



## SSD7105

Bootable PCIe 3.0 x16 4-Port M.2 NVMe RAID HBA



## Industry's Fastest, Bootable 4-Channel PCIe Gen3 M.2 NVMe RAID Solution

### 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 PCIe3.0/4.0 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.

### 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 lifespan 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 SSDs to configure. RAID 1 is ideal for bootable volumes.

### Platform Independent NVMe RAID Solution

HighPoint NVMe RAID controllers are truly independent NVMe storage solutions. Unlike most NVMe devices in today's marketplace, which are tied to a specific hardware platform or brand of SSD or motherboard, SSD7000 series controllers do not require a hardware environment with Bifurcation support, or any specialized software released by SSD manufacturers; they can be easily integrated into an AMD or Intel motherboard with a dedicated PCIe 3.0 or 4.0 x16 slot.

### Advanced NVMe Cooling Solution

The SSD7104F's advanced NVMe cooling solution mitigates the risk of thermal throttling by ensuring NVMe SSDs consistently operate within their recommended temperature thresholds, even under sustained heavy I/O. The full-length anodized aluminum heat sink is equipped with an ultra-durable, low-decibel fan and high-conductivity thermal padding. 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 Bootable OS Support

The SSD7105 features comprehensive device driver support for all major OS platforms including Windows 11 and 10, Server 2022 and 2019, and Linux Distributions such as RHEL, Debian, Ubuntu, Fedora, Proxmox and Xenserver.

In addition, we provide Open-Source driver packages with our LACS2.0 solution, and offer Binary driver development services for project customers that require unique kernels or support non-standard distributions.

### 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 with Full fan control
- Integrated SSD TBW and temperature monitoring capability

### Universal Software Suite Easily Manages & Monitors RAID Storage


HighPoint's comprehensive NVMe management suite streamlines installation, service and upgrade workflows.

**Pre-OS Level Management:** The UEFI Tool is a command line utility designed to configure arrays prior to OS installation.

**BIOS Level Management:** The UEFI HII utility will add RAID creation menus to the motherboard's BIOS interface for systems that support 3<sup>rd</sup> party HII capable devices.

**OS-Level Management:** The WebGUI is an intuitive graphical user interface designed to work with all modern Web Browsers. The CLI(Command Line Interface) is ideal for seasoned administrators and platforms that do not utilize graphical operating systems.

**1-Click Self Diagnostic & Logging Service:** The WebGUI's Diagnostic tab enables the interface to gather all necessary hardware, software and storage configuration data and compile it into a single file.

<b>Feature Specifications</b>	
Product image	
Bus Interface	PCI-Express 3.0 x16
Number of Channel / Port	4x M.2 NVMe port (Dedicated PCIe 3.0 x4 per port)
Port Type	4x M.2 NVMe
Data Transfer Rates	8GT/s
Number of Devices	4x M.2 NVMe SSD
SSD Form Factor	2242/2260/2280/22110 (supports single & double sided)
External Power Support	N/A
Form Factor	Full-Height
Card Dimensions	7.68" (W) x 4.37" (H) x 0.95" (D)
Card Weight	1.32 lbs.
Warranty	1 Year
<b>Supported Operating Systems</b>	
Windows	Windows 11 and 10; Windows Server 2022/Server 2019/Server 2016; Microsoft Hyper-V; Only supports 64 bit operating system.
Linux	RHEL/Debian/Ubuntu/Fedora/Proxmox/Rocky Linux(Linux kernel 3.10 and later) Only supports 64 bit operating system.
macOS	macOS 10.13 ~ macOS 14.x
<b>System Requirements</b>	
Mac Platforms:	• Apple Mac Pro Systems: 2012 and later Mac Pro systems; MacPro5,1; MacPro7,1 (2019); Mac14,8 (2023)
	• Intel & Apple M1 & Apple M2 Platform compatible
	• Thunderbolt™ 3 Connectivity via Thunderbolt™ Expansion chassis: RocketStor6661A
PC Platforms	• 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
Secure Boot(PC platforms)	Windows: Support Secure Boot Disable and Enable(Please download the UEFI driver corresponding to Secure Boot on the software download page)
	Linux: Support Secure Boot disable
Cooling System	Aluminum casing with integrated thermal pad & cooling fan
Fan Control	Yes(Windows,Mac)
<b>NVMe Configurations</b>	
RAID Support	Single/RAID 0, 1, 10
TRIM RAID Support	Single, RAID 0, 1, 10
Data RAID(Non-Bootable)	Windows, Linux, Mac (Linux Driver can be installed via internet/network connection)
BootRAID	Windows: Windows 10, 11 Windows server 2016,2019,2022
	Linux: RedHat/Ubuntu/Debian (Linux Driver can be installed via internet/network connection)
	Mac: Bootable using one (non-RAID) M.2 SSD as the boot drive. Only supports up to macOS 10.15.

<b>NVMe RAID Management</b>	
Management Suites	WebGUI (Browser-Based management tool ) CLI (Command Line Interface- scriptable configuration tool) API package UEFI Tool & UEFI HII (BIOS interface via Human Interface Infrastructure Support)
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 power on or reboot system	Yes
Single-RAID or Multi-RAID Arrays per Controller	Yes
Cross-Sync RAID Solution Across Controllers	Yes(Windows, Linux, Mac)
<b>Advanced RAID features</b>	
Flash ROM for Upgradeable UEFI	Yes
Bootable RAID Array	Yes
Multiple RAID Partitions supported	Yes
Online Array Roaming	Yes
RAID Quick Initialization for fast array setup	Yes
Global Hot Spare Disk support	Yes
<b>Operating Environment</b>	
Work Temp	+5°C ~ + 55°C
Storage Temp	-20°C ~ +80°C
Operating Voltage	PCI-e: 12V, 3.3V
Power	Typical: 8.32W
MTBF (Mean Time Before Failure)	920,585 Hours
Certification / Approval	CE, FCC, RoHS, REACH, WEEE
<b>Kit Contents</b>	
	1x SSD7105
	1x Quick Installation Guide