



SSD Overview

Enterprise Grade Solid State Drive Solutions

- Zeus^{IOPS} Solid State Drive
- Zeus Solid State Drive
- MACH8^{IOPS} Solid State Drive
- MACH8 Solid State Drive
- MACH2 Solid State Drive

ZEUS^{IOPS} SOLID STATE DRIVE

Zeus^{IOPS} is a unique solid state drive designed to create a storage performance revolution for enterprise applications. Zeus^{IOPS} enables storage systems to realize outstanding, sustainable Input/Outputs per second (IOPS) to relieve performance bottlenecks associated with traditional rotating media disk drives.

Zeus^{IOPS} breathes new life into existing storage infrastructures, increases server utilization, and reduces the total cost of ownership. Zeus^{IOPS} eliminates the wait time for processors associated with rotating media access latency. One Zeus^{IOPS} drive can replace multiple hard drives, eliminate the need for additional volatile DRAM, and ease the cliff-like performance drop-off in performance from DRAM to rotating media in storage systems.

Zeus^{IOPS} Solid State Drive is revolutionizing the way businesses access critical data by overcoming the performance bottleneck inherent to traditional rotating media HDD storage.

Features

- Built-in wear leveling
- Random transactional performance in excess of 52,000 IOPS sustained
- Over 200 times faster at transactional performance than a 15K RPM enterprise class disk drive
- Sustained random or sequential large block transfers to 200 MB/s
- Less than half the power consumption of 15K HDD's
- 3.5" form factor for drop-in replacement into existing storage systems



Transactional Performance

Zeus^{IOPS} SSD
ENTERPRISE HDD

Zeus^{IOPS} SSD
52,000 IOPS

Enterprise HDD
300 IOPS

Random I/O per second

Product Specifications

Product Type	Zeus ^{IOPS} SSD		
Capacity (Unformatted)	18, 36, 73, 146 and 300 Gbytes		
Interface	SATA	SAS	FC
Performance	3Gb/sec	3Gb/sec	2GB/SEC
Availability	Single-port	Dual-port	Dual-port
Performance			
Average Access Time	20-120 microseconds		
Sustained Read Throughput	200-250 Mbytes/sec		
Sustained Write Throughput	100-200 Mbytes/sec		
Random IOPS Read Operations	52,000 IO/sec, sustained		
Random IOPS Write Operations	17,000 IO/sec, sustained		
Physical:			
Form Factor	3.5-inch		
Dimensions (mm)	147mm (L) x 101.6mm (W) x 20.0mm (H)		
Weight	<0.4 kg		

PRODUCT KEY

Part #: **Z(16)F(#)(xxx)IUCz(XX)**

Z = Zeus 16
F = Interface
F: FC
Z: SAS
S: SATA

= Form Factor (3 = 3.5")
U = Unleaded
XX = Customer Specific

xxx = Capacity
C = Optional Feature #1

I = Industrial Temperature
z = Optional Feature #2

ZEUS SOLID STATE DRIVE

STEC's family of Zeus Solid State Drives (SSD) are rugged, high-capacity, and high-throughput memory and mass storage solutions for mission-critical systems in a variety of industries. Applications include data recording devices, oil pipeline inspection guides, and industrial automation robots and scientific equipment.

Leading military and aerospace corporations count on Zeus SSDs to provide outstanding performance in the harshest of environmental conditions. Zeus SSDs greatly reduce data access times compared to rotating media and STEC's proprietary stacking technology delivers unmatched package density with up to 64GB of capacity in just 9.5mm of case height. STEC is the right partner for reliable, industrial grade SSDs providing an industry leading range of features that are designed to meet the specific needs of our customers, including different form factors, interfaces, data throughputs, capacities, environmental specifications, and secure-erase features.

Features

- Ultra-rugged designed to stand up to the harshest of environmental conditions
- Built-in wear leveling
- Less than half the power consumption of rotating hard disk drives
- Low-profile designed for unmatched density: 64GB in just 9.5mm
- Commercial or industrial temperature support
- Sustained performance to 72MB/s
- Capacities to 128GB (soon to be 256GB)
- 2.5-inch and 3.5-inch form factors
- Advanced purge features
- Unique custom design capabilities

Product Specifications

Product Type	ZEUS SSD		
Interfaces	ATA	SATA	FC
	PIO 0-4, DMA 0-2, UDMA 0-5; Master/Slave mode: User-selectable	Serial ATA 1.0a specification SATA 1.5 Gb/sec	2Gb/sec FC
Capacity	8-64GB	8-128GB	10, 40, 80GB
Performance	Up to 40MB/s	Up to 55MB/s	Up to 72MB/s
Form Factor	2.5-in	2.5-in	3.5-in
	3.5-inch Dimensions (mm)	147mm (L) x 101.6mm (W) x 9.5mm (H)	
	2.5-inch Dimensions (mm)	100.2mm (L) x 69.8mm (W) x 9.5mm (H)*	
Customization	Form factor Sustained read/write throughput Storage capacity Purge features Conformal coating		

Compliance:

CE, UL, EN 55022 Class, CISPR 22 Class B, AS/NZS 3548 Class B, BSMI CNS 13438 Class B, CAN/CSA-V-3/2001.04 (VCCI), FCC Part 15 Class B, EN 61000-3-2, EN 61000-3-3, IEC 61000, MIL-STD-167-1, MIL-STD-810F, MIL-STD-901D

*9.5mm for up to 64GB, 14.5mm for 96/128GB capacities.



Purge Features

RapidPurge™

Erase solid state drive in seconds

MilPurge™

Erase solid state drive in compliance with security guidance; (DoD 5220.22-M, NSA 130-2, AFSSI 5020, AR 380-19, and Navso 5239)

Intelligent Destructive Purge™

Physically damages the flash media to make it totally unusable as media

PRODUCT KEY

Part #: Z(yy)F#(xxx)IUCz(XX)

Z = Zeus (Family Name)	yy = Number of Channels	xxx = Capacity	I = Industrial Temperature
F = Interface	# = Form Factor (2 = 2.5"/3 = 3.5")	C = Optional Feature #1	z = Optional Feature #2
F: FC	U = Unloaded		
A: ATA	XX = Customer Specific		
S: SATA			

MACH8^{IOPS}, MACH8 SOLID STATE DRIVE

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 Solid State Drive is STEC's leading edge flash controller able to address multiple flash components simultaneously to achieve up to 100MB/s sustainable Read/Write speed.

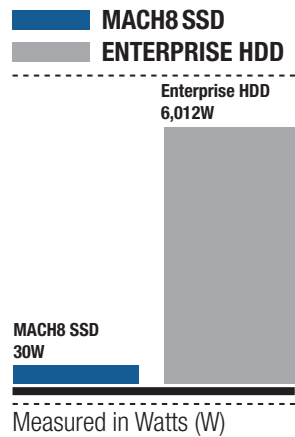
The MACH8 product is embeds Full Data Path Protection, STEC's proprietary set of algorithms capable of protecting data anywhere within the SSD, from cache to flash.

Features

- Industry leading solid state drive
- Patented Full Data Path Protection
- Low power consumption
- Non-volatile memory and no moving parts
- Two operating temperature supported:
 - Commercial temperature: 0° to 70°C
 - Industrial temperature: -40°C to 85°C
- Drop-in replacement for traditional 1.8", 2.5" and 3.5" drives
- Optional MACH8^{IOPS} version for transactional heavy applications
- Supports Serial ATA and Parallel ATA
- Sustainable sequential read and write speed up to 100MB/s



Energy Consumption for 100K Read IOPS



Product Specifications

Product Type	MACH8 ^{IOPS} SSD	MACH8 SSD
Capacity (Unformatted)	8, 16, 32, 64, 128 and 256 Gbytes	
Interfaces	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)
Sustained Throughput		
Read	100 Mbytes/sec	100 Mbytes/sec
Write	100 Mbytes/sec	100 Mbytes/sec
Random Operations		
Read	10,000/sec	5,000/sec
Write	800/sec	100/sec
Latency	100µs	100µs
Physical		
Form Factor	3.5-inch 2.5-inch	2.5-inch 1.8-inch
	3.5-inch Dimensions: 147mm (L) x 101.6mm (W) x 14.5mm (H)	
	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)	

PRODUCT KEY

Part #:	M(8)i(I)(IR)FF-(xxx)UT-(XXX)			
M8 = MACH8	i = IOPS SSD (Blank = Standard)	xxx = Capacity	U = RoHS Compliant	
I = Interface	IR = Interface Revision	FF = Form Factor (Z-height)	T = temp	
F: FC	A: 1.0Gb	F: TBD	1: 1.8-inch (5.0mm)	3: 3.5-inch (9.5mm)
Z: SAS	B: 2.0Gb	G: TBD	1A: 1.8-inch (7.0mm)	3A: 3.5-inch (14.5mm)
S: SATA	C: 3.0Gb		2: 2.5-inch (9.5mm)	3B: 3.5-inch (20.0mm)
A: ATA	D: 4.0Gb		2A: 2.5-inch (14.5mm)	
				C: Commercial
				I: Industrial
				XXX = Customer Specific (Internal Use Only)

MACH2 SOLID STATE DRIVE

The STEC MACH2 family is a new platform of solid state drives offered in different form factor and interface. All the MACH2 Solid State Drives are equipped with an extremely fast and cost optimized multi channel controller capable of doubling the performance of flash components.

The MACH2 Solid State Drive is specifically designed for applications requiring the performance of traditional rotating HDD combined with the tremendous advantage typical of Solid State Drives.

The MACH2 Solid State Drive is the best solution to replace low capacity rotating HDD. Systems requiring up to 32GB of storage will benefit from the lower total cost of ownership and the extraordinary overall reliability improvement.



Features

- Solid state drive with Parallel ATA and Serial ATA interfaces
- Drop-in replacement for rotating HDD
- Two operating temperature supported:
 - Commercial temperature: 0 to 70C
 - Industrial temperature: -40C to 85C
- Built in static and dynamic wear leveling
- Industry standard 1.8" and 2.5" form factor
- High speed performance:
 - Up to 25MB/s Sequential Write
 - Up to 35MB/s sequential read

Product Specifications

Product Type	MACH2 SSD	
Capacity (Unformatted)	4,8,16 and 32 Gbytes	
Interface	ATA PIO 0-4, DMA 0-2, UDMA 0-5; Master/Slave mode: User-selectable	SATA Serial ATA 1.0a specification SATA 1.5 Gb/sec
Performance		
Burst transfer rate	66 MB/sec	
Sustained read throughput	35 MB/sec	
Sustained write throughput	25 MB/sec	
Latency, average	0.5 msec	
Physical:		
Form Factor	2.5-inch 1.8-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 4.98mm (H)	
Weight	<0.4 kg	

PRODUCT KEY

Part #:	1.8" Parallel ATA M2A1XXXU(C/I)	2.5" Parallel ATA M2A2XXXU(C/I)	3.5" Serial ATA M2S2XXXU(C/I)
M2 = Family U = RoHS-6 compliant	A = Parallel ATA I = Industrial temperature	S = Serial ATA C = Commercial Temperature	1 = 1.8" 2 2.5"

why STEC

STEC is a world wide technology provider of OEM memory and solid state storage solutions that empower our partners to achieve the highest level of system performance. As a leader in OEM SSD/Flash and DRAM memory technology for over 17 years, STEC has developed a solid foundation of quality and value. We are proud to provide our customers with a comprehensive array of support, experience, and knowledge.

STEC's Value Proposition:

INNOVATION | RELIABILITY | QUALITY | SUPPORT | COMMITMENT | EXPERIENCE | KNOWLEDGE | TRUST

Breadth of Products

- Industry's widest range of SSD Products
- Extensive interface expertise and support on FC, SAS, SCSI, SPI, SATA, ATA, CF, USB, SD and MMC Products
- Specialty form factors (VLP, mini-DIMM, So-RDIMM)
- Legacy products (EDO and FPM)
- Industrial temperature products

Sales Service and Support

- Faster answers to technical questions by our skilled FAEs
- Knowledgeable support and experience on industry standards
- Expert advice from industry-leading engineers to assist in system design decisions
- Sales offices worldwide and local support for all regions

Vendor Independence

- Better continuity of supply
- Unbiased information on different component manufacturers
- Better pricing flexibility

Associations

- Member of JEDEC
- Member of SecureDigital Association (SDA)
- Member of CompactFlash Association (CFA)
- Member of PCMCIA.org
- Member of USB Implementer Forum
- Member of MMC Association (MMCA)
- Member of SATA
- Member of IDEMA
- Member of T10 and T13
- Designs Qualified by Intel Designated Test Laboratory (CMTL)

Test

- Proprietary test systems and processes designed to ensure optimal product reliability
- TDBI (Test During Burn-In)
- Industrial Temperature Testing/Environmental Testing

In-House Manufacturing

- Faster time-to-market
- Dock-to-stock delivery
- Kanban ID system
- In-house controlled BOM

Responsiveness and Flexibility

- Fast turn-around for production orders
- Chip stacking performed in-house
- Global manufacturing facilities

Customization

- Special security features
- Labeling
- Testing
- Locked Bill of Materials
- Custom module designs
- Serialization

Quality

- ISO9001
- ISO14001

Compliance

- UL approved
- RoHS Compliant
- CE
- FCC

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