

Quantum Q2080™ 85 Megabyte Fixed Disk Drive



The Quantum Q2080™ is the latest addition to the Q2000 Series® of low-cost, 8" fixed disk drives, and is fully compatible with Quantum's 10-, 20-, 30- and 40-megabyte Q2000 products. It also allows a low-cost, high-capacity upgrade to low-capacity 8" fixed or floppy drives.

The Q2080 has an unformatted capacity of 85 megabytes in an 8" floppy-sized package, and has an average access time of 40 milliseconds.

Like the other members of the Q2000 Series, the Q2080 uses the industry-standard SA1000/Q2000 interface to take advantage of the wide selection of low-cost controllers available in the marketplace.

All Q2000 Series products are available in either an AC or a DC

power version.

Mounting requirements are fully compatible with industry-standard 8" floppy drives. Drive control and data signals use the same pin assignments as compatible floppy drives, allowing daisy-chaining of fixed and floppy drives.

Key Features

- 85.45 megabytes (unformatted) storage capacity
- Full interface and format compatibility with the current industry-standard 8" Winchester drives

- Physical dimensions and mounting holes identical to those of standard 8" floppy disk drives
- 4.34 megabits per second transfer rate
- Available in AC or DC power options
- Proven Winchester head and media technology
- Rotary moving coil actuator
- 40 millisecond average access time
- Fail-safe head landing and shipping zone
- AIRLOCK™ automatic shipping lock (patent pending)
- Microprocessor control for drive logic and positioner system—includes self-diagnostics
- Single external PCB

QUANTUM

Q2080 8" Fixed Disk Drive

Recording Media

- Winchester lubricated magnetic oxide coating on a 200mm diameter aluminum substrate
- 12.21 megabytes (unformatted) of data per disk surface
- 1172 tracks per disk surface

Read/Write Heads

- Winchester (IBM 3340) type flying heads
- Low mass/low load force
- Reliable contact start/stop operation

AIRLOCK

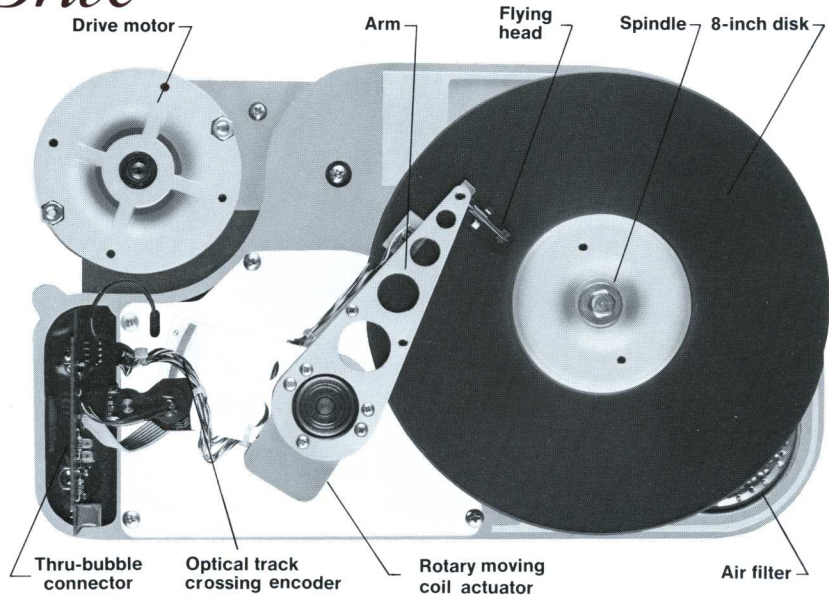
- Heads automatically return to a "fail-safe landing zone" at power-off
- Actuator automatically locks in landing zone during power-off and shipping

Air Filtration System

- Disks and read/write heads fully sealed in clean air chamber
- Recirculating air system with absolute filter
- Absolute breather air filter permits pressure equalization with ambient air without contamination

Rotary Moving Coil Actuator

- Pure torque motor with balanced forces to maximize bearing life
- Simple construction
 - Dual ring magnet/return plate magnetic structure
 - Single-plane moving coil
 - Two-bearing structure
- Statically balanced structure for high mechanical stability and maximum vibration resistance



Optical Track Crossing Encoder

- Low cost, reliable servo system
- Reliable glass reticle/LED/photodiode technology

Closed Loop Servo System

- Direct track position feedback from disk surface
- Transparent to controller and host system
- Microprocessor-controlled servo system

Specifications

Performance

Capacity	
Unformatted	
per drive	85.45 Mb
per surface	12.21 Mb
per track	10.42 kb
Formatted (MFM)	
per drive	67.41 Mb
per surface	9.60 Mb
per track	8.20 Kb
per sector	256 Bytes
sectors/track	32
Transfer rate	4.34 Mbits/sec.
Access time*	
Track to track	10 ms
Average	40 ms
Full stroke	75 ms
Avg. latency	10.0 ms

*Access time values are typical at nominal temperature and voltage.

Functional

Rotational speed	3000 RPM
Recording density	6600 bpi
Flux density	6600 fci
Track density	789 tpi
Cylinders	1172
Tracks	8204
Read/write heads	7
Servo heads	1
Disks	4
Index	1

Physical

Environmental limits	
Ambient temperature	= 50° to 115°F (10° to 46°C)
Relative humidity	= 8% to 80%
Maximum wet bulb	= 78° non-condensing
AC power requirements (AC power option only)	
50/60 Hz	± 0.5 Hz
100/115 VAC installations	= 90-127V at 1.0A typical
200/230 VAC installations	= 180-253V at 0.5A typical
DC voltage requirements	
+24 VDC	± 10% 3.75A typical (DC power option only)
+24 VDC	± 10% 2.0A typical (AC power option only)
+5 VDC	± 5% 1.0A typical
-5 VDC	± 5% (-7 to -16 VDC optional) 0.2A typical
Mechanical dimensions	
Height	= 4.50 in. (114.3 mm)
Width	= 8.55 in. (217.2 mm)
Depth	= 14.25 in. (362.0 mm)
Weight	= 20 lbs. (9.1 Kg)
Heat dissipation	= 320 BTU/hour typical (95 watts)
Reliability	
MTBF	: 8,000 POH typical usage
PM	: not required
MTTR	: 30 minutes
Component life	: 5 years
Error rates:	
Soft read errors:	1 per 10 ¹⁰ bits read
Hard read errors:	1 per 10 ¹² bits read
Seek errors:	1 per 10 ⁶ seeks

Specifications subject to change without notice.



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