D4

High Performance, 4 camera DVR

The D4 is a fully featured DVR that provides a comprehensive digital recording solution for applications requiring up to four 4 camera inputs. End-users no longer have to pay a premium for unnecessary camera channels when they require a more complete range of features and functions from their CCTV system.

Designed using DM's trademark simplicity and ease of use, the D4 offers advanced features such as serial telemetry control, enabling the user to operate market leading dome cameras via the Dedicated Micros remote keyboard; live and playback views of cameras using the included network viewing software via a PSTN modem* or

a standard ethernet connection; and RAID/JBOD support allowing extra terabytes of storage to be added for months or even years of record time.

Models in the D4 range are available with a built in CD writer, providing a quick and easy way of copying digitally signed key events to CD.

These features are in addition to high quality hard disk recording that can be accessed by the user at the simple touch of one button or via powerful GOTO and event preview facilities. The D4 also offers 50PPS record performance, video motion detection and real time audio recording as standard.

For further information please visit the website:
www.dedicatedmicros.com

benefits

- QUICK AND EASY TO INSTALL
- MODELS WITH INTERNAL CD-R (CD WRITER) AVAILABLE
- FAST ACCESS OF UP TO TWO MONTHS RECORDINGS IN ONE BOX**
- COMPATIBLE WITH DEDICATED MICROS RAID AND JBOD UNITS FOR EXTENDED STORAGE
- TELEMETRY CAMERA CONTROL VIA REMOTE KEYBOARD
- MAXIMUM RECORD RATE UP TO 50PPS (PAL) 60PPS (NTSC)
- LIVE QUAD DISPLAY
- BUILT IN VIDEO MOTION DETECTION AND VIDEO MOTION SEARCH FACILITIES
- IR REMOTE CONTROL REPLICATES FRONT PANEL CONTROL FOR OPERATOR EASE OF USE
- SINGLE CHANNEL AUDIO RECORDING
- NETWORK VIEWING SOFTWARE ALLOWS REMOTE VIEWING VIA ETHERNET CONNECTION OR PSTN MODEM
- BANDWIDTH LIMITATION OPTION
- ALL RECORDINGS HAVE TAMPER PROOF MECHANISMS APPROVED FOR EVIDENCE
- EMBEDDED NON PC OPERATING SYSTEM IMMUNE FROM PC VIRUS ATTACKS

* Please contact Customer Services for details of compatible modems.
** Applies to 320GB models recording at factory default setting of 6PPS with 18KB file size

data sheet

D4

Specification

LANGUAGES

English, French, German, Spanish, Italian, Chinese, Russian, Czech, Polish, Dutch, Hungarian and Swedish.

CAMERAS

4 camera inputs available.

Loop through BNC connectors provided for each of the camera inputs, with software configured termination.

Cameras auto detected on power up.

Relay trigger option on camera fail.

HIDDEN CAMERAS

Option to view all or selected cameras whilst in live or playback modes and across the network, without affecting cameras recording.

MONITOR VIEWING

Main monitor:

Full screen, programmable sequence.

Programmable picture-in-picture, quad.

x2 electronic zoom on live images, freeze frame.

Mon A: Composite video BNC connector.

Spot monitor:

Full screen, programmable sequence.

Mon B: Composite video BNC connector.

SCHEDULING

Choice of day, night or weekend offers the ability to

automatically:
• Switch alarms and activity on/off
• Alter the record rate for standard, alarm and activity recording
• Activation is via timer.

VIDEO MOTIONDETECTION

Programmable 16 x 8 masking grid for each camera view.

5 levels of sensitivity.

Options:
• Main monitor display of last activity, 2 second dwell per alarmed camera, return to pre-activity display
• Buzz on activity
• Trigger light duty relay output 500mA @ 20V max

ALARMS

4 normally open/closed alarm contacts available via back panel.

Options:
• Main monitor display of last alarm, 2 second dwell per alarmed camera, return to pre-alarm display
• Buzz on alarm
• Trigger light duty relay output 500mA @ 20V max

E-MAIL NOTIFICATION ON ALARM

Up to five email addresses can be emailed on alarm

Notifies the following events on a camera by camera basis:
• Alarm
• Activity
• Camera fail

Also power up, global alarm, panic alarm or date change

E-mail contains - JPEG picture of camera image on first alarm, machine I.D, camera number, alarm number, time and link to network viewer.

SEARCH AND PLAYBACK

VCR style keys offer:
• One touch playback.
• Frame advance/rewind, fast picture search and pause keys
• Event list, including event list filter with unique quadrant preview facility
• GOTO time and date
• Playback in quad, picture in picture and full screen

VIDEO MOTION SEARCH FACILITY

Allows the user to search through hard-disk recordings for movement in a particular area of the image. The unit is then able to search back through the hard drive and create a list of activities for the user to view and archive as required. Searching can also be filtered to limit the search to user defined times and dates.

IR REMOTE CONTROL

Provides the operator with front panel control of the unit including:
• The ability to change cameras and camera views
• Search using the GOTO function and review of the event list
• Playback of images from the hard disk

AUDIO

• Records and plays back a single channel of audio along with multiplexed video channel.
• Audio recording stored with images from camera one can be copied to an external CD-R.
• Audio recorded at 4 KB per second.

Connections:

Mic in: 3.5mm jack socket (requires an electret/condenser microphone with a sensitivity of −50dBV or more)

Line in: 47KΩ input impedance, 1V pk-pk, RCA phono socket

Line out: 1V pk-pk, RCA phono socket

RECORDING

Playback and record to hard disk simultaneously.

Internal hard disk options:

Standard model offers a single 40GB hard disk at time of press.

At time of press the maximum internal storage is 320GB for standard models and 300GB for models with CD.

Hard disk sizes are rapidly increasing in capacity. Please contact customer services or DM web site, for latest available disk size configurations for D4.

Event partition and protected images:

Separate area on disk can be defined to extend the storage time of alarms and events.

This event partition area in Gigabytes (GB) is configured by the installer and overwrites itself when full.

The system can be configured to protect images permanently from being overwritten when the global alarm is activated. The end user can also manually configure sections of recorded images to be permanently protected from overwrite, and remove permanent protection.

RAID/JBOD support

We recommend that only DM approved external storage devices are used with the D4 range.

Please contact Technical Support in your region for further information on recommended devices or visit the web site at www.dedicatedmicros.com/support

The table below shows the disk size required for low medium and high image qualities, at the equivalent of 24 hour record speeds - 3 pictures per second (shared across all cameras), and audio disabled.

RECORD DURATION	IMAGE QUALITY*		
	LOW	MEDIUM	HIGH
	14K	18K	25K
	DISK SIZE		
1 day	5GB	6GB	8GB
7 days	27GB	35GB	48GB
31 days	116GB	149GB	208GB
62 days	233GB	299GB	N/A

* Please refer to our record calculator on the DM website for other possible calculations.

RECORD RATE
Maximum record rate up to 50pps (PAL) and 60pps (NTSC)

TIMED EXPIRY
• Timed expiry option allows images to be held for a selected number of days.
• Images on the disk which are older than the number of days selected are not accessed.

EVENT COPYING
Event sequences and user defined recorded sequences, together with audio from camera 1 can be saved to the internal CD-R drive of D4 (or an external CD-R* connected to the SCSI port for models without CD). The CD containing the images, the sequences and images themselves are digitally signed for authentication purposes. Playback of images from the CD is via a standard CD ROM drive. The CD playback software will auto-run and does not require the installation of software on the users PC.

* Please check the website for compatible CD-R products.

DIGITAL SIGNATURE
The use of digital signatures makes it possible to detect whether single image or a sequence of images have been tampered with.

D4 NETWORKING CAPABILITIES
Standard Ethernet connection provides live and recorded viewing on a networked PC using DM's Network Viewer Software or via web pages using Internet Explorer. Network viewing is independent and does not affect the recording or local operation. The amount of bandwidth the D4 uses on the network can be adjusted by the bandwidth limitation option.

Network Viewer software features include:
• Live full and quad screens.
• VCR style fast forward and rewind, playback and frame advance/rew.
• GOTO time and date and unique quadrant event review.
• Search and View the event log to find alarms or activity detection.
• File export of digitally signed images over the network.
• Copy single images as JPEG and sequences of images as AVI to save to PC.
• Telemetry control, including PTZ and telemetry presets.
• Configurable password protection.

Web pages features include:
• Viewing of live images in full screen and quad format.
• Playback (full screen only) including GOTO function.
• Password authentication.
• Web pages are also compatible with Mac and Linux Netscape browsers version 4.7X and 4.8.

NETWORK REMOTE SUPPORT
Enables system adjustments to be made remotely over the network. One user may connect to the unit in a password protected admin mode that allows access to menus, as they appear on the unit themselves. System adjustments can then be made remotely over the network, such as changing the record rate, set-up of the activity grid, program presets and more – without the need for a site visit.

COLOUR RESOLUTION
Sampling rate:	13.5 MHz to CCIR 601	
Number of pixels:	PAL	720h x 512v
	NTSC	720h x 448v

16.8 million colours 256 levels of grey, 8-bit luma.

COMPRESSION
JPEG format files.
User definable compressed image file size

D4 DATA
485 BUS	– 2x MMJ connectors for DM 485-BUS peripheral devices.
SERIAL 1	– 9 way (male) D Type RS-232 serial port (PPP Modem).
SERIAL 2	– 9 way (male) D Type RS-232/RS-485 serial port (Telemetry).
SCSI	– 50 pin high density SCSI-2 connection.
NET	– RJ-45 Ethernet 10base-T connection.

CD-RW
DVR with CD:	Built in slim-line CD Writer for Compact Disk Recordable High-Speed Media.
DVR without CD:	Use optional external SCSI CD Writer.

TEMPERATURE RANGE
Operating temperature 5 – 45°C (41-113 °F)

RELATIVE HUMIDITY
10% - 85% Non-condensing.

DIMENSIONS
DVR with CD:	66mm (H) x 355mm (W) x 402mm (D)
	2 5/8" (H) x 14" (W) x 15 7/8" (D)
DVR without CD:	44mm (H) x 355mm (W) x 425mm (D).
	1 3/4" (H) x 14" (W) x 16 3/4" (D).
Optional Keyboard:	65mm(H)* x 410mm (W) x 183mm (D)
	(* 100mm including Joystick)
	2 9/16" (H)* x 16 1/8" (W) x 7 1/4" (D)
	(* 4 1/8" including Joystick)

WEIGHT
DVR with CD:	5.2 kg (11.6 lbs) with built-in PSU
DVR without CD:	4.8Kg (10.6lbs) without PSU
	5.6Kg (12.3lbs) with PSU

POWER SUPPLY
DVR with CD:	180W Internal Power Supply
Input Voltage:	100-240 V AC 50/60 Hz
DVR without CD:	72W External Power Supply
Input Voltage:	100 – 230 Va.c. 50/60 Hz.
Output Voltage:	5, +12, -12 Vd.c.

KBS3

remote keyboard

TELEMETRY DATA

Built-in RS485/Twisted pair protocols provide direct control of the following domes:

• Dennard 2050, 2055
• JVC TK-C675BE, TK-C676, TK-C553E
• Airtech/Kalatel CyberDome™
• Mark Mercer
• Panasonic WV-CS850A, WV-CS854, WV-CW860 external
• Pelco-P Spectra II, Spectra III (twisted pair only)
• Samsung SCC-641
• Sensormatic Speeddome IV, Speeddome V
• Ultrak Ultradome™ KD6
• Ademco RapidDome™/VCL Orbiter Microspheres™
• Vista Power Dome

REMOTE KEYBOARD OPTION

Keyboard features include:
• Joystick control of telemetry camera with twist zoom facility
• Wash/wipe, focus, iris, lamps, preset, patrol and auto-pan keys
• Onboard LCD
Direct connection or remotely via 485-BUS cabling up to a maximum distance of 1500m (4500ft) using two junction boxes (DM/CJ01) and a 12v PSU.

range

4 camera colour duplex with CD 50PPS	D4A 4CD
4 camera colour duplex 50PPS	D4A DX4C
Remote Keyboard	KBS3
IR Remote Control	IR REMOTE

Standard model offers a single 40GB hard disk at time of press.
Maximum internal storage is 300GB for models with built-in CD.
Maximum internal storage is 320GB for models without built-in CD.

Please note drive sizes may vary from time to time which may result in a larger drive capacity than stated being supplied with the unit.
Please contact Customer Service in your region or check the website at www.dedicatedmicros.com

RETAIL SOLUTIONS RANGE

Dedicated Micros also offers the Retail Solutions (**RS**) range of digital video recorders specifically designed for retail applications, in order to pinpoint and eradicate employee theft.

The **RS** range consists of DVRs based on the D4, Digital Sprite 2 and BX2; alongside interface units that support more than 300 types of cash register and POS terminals to allow seamless integration. By associating point of sale transaction data with the relevant CCTV video footage **RS** allows the end-user to detect internal theft and reduce shrinkage. For more information please contact Customer Services in your region or visit www.dedicatedmicros.com

PLEASE CHECK THE WEBSITE FOR DETAILS OF COMPATIBLE SCSI AND CD-R PRODUCTS AND OTHER LATEST DEVELOPMENTS

FOR FURTHER INFORMATION PLEASE CONTACT

DEDICATED MICROS

www.dedicatedmicros.com