VIPER™

PC CARD HARD DISK DRIVES

INTÉGRAL™

High Capacity, Rugged Data Storage Built to Keep Up with Portable Computing

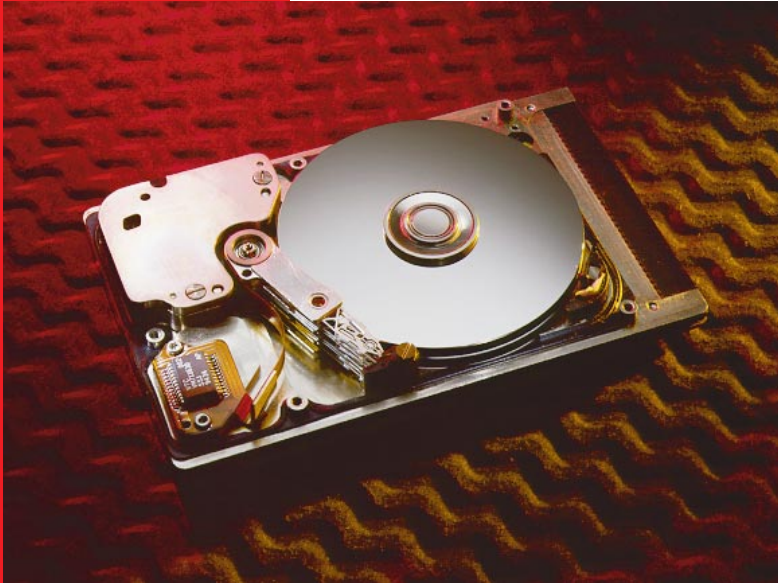**PC Card Type III Hard Disk Drives**

DATA STORAGE DESIGNED FOR

SUBNOTEBOOK, ULTRA-PORTABLE

AND HAND HELD COMPUTERS

High Capacity Data Storage for Mobile Computing

Intégral 1.8 inch Viper drives offer high data storage capacities in a compact PC Card Type III package. Viper series drives are an excellent choice for primary as well as secondary data storage for portable computers. Powerful new portable applications for subnotebooks, ultra-portables and hand helds have increased data storage demands. Viper drives meet that demand with the highest capacities available in the PC Card form factor – from 170 MB to a full 510 MB.

Proprietary Technologies Increase Capacity and Reliability

Intégral's patented technologies make high capacity, high reliability PC Card drives possible. MicroGlide™ employs polished recording media allowing Viper read/write heads to fly close to the disk surface, dramatically increasing areal density. Dynamic head loading enables MicroGlide because, unlike contact start/stop drives, Viper read/write heads never come in contact with the recording media, eliminating stiction as well as head slap damage. That gives Viper drives a very rugged, very portable 750 G non-operating shock resistance and an operating shock resistance of 300 G in idle mode. Plus, a patented inertial lock secures the heads on the ramp if a linear or rotational shock occurs.

Low Power Consumption, High Performance

Viper drives efficiently manage power consumption with programmable power modes. In fact, Viper drives use only 100 milliamps in idle mode. Sleep mode provides the ultimate power conservation – just 2 milliamps. But, unlike other low power drives, Viper drives deliver the high performance portable computer users want with average seek times of 12 milliseconds and excellent data transfer rates for fast data access.

The Mobile Storage Company

VIPER

PC CARD HARD DISK DRIVES

High Capacity, Rugged Data Storage From the Mobile Storage Company

	VIPER 170E	VIPER 260	VIPER 340	VIPER 510
FUNCTIONAL				
Formatted Capacity	170.8 MegaBytes	260.7 MegaBytes	341.1 MegaBytes	510 MegaBytes
Sector Size	512 Bytes	512 Bytes	512 Bytes	512 Bytes
Disks	1	2	2	2
Heads	2	4	4	4
Track Density (TPI)	5,100	4,300	5,100	6,660
Flux Density (FCI)	92,700	84,260	92,700	89,000
Recording Density (BPI)	123,600	112,350	123,600	118,000
Recording Method	1,7 PRML	1,7 PRML	1,7 PRML	1,7 PRML
PERFORMANCE				
Media Transfer Rate	Up to 6.0 MB/sec	Up to 5.7 MB/sec	Up to 6.0 MB/sec	Up to 6.5 MB/sec
Interface Transfer Rate	Up to 16.0 MB/sec	Up to 16.0 MB/sec	Up to 16.0 MB/sec	Up to 16.0 MB/sec
Rotational Speed	4,500 RPM	4,500 RPM	4,500 RPM	4,500 RPM
Latency	6.67 ms	6.67 ms	6.67 ms	6.67 ms
Average Seek Time	12 ms	12 ms	12 ms	13 ms
Track to Track Seek Time	2 ms	2 ms	2 ms	3 ms
Maximum Seek Time	20 ms	20 ms	20 ms	22 ms
Start Time (typical)	1.4 sec	1.4 sec	1.4 sec	1.8 sec
Buffer Size	32 Kbytes	32 Kbytes	32 Kbytes	32 Kbytes
Interface	PCMCIA-ATA	PCMCIA-ATA	PCMCIA-ATA	PCMCIA-ATA
RELIABILITY				
MTBF	250,000 hours	250,000 hours	250,000 hours	250,000 hours
Start/Stops	250,000	250,000	250,000	250,000
Unrecoverable Data Error Rate	<1 per 10^{13} bits read	<1 per 10^{13} bits read	<1 per 10^{13} bits read	<1 per 10^{13} bits read
POWER				
Voltage	+5 VDC±5%	+5 VDC±5%	+5 VDC±5%	+5 VDC±5%
Typical Power Dissipation				
Spin-up (peak)	600 mA	600 mA	600 mA	700 mA
Idle	130 mA	120 mA	130 mA	140 mA
Read/Write	390 mA	370 mA	390 mA	410 mA
Standby Mode	3 mA	2 mA	3 mA	3 mA
Sleep Mode	3 mA	2 mA	3 mA	3 mA
ENVIRONMENT				
Temperature				
Operating	5°C to 55°C	5°C to 55°C	5°C to 55°C	5°C to 55°C
Non-operating	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C
Relative Humidity	4% to 90% noncondensing	4% to 90% noncondensing	4% to 90% noncondensing	4% to 90% noncondensing
Operating Shock				
Linear @ 2 ms	100 G	100 G	100 G	100 G
Idle	300 G	300 G	300 G	300 G
Non-operating Shock				
Linear @ 1 ms	750 G	750 G	750 G	750 G
Altitude				
Operating	-1,000 to 10,000 feet	-1,000 to 10,000 feet	-1,000 to 10,000 feet	-1,000 to 10,000 feet
Non-operating (max)	40,000 feet	40,000 feet	40,000 feet	40,000 feet
PHYSICAL				
Dimensions	10.5 mm x 54 mm x 85.6 mm (0.41 in x 2.12 in x 3.37 in) PCMCIA Type III	10.5 mm x 54 mm x 85.6 mm (0.41 in x 2.12 in x 3.37 in) PCMCIA Type III	10.5 mm x 54 mm x 85.6 mm (0.41 in x 2.12 in x 3.37 in) PCMCIA Type III	10.5 mm x 54 mm x 85.6 mm (0.41 in x 2.12 in x 3.37 in) PCMCIA Type III
Weight	85 grams (3.0 oz)	85 grams (3.0 oz)	85 grams (3.0 oz)	90 grams (3.2 oz)

PC Card