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THE MAXTOR 7040S™ AND 7080S™



40- and 80-Megabyte
1-inch High 3.5-inch Disk Drives
with Embedded SCSI Controller
and 150,000 Hour MTBF

Unsurpassed performance and design characterize the 1-inch high, 3.5-inch 7000 Series hard drives. Available with either an AT® or SCSI controller, these 40 and 80 Mbyte models are ideal for use in portable or desktop computers. Firmware control allows reduction of power consumption to just 0.5 watts. Other features include 17 ms access time, 32K cache, 1:1 interleave, automatic actuator lock, and high performance rotary voice coil.

Maxtor®

THE MAXTOR 7040S™ AND 7080S™

40- and 80-Megabyte 3.5-inch Disk Drives with Embedded SCSI Controller and 150,000 Hour MTBF

KEY FEATURES

- 150,000 hour MTBF (POH, predicted)
- 40 or 80 Mbyte formatted capacity
- 17 ms access time
- 32K on-board cache
- 1:1 interleave
- Embedded SCSI Controller
- Ultra-low power consumption
- Automatic actuator lock
- Rotary voice coil

SPECIFICATIONS

Typical formatted storage capacity (Mbytes)

7040S	40.0
7080S	80.7

Embedded controller SCSI

Actuator type Voice coil

Number of disks

7040S	1
7080S	2

Data surfaces

7040S	2
7080S	4

Data heads

7040S	2
7080S	4

Servo Embedded

Tracks per surface 1,155

Track density (average) 1,387 tpi

Track capacity (formatted) 18,432 bytes

Bytes per block 512

Blocks per drive

7040S	82,076
7080S	165,308

Sectors per track 36 physical

PERFORMANCE (Typical)

Seek times* (ms)

Track to track	5
Average	17**
Maximum	35

Average latency (ms) 8.1

Rotation speed 3,703 RPM

Controller overhead 1 ms

Data transfer rate (Mbytes per sec)

To/from media	1.35
To/from buffer	5 (sync) 3 (async)

Start time/power up (0 - 3,700 RPM)

Typical	10 sec
Maximum	10 sec

Stop time/power down

Typical	<8 sec
Maximum	10 sec

Start/stop cycles 10,000

Interleave 1:1

Buffer size 32K

Interface SCSI

Recording method 1,7 RLL

Recording density - ID 30,625 bpi

Flux density - ID

(flux reversals per inch) 22,969

Maxtor®

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* At nominal DC input voltages.

** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS (Typical)

7040S

Mode	+12V DC ±8%	+5V DC ±5%	Power
Spin-Up	838 ma	454 ma	12.4W peak
R/W	192 ma	368 ma	4.1W
Idle	190 ma	256 ma	3.6W
Standby	206 ma	218 ma	3.6W
Sleep	1 ma	218 ma	1.1W

7080S

Mode	+12V DC ±8%	+5V DC ±5%	Power
Spin-up	920 ma	464 ma	14.1W peak
R/W	217 ma	382 ma	4.5W
Idle	204 ma	268 ma	3.8W
Standby	206 ma	218 ma	3.6W
Sleep	1 ma	218 ma	1.1W

Physical

Height	1.00" (2.54 cm)
Length	5.75" (14.61 cm)
Width	4.00" (10.16 cm)
Weight	1.2 lbs (.57 kg)

ENVIRONMENTAL

Temperature

Operating	5° C to 50° C
Non-operating	-40° C to 60° C
Thermal gradient	20° C per hour max

Humidity

Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum wet bulb	26° C

Altitude (relative to sea level)

Operating	-200 to 10,000 feet
Non-operating	40,000 feet max

RELIABILITY AND MAINTENANCE

MTBF 150,000 hours (POH, predicted)

MTTR 30 minutes typical

Preventative maintenance None

Component design life 5 years (minimum)

Data reliability

Soft read errors	1 per 10 ¹⁰ bits read (recoverable)
Hard read errors	1 per 10 ¹² bits read (non-recoverable)
Seek errors	1 per 10 ⁶ seeks

Shock and Vibration (Typical)

Shock measured at half-sine pulse. Vibration measured at swept sine, 1 octave per minute.

Non-operating shock	70 Gs, 11 ms
Operating shock	5 Gs, 11 ms (without non-recoverable errors)

Non-operating vibration

5 - 23 Hz	0.072" (double amplitude)
24 - 500 Hz	2 Gs peak amplitude

Operating vibration

5 - 23 Hz	0.036" double amplitude
24 - 300 Hz	1 G peak amplitude

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