HighPoint
Technologies, Inc.

SSD7105 - PCIe 3.0 x16
Fully Bootable 4-Port M.2 NVMe RAID Controller

HPT NVMe Solution

The Ultimate PCIe Gen3 NVMe Booting Solution

Introducing the SSD7105 – The Ultimate Gen3 NVMe Booting Solution

Powered by our next generation NVMe hardware architecture, industry-proven RAID stack, and comprehensive boot capability, the SSD7105 delivers unbeatable performance and versatility, all packaged in a compact device no larger than your average video adapter. The SSD7105 is a direct replacement for the SSD7103 and was designed for easy integration into any Intel or AMD based desktop, server or workstation PC with a free, dedicated PCIe 3.0/4.0 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.

Comprehensive OS Support

Comprehensive device driver support is available for Windows 11 and 10, Server 2022 and 2019, and Linux Distributions such as RHEL, Debian, Ubuntu, Fedora, Proxmox and Xenserver. In addition, we offer Binary driver development services, and Open-Source driver packages for other or non-standard distributions.

Advanced Bootable NVMe RAID Technology

The SSD7105 NVME RAID controller can be used to configure bootable RAID or single NVMe SSD configurations for Windows and Linux systems. Optional UEFI downloads and complete installation guides are available for each supported platform.

RAID 10 (Security & Speed) - RAID 10 requires a minimum of 4 NVMe SSD's and is comprised of a stripe between two RAID 1 arrays. RAID 10 capable of delivering read performance on par with RAID 0, and is superior to RAID 5 for NVMe applications. Unlike RAID 5, RAID 10 doesn't necessitate additional parity related write operations, which reduce the TBW life span of NVMe SSD's.

RAID 0 (Speed) - Also known as a "stripe" array, this mode delivers Maximum Performance, and requires a minimum of 2 NVMe SSD's.

RAID 1 (Security) - This mode creates a hidden duplicate of the target SSD, and requires 2 NVMe SSD's to configure. RAID 1 is ideal for bootable volumes.

Expanded Compatibility

The third generation SSD7105 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, Linux and Mac platforms.

Redesigned Ultra-Efficient, Low-Noise Hyper-Cooling Solution

The SSD7105 incorporates advancements first introduced by our PCIe Gen4 solutions specifically, Highpoint's Low-Noise Hyper-Cooling solution which ensures your NVMe SSDs consistently operate within recommended temperature thresholds, even under sustained heavy I/O, by combining a full-length anodized aluminum heat sink with an ultra-durable, near-silent fan, and high-conductivity thermal pad. This innovative, ultra- efficient cooling system rapidly transfers waste heat away from critical NVMe and controller componentry, without introducing unwanted distraction into your work environment.

Comprehensive NVMe RAID Management Suite

The WebGUI is an intuitive graphical interface that works with any web browser, and is ideal for users of any skill level, while the CLI (command line interface) is a powerful, text-only interface designed for advanced users & professional administrators.

Both interfaces share universal layouts across all major operating systems, can be administered locally or remotely via an internet connection, and allow users to configure a real-time event log with email notification.

Key Benefits

- Comprehensive NVMe Boot Support for Linux and Windows
- Truly Platform Independent
- Up to 4 off-the-shelf M.2 MLC, TLB, & QLC NVMe SSDs
- Advanced Bootable NVMe RAID Technology: RAID 0, 1, 10
- Up to 32TB capacity per controller
- Low-Noise Hyper-Cooling Solution
- Full fan control
- Integrated SSD TBW and temperature monitoring capability

Suggested Applications

- Media Workstations
- Media servers

SHI – Storage Health Inspector: **SHI** can help you track and monitor the status of drives hosted by the controller – it can report useful information about each NVMe SSD such as temperature, SMART status, and TBW (Terabytes Written).

Intelligent 1-Click Self-Diagnostic Solution: HighPoint's Web-based graphical management suite (WebGUI) now includes a host of automated diagnostic tools designed to streamline the troubleshooting process. 1-click enables the interface to gather all necessary hardware, software and storage configuration data and compile it into a single file, which can be transmitted directly to our FAE Team via our Online Support Portal.

nvm EXPRESS

Feature Specifications	
Bus Interface	PCI-Express 3.0 x16
Number of Channel / Port	4x M.2
Data Transfer Rates	8GT / 16Gbps per lane
Number of Devices	4x M.2 NVMe SSD
SSD Form Factor	2242/2260/2280/22110 (supports single & double sided)
Form Factor	Full-Height
Card Dimension	8.27" (W) x 5.00" (H) x 0.83" (D)
Card Weight	1.32 lbs.
Cooling	Aluminum casing with integrated thermal pad & cooling fan
Fan Control	Yes
Windows Support	Windows 11 and 10, Windows Server 2022/Server 2019/Server 2016/Server 2012 R2, Microsoft Hyper-V
Linux Support	Linux Kernel 3.10 or later
macOS Support*	macOS 12 Monterey macOS 11 Big Sur macOS 10.15 Catalina macOS 10.14 Mojave macOS 10.13 High Sierra
PC Platform Support	• Any PC Systems or Motherboard with an industry standard PCIe x16 physical Slot (Bifurcation is not required) • Thunderbolt™ 3 Connectivity (requires a PC platform with a Thunderbolt 3 port) & Thunderbolt™ Expansion chassis: RocketStor6661A
Mac Platform Support*	• Apple Mac Pro Systems: 2012 and later Mac Pro systems; 5.1, 7.1 (2019) • Intel & Apple M1 Platform compatible • Thunderbolt™ 3 Connectivity via Thunderbolt™ Expansion chassis: RocketStor6661A
NVMe Configuration	
RAID Support	Single, 0, 1, 10
TRIM RAID Support	Single, 0, 1, 10
Storage Mode – NVMe*	Bootable & Data RAID
Management Suite	Browser-Based management tool
	CLI (Command Line Interface – scriptable configuration tool)
	API Package
Management Features	• SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • NVMe SMART status • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after power on or reboot system • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution Across Controllers
Advanced RAID Features	Multiple RAID Partitions Supported
	Online Array Roaming
	RAID Quick Initialization for fast array setup
	Global Hot Spare Disk support

The SSD7105 controller cannot be used to boot macOS platforms, with the following exception: macOS 10.15x and earlier, single M.2 SSD (non-RAID)

Operating Environment	
Work Temp	+5°C ~ + 55°C
Storage Temp	-20°C ~ +80°C
Operating Voltage	PCIe: 12V, 3.3V
Power	Typical: 8.32W
MTBF	920,585 Hours
Certification / Approval	CE, FCC, RoHS, REACH, WEEE
Kit Contents	1x SSD7105
	1x Quick Installation Guide