



MACH8 Solid State Drive

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 100MB/s sustainable Read/Write speeds. This same controller allows our MACH8 MLC to achieve 90MB/s reads and 60MB/s writes. Providing the world's first cost-effective HDD replacement drive.

The MACH8 product embeds 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 Parallel ATA
- Low heat
- 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 70°C
 - Industrial temperature: -40°C to 85°C

Specifications

Product Type	MACH8 ^{IOPS} SSD	MACH8 SSD	MACH8 ^{MLC} SSD
Capacity (Unformatted)	32, 64, 128 and 256 Gbytes	32, 64, 128 and 256 Gbytes	up to 512Gbytes
Interfaces	Serial ATA / PATA	Serial ATA / PATA	Serial ATA / PATA
Performance			
External Transfer Rate	1.5 Gb/sec (SATA) 133 MB/sec (PATA)	1.5 Gb/sec (SATA) 133 MB/sec (PATA)	1.5 Gb/sec (SATA) 133 MB/sec (PATA)
Sustained Throughput			
Read	100 Mbytes/sec	100 Mbytes/sec	90 Mbytes/sec
Write	100 Mbytes/sec	100 Mbytes/sec	60 Mbytes/sec
Random Operations			
Read	10,000/sec	5,000/sec	-
Write	800/sec	100/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)		
1.8-inch Dimensions	71.0mm (L) x 54.0mm (W) x 5.0mm (H)		

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

MACH8 SSD

MACH8^{IOPS} SSD 10,000 IOPS

Enterprise HDD 300 IOPS

Energy Consumption for 100K Read IOPS

Enterprise HDD 6,012W

MACH8 SSD 30W

Random I/O per second

Measured in Watts (W)

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
F: FC	A: 1.0Gb E: 4.0Gb	1: 1.8-inch (5.0mm)	2C: 2.5-inch (17.5mm)	C: Commercial
Z: SAS	B: 1.5Gb F: TBD	1A: 1.8-inch (7.0mm)	3: 3.5-inch (9.5mm)	I: Industrial
S: SATA	C: 2.0Gb G: TBD	2: 2.5-inch (9.5mm)	3A: 3.5-inch (14.5mm)	
A: ATA	D: 3.0Gb	2A: 2.5-inch (12.5mm)	3B: 3.5-inch (20.0mm)	XXX = Customer Specific (Internal Use Only)
		2B: 2.5-inch (14.5mm)		

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