



MINERVA

S2094A/E Converter Card

Performance & Burn In Test Rev. 1.0

Table of Contents

- 1. Overview**

- 2. Performance Measurement Tools and Results**
 - 2.1 Test Platform
 - 2.2 Test target and Used SATA III SSD
 - 2.3 Install Hardware
 - 2.4 BIOS & Windows 7 OS environment setup
 - 2.5 SSD I/O Performance impact factors
 - 2.6 CrystalDiskMark 3.0.1 x64 performance test
 - 2.7 ATTO Disk Benchmark 2.47 performance test
 - 2.8 HD Tune Pro 5.5 performance test
 - 2.9 AnvilBenchmark_V110_B337 Benchmark performance test

- 3. Burn In Tests and Results**
 - 3.1 BurnInTestv7.1 Pro burn in test

- 4. Summary**

S2094A/E Converter Card

1. Overview

S2094A/E adapter, support mini PCI-e & CF Card connector to convert mSATA SSD & CF Card SSD into SATA 7pinx2 standard interface.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : ASUS **P8P67**
CPU : Intel **i5-2500**, 3.3MHz/ 6G Cache/ 5GT
Memory : Kingston **KVR1333D3N9K2/4G**, DDR3-1333MHz,4G(2GB DIMM*2)
ATX Power : TC START W500, **500W ATX**,12V V2.2 Power Supplier
Graphic : MSI , **R6700** / AMD HD 6700 Series
OS : Microsoft **Windows 7 64bit OS**

2.2 Test target: S2094Aadapter and SSD(mSATA / [128G](#) or CF Card / [16G](#))



S2094A + mSATA SSD

S2094A + CF Card

Crucial M4 128G mSATA

16G CF

2.3 Install Hardware

Insert mSATA SSD or CF Card into S2094A/E converter's mini PCI-e connector or CF Card connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect S2094A/E converter to SATA Port of ASUS P8P67 motherboard.

2.4 BIOS & Windows 7 OS environment setup

- 2.4.1 In BIOS(Basic Input/Output Setup) – Change IDE Mode into AHCI Mode
- 2.4.2 In Windows 7, formatted SSD to NTFS Mode. Don't install any program.

2.5 SSD I/O Performance impact factors

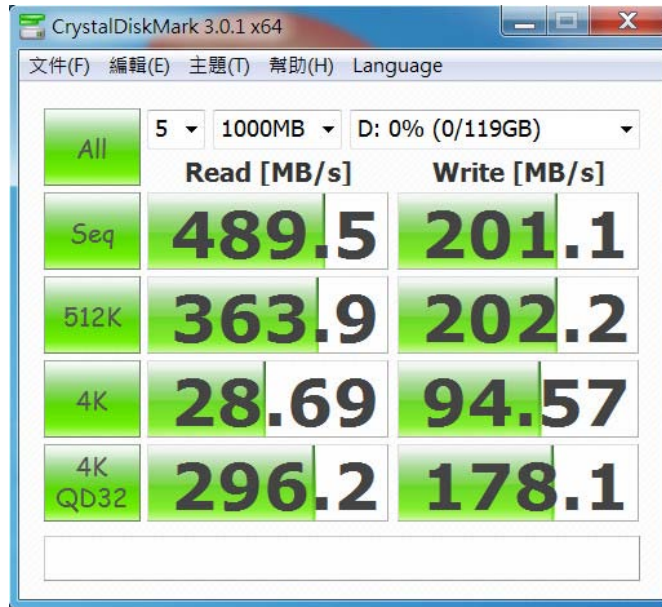
- 2.5.1 SATA I/O performance -- depending on the SSD Controller IC
- 2.5.2 SATA I/O performance - -depending on the NAND Flash IC.
 - 2.5.2.1 Toggle DDR mode or ONFI synchronous NAND Flash IC, will show good performance
 - 2.5.2.2 Traditional asynchronous or SDR NAND Flash IC, will show poor performance

S2094A/E Converter Card

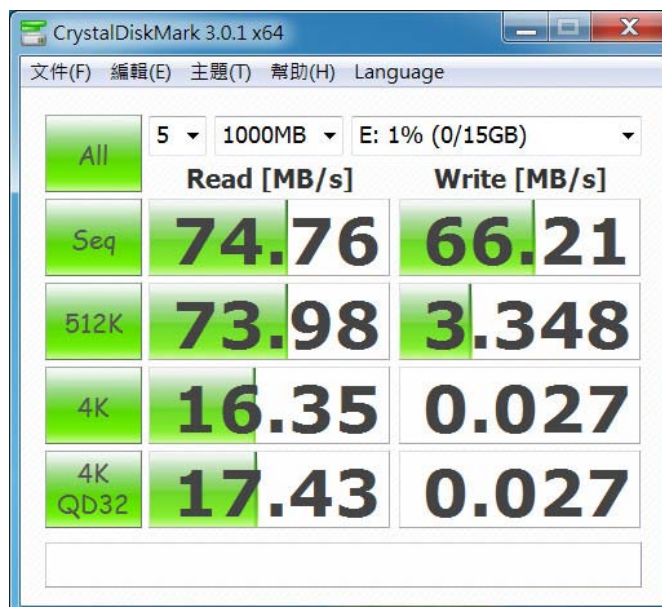
2.6 CrystalDiskMark 3.0.1 x64 performance test

※Benchmark (Sequential **Read & Write** / default = **1MB**)

2.6.1 Used [Crucial 128GB\(M4-CT128M4SSD3\)](#) performance as below:



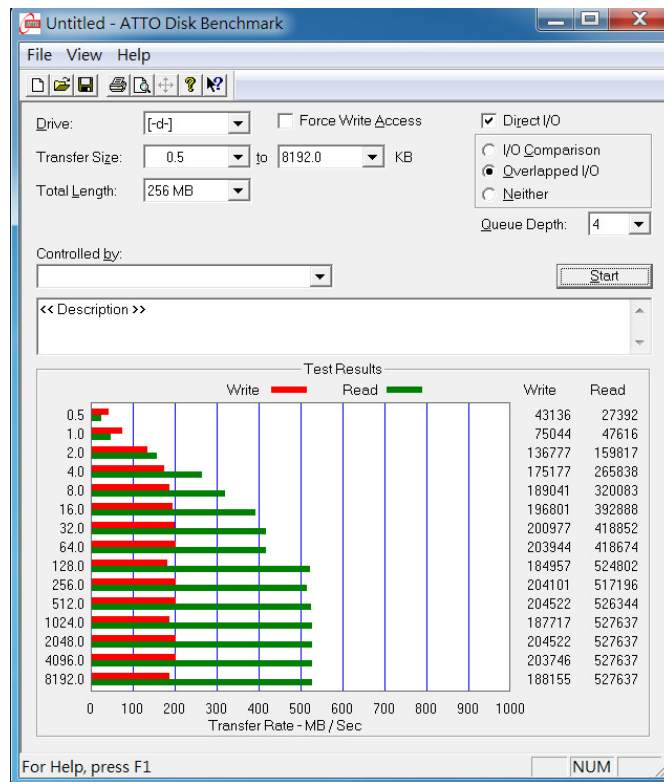
Used [Apogee 16GB](#) performance as below:



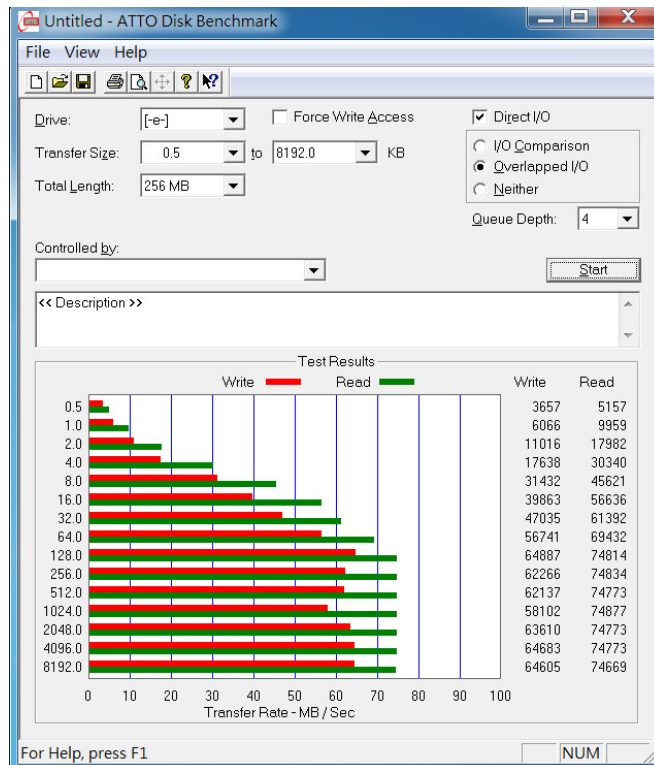
S2094A/E Converter Card

2.7 ATTO Disk Benchmark 2.47 performance test

2.7.1 Used Crucial 128GB(M4-CT128M4SSD3) performance as below:



Used Apogee 16GB performance as below:

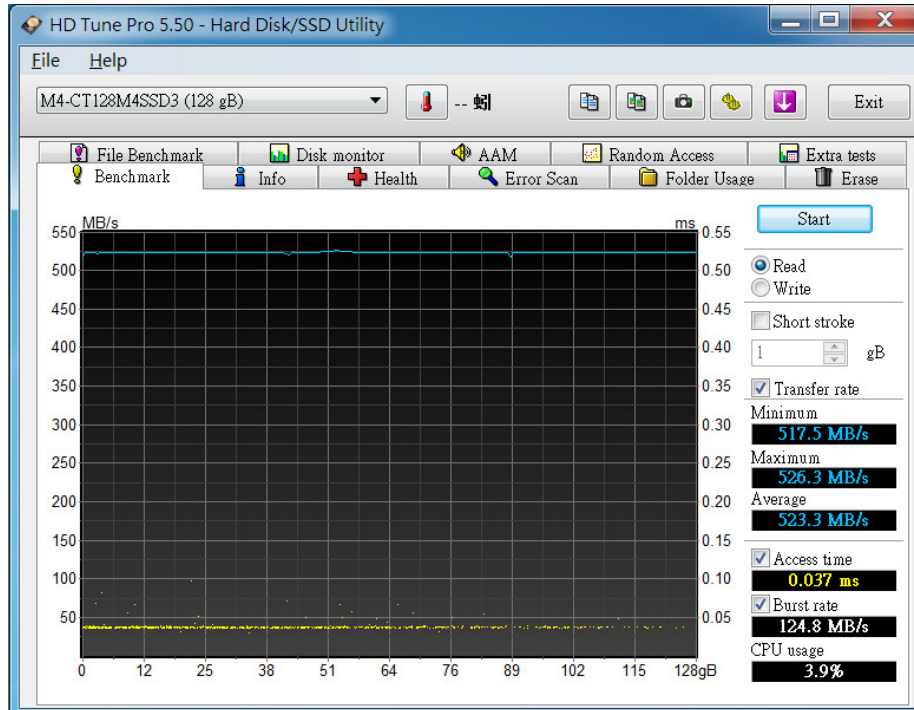


S2094A/E Converter Card

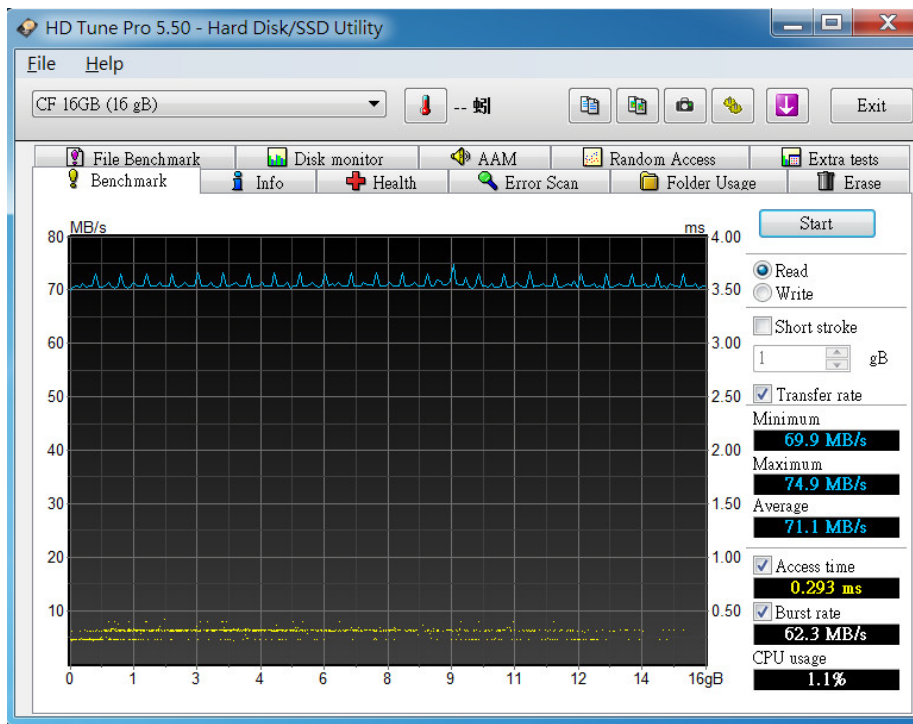
2.8 HD Tune Pro 5.5 performance test

※Benchmark (Sequential **Read** / default block size = **8MB**)

2.8.1 Used **Crucial 128GB(M4-CT128M4SSD3)** performance as below:



Used **Apogee 16GB** performance as below:



S2094A/E Converter Card

2.9 AnvilBenchmark_V110_B337

2.9.1 Used [Crucial 128GB\(M4-CT128M4SSD3\)](#) performance as below:



Used Apogee [16GB](#) performance as below:

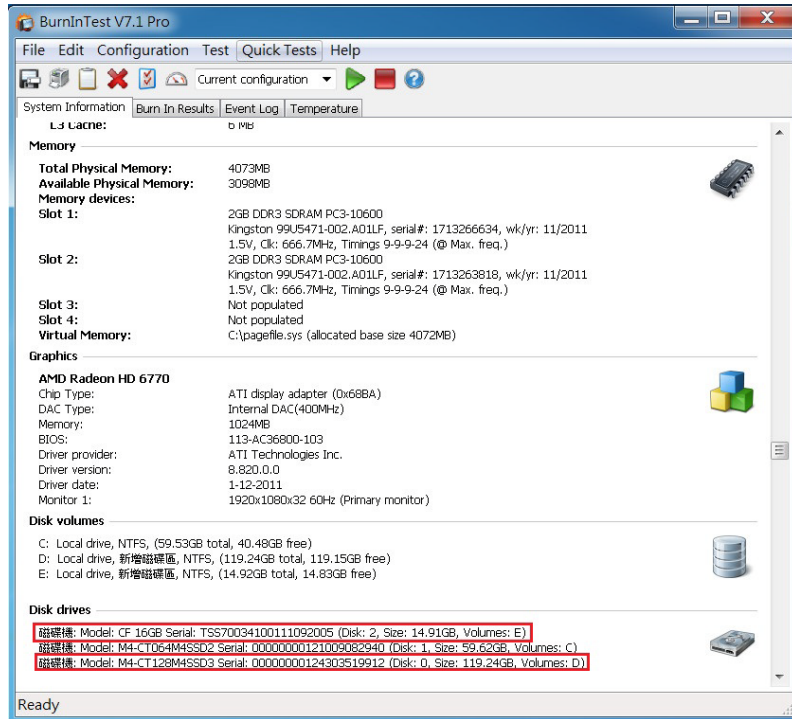


S2094A/E Converter Card

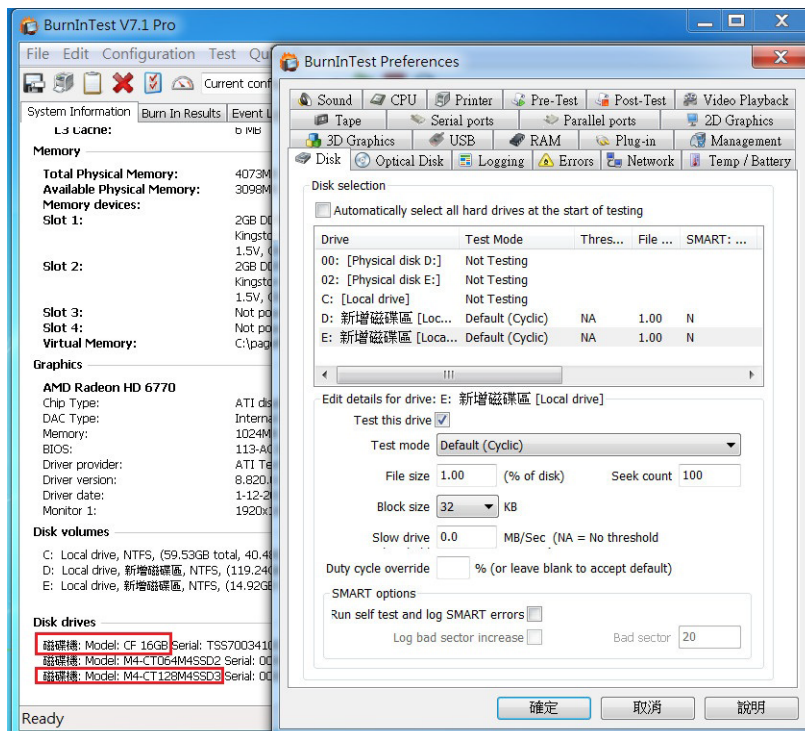
3. Burn In Tests and Results

3.1 BurnInTest v7.1 Pro

3.1.1 system information for mSATA 128GB & CF 16GB as below:

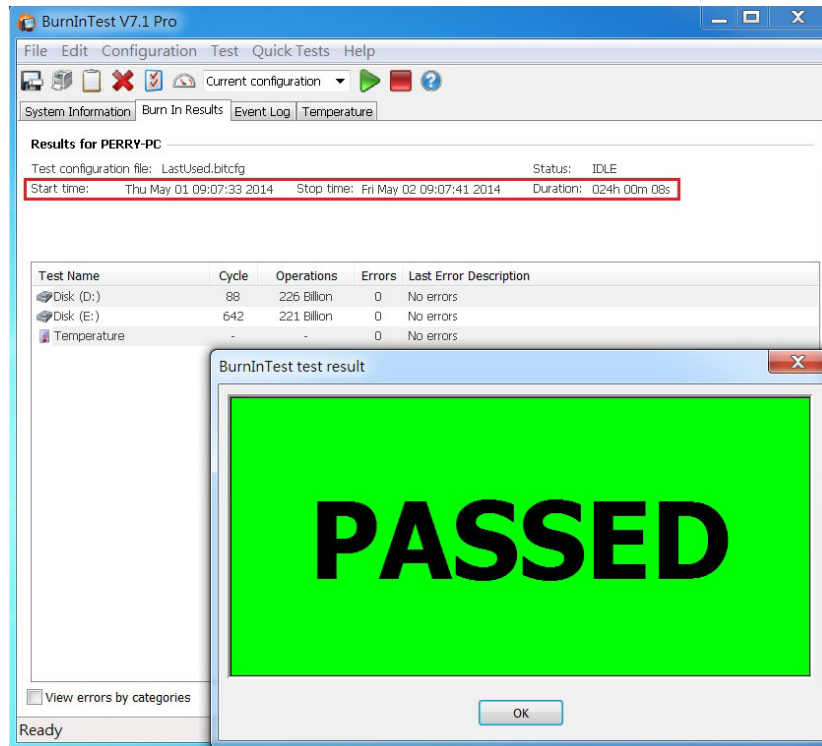


3.1.2 show mSATA 128GB & CF 16GB test mode(default cyclic -- 10 ways cycle test)



S2094A/E Converter Card

3.1.3 show [mSATA 128GB](#) & [CF 16GB](#) 24-hour Burn-in test **PASSED**



4. Summary

- 4.1 mSATA SSD is SATA III Interface, I/O speed, max. to 600MB/s.
- 4.2 CF CARD is PATA Interface, I/O speed, max. to 90MB/s.
- 4.2 S2094A/E adapter I/O performance is based on mSATA SSD & CF Card.