

AT3500 Mammoth 3.5" IDE Solid State Drive



- Over 13 Gbyte uncompressed capacity
- Full -40°C to +85°C industrial temp range
- 3.5" low profile drive formfactor with 40 pin, 0.100" IDE interface
- 11 byte ECC and Active Remap™ for exceptional data reliability
- 5 volt, low power operation
- Completely solid state - no moving parts
- 500G operating shock
- 10G operating vibration
- 0.3 millisecond random access time
- 3.5 Mbyte/sec sustained Read throughput
- 750 Kbyte/sec sustained Write throughput
- 128 Kbyte SRAM buffer
- 10 year data integrity

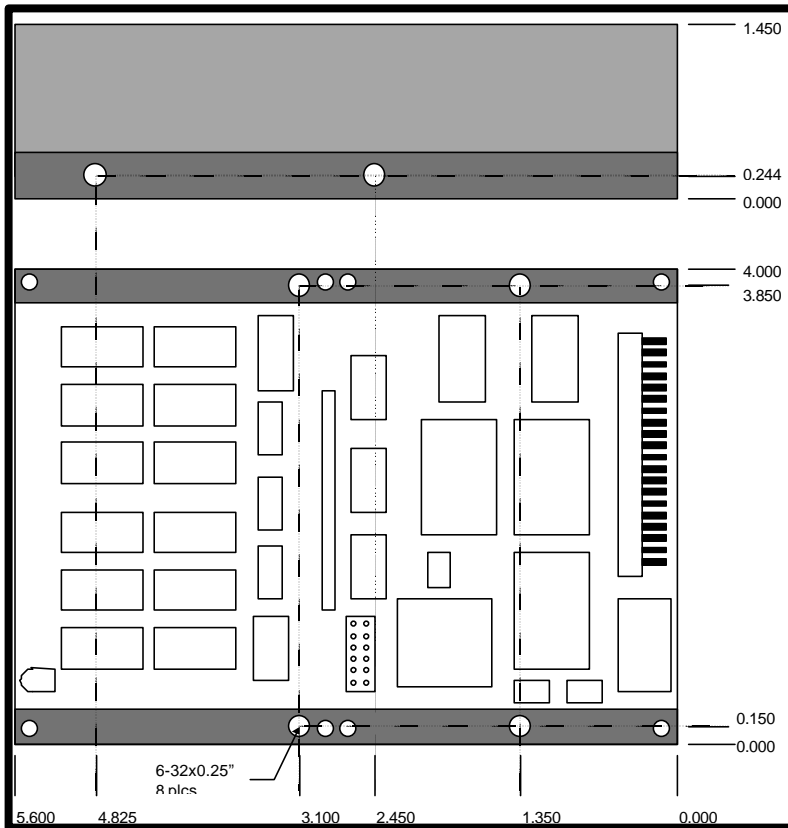


The AT3500 series is a new line of 100% compatible IDE solid state drives offered in a standard 3.5 inch low profile drive format. It is completely solid state, with no moving parts. This contributes to the unit's exceptional ruggedness and wide operating temperature range; with no moving parts, there is no mechanism for mechanical wear-out. Being 100% IDE compatible, no special drivers or flash file managers are required. It is a virtual drop in replacement for standard rotating media.

The AT3500 employs 128, 256 or 512 Mbit sector erasable NAND E²PROMs (Flash) to deliver over 13 Gbytes of uncompressed, non-volatile solid state storage in an extremely small, rugged formfactor. The 0.3 millisecond access time permits thousands of transactions to occur per second, which is critical in server and high I/O applications. Raw data throughput is also very fast at a sustained 3.5 Mbytes per second.

The IDE interface is implemented using a commercially available controller with an external 128 Kbyte SRAM cache buffer. The IDE controller implements an 11-byte Reed-Solomon error detection and on-the-fly correction mechanism that, in conjunction with Memtech's proprietary Active Remap™ technology, makes for a virtually bulletproof medium for data storage. LBA addressing, PIO mode 4, DMA mode 2 and multi-sector transfers are fully supported.

The drive is available in capacities ranging from 16 Mbytes to over 13 Gbytes. Please call the factory with your requirements. Disk compression utilities may be used to effectively double the physical capacity of the drive.



Each drive is fully tested under environmental and voltage extremes to guarantee data integrity under even the harshest conditions.

The drive may be mounted in any orientation. Eight mounting holes are provided: four on the bottom and four on the sides. All holes are tapped 6-32, with a maximum penetration of 0.25 inches.

The drive outline and mounting hole locations are given in the diagram at left.

SPECIFICATIONS*

Interface

IDE Compatibility	X3T10 2008D, Rev. 6
IDE Drive Number	Drive 0 or 1
Physical Capacity	13824 Mbytes max
Physical Sector Size	512 bytes

Performance

Access Time	0.3 ms
Onboard Cache	128 Kbytes
Read Transfer Rate	3.5 Mbytes/sec sustained
Write Transfer Rate	750 Kbytes/sec sustained
Burst Transfers	8 Mbytes/sec
Media Transfer Rate	5 Mbytes/sec

Environmental

Operating Temperature Range	
Commercial	0° to +70°C
Extended	-20° to +75°C
Industrial	-40° to +85°C
Storage Temperature	-55° to 125°C
Shock* - operating	500G, half sine
Vibration* - operating	10G Random
Airflow	None required
Humidity	5% to 95% noncond.
Safety	CSA File LR114427
EMC	EN55022 and EN50082-1

Reliability

Endurance	Application Specific
1 write/10 sec	250,000 hours
Error Rate	<1 in 10 ¹⁴ bits read

Power Requirements

Voltage	5V +/- 5%
Current	
Idle	35 mA
Read	225 mA
Write	250 mA

Mechanical

Length	5.60 inches (15.24 cm)
Width	4.00 inches (10.16 cm)
Height	
384 Mbytes	0.87 inches (02.21 cm)
13824 Mbytes	1.45 inches (03.68 cm)
Cable Interface	40-pin, 0.100 inch
Max. Cable Length	18 inches (457 mm)
Rec. Cable Length	12 inches (305 mm)
Max Weight	1 lb 5 oz (595 g)

*Specifications are subject to change without notice.

