



## MACH2 and MACH4 Compact Flash Cards

Embedded Flash Memory with Industry-Leading Ruggedness and Performance

MACH2 and MACH4 CF cards with sTec’s patented flash memory controller technology provide the flexibility to meet application requirements while supporting enterprise-class flash management.

MACH2 and MACH4 Compact Flash (CF) cards from sTec are designed for embedded applications that demand ultimate reliability with high tolerance to shock, vibration, humidity, altitude and temperature.

sTec MACH2 cards are a 2-channel design that supports Ultra Direct Memory Access (UDMA) and True IDE modes for hard disk equivalent performance, with sharply reduced power consumption. MACH2 cards provide a wide range of capacities from 128MB to 16GB, with multiple configurations to meet application throughput requirements, including smaller sector, random or larger sector, and sequential transfers.

sTec MACH4 cards feature an ultra high-performance, 4-channel design that supports UDMA and True IDE modes, making it an ideal entry-level parallel ATA (PATA) solid-state drive (SSD). The MACH4 card is the perfect solution for high-throughput applications and transitioning from low-capacity PATA hard drives to SSD technology.

Features	Benefits	
	MACH2	MACH4
High performance	Multi-channel architecture and fast SLC NAND flash provide maximum performance	
Power consumption	100mA (max) fits a low-power consumption requirement	At 200mA (max), requires less than half the power of a mobile hard disk drive
Full data-path protection	Provides enhanced data integrity with full data-path protection. SSDs built with 8-bit ECC engine offload overhead from host	
High reliability	Built-in power-down data protection is designed to protect data in event of unexpected power loss.	
Simple integration	True plug-and-play storage device for short design cycles. Compact Flash Association (CFA) Compliant Type 1 Compact Flash card with ATA interface and true IDE support	
Flash management	Includes read disturb and write-amplification mitigation algorithms to improve data integrity, performance and overall endurance	

**Industrial-Grade Embedded Storage with Ruggedness and Reliability**  
 Small-footprint sTec CF cards are ideal for space-constrained embedded applications, including industrial devices, professional media, telecom and networking equipment, military, aerospace and automotive systems. sTec CF cards incorporate industrial-strength flash management technology for high-data integrity in rugged, high-endurance designs that tolerate industrial temperature ranges (-40°C to +85°C).

# MACH2 and MACH4 Compact Flash Cards

Embedded Flash Memory with Industry-Leading Ruggedness and Performance

Specifications		MACH 2	MACH 4
Interface	Capacity	128/256/512MB 1/2/4/8/16GB	8/16GB
	Type	UDMA-4	UDMA-4
	Form Factor	Compact Flash (Type 1)	Compact Flash (Type 1)
Performance	Transfer Rate (Read)	Up to 38MB/s	Up to 85MB/s
	Transfer Rate (Write)	Up to 22MB/s	Up to 50MB/s
	Average Response Time	<90ms	<85ms
	Transactional (Read IOPS)	5,800	15,650
	Transactional (Write IOPS)	5,200	13,900
	MTBF	4 Million Hours	4 Million Hours
Physical	Dimensions	36.4mm (L) X 42.8mm (W) X 3.3mm (H)	36.4mm (L) X 42.8mm (W) X 3.3mm (H)
	Power	<100mA	<100mA
	Power Supply	5V/3.3V	5V/3.3V
Environmental	Operational Temperature	-40° to 85°C	-40° to 85°C
	Humidity	85°C, 55% RH	85°C, 55% RH
	Shock/Vibration	1500G/20G	1500G/20G
	Altitude	-1,000 to 85,000 ft	-1,000 to 85,000 ft
	Compliance	RoHS-6, EU Directive	RoHS-6, EU Directive

## sTec: The Leader in Enterprise-Class Solid-State Solutions

sTec, Inc. is a leading provider of enterprise-class, solid-state storage solutions designed for the ever-growing performance, reliability and endurance requirements of today's advanced data centers.

The industry's first company to deploy solid-state drives (SSDs) into large-scale enterprise environments,

sTec offers the industry's widest range of solid-state storage solutions, which protect critical information for major business and government organizations worldwide.

Headquartered in Santa Ana, California, sTec also serves the embedded and military/aerospace markets with SSDs for industrial and rugged environments.

## Enabling Tomorrow's Applications

For more information on sTec products, solutions and technology, please visit [www.stec-inc.com](http://www.stec-inc.com).



[facebook.com/userstecinc](https://facebook.com/userstecinc)



[twitter.com/stec\\_inc](https://twitter.com/stec_inc)



[youtube.com/user/stecincssd](https://youtube.com/user/stecincssd)



3001 Daimler Street, Santa Ana, CA 92705 +1.949.476.1180

©2013 sTec, Inc., the sTec name, logo, design, ZeusRAM, CellCare, Secure Array of Flash Elements, PowerSafe and EnhanceIO are trademarks of sTec, Inc. All other trademarks are the property of their respective owners. 03/13 1303\_57\_V01