

3 1/2-INCH ULTRASTAR2*
10.8 GB HIGH CAPACITY DISK DRIVE
MODEL DCMS-310800

AN OEM OFFERING FROM IBM

The new Ultrastar2 high capacity 3.5-inch drive continues IBM's tradition of delivering some of the highest capacities available in a 3.5-inch form factor. Combining an incredible 10.8 GB storage capacity with an MTBF rating of one million hours, the Ultrastar2 drive provides superior performance, reliability and power. Designed for applications which demand fast access to large amounts of data, this drive can be a direct replacement for larger 5.25-inch drives across a wide range of applications.

Performance is enhanced by a fast 5400 RPM rotational speed and low SCSI command overhead. And with an average read seek of 8.9 ms, the Ultrastar2 drive is up to 25% faster than high capacity drives in larger form factors.

Users can now have the capacity they need to meet the demanding requirements of storage-intensive applications such as large databases, multimedia, imaging and graphics. The Ultrastar2 drive utilizes an embedded servo design and requires no mandatory thermal calibration routines, thus eliminating any interruptions to audio-visual data. The 8.4 MB/sec minimum media data rate allows ample support for continuous video streams.

With a lower cost per megabyte, this drive is the ideal choice for reducing the costs of systems implementing RAID or mirroring functions, while enabling new applications like digital video-on-demand, non-linear editing, and electronic libraries.

A standard SCSI Fast/Wide interface is complemented by a 512 KB segmentable buffer (optional 1 MB) and provides support for tagged command queuing, concurrent command processing, command reordering, adaptive read ahead caching and write caching.

IBM continues to lead the industry with the Ultrastar2 drive's fast internal transfer rates, improved third generation PRML digital read channel and Magneto-Resistive head technology. This drive also features IBM's Predictive Failure Analysis (PFA), which performs a suite of self-diagnostic tests, minimizing customer exposure to data loss. And, with a typical operating usage of 14 Watts, this drive uses less than half the power of equivalent 5.25-inch drives.

HIGHLIGHTS

- 10.8 GB capacity
- 8.9 msec average seek
- 5400 RPM
- 1,000,000 MTBF rating
- Low power--14 W seek
- 512 KB (1) segmented data buffer
- Fast/Wide SCSI-2 interface
- 20.0 MB/sec data rate
- Embedded servo design

- ECC on the fly
- Automatic error recovery
- Automatic sector reallocation
- PRML digital read channel
- Predictive Failure Analysis
- MR head technology

PRODUCT DESCRIPTION

3 1/2" Ultrastar2 10.8 GB Disk Drive DCMS-310800

Configuration

| | |
|--------------------------------|------------------------|
| Interface | Fast/Wide SCSI-2 |
| Formatted Capacity (512 bytes) | 10800 MB |
| Capacity per Disk | 1080 MB |
| Number of Disks | 10 |
| Number of Heads | 20 |
| Areal Density | |
| Maximum | 865 Mb/sq ft |
| Bytes per Sector | 256-744 |
| Disk Type | Thin Film |
| Channel | PRML |
| Actuator Type | Rotary VCM |
| Head Type | Magneto-Resistive (MR) |

Performance

| | |
|-----------------------------|-----------------|
| Media Data Rate | 8.4-14.2 MB/sec |
| Interface Transfer Rate | |
| Maximum | 20.0 MB/sec |
| Access Times (Average Read) | |
| Population Average | 8.9 msec |
| Rotational Speed | 5400 RPM |
| Latency | |

| | |
|-------------|----------------------------|
| Average | 5.56 msec |
| Buffer Size | 512 KB (1) (Optional 1 MB) |

Reliability

| | |
|-----------------------------|---|
| MTBF | |
| Power-on hours | 1,000,000 |
| Recoverable Read Errors | |
| Population Average | 10 in 10E13 Bits Read |
| Non-Recoverable Read Errors | |
| Population Average | Less than or equal to 10 per 10E15 Bits Read |
| Seek Errors | Less than or equal to 10 per 10E8 Seeks |
| Predictive Failure Analysis | Yes |

Power Requirements

| | |
|------------------|------------|
| Start-up Current | 2.3 Amps |
| Idle | 11.0 Watts |
| Seek | 14.0 Watts |

Physical Size

| | |
|----------|-------------------------------------|
| Height | 41.3 mm |
| Width | 101.6 mm |
| Depth | 146 mm |
| Weight | 850 kg |
| Mounting | Industry standard, all orientations |

| | | |
|--|-----------|---------------|
| | Operating | Non-Operating |
|--|-----------|---------------|

Environmental Characteristics

| | | |
|-------------------|-------------------|---------------------|
| Temperature | 5 to 55 degrees C | -40 to 65 degrees C |
| Relative Humidity | | |
| Non-Condensing | 5% to 90% | 5% to 95% |

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- (1) Upper 128 KB used for firmware
 - (1) 1 MB=1,000,000 Bytes

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