected directly to the 485-Bus connectors on the back of the unit. When using DTMF telemetry a telemetry adaptor (TAD3) is required to convert the telemetry commands into DTMF tones. DTMF and 485-Bus telemetry can be configured in a star or delta configuration.

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 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 three 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 amount 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. External CD Writer.

Images can be copied from the internal hard disk onto an external SCSI CD writer. All images are digitally signed for authentication purposes before being transferred to CD. The contents of the entire CD are also digitally signed. A small CD playback program is also recorded to allow these images to be played back on a third party PC without having to install any extra software.

Compatible CD writers at the time of writing include:

Yamaha CRW 2200 SX – VK

Yamaha CRW 3200 SX – VK

Plextor Plexwriter PX-W1210-TSE

The table below shows the record time on CD for typical record rates.

	1PPS	2PPS	3PPS	6PPS	12PPS	25PPS
CD-R 640MB	9h 46m	4h 49m	3h 12m	1h 36m	48m	23m

Note: You may need to purchase a SCSI cable to attach the CD writer to the Digital Sprite 2. The connection on the Digital Sprite 2 is a 50-pin HD SCSI-2.

3. Iomega Zip® and Jaz® disks*

Images can be copied from the internal hard disk or RAID onto removable Zip® or Jaz® disks for longer-term storage. All images are digitally signed before being transferred to disk. These images can be played back on a Windows™ PC with a Zip or Jaz drive connected and DM Playback software installed.

Note: PC playback is available to download from our web site, the unit itself, and is included with the unit on Disk.

Zip® and Jaz® disks are available in different disk capacities, the table below shows the recording times at typical recording rates (at S-VHS image quality, 18KB):

	1PPS	2PPS	3PPS	6PPS	12PPS	25PPS
Iomega Zip® 100MB	1h 30m	45m	30m	15m	7m	3m
Iomega Zip® 250MB	3h 46m	1hr 53m	1h 15m	37m	18m	9m
Iomega Jaz® 1GB	15h 4m	7h 32m	5h 1m	2h 30m	1h 15m	36m
Iomega Jaz® 2GB	30h 8m	15h 4m	10h 2m	5h 1m	2h 30m	1h 12m

Times indicate all cameras being copied to the disk.

* Iomega SCSI Zip® and Jaz® disk drives may not be available in all countries, check with your PC peripheral supplier first.

4. External tape storage

Images recorded to the internal disk can be automatically archived to Hewlett Packard DDS. This allows a 'tape-a-day' recording solution, similar to that of a multiplexer and VCR. The disk size does not have to be large when using tapes to archive images, although the disk size determines what is instantly accessible from the Digital Sprite 2.

To play back images recorded to tape you will need to use a second tape unit connected to a Windows™ PC. PC playback* software is required to play back the images on the PC.

Note: Due to the mechanical wear of tape drives and tapes we have found that they are not generally as reliable as using disk and RAID storage alone, therefore we would not recommend using tape storage unless there is no other option available.

The table below shows the number of hours a tape will last for when used at different record rates (at S-VHS images quality, 18KB)

	6hr	12hr	24hr	48hr	72hr	168hr
HP DDS-3 12GB	25PPS	14PPS	7PPS	3PPS	2PPS	1PPS
HP DDS-4 20GB	25PPS	23PPS	11PPS	5PPS	3PPS	1PPS

See Appendix 1 for details of configuring Digital Sprite 2 for tape archiving.

* PC playback software is provided with the unit

Connecting multiple external devices

Up to seven 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.

Note: Only one tape drive can be connected to the SCSI bus.

The table below gives capacity and typical uses of each storage device.

External storage	Capacity	Description	Typical use
RAID	Currently up to 375GB*	Disk array with fault tolerance	Longer term storage with instant access
CD-R	640MB	Removable media	Clip storage
Iomega Zip®	100 or 250MB	Removable media	Event or clip storage
Iomega Jaz®	1 or 2GB	Removable media	Event or clip storage
Hewlett Packard DDS-3	12GB	Digital storage tape	Long term tape-a-day archive
Hewlett Packard DDS-4	20GB	Digital storage tape	Long term tape-a-day archive

* Single RAID capacity, up to 7 RAIDs can be connected to Digital Sprite 2.

Connecting to an Ethernet network

Digital Sprite can be connected to a standard 10-baseT Ethernet network allowing full control of the Digital Sprite 2 from a remote location.

Network connection

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

- A RJ-45 network cable (CAT5 or equivalent).

- A static IP address and Subnet mask (some networks may also require a Default gateway, consult the network administrator for advice).

To configure the Digital Sprite 2 on the network you will need to perform the following steps:

1. Enter the Digital Sprite 2 menu (press and hold the **menu** button).

2. Tap the **menu** button until the 'System Options' page is displayed.

3. Use the cursors to select 'Network settings'

4. Enter the 'Network settings' menu by highlighting 'Edit' and pressing the up or down cursor.

5. Enter the IP address, Subnet mask and Default gateway in the spaces.
   Note: The addresses are four sets of three digits, if you have only two digits in the address insert a 0 before the number i.e. 123.123.123.001

6. Press the **menu** button to exit the menu.

7. Press camera 1 to accept the changes and reboot the system, or press **menu** again to exit without changing the settings.

Viewing images across the network

Digital Sprite 2 can use either a web browser or Network Viewing Software to view images across the network. The Network Viewing Software can be downloaded from the unit onto your local PC using the network connection.

To download the network viewing software:

1. Open your web browser software on your PC.

2. Enter the IP address of the Digital Sprite 2 in the 'Address' box in 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.

3. A web page from the Digital Sprite 2 is loaded. Click on the 'PC viewer application' icon, you will be prompted to Save or Run the program.

4. Select 'Run this application from its current location'

5. The software will download and install, follow onscreen prompts.

6. The program can be found in Start>Programs>DM Network Viewer.

Details of using the Network Viewing Software can be found in the 'User Guide' in the Network Viewing Software folder.

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

- 200Mhz CPU
- 64MB RAM
- 4MB video card (capable of 16 million colours)
- Minimum of 800x600 screen resolution

Viewing images across the network using a web browser

It is possible to use Microsoft Internet Explorer (version 5.X and above) and Netscape Navigator (version 4.7X) to view images from a Digital Sprite 2. Follow the previous instructions to display the Digital Sprite 2 web page, but click on the 'Web viewer' icon instead of the 'PC viewer application' icon. It will be necessary to enter a username and password at this point, the default username and password is **user** and **password**.

Note: The web viewer does not have all the features of the Network Viewing Software, 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 based operating system using Netscape Navigator 4.7X web browser.

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 alarms

An optional alarm module (DM/CI01) is required if alarms are to be added to Digital Sprite 2. The advantage of using alarm modules is that the alarm connectors do not have to be routed back to the Digital Sprite 2. Multiple alarm modules can be used on the 485-bus with alarms connected to each module.

To add alarms:

- Connect the corresponding alarm contact to the alarm input, i.e. Alarm2 would be connected between ground (GND) and A2.
- If multiple alarm modules are required then each will need to be addressed; consult the alarm module documentation for details.
- Connect the 485-bus cable from the alarm box to one of the 485-bus sockets on the Digital Sprite 2.
- The polarity of the alarms (normally open/closed) is set in the 'Alarms and Presets' menu page.
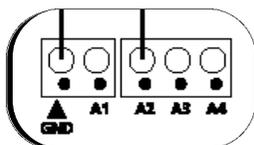
Note: The alarm contacts do not have to correspond to the camera number, for example alarm 2 could trigger camera 1, 2 and 3 into alarm mode, see page 19 and 25 for details of setting up alarms.

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

Action	Menu page
Close/Open relay 1	Alarm Setup
Automatically copy the alarm camera to Zip® or Jaz®	Alarm Setup
Display the alarm camera on screen	Alarm Setup
Change the record rate	Record Schedule
Record exclusively or interleave the alarm cameras	Record Schedule
Sequence the alarms on the spot monitor	Default Setting

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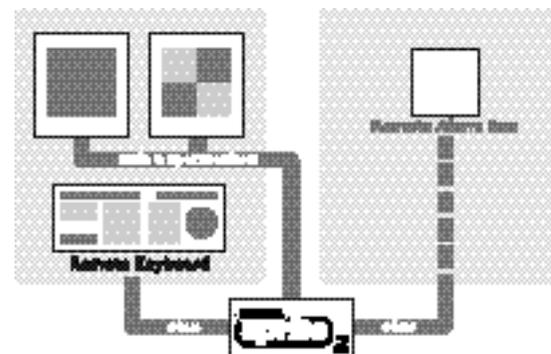

Remote keyboards

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

- Remote control from a distance of up to 1500m (4900ft).
- Control of multiple Digital Sprites.
- Control of on-board telemetry.
- Jog/shuttle playback using the joystick.
- Panic alarm button (record all cameras at the alarm rate and activate the alarm relay, R1)

The example below shows a remote keyboard connected of the Digital Sprite 2:
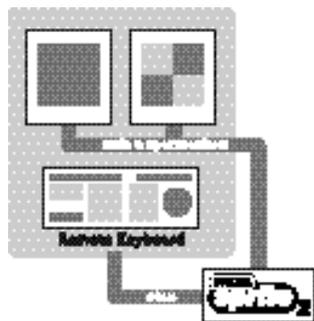
Video switchers

Video switchers allow multiple Digital Sprites to be controlled from a single or 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 Digital Sprites to the control points:
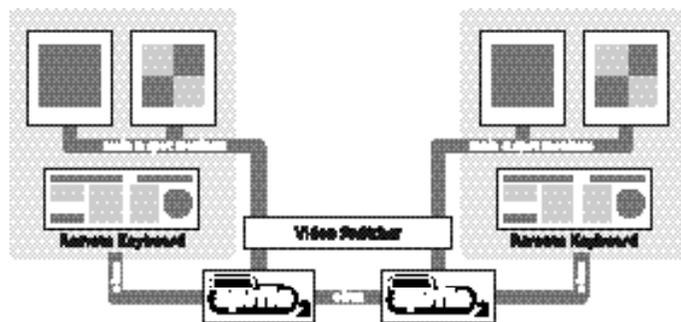
Tip: Each 485-bus device is supplied with a 2m 485-bus cable. To extend the distance between devices, two 485-bus junction boxes and 12v-power supply are required. A total distance for the whole 485-bus network can be up to 1500m (4900ft).

Connecting Audio devices

Digital Sprite 2 can record and playback a single stream of audio linked to camera 1. There are two audio input ports: MIC IN and LINE IN, and an audio output: LINE OUT.

Connecting a microphone to MIC IN.

Connect the microphone into the 3.5mm jack plug labelled MIC IN. It is important to select the correct type of microphone for connection to the Digital Sprite 2. Digital Sprite 2 requires an electret microphone with a sensitivity of –50dBV or better.

Connecting a pre-amplifier to LINE 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 LINE IN on the Digital Sprite 2.

The line level input has the following specification:
Line IN   47k   input impedance, 1V pk-pk

Connecting the LINE OUT to an amplifier.

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

The line level output has the following specification.
Line OUT   1V pk-pk

Recording audio

Once the microphone or pre-amplifier is connected to the Digital Sprite 2, the option to record audio should be enabled in the menu. See page 23 for details of enabling audio recording.

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

As the audio is linked to camera 1, it is required that camera 1 be viewed, either in a full screen or in a quad view during playback to hear the audio.

Configuring **DIGITAL sprite₂**

Using the menu

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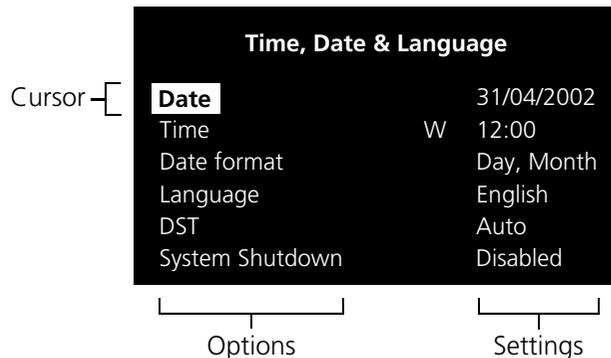
Entering the menu

There are two types of menus, User and Installer. The user menu will display only the 'Time, Date, and Language' and 'Schedule' pages. The installer menu can display all the menus.

To enter the Installer menu:
Press and hold the **menu** key.

To enter the User menu:
Tap the **menu** key.

Navigating the 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 on the front panel, or the joystick on the remote keyboard.

```
              Time, Date & Language

Cursor ─┐  Date                      31/04/2002
           Time                  W    12:00
           Date format                Day, Month
           Language                   English
           DST                        Auto
           System Shutdown            Disabled

                  Options              Settings
```

To view the next page

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

Tip: Tapping the ◄◄ or ►► keys will allow you to go back or forward a page in the menus.

To exit the menu

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

Tip: Cycling though all the menus by tapping the **menu** key will also exit the menus.

Example of using the menu to change the time:

```
              Time, Date & Language

           Date                      31/04/2002
           Time                  W    12:00
           Date format                Day, Month
           Language                   English
           DST                        Auto
           System Shutdown            Disabled
```

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

```
              Time, Date & Language

           Date                      31/04/2002
           Time                  W    12:00
           Date format                Day, Month
           Language                   English
           DST                        Auto
           System Shutdown            Disabled
```

2. Use the ▼ cursor to select the 'Time' option on the left-hand side of the menu.

```
           Time, Date & Language

Date                          31/04/2002
Time                    W     12:00
Date format                   Day, Month
Language                      English
DST                           Auto
System Shutdown               Disabled
```

3. Use the ▶ cursor to highlight the minute settings.

```
           Time, Date & Language

Date                          31/04/2002
Time                    W     12:30
Date format                   Day, Month
Language                      English
DST                           Auto
System Shutdown               Disabled
```

4. Use the ▲ ▼ cursors to change the settings, in this example 12:30.

```
           Time, Date & Language

Date                          31/04/2002
Time                    W     12:30
Date format                   Day, Month
Language                      English
DST                           Auto
System Shutdown               Disabled
```

5. Use the ◀ cursor to return to the left-hand side of the page and select another option. Or, press and hold **menu** to exit the menu.

Time, Date & Language

```
Time, Date & Language    Date              01/05/2002
                         Time              S  12:00
                         Date Format       Day, Month    Month, Day
                         Language          English       Français, Deutsch, Espanól, Italiano
                         System Shutdown   Disabled      Enabled
                         DST               Auto          Manual
```

Date

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

Time

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

Note: Summer and Winter time is signalled by an 'S' or 'W' next to the time.

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 dropdown list.

Note: When the time and date is displayed as 'External clock' the time and date settings are being taken from unit 1 on the 485-Bus network.

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

System Shutdown

If the Digital Sprite 2 needs to be switched off for any reason, the shutdown procedure needs to be followed:

1. Select 'Enabled' in the System Shutdown option.

2. When the pop-up menu appears, press and hold camera 1 for five seconds to shutdown.

3. The message 'It is now safe to switch off your unit' is displayed, switch the Digital Sprite 2 off **at the wall**.

Warning: Data loss or disk failure may occur if a system shutdown is not performed before removing power.

DST

Daylight saving time can be adjusted automatically or manually. By default, the automatic setting will go forward one hour on the last Sunday in March at 01:00, and one hour back last Sunday in October at 02:00. The default automatic settings can be changed. If the country where the unit is located does not use DST then select manual.

Camera Viewing

An option is available to view all cameras or selected cameras. All the cameras are viewed by default. Cameras removed from viewing do not affect the cameras being recorded.

To change the cameras to be viewed

• Press the '⬥' cursor key to change the edit field to 'Selected cameras'.

• A menu will display the cameras to be viewed.

• Press the camera key to toggle the camera in or out of the viewed sequence. This camera will be displayed. A filled box denotes cameras that can be viewed.

Note: Cameras removed from view are not displayed on the main or spot monitor in live or playback mode, multiscreen displays will show a blank segment.

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 select whether alarms or activity is enabled.

Night	Off	
	Set/Unset	Direct
		Module 01 contact 01
	On between	18:00 and 09:00

Weekend	Off		
	Set/Unset	Direct	
		Module 01 contact 01	
	On between	Friday	18:00
		Monday	09:00

The schedules have three options:

• Off – the schedule is disabled

• Set/Unset – use a switch or alarm input to trigger the schedule. This is connected directly to the AUX input, or by using a specific contact on an external alarm module.

• On between – the schedule is triggered between user defined times (and days for the weekend schedule).

The schedule gives the option to switch to night and weekend settings, either manually using the Set/Unset option, using either the AUX input or alarm contacts, or automatically at pre-set times and days.

Note: The Weekend setting overrides any night settings during the defined weekend period.

Camera Recording

An option is available to record all cameras or selected cameras. All cameras are recorded by default.

Camera Recording	Day	All cameras	Selected cameras
	Night	All cameras	Selected cameras
	Weekend	All cameras	Selected cameras

Note: The Night and Weekend options are only displayed if a corresponding Night and Weekend schedule has been configured in the Schedule menu.

To change the cameras to be recorded:

• Press the '⚇' key to change the edit field to 'Selected cameras'.

• A menu will display the cameras to be recorded.

• Press the camera key to toggle the camera in or out of the record sequence. A filled box denotes cameras that will be recorded.

Tip: Cameras that are not in the record sequence can still be recorded when an alarm or activity detection is triggered on that camera.

Record Schedule

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

	Standard PPS	Event PPS	Events active	Event mode
Day	6	6	**Both** Alarms Activity None	**Interleave** Exclusive Unchanged
Night	6	6	**None** Alarms Activity Both	**Interleave** Exclusive Unchanged
Weekend	3	3	**None** Alarms Activity Both	**Interleave** Exclusive Unchanged

Recorded file size	18 KB
Max recording time	--:--
Total video storage	320GB
Earliest recording	01/05/2002 12:00

Note: The Night and Weekend options are only displayed if a corresponding Night and Weekend schedule has been configured in the Schedule menu.

Standard and Event PPS

Select a record rate in pictures per second (PPS) to be recorded across all cameras. The maximum record rate is 25PPS for PAL and 30PPS for NTSC cameras when a single camera is recorded. When multiple cameras are recorded the maximum record rate is 18PPS.

The default record rate is 6PPS, this is the equivalent to a VCR in 24-hour time-lapse mode.

The table below shows the equivalent record rates of typical VCR time-lapse modes:

VCR Timelapse mode (hours)	Digital Sprite Record rate (PPS)
3	25 (30)
12	12
24	6
48	3
72	2
168	1

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 by the record rate (PPS). For example, 16 cameras with a record rate of 6PPS will be:

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

You can decrease the update rate by increasing the record rate (PPS), the only drawback is that the recording time will decrease.

Record Schedule (Continued)

Events active

Select whether the alarms and activity are on or off for day, night, and weekend schedules.

Event mode

This option allows the record sequence to be adjusted when an alarm is received, the options are:
Unchanged – the record sequence remains the same whether an alarm is present or not.
Exclusive – Only alarm cameras are recorded.
Interleaved – Alarm cameras are recorded more frequently than non-alarm cameras, i.e. if camera 1 is in alarm the interleave recording would be 1213141516…

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

Recorded file size

The file or image size affects the quality of the images recorded to disk. A larger file size has superior picture quality, but will fill the hard disk faster, so less time will be recorded before the images will be overwritten.

The file size can be set between 6 and 45KB. The table below shows the image quality at typical file sizes:

Image quality	File size (KB)
VHS	14KB
S-VHS	18KB
S-VHS+	25KB

Note: The equivalent image quality is representative in most circumstances, however, camera views with large amounts of image detail may require the file size to be increased to obtain a similar image quality.

Increasing the file size over 40KB will decrease the maximum record rate to 18PPS, even if a record rate of greater than 18PPS is selected.

Maximum recording time

The maximum recording time is the number of days and minutes before the images are overwritten. The maximum record time is calculated automatically when the standard or event record rate is highlighted and changed. Note that the maximum recording time will include the audio, if it is enabled in the System Options menu page.

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

Total video storage

The figure displayed shows the total amount of internal and external disk capacity available for video storage in GB (Gigabytes).

Earliest recording

The earliest recording displays the date and time of the first image on the disk.

Note: If an event partition is set (in the System Options menu) then the earliest recording could be an event that is older than the first standard recording.

www.dedicatedmicros.com

Recording events only

Digital Sprite 2 can be configured to record cameras with activity or alarm events only, which can increase the amount of time the hard disk can record for before being overwritten.

To configure Digital Sprite 2 for event only recording:

1. Set the Standard PPS to 00.

2. Set the Event PPS to the desired record rate when an event is detected.

3. Select the 'Events active' option as either Both, Alarms, or Activity as required.

4. Select 'Event mode' option as Exclusive to record only cameras with alarms or activity.

Only activity or alarm events will now be recorded. Note that pre-alarm/activity is not possible in this configuration.

Alarm Setup

Alarm SetUp		
Pre-alarm	00 min 00 sec	
Post-alarm	00 min 02 sec	
Auto copy	No	*Yes*
Global alarm contact	Off	*Direct, Module XX Contact XX*
Alarm relay (R1)	Close	*Open, Momentary open, Momentary close*
Alarm display	No	*Yes*
Alarm buzzer	No	*Yes*
Camera fail buzzer	No	*Yes*

Pre-alarm

Pre-alarm images can be recorded for a pre-set time prior to an alarm. Select the number of minutes or seconds (30 min 59 sec maximum).

Note: Pre-Alarm Recording only occurs if standard recording is taking place.

Post-alarm

Post-alarm images can be recorded for a pre-set time after an alarm. Select the number of minutes or seconds (30 min 59 sec maximum).

Auto copy

Alarms can be automatically copied to an external Zip® or Jaz® disk.

Global alarm contact

A global alarm contact is used to force all cameras into an alarm condition. This could be used if one alarm needs to trigger all cameras, or as a panic alarm operated manually. Options are direct, using the AUX input, or using a specific contact on an alarm module.

Alarm display

By default, the last alarmed camera is not displayed on the main monitor. Select 'Yes' to display cameras with alarms.

Alarm Setup (Continued)

Alarm relay (R1)

Choose whether the alarm relay (R1) will open or close when an alarm is activated. Selecting Momentary open or Momentary close will open or close the relay for a duration of half a second regardless of the alarm length.

Alarm buzzer

The buzzer built into the Digital Sprite 2 and the external keyboard can be triggered when an alarm is activated by selecting 'Yes'.

Camera fail buzzer

The buzzer built into the Digital Sprite 2 and the external keyboard can be triggered when a camera fail is detected by selecting 'Yes'.

Note: The camera fail buzzer will continue to activate until the failed camera is reconnected or replaced. To deactivate the camera fail buzzer on the failed camera, press and hold the corresponding camera key to enter the Camera Setup menu and disconnect the camera video input.

Activity Setup

ActivitySetUp		
Pre-activity	00 min 00 sec	
Post-activity	00 min 02 sec	
Auto copy	No	_Yes_
Extended Relay	Off	_Module 01 ...Module 16_
Relay 2	Activity, Cam fail, Both, None	_Close, open_
Activity display	No	_Yes_
Activity buzzer	No	_Yes_

Pre-activity

Pre-activity images can be recorded for a pre-set time prior to an activity event. Select the number of minutes or seconds (30 min 59 sec maximum).

Note: Pre-Activity Recording only occurs if standard recording is taking place.

Post-activity

Post-activity images can be recorded for a pre-set time after an activity event. Select the number of minutes or seconds (30 min 59 sec maximum).

Auto copy

Activity events can be automatically copied to an external Zip® or Jaz® disk.

Extended relay

This option allows activity detection on each camera to trigger an individual relay using an external relay module (DM/CI02/16). Each module has 16 relay outputs, each one assigned to camera 1 to 16. For example, when activity is detected on camera 1, relay 1 will close on the external relay module.

Relay 2

The second relay can be configured to activate when activity detection and/or camera fails are detected. Select whether the relay will close or open when activity is detected.

Activity display

By default, the last camera with activity detection is not displayed on the main monitor. Select 'Yes' to display cameras with activity.

Activity buzzer

The buzzer built into the Digital Sprite 2, and the external keyboard can be triggered when activity is detected by selecting 'Yes'.

Display Options

Display Options

Multiscreen interlace	On	*Off*
Multiscreen titles	On	*Off*
Display unit number	On	*Off*
Base camera number	001	*002...984*
Status page	On	*Off*

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, 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 required 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.

Status page

A status page giving details of alarms and camera failures can be displayed upon entering the menus. To display this page select 'On'.

Passwords

Passwords

User password	Off	*On*
Installer password	Off	*On*
Playback protection	Off	*On*

User password

The user password allows authorised users to enter the 'Time, Date, and Language' and 'Schedule' menu pages (all other menu pages are not displayed). To set the password, select On and follow on-screen instructions. A user password can be up to 8 digits long.

Note: Tapping the **menu** key enters the User menu.

Installer password

The installer password allows authorised users to enter and view all the menu pages. To set the password, select On and follow on-screen instructions. An installer password can be up to 8 digits long.

Note: Pressing and holding the **menu** key enters the User menu.

Playback password

When the playback password is switched on, an installer or user password must be entered before images can be played back.

WARNING: For security reasons, loss of passwords will require the unit to be returned to Dedicated Micros for the passwords to be reset.

Make a note of your passwords here:

User password:................................

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

System Options

Unit number

When multiple units are connected together using the 485-bus a unit number should be set for each unit. Unit 1 is also the master clock on the 485-bus network, time and date settings will be synchronised to unit 1.

Network settings

This option is used to configure the unit for connection to a 10base-T Ethernet network. A pop-up box for configuring the network settings is displayed with the following items:

IP address, Subnet mask, Default gateway

A unique IP address and a subnet mask must be given to the Digital Sprite 2 in order to communicate with it over a network. On an existing network these are often obtained from the network administrator. A Default gateway will be required if the Digital Sprite 2 is going to be operated from a remote location, such as a WAN or dial-up via a router.

Note: The Digital Sprite 2 requires a Static IP address, even if it is connected to a dynamic (DHCP) network.

Bandwidth limit

The bandwidth used by the Digital Sprite 2 can be limited to prevent overloading on slower networks. The Digital Sprite 2 has a 10MB/s connection (10Base-T).

The maximum bandwidth that a Digital Sprite 2 will use (5 users viewing images) is 6Mb/s so any limiting over 60% does not affect the bandwidth used by the Digital Sprite 2. The maximum bandwidth used by one user is approximately 2.5Mb/s

If you want to limit the bandwidth used by the Digital Sprite 2 to 1Mb/s set the bandwidth limit to 10%.

Restricting the bandwidth does not decrease the image quality, but the update rate of the images over the network will decrease.

Network

This option is used to enable or disable the network option. The network is enabled by default.

System name

Each Digital Sprite 2 on the network can be given a system name to help identification, the unit name is displayed in the Network Viewing software and also the LCD display of the remote keyboard. The maximum number of characters for the system name is 30. The default unit name is 'DM Digital Sprite 2'.

Tip: If you do not want the unit to automatically identify itself on a network, use a '#' symbol as the first character. You will still be able to access the unit across the network by typing in the IP address directly into the Network Viewing software.

Audio

A single channel of audio can be recorded on the Digital Sprite 2, use this menu to enable or disable audio recording. Audio recording takes up a small amount of storage, approximately 4KB/s, this is regardless of the record rate (PPS) of the video. When audio is enabled the record time is affected, check the new record time in the 'Record Schedule' menu.

Note: The audio recording is linked to Camera input 1, when playing back the audio, camera 1 must be displayed.

IR Receiver

The Infrared remote control option can be enabled or disabled from this menu. The remote control mimics the front panel control of the Digital Sprite 2. 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.

Event partition

An event partition can be configured to protect events for longer than using just the normal recording partition. When an event partition is configured, all events will be saved to this area. The events are overwritten on a first in first out basis when the partition is full.

To work out the required event partition size, use the following equation:

Event partition (GB) $= \dfrac{\textbf{Days x Image size (KB) x \% Events x Event PPS}}{\textbf{1111}}$

Where;
Days = Number of days required before the events are overwritten.
Image size (KB) = The recorded image size in kilobytes.
% Events = The percentage of recordings which are events.
Event PPS = The record rate of event recording (PPS).

For example, If you want to keep events for 5 days before they are overwritten, alarms are triggered for 25% of the time, image size is 18KB, and the Event PPS is 6 pictures per second the equation would be:

Event partition (GB) $= \dfrac{\textbf{5 x 18 x 25 x 6}}{\textbf{1111}} = \textbf{12GB}$

Caution: Specifying an event partition will reduce the disk space for normal recording, reducing the recording time on disk.

Image Storage

It is possible to select which drive(s) to record images to, for example, if you have a RAID or disk array connected to the Digital Sprite 2 you can elect to record images to the external storage only, giving greater image security.

	C	D	L	M
Image Storage	❏	❏	■	■
Event Log	■	❏	❏	❏

Selecting Edit will bring up a pop-up menu with the following options:

The above example has two external RAID's or disk arrays (drive L and M) connected to a Digital Sprite 2 which will be recording images, the event log will be recorded to the C drive.

System Options (Continued)

Timed expiry

Images recorded onto disk can be programmed to expire after a user-defined number of days and hours. This option is useful if you are required to adhere to legislation on maximum recording time, for example, 31 days.

Warning: Once the timed expiry has been set, all images older than the selected time will be lost.

Serial telemetry

The Digital Sprite 2 has an RS-485/232 serial telemetry port on the rear of the unit. At the time of writing this port supports the following domes:

Ultrak	Ultradome™ KD6
Ademco / VCL	Orbiter and Jupiter Microsphere™
JVC	TK-C675, TK-C553E
Dennard	2050
Panasonic	WV-CS850, WV-CS854
Aritech / Kalatel	CyberDome™
Sensormatic	Speeddome™ V
Pelco P	Spectra II

Select the type of telemetry from the list to configure the Serial telemetry port.

Each dome will need to be configured for serial telemetry and addressed correctly. Refer to the dome manufacturers documentation for details, alternatively a supplementary document for using domes on Digital Sprite 2 digital recorders is available for download from our website or by request from our Technical Support department at support@dmicros.com

Note: Once the Serial telemetry is selected, the telemetry type for each camera must also be selected in the 'Alarms and Presets' menu page. Only one type of serial telemetry is permitted per machine.

Camera Setup

Camera Set-Up	Title	CAMERA 1
	Input termination	On ⌐ Off
	Camera type	Colour ⌐ Mono
	Colour adjust	——┤——
	Contrast adjust	——┤——
	Camera video input	Connected ⌐ Disconnected

Title

Each camera title can be up to 12 characters long.

Input termination

Termination can be set On or Off. Termination must be off for cameras that are looped through to other devices.

Camera type

Cameras are detected automatically, to change the camera type choose colour or mono.

Colour adjust

When the colour bar is selected, press ▼ to reduce, and ▲ to increase the colour.

Note: this option is not displayed if the camera is set as monochrome.

Contrast adjust

When the contrast bar is selected, press down to reduce, and up to increase the contrast.

Camera video input

This option is only displayed when a camera has failed or is offline. Select disconnect whilst the camera is offline to prevent the camera fail message and alarm being triggered.

Tip: This menu can be entered directly by pressing and holding a camera key.

Alarms and Presets

Camera XX

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

Telemetry protocol

Select the telemetry protocol for the camera; BBV, Pelco, DM, or the serial telemetry dome selected in the 'System Options' menu page.

BBV and Pelco is Coaxial telemetry, if you are using Pelco serial telemetry it is displayed as 'Pelco-P'. DM telemetry is twisted pair DTMF telemetry (using a TAD3) or 485-Bus telemetry.

Note: Autopan and patrol (tour) modes are not available when using Pelco coaxial telemetry.

Notes for JVC domes: If you are using JVC domes there are two types of serial telemetry, type 1 and type 2. Select the correct type to correspond to the model number from the list below:

Type 1	Type 2
TK-C675E	TK-C675BE
TK-C675U	TK-C675BU
	TK-C553E

Preset

If the camera has telemetry presets configured, these can be recalled when an alarm is triggered. Enter the preset number from 00 to 99 for the selected alarm contact.

Module

Select the address of the alarm module being used, up to 16 alarm modules can be connected to the 485-bus network, the default setting is alarm module 1.

Contact

Each alarm module has 16 alarm inputs, each input can be used by any camera or multiple cameras.

Input

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

Activity Camera Setup

Activity detection is used to record more images to disk from cameras that have activity. The sensitivity of activity can be adjusted and areas can be masked off according to the scene type.

ActivityCameraSet-Up
Detection	Off	*On*
Sensitivity	Outdoor high	*Outdoor low, very low, Indoor high, Indoor low*
Activity grid	Setup	
Activity test	Walk test	

Detection

Select whether activity detection is on or off for the selected camera.

Sensitivity

There are 5 levels of sensitivity for activity detection.

Select the sensitivity level which matches the camera's placing. Cameras sited outdoors where there may be a lot of background movement, such as trees or rain, should be set to Outdoor high or Outdoor low sensitivity. Cameras sited indoors where there is very little background movement should be set to Indoor high, Indoor low, or very low sensitivity.

Activity grid

An 8 x 16 grid is used to mask areas where activity detection is enabled. When the grid is displayed, use the cursor keys to move the cursor to the desired location and press a camera key to toggle the block on (white dot) or off.

Activity test

Use this option to test and tune the sensitivity and activity grid set up for each camera. When activity is detected on the camera a white dot is displayed. Press the **mode** or **menu** key to exit the test.

Activity detection can perform the following:

Action	Menu page
Close / Open relay 2	Activity Setup
Automatically copy the activity to Zip® or Jaz®	Activity Setup
Display the activity camera on screen	Activity Setup
Change the record rate	Record Schedule
Record exclusively or interleave the activity cameras	Record Schedule

9 way model shown

Playing back images from the disk

Playback

- To playback images tap ◀◀ to rewind to the desired location and then press ▶ .
- When in playback, tap ◀◀ or ▶▶ to search rewind or fast forward, multiple taps will increase the search speed.
- Tap ❚❚ to pause the current image. Tapping ◀◀ or ▶▶ whilst paused will frame advance or rewind.
- Press ▶ to return to play mode.

Goto time

Press and hold ▶ (goto) to play back from a specific time or date.

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.

Exit playback

Tap the **mode** key to exit playback mode, the Play LED will distinguish.

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), its camera title, time, and date. To view an event from the event log:

- Tap **event** to display the event log.
- Use ∧ and ∨ to select the event required, the selected event is displayed in the preview window.
- Tap ▶ to view the event in full screen.
- Tap **mode** to exit the Event log.

Tip: Use ◀◀ and ▶▶ to page through the event log.

Filtering the Event log

The event log can be filtered by time and date, type of alarm, event state, or by camera. To filter the event log:

- Press and hold **event** to display the event filter menu.
- Use **< ∧ ∨ >** to move the cursor.
- Use ∧ ∨ to toggle the box on ■ or off ❑, or change the time or date.
- Press **event** to see filtered event log.

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

	Alarm	Activity	System
Event type	■	■	■
	On	Off	Both
Event state	❑	❑	■
Filter from	00:00	01:01:1999	
Filter to	12:00	01:01:2000	
Time now			

Camera Select 1 2 3 4 5 6 7 8 9
■ ■ ■ ❑ ❑ ❑ ❑ ❑ ❑

Note: Cameras cannot be selected using the cursor keys.

Event type

Select whether Alarms, Activity detection or Systems alarms (panic alarms, time/date change, power up/down) are displayed.

Event state

Select whether the event is to be displayed when it is triggered (On) or when it ends (Off) or both.

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 whether the camera events will be displayed or not. In the example above only cameras 1 to 3 will be displayed in the event log.

Viewing single cameras

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.
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.
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 Multiscreen key to edit the display, use < ∧ ∨ >
to select the segment, press the required camera key to fill that segment.
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.

Viewing cameras on the Spot monitor

Press the **mode** key or **spot** key on the remote keyboard to toggle 'spot' mode, indicated on the
main monitor and the front panel LED.

Press a camera key to display that camera on the spot monitor or tap the sequence key to
sequence the cameras.

Press and hold the sequence key to edit the **spot** sequence. Press **menu** to exit.

Copying images to CD

To copy images to the external CD writer (if connected):

1. Insert a blank CDR or pre-formatted CD-RW into the CD writer.

2. Press and hold the **copy** key to display the following screen.

Copy Images	
Copy destination	CD0: SCSI Yamaha
Copy from time	12:01:00 01/12/2001
Copy to time	12:02:00 01/12/2001
Copy	Selected cameras

```
 1   2   3   4   5   6   7   8
 ■   ■   ■   ■   ❑   ❑   ❑   ❑

 9  10  11  12  13  14  15  16
 ❑   ❑   ❑   ❑   ❑   ❑   ❑   ❑
```

Copy destination This is the name and type of
CD drive connected to the SCSI port.

Copy from time Select the time you wish to copy
images from.

Copy to time Select the time you wish to copy
images to.

Copy Select 'All cameras' or individual cameras to
copy using the camera keys (filled boxes are selected
cameras, unfilled boxes are not selected).

3. Use the cursor keys to change the time to copy 'to and from'.

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

This menu displays the archive list of images to be
copied to the CD, the 'CD Use' bar indicates the how
much space is available on the CD, once it reaches
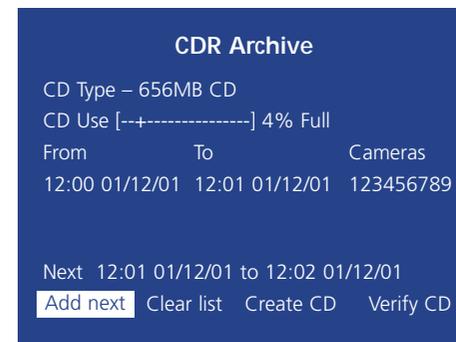100% no more images can be added to the archive.

Add next   Add the selected times to the archive list.
Clear list   Removes all entries from the list.
Create CD   Creates a CD with the images in the list.
Verify CD   Verify that the CD has been written
correctly.

To select any of the above options, highlight the option
and tap **menu**.

CDR Archive

CD Type – 656MB CD
CD Use [--+--------------] 4% Full

From	To	Cameras
12:00 01/12/01	12:01 01/12/01	123456789

Next 12:01 01/12/01 to 12:02 01/12/01

Add next   Clear list   Create CD   Verify CD

To add images to the CD:

1. Select 'Add next' and press the **menu** key to add the displayed time to the list.

2. You may wish to add more images to the CDR archive if the CD is not yet full.
   To select more images to add to the list press ◀◀ to return to the 'Copy images' screen.

3. Once all the required images are added to the archive list, select 'Create CD' and press the **menu** key
   to create the CD. The CD will eject once the CD has been created.

4. The CD can be reinserted and verified if required using the 'Verify CD' option.

5. Press and hold the **menu** key to exit the CDR Archive option.

Appendix 1

Configuring for tape archive

To configure the Digital Sprite 2 for tape archive:

1. Enter the Tape Menu

Press and hold ⏸ (pause) on the Digital Sprite 2 to display the tape menu:

```
              Tape Menu

    >   Eject Tape
    >   Tape Length 12 GB
    >   Eject Schedule
    >   Tape Status
    >   Write Overwrite
```

Note: When Eject Tape and Tape Status options are 'greyed out', no tape is inserted.

2. Select the Tape length

The correct tape length needs to be set to allow Digital Sprite 2 to calculate the amount of images on a tape. To select the tape length:

1. Use the ▲ ▼ cursor keys to move the cursor to Tape Length.

2. Press the ➤ cursor key to highlight the tape capacity.

3. Use the ▲ ▼ cursor keys to adjust the tape capacity* in Gigabytes (GB)

* Ensure the **uncompressed** capacity of the tape is entered, not the compressed capacity, e.g. some DDS-3 tapes are labelled as 24GB, but the actual uncompressed capacity is 12GB.

3. Configure an Eject Schedule (optional)

If no Eject Schedule is configured, then by default, Digital Sprite 2 will eject each tape when it is full. An Eject Schedule will eject the tape at a specific time of the day whether it is full or not. This is useful if the tape needs to be changed at a set time each day, or if more than one tape is to be used in a day.

To configure an Eject Schedule:

1. Move the cursor to **Eject Schedule** using the ▲ ▼ keys.

2. Press the ➤ cursor key to display the eject schedule in a new window.

3. Use the ▲ ▼ keys to move to the required day, and the ◄ ➤ keys to highlight the required field.

4. Use the ▲ ▼ keys to change the eject time in each field, up to 4 eject times can be set for each day.

5. Press **mode/menu** to exit the Eject Schedule page.

Selecting **Tape Status** at any time will display the status of the tape currently in the drive:

```
Tape ID                    717557F8              Tape is 82% full
First Written              28/02/2000            DVT33R01-00000081
Last Written               28/02/2000            DVT33R01-00000081
Tape has been used         001 times
Tape contains              02 Archive Sessions
Session                    1 IMAGES/MONDAY/TAPE 5/SESSION A
First Image                17:12                 27/02/2000
Last Image                 17:20                 27/02/2000
To change session use << >> keys
```

The tape status indicates:

- The tape ID and percentage of tape full.

- When the tape was first and last used, and the Machine ID which was used.

- The number of times the tape has been used.

- The number of archive sessions on the tape. A session is added when the tape is appended to rather than overwritten.

- The session number.

- The first and last image recorded in the selected session (use the ◀◀ ▶▶ keys to change the session number).

The **Write Overwrite/Append** option gives a default setting if a tape is inserted and a 'Write to tape method' is not chosen after a 5 minute timeout. This feature is not yet implemented.

Select **Eject Tape** if you wish to eject the tape at any time during archiving. The tape will finish writing the block of images it is currently archiving before ejecting the tape, which may take up to 5 minutes.

WARNING: Do not use the eject button on the front of the tape drive to eject tapes, as this will cause data to be lost.

Archiving to tape

The difference between archiving on a VCR and archiving on a tape drive is that the VCR is archiving images constantly, whereas the tape is archiving images periodically from the internal disk.

The advantages of archiving periodically is that unlike videotape, a tape can be full (or even ejected) and images will still be recorded to the internal disk, therefore images are still recorded when changing tapes. There is also less mechanical wear on the tape drive, as it is not recording all the time.

To archive images to tape:

1. Insert a tape into the tape drive.

2. The **tape status** box is displayed, showing the contents of the tape, along with the following menu:

```
>  Background archive
>  Selective archive
>  Playback
>  Load files
>  Eject Tape
```

Note: It is normal for a few minutes to elapse before the above menu is displayed as the tape needs to rewind and read the index.

3. If the tape inserted is not the correct tape, or if there is information on the tape you wish to keep, select **Eject Tape** and insert another tape.

4. Select **Background archive**. The option to Append (add images to the end of the tape) or Overwrite the tape are given:

```
Write to tape method
  Append  or overwrite
```

Caution: All previously archived images on the tape will be lost if the 'Overwrite' option is selected.

5. Use the ▲ ▼ keys to highlight the required option and press **mode/menu** to continue.

6. The tape will now start the archive process.

Playing back archived images

PC Playback software is used to playback images from Zip®, Jaz®, and tape drives from a PC.

System Requirements:

- Intel Pentium PC or equivalent (min. 233MHz, 400MHz recommended)

- Microsoft® Windows® 95 or 98.

- 4MB Video card capable of 16 million colours.

- 5MB Free hard disk space (additional space required for holding image files)

- Iomega Zip®, Jaz®, or tape drive connected to the PC.

- SCSI interface card (for connecting tape drives to the PC)

Installation:

1. Insert the disk into drive A.

2. Select Start > Run…

3. Type 'a:\setup' and click OK, alternatively use the Browse button to find the file manually.

4. Installation will start, follow the on screen instructions.

Running the PC Playback software:

1. Select Start > Programs > PC Playback.

2. Click on the PC Playback icon.

3. PC Playback will load, click on the 'Help' option for operating instructions.

Important notes when using tape drives:

The cable supplied with the DDS drive may not be compatible with Digital Sprites 50-pin SCSI port.

DDS-3: A High-density 50-way male to Centronics 50-way male cable.

DDS-4: A High-density 50-way male to High-density 68-way male (DDS-4) is required. This cable is available from computer suppliers.

Caution: Tape drives need frequent head cleaning to maintain optimum performance, ensure the drive is cleaned to the manufacturer's recommendations.

DEDICATED MICROS

www.dedicatedmicros.com

Dedicated Micros UK,
11 Oak Street,
Swinton, Manchester
M27 4FL UK
Tel: ++44 (0) 161 727 3200
Fax: ++44 (0) 161 727 3300

Dedicated Micros USA,
3800 Concorde Parkway, Suite 100,
Chantilly, Virginia 20151 USA
Freephone: 800 864 7539
Tel: (703) 904-7738
Fax: (703) 904-7743

Dedicated Micros Europe
Neckarstraße 15a,
41836 Hückelhoven,
Germany
Tel: ++49 243 352 580
Fax: ++49 24 33 52 58 10

Dedicated Micros Singapore,
1 Tannery Road,
#05-04/05 Cencon 1,
Singapore 347719
Tel: ++65 6741 0138
Fax: ++65 6741 0221

Dedicated Micros Australia,
Office 9, Suite 201 Lakeside Corporate Centre,
29-31 Solent Circuit, Baulkham Hills, NSW 2153, or
PO Box 6480 Baulkham Hills B.C. NSW 2153, Australia
Tel: ++612 9634 4211
Fax: ++612 9634 4811

Dedicated Micros Malta,
UB 2, San Gwann Ind. Est.,
San Gwann, Malta
 Tel: ++356 21 483 673
Fax: ++356 21 449 170