DIGITAL sprite LITE

Setup Guide
Guide d'installation
Setup-Anleitung
Guía de programación
Guida per l'impostazione

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 Lite.

Contents

Introduction

What is Digital Sprite Lite?

Digital Sprite Lite is an easy to use, cost effective video multiplexer, digital video recorder, with optional network transmission in one box.

A video multiplexer?

- Designed with security in mind
- Easy to use
- Operates like a traditional analogue multiplexer, not a PC
- All the features you would expect from a Dedicated Micros multiplexer:
  - Main and Spot monitor
  - Multiscreen displays
  - Activity detection
  - Alarms
  - Scheduling
  - Variable record rates
  - c-bus networking

A digital video recorder?

- Playback and record simultaneously, without affecting recording.
- Up to 14 days of 24-hour time-lapse recordings in the box.
- Instant access to images recorded onto the hard disk.
- No tapes required.

Network transmission?

- View live and playback images from Digital Sprite Lite across a network.
- No extra software to buy, uses Microsoft IE5 or Netscape Navigator 4.7.
- Telemetry control.

Features:

Installation

Auto detect cameras on power up	✔
Auto detect archive devices on power up	✔
Default 24 hour recording	✔
Loopthrough connections	✔

Operation

Play, record, archive, and transmit simultaneously	✔
Hidden camera option	✔
Scheduling	✔

Playback

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

Events

Activity detection	✔
Alarms	✔
Event log (with preview window)	✔
Autocopy events to Zip® and Jaz®	✔

Telemetry

Coaxial – BBV, Dennard, Pelco	✔
Serial – JVC, Ultrak	✔
DTMF/c-bus – DM	✔
Telemetry presets on alarm	✔

Remote Keyboard Control (optional)

Remote keyboard compatible	✔
Control of multiple units	✔
Telemetry Controller	✔

Network viewing (optional)

Live viewing	✔
Playback viewing	✔
Telemetry control	✔
Microsoft IE5 and Netscape Navigator 4.7 compatible	✔

External storage devices

Zip®	✔
Jaz®	✔
RAID	✔
Hewlett Packard DDS and Ecrix VXA Tapes	✔

To make the installation and operation as simple as possible this installation guide has three sections:

1. Installing Digital Sprite Lite

- guiding you through the installation process

2. Configuring Digital Sprite Lite

- giving details of setting up the unit for the customer's needs

3. Operating Digital Sprite Lite

- a card which can be removed from this manual provides a guide to operating Digital Sprite Lite

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 LITE**

Before you start:

Check the contents of the box

The following items are included in the box:

☐ Digital Sprite Lite

☐ PSU

☐ Mains cable with a three pin plug fitted (North America)

☐ Mains cable without plug fitted (other regions)

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

☐ PC playback $3\frac{1}{2}$" disk

☐ Installation guide

Choosing a location for installation

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

• 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 Lite. 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 Lite can compress images from between 6KB to 30KB

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 Lite 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.

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 Lite is currently available with hard disk sizes of 30, 45, 60, 75, 90, 120, and 150GB.

Using a larger hard disk will allow image quality, recording rate, or recording time to be increased. For example, a 75GB disk can record up to 7 days at 24-hour time-lapse mode speeds, but a 30GB disk can only record 3 days.

Calculating recording time

Digital Sprite Lite 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

Quick install

Digital Sprite Lite can be installed in as little as 4 steps, and being plug-and-play, cameras can be recorded within minutes.
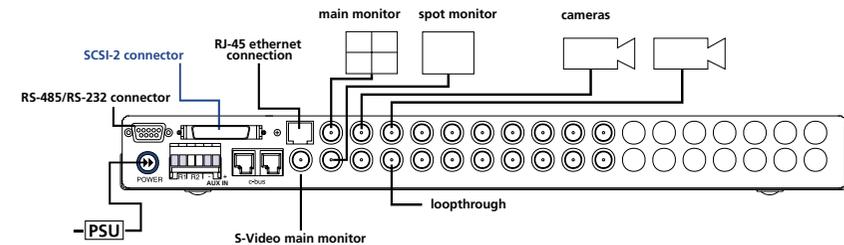
STEP 1. Connect cameras

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 Lite, go to the next section – 'Connecting external devices', before proceeding to Step 4.

STEP 4. Connect power

Once the Digital Sprite Lite 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 Lite can be used.

DIGITAL Sprite LITE will now record all cameras in a 24-hour time-lapse mode without any further programming!

Connecting external devices

Although Digital Sprite Lite can be used as a standalone digital multiplex recorder, its flexibility allows additional accessories and storage devices to be connected to build much larger systems.

Digital Sprite Lite uses c-bus networking to interconnect Dedicated Micros products and accessories. Devices which can be connected to Digital Sprite Lite include:

Telemetry cameras
Storage devices

- Removable disks - Zip®, Jaz®
- RAID
- Digital tape storage - DDS, VXA

Ethernet networks
c-bus devices

- Alarm modules
- Remote keyboards
- Video switchers

If you do not require any of the above devices to be connected to Digital Sprite Lite, move on to 'Configuring Digital Sprite Lite' – Page II.

Connecting telemetry cameras

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

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

Coaxial telemetry

Coaxial telemetry does not require any connections other than camera connections. Digital Sprite Lite currently supports Pelco and BBV, using a BBV RX-100 protocol converter allows control of most major manufacturer's domes.

Serial telemetry

Digital Sprite Lite currently supports serial telemetry for JVC and Ultrak domes. Serial telemetry requires a twisted-pair connection from Digital Sprite Lite's serial port to the telemetry receiver. Serial telemetry can be star configured – from the Digital Sprite Lite 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 Lite is a 9-way male D-type connection. A 9-way D-type female plug is required with the following pin-outs:
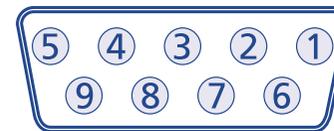
PIN	RS-232	RS-485
1	nc	Data A
2	RX	nc
3	TX	nc
4	GND	GND
5	GND	GND
6	nc	nc
7	RTS	nc
8	CTS	nc
9	nc	Data B

nc = no connection

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

c-bus/DTMF telemetry

Dedicated Micros telemetry receivers can be controlled using c-bus or DTMF (telephone tones). When using c-bus telemetry the receiver is connected directly to the c-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 c-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 Digital Sprite Lite with a single 30GB hard disk can record for three days at the 24 hour time-lapse mode using two 75GB hard disks allows 2 weeks of recording.

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 Lite 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. 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. Removable disks are ideal for recording relatively small amounts of images such as events, video clips, or incidents. These images can be played back on any PC with a Zip® or Jaz® drive and DM Playback software installed.

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.

3. DDS and VXA tapes

Images recorded to the internal disk can be automatically archived to Hewlett Packard DDS and Ecrix VXA tapes. This allows a tape a day 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 Lite.

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
Ecrix VXA 20GB	25PPS	23PPS	11PPS	5PPS	3PPS	1PPS

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

Connecting multiple external devices

Up to seven storage devices can be daisy chained from the SCSI port on the rear of the Digital Sprite Lite. 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
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
Ecrix VXA	20GB	Robust Digital storage tape	Long term tape-a-day archive

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

Connecting to a network

Digital Sprite Lite can be used to distribute high quality live or recorded images across standard TCP/IP networks to a viewer's desktop PC – where images can be viewed using a standard web browser.

Digital Sprite Lite is available with or without network video capabilities. Units with video network capabilities can be identified by the word 'NET' appearing after the software version in the menu.

Note: Units without network video capabilities can still connect to a network but only for upgrade purposes. Contact your local office for details of upgrading Digital Sprite Lite for video networking.

To view images across a network you will need:

- A valid IP address, Default gateway, and Subnet mask for the Digital Sprite Lite. These are usually obtained from your network administrator.

- A PC connected to the network with a minimum specification of:

  200 MHz CPU.
  64MB RAM.
  4MB Video card (capable of displaying 16 million colours).
  Microsoft® Windows® 95, 98, or NT, or MacOS 7.5.

- A spare 10-baseT Ethernet port on the network.

- An RJ-45 network cable for connection between the Digital Sprite Lite and the network.

- Microsoft Internet Explorer 5.X (PC) or Netscape Navigator 4.X (PC and Mac).

Connecting Digital Sprite Lite to a network

Warning: Do not connect Digital Sprite Lite to the network until the network settings are configured in the menu.

1. Setup the IP address, Subnet mask, and Default gateway using the 'Network settings' option in the 'System options' menu.

2. Restart Digital Sprite Lite.

3. Connect the network to the port labelled 'NET' on the Digital Sprite Lite using the RJ-45 cable.

Viewing images using a web browser

1. Using a PC connected to the network, open Internet Explorer or Netscape.

2. Enter the IP address of the Digital Sprite Lite in the address box (Internet Explorer) or location box (Netscape). e.g. 123.456.789.123

3. When the web page is displayed, click on 'Connect' to view live images from Digital Sprite Lite.

The online manual gives instructions on using the web control panel for live and playback.

Record Digital Sprite Lite network settings here

IP Address   _____ . _____ . _____ . _____

Subnet mask   _____ . _____ . _____ . _____

Default gateway _____ . _____ . _____ . _____

Connecting c-bus devices

Digital Sprite Lite uses the c-bus networking system to allow multiple Digital Sprite Lites, remote keyboards, alarm modules, video switchers, and other accessories to be connected together. The total length of the c-bus network can be up to 1500m.

Connecting alarms

An optional alarm module is required if alarms are to be added to Digital Sprite Lite. The advantage of using alarm modules is that all the alarm connectors do not have to be routed back to the Digital Sprite Lite. Multiple alarm modules can be used on the c-bus network with alarms connected to each module.

To add alarms:

• Connect the corresponding alarm contact to the alarm input, i.e. Alarm 2 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 c-bus cable from the alarm box to one of the c-bus sockets on Digital Sprite Lite.

• The polarity of the alarms (normally open/closed) is set using the 'Alarms and Presets' menu page.
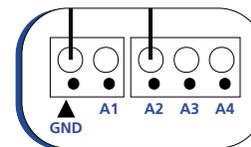
An alarm trigger performs the following

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

An example of connecting a remote alarm box to the Digital Sprite Lite:
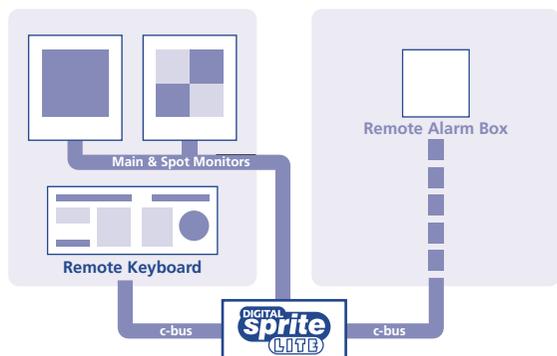
Remote keyboards

A remote keyboard can be connected to a Digital Sprite Lite to provide extra functionality:

- Remote control from a distance of up to 1500m.

- Control of multiple Digital Sprite Lites.

- A single Digital Sprite Lite controlled from multiple locations.

- Control of on-board telemetry – PTZ, Focus, Wash, Wipe, Lights, Presets, Patrol and Autopan.

- Jog/shuttle playback using the joystick.

- Panic alarm button (record all cameras at the alarm rate and activate the alarm relay, R1).

- Direct control of all 9 or 16 cameras.

- Direct control of the spot monitor.

The example below shows a remote keyboard connected to the Digital Sprite Lite:
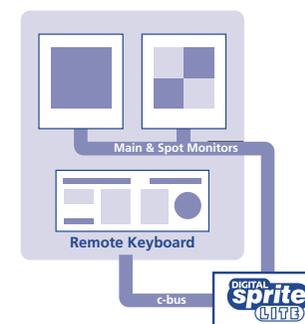
Video switchers

Video switchers allow multiple Digital Sprite Lites 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 Lite being controlled to the operator's monitors, up to 16 control positions can have monitor switching.

The example below shows two Digital Sprite Lites controlled from individual control points. The video switcher routes the monitor outputs from the Digital Sprite Lites to the control points:
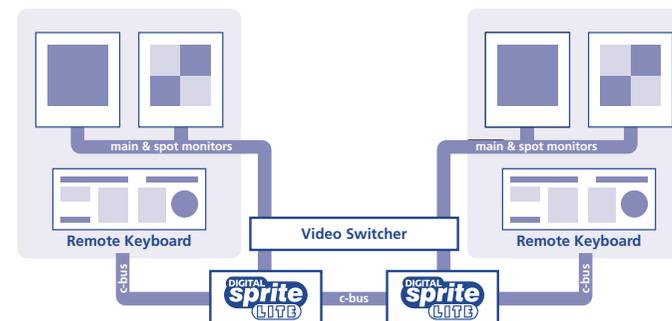
TIP: Each c-bus device is supplied with a 2m c-bus cable. To extend the distance between devices, two c-bus junction boxes and power supply are required. A total distance for the whole c-bus network can be up to 1500m.

Configuring **DIGITAL sprite LITE**

Using the menu

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

Entering the menu

Press and hold the **mode** or **menu** key.

Note: A password may be required if one has previously been set.

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.

To change the settings

1. Use the **∧ ∨** cursors to select the option you wish to change in the left hand side of the menu.
2. Use the **>** cursor to highlight the settings.
3. Use the **∧ ∨** cursors to change the settings.
4. Use the **<** cursor to return to the options.

To view the next page

Press the **mode** or **menu** key. Or press the ▶▶ key, the ◀◀ key views the previous page.

To exit the menu

Press and hold the **mode** or **menu** key or cycle through all the menus to exit.

Note: If there is an alarm trigger or a camera fail, the 'Alarm & Camera Status' page is displayed before the menus, indicating which cameras have an alarm or failed camera. Press the **mode** or **menu** key to display the first menu page.

Example of using the menu to change the time:

Time, Date & Language		
Date		30/10/2000
Time	W	12:00
Date format		Day, Month
Language		English

1. Press and hold the **mode** or **menu** key to display the menu page above.

Time, Date & Language		
Date		30/10/2000
Time	W	12:00
Date format		Day, Month
Language		English

2. Use the **∧ ∨** cursors to select the Time option on the left hand side of the menu.

Time, Date & Language		
Date		30/10/2000
Time	W	12:00
Date format		Day, Month
Language		English

3. Use the **>** cursor to highlight the minute settings.

Time, Date & Language

Date   30/10/2000

Time   W   12:**35**

Date format   Day, Month

Language   English

4. Use the ∧ ∨ cursors to change the settings, in this case to 12:35.

Time, Date & Language

Date   30/10/2000

Time   W   12:35

Date format   Day, Month

Language   English

5. Use the **<** cursor to return to the options.

6. Press and hold the **mode** or **menu** key to exit the menus.

Time, Date & Language

Time, Date & Language	Date	01/10/2000
	Time	S 12:00
	Date Format	Day, Month → Month, Day
	Language	English → Français, Deutsch, Espanól, Italiano

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 c-bus network.

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

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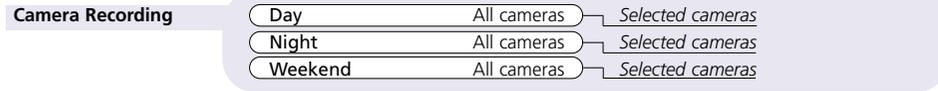
Camera Recording			
Day	All cameras		*Selected cameras*
Night	All cameras		*Selected cameras*
Weekend	All cameras		*Selected cameras*

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 determines the amount of time and the update rate of images recorded to disk. Settings can be applied to day, night and weekend schedules using the following menu:

	Standard PPS	Event PPS	Events active	Event mode
Day	7	7	**Both** Alarms Activity None	**Interleave** Exclusive Unchanged
Night	7	7	**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			30GB	
Earliest recording	01/10/2000	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/Event PPS

Choose the 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 with a single camera recorded. When multiple cameras are connected the maximum record rate is 17PPS.

Record Schedule (Continued)

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

Timelapse mode (hours)	Record rate (PPS)
12	12
24	6
48	3
72	2

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

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

Events active

Choose whether alarms and/or activity detection are on or off.

Event mode

This option determines if alarmed cameras are exclusively recorded, interleaved with non-alarmed cameras, or left unchanged.

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. The file size can be set between 6 and 30KB. The table below shows the image quality at typical file sizes:

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

Maximum recording time

The maximum recording time is the amount of time recorded before images are overwritten. It is calculated automatically when the record rate (PPS) is selected or changed.

Tip: The maximum recording time can be increased by lowering the file size or record rate.

Total video storage

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

Earliest recording

The date and time of the first image on the disk are displayed.

See Appendix 2 for information on selecting record rates for different hard disk sizes.

For further information on record rates, and to download an interactive record rate calculator visit the Dedicated Micros web site at:

www.dedicatedmicros.com

Recording events only

Digital Sprite Lite 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 Lite 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 00 sec	
Auto copy	No	*Yes*
Global alarm contact	Off	*Direct, Module 01 Contact 01*
Alarm relay (R1)	Close	*Open*
Alarm display	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 relay (R1)

Choose whether the alarm relay (R1) will open or close when an alarm is activated. R1 will clear when all alarms are deactivated.

Alarm display

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

Activity Setup

Activity SetUp

Pre-activity	00 min 00 sec	
Post-activity	00 min 00 sec	
Auto copy	No	*Yes*
Activity relay (R2)	Close	*Open*
Activity display	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.

Activity relay (R2)

Choose whether the activity relay (R2) will open or close when activity is detected. R2 will clear when activity is no longer 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.

Display Options

Display Options

Multiscreen interlace	On	*Off*
Multiscreen titles	On	*Off*
Display unit number	On	*Off*
Base camera number	001	*984*

Multiscreen interlace

Turn multiscreen interlace off to stabilise high contrast images when viewed in multiscreen.

Note: This does not affect the quality of the recorded images.

Multiscreen titles

Camera titles can be turned off when viewing in a multiscreen.

Display unit number

When more than one unit is controlled by a single keyboard, the unit number (set in the System Options page) can be 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, one unit's base camera number could be 001, and the second unit could be 017.

Passwords

This menu is used to configure password protection.

Passwords

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

User password

When a user password is entered all menus except Time, Date & Language and Schedule are disabled. To set the password, select On and follow on-screen instructions.

Installer password

A password can be set to prevent unauthorised users from accessing any installer menus. To set the password, select On and follow on-screen instructions.

Playback protection

When playback protection is on, an installer or user password must be entered to play back images. No password is required if playback protection is off.

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

System Options

System Options		
Unit number	01	16
DST	Auto	*Manual*
Network settings	Edit	
Factory Default	Reset	
Recording	Enabled	*Disabled*
System Shutdown	Disabled	
Event copy destination	None	*(Drive letter)*
Serial telemetry type	None	*JVC, Ultrak*

See appendix 3 for details of setting up JVC or Ultrak domes.

Unit number

Each unit must be defined a unique number if multiple units are connected to the c-bus network. Up to 16 units can be connected to the c-bus network.

DST

Daylight saving time can be automatically or manually adjusted. It is recommended that the automatic option be used.

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	000.000.000.000
Subnet mask	000.000.000.000
Default gateway	000.000.000.000

Digital Sprite Lite must be restarted if changes are made to the network settings.

Warning: The IP address, Subnet mask, and Default gateway must be valid for the network it is to be installed on. If they are not valid, the network may become unstable. If in doubt, contact the network administrator.

Tip: It is advisable that an installer password is set (in the Passwords menu page) to prevent the network settings being changed by unauthorised users.

Factory default

Use this option to return all settings to the factory condition.

Recording

By default, recording is always enabled. If you do not want to record, select Disabled.

System shutdown

Before removing power from the unit, select this option and follow on-screen instructions.

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

Event copy destination

Each external backup device connected to the unit is automatically detected on power up. Select the correct external backup device for copying events. Events can only be copied to removable media such as Iomega Zip® or Jaz®.

Serial telemetry type

Select the telemetry type connected to the serial port; JVC, Ultrak or none.

Camera Setup

Camera Set-Up	Title	CAMERA 1	
	Input termination	On	⌐ *Off*
	Camera type	Colour	⌐ *Mono*
	Colour adjust	——ı——	
	Contrast adjust	——ı——	
	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

Alarms and Presets	Camera XX		Detected		⌐ Not Detected
	Telemetry protocol		None		⌐ BBV, Pelco, DM, JVC, Ultrak
		Preset	Module	Contact	Input
	>	--	01	01	N/O
	>	--	--		

Camera XX

The currently selected camera number is displayed, along with its status – detected or not detected. Use the camera keys to select a camera to configure alarms and presets.

Telemetry protocol

Select the telemetry protocol for the camera; BBV, Pelco, DM, JVC*, Ultrak*, or none.

*JVC or Ultrak will only appear if they are selected in the 'System options' menu.

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 corresponding alarm contact. Up to 8 presets can be set for each camera with different alarm contacts.

Module

Up to 16 alarm modules can be connected to the c-bus network. Each alarm module is addressed from 01 to 16 - select the address of the alarm module being used. Details of setting the address can be found in the manual included with the alarm module.

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 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.

Activity Camera Set-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

Operating DIGITAL sprite LITE
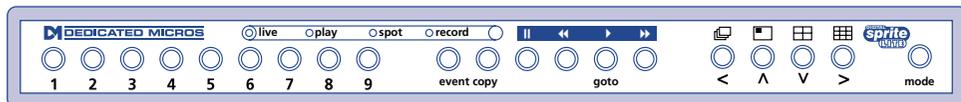
Playing back images from the disk

Playback

Press ◀◀ and then ▶ to start playing back from disk.
Press ▶ to play back from the last Goto time.

Picture search

Whilst playing back press ◀◀ or ▶▶ to rewind or fast forward. Multiple presses will speed up rewind or fast forward.

Pause

Whilst playing back press ❚❚ to pause the current image. Press ◀◀ or ▶▶ to frame advance or rewind.

Goto time

Press and hold the **goto** key (▶) to goto a specific time.

Enter the time and date required.

Press ▶ to playback from the selected time.

Tip: The images are updated automatically in the background when the time and date is adjusted.

Exit playback

Press **mode/menu** to exit play mode, the play LED will extinguish.

Copying images to Zip® or Jaz®

A single image or series of images can be copied to external Zip® or Jaz® discs:

- In play mode, use ◀◀ , ▶▶ or ▶ to move to the location of the first image to be copied.
- Press copy.
- Use ◀◀ , ▶▶ or ▶ to move to the location of the last image to be copied.
- Press **copy** again, and select the cameras to be copied.
- Press **copy** to confirm, or **mode/menu** to exit. See overleaf to copy an event.

Viewing single cameras

Full

Pressing a camera key will display a full screen image of that camera.
Note: On 16-way units, press **shift** to toggle between cameras 1-8 and 9-16.

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 press 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 **mode/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 **mode/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 **mode/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 sequence.
Use the camera keys to include or remove cameras from the sequence.
Press **mode/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.

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:

- Press **event** to display the event log.
- Use ∧ and ∨ to select the event required, the event is displayed in a preview window.
- Press **copy** to save the event to Zip® or Jaz®, or press ▶ to view the event in full screen.
- Press **mode-menu** 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.

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
	■	■	■	❑	❑	❑	❑	❑	❑

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.

Note: Cameras cannot be selected using the cursor keys.

Remote keyboard features

Controlling Telemetry cameras

Pan and Tilt

The joystick is used to control pan and tilt telemetry function. It provides proportional control of variable speed telemetry.

Lens control

There are four lens functions on the keyboard: Zoom in/out, and Focus near/far.

Auxiliary functions

The following auxiliary functions are available:

- Press and hold to activate the wash function (if available)

- Toggle wiper on and off (if available)

- Toggle lamps on and off (if available)

- **auto-pan** - Toggle the auto-pan function on or off (not supported with Pelco domes)

- **patrol** - Toggle the patrol mode on or off (not supported with Pelco domes)

Star commands

The *command key is used to send commands directly to the telemetry receiver, refer to the receiver manual for valid commands.

Storing a preset

1. Press and hold the **preset** key – A pop-up box appears.

2. Enter the **two** digit preset number using the camera keys. Camera 10 denotes number 0, for example, preset 7 should be entered as camera 10 and camera 7.

3. The pre-set is stored when the pop-up box disappears.

Recalling a preset

1. Press the **preset** key – A pop-up box appears.

2. Enter the two digit preset number using the camera keys. Camera 10 denotes number 0, for example, preset 7 should be entered as 10 and 7.

3. The pop-up box disappears and the camera will move to the preset position.

Controlling multiple Digital Sprite Lites

To select a unit to control:

1. Press the **Unit Select** key on the keyboard.

2. Press the camera key which corresponds to the unit number you wish to control. For example, press camera 3 to select unit 3.

3. The keyboard is now logged onto the selected unit.

Appendix 1

Configuring for tape archive

To configure the Digital Sprite Lite for tape archive:

1. Enter the Tape Menu

Press and hold **II** (pause) on the Digital Sprite Lite 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 Lite 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.

Note: VXA V17 tapes need to be entered as 20GB rather than the quoted capacity.

3. Configure an Eject Schedule (optional)

If no Eject Schedule is configured, then by default, Digital Sprite Lite 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 Sprite Lites 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.

Appendix 2

Selecting record rates

Digital Sprite Lite continuously records to its internal hard disk. The amount of time the hard disk will record for depends on a number of factors:

Hard disk capacity (disk size in Gigabytes)

Image quality (file size in Kilobytes)

Record rate (pictures per second)

The table below shows the recording rates for different image quality and hard disk sizes.

Record duration	24 hours			48 hours			72 hours			168 hours (7 days)			336 hours (14 days)			744 hours (31 days)		
Image quality	VHS 14K	S-VHS 18K	S-VHS+ 25K	VHS 14K	S-VHS 18K	S-VHS+ 25K	VHS 14K	S-VHS 18K	S-VHS+ 25K	VHS 14K	S-VHS 18K	S-VHS+ 25K	VHS 14K	S-VHS 18K	S-VHS+ 25K	VHS 14K	S-VHS 18K	S-VHS+ 25K
30GB	17PPS	17PPS	13PPS	11PPS	9PPS	6PPS	7PPS	6PPS	4PPS	3PPS	2PPS	1PPS	1PPS	1PPS	-	-	-	-
45GB	17PPS	17PPS	17PPS	17PPS	13PPS	8PPS	11PPS	9PPS	6PPS	5PPS	3PPS	2PPS	2PPS	1PPS	1PPS	1PPS	-	-
60GB	17PPS	17PPS	17PPS	17PPS	17PPS	13PPS	15PPS	12PPS	8PPS	6PPS	5PPS	3PPS	3PPS	2PPS	1PPS	1PPS	1PPS	-
75GB	17PPS	17PPS	17PPS	17PPS	17PPS	16PPS	17PPS	15PPS	11PPS	8PPS	6PPS	4PPS	4PPS	3PPS	2PPS	1PPS	1PPS	1PPS
90GB	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	13PPS	10PPS	7PPS	5PPS	5PPS	3PPS	2PPS	2PPS	1PPS	1PPS
120GB	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	13PPS	10PPS	7PPS	6PPS	5PPS	3PPS	3PPS	2PPS	1PPS
150GB	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	17PPS	13PPS	9PPS	8PPS	6PPS	4PPS	3PPS	3PPS	2PPS

Using the table:

1. Select the internal hard disk size on the left.
2. Select the number of hours to record across the top.
3. Select the image quality (VHS, S-VHS, or S-VHS+).
4. Read down the table for the record rate in pictures per second (PPS).

An interactive record rate calculator is available on our website at **www.dedicatedmicros.com**

Appendix 3

Configuring JVC and Ultrak domes

JVC (TK-C675BE)

The switch settings (S1) should be set to:

Disp	ON
Multi-drop	ON
Simplex	ON
Sync	INT

The Data A and B are connected to RS-485 + and - respectively.

Ultrak (UltraDome™ KD6)

The switch settings (S4) should be set to:

Switch 1	ON

Setting up JVC or Ultrak domes

The *command key is used to enter or exit the setup menus on JVC or Ultrak domes.

1. Press the *command key to enter the dome menu. The dome menu is displayed on the main monitor and a ✳ is displayed next to the time and date to indicate that the keyboard is controlling the dome menu.

2. Use the joystick to navigate the dome menu.

3. Press 'Enter' to select a menu item.

4. Select 'Exit' to leave the Ultrak menu, or press and hold the *command key to exit each menu level on the JVC dome.

5. Press and hold the *command key to remove the ✳ from the main monitor and return control of the Digital Sprite Lite.

Note: If the dome menu is not displayed, but the ✳ is still on screen, press and hold the *command key again.

Check the dome manufacturer's documentation for details of connections, camera addresses, and setup information.

Additional functions for the Ultrak dome

Functions which cannot be accessed directly from the remote keyboard can be accessed using the 'Preset' command.

Recalling a preset

1. Press the 'Preset' key – a pop-up box appears.

2. Enter the **two** digit preset number using the camera keys. Camera 10 denotes number 0. For example, preset 80 should be entered as camera 8 and 10.

3. The pop-up box disappears and the camera will move to the preset position.

Preset number	Function
80	Run tour 1
81	Run tour 2
82	Run tour 3
83	Program tour 1
84	Program tour 2
85	Program tour 3
86	Terminate tour programming
87	Run patrol 1
88	Run patrol 2
89	Run patrol 3
90	Start menu (same as *command key)
92	Toggle auto exposure
93	Toggle backlight compensation
95	Decrease goto preset speed
96	Increase goto preset speed

Attention : Ne jamais déplacer l'unité lorsque celle-ci se trouve sous tension.
Note importante: Ne rien poser de lour sur le Digital Sprite Lite.