

TEXT,C,55

DSP3210 HIGH PERFORMANCE 3.5 INCH DISK DRIVE

Over 2 Gigabytes of Storage

The DSP3210 is a 3.5 inch, high capacity, high performance disk drive designed and manufactured by Digital Equipment Corporation for the OEM market. The drive features a formatted capacity of 2,103 megabyte and an average seek time of less than 10 milliseconds.

Unequaled Performance

A 5400 rpm rotational speed provides an average latency of 5.6 milliseconds. Combined with the drive's average seek time of less than 15.6 milliseconds. The fast SCSI-2 interface is available in 8 bit or 16 bit single ended configurations and a 16 bit differential configuration.

Branded Recording

Digital's utilisation of banded recording yields media transfer rates as high as 5.5 megabytes/second. Host transfer rates up to 20 megabytes/second are achievable with wide SCSI-2.

Caching in on Performance

Average access time is further enhanced by a unique 1,024 Kbyte segmented cache buffer that maximises the cache hit rate for sequential read streams while minimising impact on cached data. The result is ever higher performance.

Superior Data Integrity

A 64 bit ECC, four headers per sector and a fully embedded servo ensure total data integrity. To protect against errors in the data path, the drive adds end to end error detection code (EDC) to the data.

Reliability Plus

The disk drives exceptional reliability is the result of extensive design and testing, rugged construction and exacting manufacturing procedures in Digital's ISO 9000 Certified facility. The DSP3210 disk drive feature a 500,000 hour mean time between failure

(MTBF).

Applications

The DSP3210 disk drive incorporate Digital's industry leading data integrity features, making it ideally suited to mission critical applications with extensive capacity, performance and space demands. This included applications such as UNIX, Macintosh, Windows, NT driven desktop and multi tasking systems, local area networks (LANS) and file servers. Typical uses include:

- . Array subsystems
- . CAD/CAM
- . Workstation
- . High end PCs
- . Desktop publishing
- . Colour graphics
- . Image processing
- . Multimedia computing
- . Network file servers
- . Midrange multi user systems

SCSI-2 Commands

Change Definition
format unit
Inquiry
Log Select
Log sense
Mode Select
Mode sense
Read (6)
Read (10)
Read buffer
Read capacity
Read defect data
Read long
reassign blocks
Release
Receive diagnostic results
Request sense
Reserve
Rezero unit
Seek (6)
Seek (10)
Send diagnostic
Start/Stop unit

Synchronise cache
Test unit ready
Verify
Write (6)
Write (10)
Write and Verify
Write long
Write buffer

Features

- . 2,103 MB formatted capacity
- . Branded Recording
- . <10ms average seek time
- . 1,024 Kbyte segmented cache buffer
- . 264 bit Reed Solomon ECC
- . end to end EDC
- . Parity on cache RAM
- . Four headers per sector
- . Embedded quadrature servo
- . Self diagnostics
- . Downloadable SCSI firmware
- . Tagged command queuing
- . Seek ordering
- . Zero latency read and messages
- . Automatic sector reallocation
- . Glitch free power on/off operation
- . Synchronised spindles
- . 8 bit and 16 bit wide fast SCSI-2 interfaces
- . Single ended or differential configurations
- . Low power consumption
- . UL CSA VDE standards
- . 500,000 hour MTBF

DSP3210 Specifications

Drive Capacity

Unformatted (MB)	2,688
Formatted (MB)	2,103

Interface

Fast SCSI-2

Single ended (8 bit)	DSP3210
Single ended (16 bit)	DSP3210W
Differential (16 bit)	DSP3210WD

Performance

Interface transfer rate (MB/s)

Synchronous (8/16 bit)	10/20
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Asynchronous (8/16 bit)	5/10
Media transfer rate (MB/s)	2.7 5.5
Cache buffer (KB)	1,024
Track to track seek (ms)	1
Average seek (ms)	<10
Maximum seek (ms)	20
Rotational; speed (rpm)	5,400
Average latency (ms)	5.6

Physical Configuration

Disks	8
Read/write heads	16
Servo	Embedded
Tracks/surface	3,042
Track capacity (bytes)	30,208 60 928
Bytes/sector	512
Sectors/track	59 119
Sectors/drive	4,107, 648

Recording

Track density (tpi)	3,218
Bit density (bpi)	60,431
Areal density (Mb/sq in)	194.4
Recording method	RLL(1,7)

Projected reliability

MTBF (POH)	500,000
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Power requirements

Seeking (A)	
+5 Vdc +5% (typical)	0.78
+12 Vdc +5% (typical)	0.91
Power consumption (W)	
Active 100% (seeking)	14.9
Active (40% seeking)	12.9
Idle	11.5

Environmental
non operating

Temperature	40C to 66C
Humidity (RH)	8% to 95%
	non cond

Operating

Temperature	5C to 55C
Humidity	10% to 90%
	non cond

Shock

10 G peak
half sine

Sheet1

Vibration	10ms duration 22 500 Hz
Acoustics	
Seeking	38 dBA @ 1.0 meter
Idle	33 dBA @ 1.0 meter
Physical	
Height (mm/inches)	41.4/1.63
Width (mm/inches)	101/4.0
Length (mm/inches)	146/5.75
Weight	0.82/1.8