SSD7103 - Bootable, 4x dedicated M.2 Ports to PCIe 3.0 x16 NVMe RAID Controller

The Ultimate NVMe Booting Solution

NVMe Solution

HPT

Rapid Boot | RAID 10 Security & Speed | Multi-Boot

Introducing the SSD7103 – The Ultimate NVMe Booting Solution

Powered by our next generation NVMe hardware architecture, industry-proven RAID stack, and comprehensive boot capability, the SSD7103 delivers unbeatable performance and versatility, all packaged in a compact device no larger than your average video adapter. The SSD7103 is a direct replacement for the SSD7102, and was designed for easy integration into any Intel based and AMD X399 desktop, server or workstation PC with a free, dedicated PCIe 3.0 x16 slot, and can deliver up to 14,000MB/s of transfer performance and support up to 4 individual boot volumes, in single-drive or RAID modes.

Ultra-High Performance NVMe Architecture

Like every HighPoint NVMe solution, the SSD7103 benefits from our market-proven, performance-focused NVMe hardware architecture, which delivers end to end PCIe 3.0 x16 bus bandwidth. 4x dedicated lanes are allocated to each M.2 port to ensure each SSD can interface directly with the host system's CPU for maximum transfer performance, and immediate response time.

Satisfies any Budget, Performance or Capacity requirement

The SSD7103 is capable of supporting any mainstream MLC, TLC and QLC M.2 SSD in today's marketplace. Customers are free to mix and match up to four drives to meet each application's budget, performance or capacity requirement. SSD's hosted by the SSD7103 can be configured to operate independently as either storage or boot volumes, or combined into one or more RAID arrays. The SSD7103 is a simple NVMe performance upgrade for workstation and server platforms.

Instead of a costly, time consuming motherboard upgrade, customers can easily integrate a compact PCIe device into their existing infrastructure. It enables any system with a current Intel-based motherboard to support bootable NVMe RAID configurations.

Expanded Compatibility

The second generation SSD7103 was designed for easy integration into industry standard motherboard platforms using off-the-shelf M.2 SSD's. It has been extensively tested with a wide range of commercially available M.2 NVMe drives from all major manufacturers, including MLC, TLC & QLC models, in a variety of hardware environments across both Windows and Linux platforms.

Comprehensive Booting Support

Rapid-Boot: RAID 0 will both minimize boot-time and maximize transfer performance. Customers can configure up to 2 RAID 0 arrays, composed of 2 M.2 SSD's, or a single large RAID 0 array using all four M.2 slots.

Secure-Boot: RAID 1, also known as mirroring, is ideal for applications that require additional layers of data security for their boot volumes. Customers can configure up to two RAID 1 arrays, comprised of two M.2 SSD's, and set each to operate as a separate boot volume.

Security & Speed Boot: Customers can now configure bootable RAID 1/0 arrays. A RAID 1/0 configuration is comprised of two RAID 1 arrays, striped. The RAID 1 functionality ensures a duplicate copy of your data is available in case of failure, while the stripe (RAID 0) relationship boosts performance. RAID 1/0 requires 4 M.2 SSD's.

Multi-Boot: Each M.2 SSD can be used independently, if RAID is not desired or required. Customers are free to install a different operating system to each volume.

Key Benefits

- Comprehensive NVMe Boot Support for Linux & Windows
- Cost effective NVMe Storage Upgrade for Intel platforms
- Up to 4 off-the-shelf M.2 MLC, TLC & QLC NVMe SSD's
- RAID 0, 1, 1/0
- Microsoft Hyper-V & Xen Server
- Dedicated PCIe 3.0 x16 bus bandwidth
- Dedicated PCIe 3.0 x4 bandwidth for each NVMe M.2 SSD

Suggested Applications

- Media Workstations
- Media Servers
- Virtual Host Servers

Streamlined RAID Storage Management

The SSD7103 includes a full-featured RAID management interface with TRIM support, SMART monitoring, and total Terabyte Written (TBW) tracking. TRIM support promotes the longevity and endurance of NVMe storage by enabling each SSD to handle garbage collection more efficiently, which helps eliminate write speed degradation. SMART monitoring allows you to check a variety of physical attributes of each NVMe SSD, including temperature readings, voltage and TBW. The interface updates attribute data in real time, and can be even be configured to notify you by Email, in the event of an error condition or threshold warning. Customers can also check the lane assignment of the SSD7103 controller, in order to monitor available PCIe bandwidth and maximize the performance potential of your NVMe storage.

Feature Specifications	
Bus Interface	PCI-Express 3.0 x16
Number of Channel / Port	4x M.2 NVMe port (Dedicated PCIe 3.0 x4 per port)
Data Transfer Rate	8GT per lane / 8Gbps per lane
Number of device	4x M.2 NVMe SSD
Form Factor	Full Height (2242/2260/2280/22110)
Dimensions	8.39' (L) x 5.00" (H) x 0.85" (D)
Weight	0.77 lbs.
Operating System Support	Windows 10, Windows Server 2012 R2 or later, Linux Kernel 3.3 or later
	Microsoft Hyper-V & Xen Server
Cooling	Aluminum casing with single 50 x 50 mm cooling fan
NVMe Configuration	
RAID Support	Legacy/ RAID0/ RAID1/ RAID1/0
TRIM RAID Support	UEFI Bootable & Data RAID
Storage Mode - NVMe	UEFI Bootable & Data RAID
NVMe RAID Management	
Management Suites	Browser-Based management tool
	CLI (Command Line Interface- scriptable configuration tool)
	API package
SMTP Email Alert Notification	Yes
Alarm Buzzer	Yes
Storage Health Inspector	Yes
NVMe SMART status	Yes
Automatic and configurable RAID Rebuilding Priority	Yes
Auto resume incomplete rebuilding after	Yes
Single-RAID or Multi-RAID Arrays per Controller	Yes
Operating Environment	
Work Temp	+5°C ~ + 55°C
Storage Temp	-20°C ~ +80°C
Operating Voltage	PCI-e: 12V, 3.3V
Power	Typical: 8W
MTBF (Mean Time Before Failure)	920,585 Hours
Compliance Certification	CE, FCC, RoHS, REACH, WEEE
Kit Contents	1x SSD7103 RAID Controller
	1x Quick Installation Guide

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