



MACH8 Family of Solid State Drives

Enterprise Class Storage Solutions

STEC MACH8 Solid State Drive series is revolutionizing the storage world by delivering to the users the ultimate level of reliability and performance in a fully integrated device.

At the heart of the MACH8 Family of Solid State Drives is STEC's leading edge flash controller able to address multiple flash components simultaneously to achieve improved sustainable Read/Write speeds. This same controller allows our MACH8 and MACH8^{emb} to achieve up to 90MB/s reads and 90MB/s writes. Providing a cost-effective HDD replacement drive family.

The MACH8 products embed Full Data Path Protection, STEC's proprietary set of algorithms capable of protecting data anywhere within the SSD, from cache to flash.

MACH8 Features

- Industry leading solid state drive
- IOPS intensive version for transactional heavy applications
- Full Data Path Protection
- Drop-in replacement for traditional 1.8" and 2.5"
- Low power consumption
- Supports Serial ATA and PATA
- SLC and MLC support to meet the demands of any application
- Optional support of purge and encryption
- Superior data protection through Total Drive Wear Leveling to ensure drive endurance
- Two operating temperature supported:
 - Commercial temperature: 0° to 60°C
 - Industrial temperature: -40°C to 85°C

Specifications

Product Type	MACH8 ^{IOPS} SSD	MACH8 SSD	MACH8 ^{emb} SSD
Capacity (Unformatted)	Up to 200Gbytes	Up to 256Gbytes	Up to 240Gbytes
Interfaces	Serial ATA	Serial ATA / PATA	Serial ATA / ATA
Performance			
External Transfer Rate	1.5 Gb/sec (SATA)	1.5 Gb/sec (SATA) 133 MB/sec (PATA)	1.5 Gb/sec (SATA) 133 MB/sec (PATA)
Sustained Throughput			
Read	90 Mbytes/sec	90 Mbytes/sec	80 Mbytes/sec
Write	70 Mbytes/sec	90 Mbytes/sec	40 Mbytes/sec
Random Operations			
Read	10,000/sec	4,000/sec	9,000/sec
Write	1,600/sec	400/sec	2,000/sec
Latency	100µs	100µs	100µs
Physical			
Form Factor	2.5-inch	2.5-inch 1.8-inch	2.5-inch 1.8-inch
2.5-inch Dimensions	100.2mm (L) x 69.8mm (W) x 9.5mm (H) (15mm dimension)		
1.8-inch Dimensions	71.0mm (L) x 54.0mm (W) x 5.0mm (H) (6mm dimension)		

Related Applications

- Professional Media
- Communications Equipment/Networking
- Enterprise Computing
- Embedded/Industrial
- Military / Aerospace
- Automotive
- Medical Equipment

Related Technology

- Life Cycle Management
- Flash Management
- TotalDriveProtection
- Power-down Data Protection
- Flash Controller Technology

Transactional Performance

Device	Random I/O per second
MACH8 ^{IOPS} SSD	10,000 IOPS
Enterprise HDD	300 IOPS

Energy Consumption for 100K Read IOPS

Device	Measured in Watts (W)
MACH8 ^{IOPS} SSD	30W
Enterprise HDD	6,012W

Product Key				
Part #:	M(8)i(I)(IR)FF-(xxx)UTM-(XXX)			
M8 = MACH8	i = IOPS SSD (Blank = Standard)	xxx = Capacity	U = RoHS Compliant	M = MLC (blank for SLC)
I = Interface	IR = Interface Revision	FF = Form Factor (Z-height)		T = temp
S: SATA	A: 1.0Gb	1: 1.8-inch (5.0mm)		C: Commercial
A: ATA	B: 1.5Gb	1A: 1.8-inch (6.0mm)		I: Industrial
		2: 2.5-inch (9.5mm)		
		2A: 2.5-inch (15.0mm)		
				XXX = Customer Specific (Internal Use Only)

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