



SyQuest
TECHNOLOGY

SQ306



The industry's first low-cost 3.9-inch Winchester disc drive with removable cartridge media

The SQ306 series is the first of a family of products from SyQuest Technology that combine low-cost, half-size minifloppy form factor, with a removable cartridge. A fixed media model is also offered.

Utilizing proven disc technology and multiple sources for all drive elements, the SQ306 is designed for OEMs requiring the highest reliability in small Winchester disc drives at very low cost. Due to innovative manufacturing technologies and disc drive design, the SQ306-series offer the lowest cost per byte.

The half-size form factor design allows two SQ306 drives to fit within the space of one minifloppy or 5 1/4-inch Winchester disc drive. Target applications for the SQ-series are portable computers, small-scale

workstations, personal computers, electronic typewriters and other intelligent systems requiring 6.38 Mbytes of removable data storage. Typical full disc file copies with two SQ306 drives can be performed in a few minutes, thus eliminating user dissatisfaction with the timely floppy-disc back-up schemes as well as achieving significant cost reductions in disc subsystem design.

Unique system design features of the SQ306-series include an imbedded digital servo (DigiLok™) that guarantees full media interchangeability between all SQ306 drives, a fail-safe cartridge interlock, and the use of plated media (ChromaFlux™) that eliminates head crashes and cartridge purge cycles. The Q-PAK™ cartridge disc is also an extremely low cost back-up media solution.

The SQ306 is a single platter, 6.38 Mbyte removable media Winchester disc drive. Interface requirements are identical to the pin-out, timing, data transfer rates, and software track/sector formats to the Seagate ST506/412 or equivalent and insures full capability with a wide host of 'off the shelf' controllers such as DTC 500

Series, WD 1000, OMTI, or Xebec SA 1410. The SQ306R provides OEMs with existing ST-506 system designs a complete back-up solution.

Features and Benefits

- 6.38 Mbyte storage capacity
- Half-size minifloppy form factor
- Removable cartridge media that requires no purge cycle upon power-up
- Buffered seek mode for faster data access
- Closed-loop servo system with imbedded digital servo (DigiLok™) for full cartridge interchangeability between any SQ306 drive
- Industry standard ferrite heads
- Ruggedized for portable system designs
- Utilizes existing 5 1/4-inch Winchester controllers without modification
- Same DC power requirement as standard minifloppy
- Continuous 5 day operational burn-in test insures highest functional reliability in the industry

Disc Drive Specifications

Drive Configuration	Model SQ-306 R Model SQ-306 F	6.38 MBytes removable cartridge 6.38 MBytes fixed media drive
Capacity Unformatted	Per drive Per surface Per track	6.38 MBytes 3.19 MBytes 10416 Bytes
Formatted	Per drive Per surface Per track Per sector Sectors per track	5.0 MBytes 2.5 MBytes 8192 Bytes 256 Bytes 32
Data Transfer Rate		5.0 MBits/sec.
Average Latency		8.33 msec.
Access Time	Track to Track Average Maximum Settling Time	3 msec. 70 msec. 185 msec. 15 msec.
Functional Specification	Rotational Speed Recording Density Flux Density Track Density Cylinders R/W Tracks R/W Heads Discs Index	3547rpm \pm 1% 12000 bpi 12000 fci 435 tpi 306 612 2 1 1
Interface		Industry Standards for 5.25" Fixed Disc Drive both for control and read/write
Reliability Specifications	MTBF (typical usage) Preventive Maintenance Component Life MTTR Error Rates Soft Read Errors Hard Read Errors Seek Errors	11000 poh None 5 years 30 min. 1 in 10 ⁹ bits read 1 in 10 ¹² bits read 1 in 10 ⁶ seeks
Power Requirements	DC Voltage AC Voltage (not required) Power Dissipation	+ 12 volts \pm 5% @ .7 Amps* + 5 volts \pm 5% @ .9 Amps 15 Watts (50 BTU/Hr)
Environmental Limits (Operating)	Ambient Temperature Relative Humidity Wet Bulb, Maximum Maximum Altitude	40° to 122°F (5° to 50°C) 8 to 80% 78°F, Non-Condensing 10,000 ft.
Mechanical Dimensions	Height = 1.625 inch (41.3mm) Width = 4.80 inch (122mm) Length (including PCB) = 8.0 inch (203mm) Weight = 2.4 lbs (1.09 kg)	

Q-PAK Cartridge Specifications

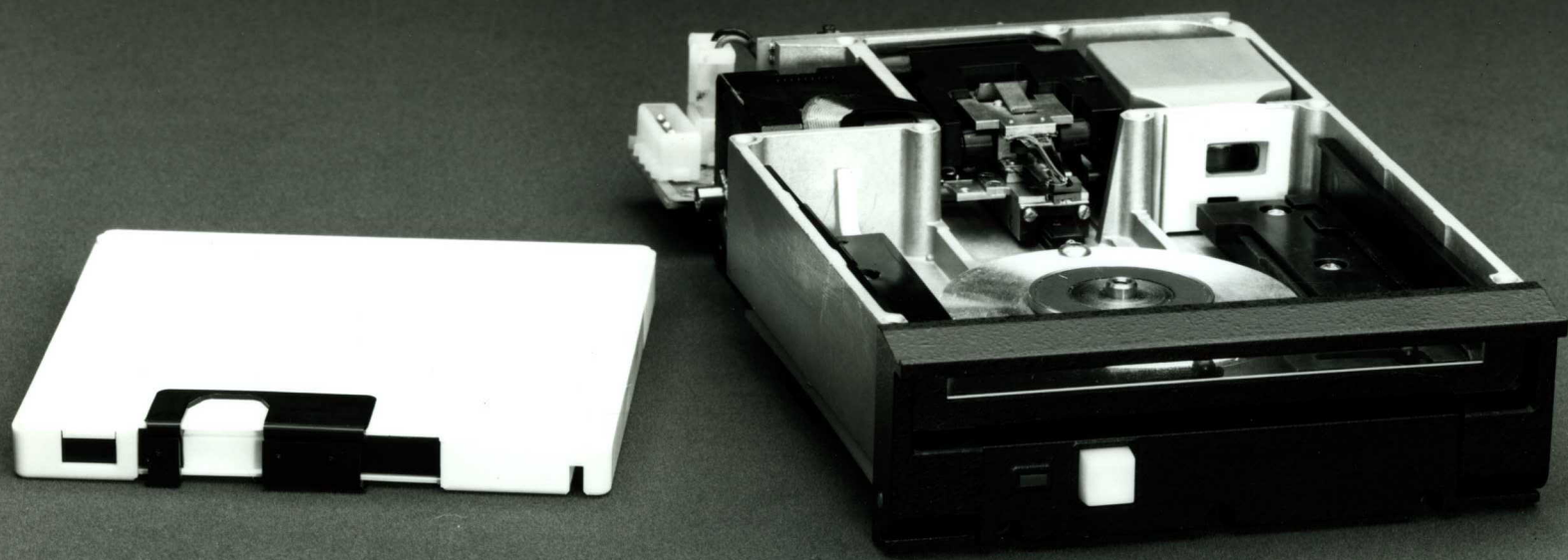
Cartridge Mechanical Dimensions	Height = .43 inch (11.0mm) Width = 4.33 inch (110.0mm) Length = 4.41 inch (112.0mm) Weight = 0.3 lbs	
Functional	Disc Index Number of Insertions Color	1 1 10,000 (min.) Bone White
Capacity	Unformatted Formatted	6.38 MBytes 5.0 MBytes
		*1.5 AMP at Power On



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