HighPoint Technologies, Inc.

SSD7000 8-Channel High Port Count Series

NVMe RAID Controllers

NVMe Solution

Double Capacity & Maximize Write Performance for PCIe 3.0 x16 Host Connectivity

Over 120TB @ 14,000 MB/S!

HighPoint high port count (HPC) NVMe RAID controllers are ideal for professional applications that require a small-footprint, mass-storage NVMe solution that can take full advantage of the PCIe 3.0 x16 transfer bandwidth. This performance-focused NVMe RAID architecture ensures that up to x4 lanes can be assigned to each device channel to ensure maximum transfer throughput – ideal for professional media workstation and server environments designed to support a wide range of editing, rendering, capture and streaming applications.

HighPoint HPC U.2 NVMe Controllers allow customers to complete saturate the PCIe 3.0 bus-bandwidth with sustained write performance over 14,000MB/s, while simultaneously supporting up to 120TB of storage capacity!

Massive Storage Capacity

Each high port count RAID controller features eight independent or U.2 channels, and can support from 16TB up to 120TB of RAID and non-RAID NVMe storage. No other NVMe controllers in today's marketplace can match the massive storage capability, blazing fast transfer rates or flexibility in such a compact package.

Truly Platform Independent NVMe RAID Solution

HighPoint high port count series 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; any AMD or Intel motherboard with a dedicated PCIe 3.0 x16 slot can now support more than 120TB of NVMe storage, and experience sustained write performance in excess of 10GB/s via a single compact PCIe device.

Comprehensive RAID Storage Solution

RAID 1/0 (Security & Speed) - RAID 1/0 (also known as RAID 10) requires a minimum of 4 NVMe SSD's – it will mirror the data of one stripe array to a second, hidden stripe array for security.

RAID 0 (Speed) – 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.

Flexible, Modular Cooling Solution

The SSD7180 and SSD7184 employ our new multi-stage cooling solution that combines an anodized aluminum heatsink with, built-in low noise fans.
This design ensures the NVMe chipset and RAID componentry remain cool under heavy load while minimizing the risk of distraction in the work environment.

Comprehensive NVMe RAID Management

When it comes to maintaining critical storage configurations, each customer has specific needs and preferences.

The Web RAID Management Interface (WebGUI) is a simple, intuitive web-based management tool and is ideal for customers who are new to RAID technology.

Key Benefits

- High-sustained write performance
- Over 120TB of storage capacity
- Available for U.2 form factors
- Truly Platform Independent NVMe RAID Solutions for AMD & Intel motherboards with PCIe 3.0/4.0 x16 slots
- Comprehensive RAID Storage Solution: RAID 0, 1, 10 and single-disk
- Supports all major operating system platforms: Windows, macOS, Linux
- Flexible, Modular Cooling solution

Suggested Applications

- High-Resolution media capture for professional applications

The CLI (command line interface) is a powerful, text-only management interface designed for advanced users and professional administrators. Comprehensive user guides are available for both interfaces are available from each controller's Software Updates webpage.

Both interfaces were designed to streamline NVMe Storage Management. Customers can easily track TBW (Terabytes Written) and the temperature of each individual NVMe SSD, ensure the SSD7000 controller is using the fastest available PCIe slot, configure an event log with email notification, and monitor the status of critical RAID configurations in person or remotely via an internet connection.

HighPoint SSD7000 HPC Series NVMe RAID Controllers

Product feature	SSD7180	SSD7184
Bus Interface	PCI-Express 3.0 x16	PCI-Express 3.0 x16
Number of Channels / Ports	8x Internal U.2 NVMe port	4x Internal U.2 NVMe port and 4x External U.2 NVMe port
Port Type	4x SFF-8643 Mini-SAS HD	2x SFF-8643 Mini-SAS HD 2x SFF-8644 Mini-SAS HD
Data Transfer Rate	8GT per lane / 8Gbps per lane	8GT per lane / 8Gbps per lane
Number of devices	8x U.2 NVMe SSD	8x U.2 NVMe SSD
SSD Form Factor	2.5" U.2	2.5" U.2
Form Factor	Low profile	Low profile
Card Dimensions	6.55" (W) x 2.71"(H) x 0.83" (D)	6.55" (W) x 2.71"(H) x 0.83" (D)
Card Weight	0.93 lbs. (420g)	0.95 lbs. (430g)
Operating System	Windows 10, Windows Server 2016 or later, Linux Kernel 3.10 or later, macOS 10.13 or later	Windows 10, Windows Server 2016 or later, Linux Kernel 3.10 or later, macOS 10.13 or later
Cooling	Heat sink with intelligent Fan	Heat sink with intelligent Fan
NVMe Configuration		
RAID Support	Single (single-disk), RAID 0, 1, 1/0	Single (single-disk), RAID 0, 1, 1/0
TRIM RAID Support	Single (single-disk), RAID 0, 1, 1/0	Single (single-disk), RAID 0, 1, 1/0
Storage Mode - NVMe	Data RAID	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	
Cross-Sync RAID Solution Across Controllers	No	
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	
Certification / Approval	CE, FCC, RoHS, REACH, WEEE	
Kit Contents	SSD7180	SSD7184
	QIG	QIG

SSD7180 - 8x PCIe 3.0 x4 SFF-8643 ports (low-profile)

The SSD7180 is the industry's first 8-Channel dedicated PCIe 3.0 x16 U.2 NVMe RAID controller for macOS, Linux and Windows platforms.
The industry standard SFF-8643 connectors are compatible with a wide selection of 2.5" form-factor server chassis available in today's marketplace and accept cables of varying length, which allow the SSD7180 RAID controller to be easily integrated into custom built hardware environments.

SSD7184 - 4x PCIe 3.0 x4 SFF-8643 & 4x PCIe 3.0 SFF-8644 (low-profile)

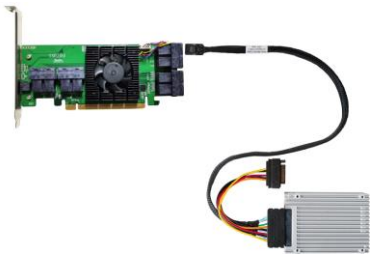
The SSD7184 is the industry's 8-Channel Hybrid Internal/External PCIe 3.0 NVMe RAID controller. This unique hybrid port configuration allows the SSD7184 to support both internal and external storage configurations – ideal for compact platforms that require a built-in option for storage expansion or the flexibility of a removable/ portable storage device.
The 4x SFF-8643 connectors can support up to 4 internal U.2 drives, while the external SDD-8644 ports were designed for use with external NVMe storage enclosures, such as our SSD6500 series

HighPoint Certified Cable & Enclosure Accessories

We manufacture a selection of certified data cables and enclosures for High Port Count series NVMe RAID controllers. HighPoint Certified Cable accessories are fully compliant with all current technology standards and have been rigorously tested with our SSD7180 and SSD7184 controller cards to ensure maximum transfer performance, secure connectivity, and ease of integration.

As we cannot guarantee secure connectivity, stability or compatibility with unqualified third-party devices or accessories, only HighPoint Certified cables and enclosures can be used with our storage products and solutions.

Certified Cable Accessories

SSD7180 & SSD7184 (Internal)	
8643-8643-0350 / 8643-8643-060 	SFF-8643 NVMe Host to SFF-8643 NVMe HD-Mini-SAS Device (U.2) cables Length: 13.78" (35cm) / 23.62" (60cm) These cable have been certified with the HighPoint SSD7180/7184 controllers, SFF-8643 NVMe Enclosures, and major U.2 SSDs from Intel, Micron, and the HGST Ultra series.
8643-8639-50 	SFF-8643 to SFF-8639 NVMe HD-Mini-SAS Device (U.2) cable, with Power Connector Length: 19" (50cm)
OLX4-8643-061 	SFF-8643 NVMe Host to Oculink backplane cable Length: 23.62" (60cm)

SSD7184 (External – for use with RS6540S)	
8644-8644-210 / 8644-8644-220 	SFF-8644 to SFF-8644 cables Length: 39.37” / 6’6” (1M / 2M)

Certified Enclosure Accessories

SSD7184 (External)

RS6540S

The RocketStor 6540S (RS6540S) is a 4-Bay NVMe U.2 JBOD enclosure designed for use with the SSD7184. Each of the 4 removable drive bays supports a single U.2 form factor NVMe SSD.

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