HighPoint
Technologies, Inc.

SSD7120
4x dedicated 32Gbps U.2 Ports to PCIe 3.0 x16 RAID Controller

NVMe Solution

Ultra-High Performance, Flexible NVMe U.2 RAID Controller

Designed for high-end desktop & workstation platforms, the SSD7120 is capable of delivering transfer performance up to 8x faster than onboard NVMe solutions, and up to 44x faster than conventional SATA SSD's. The SSD7120's unique hardware architecture provides dedicated PCIe 3.0 x4 (32Gb/s) bus bandwidth for each U.2 SSD, and unlocks the true performance potential of NVMe based storage configurations.

Equipped with four U.2 NVMe ports, the SSD7120 can host up to 8TB of blazing fast NVMe RAID storage. The U.2 ports are compatible a wide range of 2.5" rack mount chassis in today's marketplace, and simplify upgrade and maintenance procedures.

Dedicated PCIe 3.0 x16 Shatters the DMI Performance Bottleneck

Similar to video cards, the SSD7120 delivers dedicated PCI 3.0 x16 bus bandwidth to ensure maximum performance. Unlike onboard DMI 3.0 based NVMe solutions, which are forced to share a single PCIe 3.0 x4 lane with the motherboard's SATA and USB ports, SSD7100 series RAID Controllers feature dedicated PCI 3.0 x16 bus bandwidth. This unique architecture allows each SSD to interface directly with the platform's CPU; shattering the constrictive performance bottleneck imposed by DMI 3.0, and unlocking the true potential of your NVMe storage.

Independent, Stand-Alone NVMe SSD Solution

SSD7100 Series RAID controllers are fully independent NVMe RAID solutions, and are not tethered to specific motherboards or chipset families; any system sporting a free PCIe 3.0 x16 slot with direct access to the CPU is fair game; ideal for today's high-end desktops, custom gaming PC's and media workstations.

Flexible 2.5" U.2 Form Factor

The U.2 ports provide customers with a great deal of flexibility when selecting an appropriate hardware platform. The connectors are compatible with a wide selection of 2.5" form-factor rackmount chassis available in today's marketplace. In addition, the industry standard SFF-8639 connectors accept cables of varying length, which allow the SSD7120 RAID controller to be easily integrated into custom chassis designs. This design simplifies field upgrades and maintenance sessions, and is ideal for chassis that require removable drive trays for quick access to storage devices.

Maximizing Your NVMe RAID Performance

HighPoint understands that determining the ideal PCIe configuration to maximize NVMe storage performance isn't always easy. We are dedicated to the customer experience – our goal is to make NVMe storage expansion as quick, painless and intuitive as possible for users of any experience level. Our continuous R&D enables us to identify the ideal PCIe configuration for a wide range of motherboard platforms to ensure customers are able to optimize their NVMe SSD storage configurations, regardless of application.

Scale Performance across Multiple SSD7120 RAID Controllers

Multiple SSD7120 NVMe RAID controllers can be linked and installed into a single system, and deliver up to 256Gb/s of performance – 8x faster than NVMe drives locked behind the Intel DMI 3.0 architecture. A single SSD7120 controller can aggregate multiple NVMe SSD's at PCIe x16 bandwidth, and double that when used in dual configurations!

Key Benefits

- Dedicated PCIe 3.0 x16 bus bandwidth
- 4x U.2 Ports with Dedicated PCIe 3.0 x4 bandwidth for each NVMe SSD
- Over 8X faster than NVMe storage locked behind Intel DMI 3.0
- Independent, Stand-Alone, NVMe SSD RAID Solution
- Flexible 2.5" U.2 Form Factor
- Easy to integrate into existing server/rackmount chassis
- Scale Performance across Multiple SSD7100 Series RAID Controllers
- Supports Windows, Linux, and macOS Systems

Suggested Applications

- Rendering Systems & Applications
- High-End Desktops and Workstations

NVMe RAID Management with Integrated TRIM & S.M.A.R.T. Monitoring with TBW Tracking

The NVMe Manager portion of the RAID Management interface features TRIM support, and S.M.A.R.T. monitoring with 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. The S.M.A.R.T. 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.

Feature Specifications	
Bus Interface	PCI-Express 3.0 x16
Number of Channel / Port	4* U.2 NVMe port (Dedicated PCIe 3.0 x4 per port)
Data Transfer Rates:	8GT per lane / 8Gbps per lane
Number of Devices	4x U.2 NVMe SSD
Form Factor	Low profile
Dimensions	5.97" L x 2.68" H x 0.06" D
Weight	0.77 lbs.
Operating System Support	Windows 10, Windows Server 2012 R2 or later
	Linux Kernel 3.3 or later
	macOS 10.13 and later
Cooling	Heat Sink
Storage Mode	Data Storage
NVMe Configurations	
RAID Mode Support	Single, RAID 0, 1, 5, 1/0* *Note: RAID 1/0 is the equivalent of RAID 10*
NVMe RAID Management	
RAID 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
Redundant RAID Configurations	Yes
Single-RAID and Multi-RAID Arrays per Controller	Yes
Cross-Sync RAID Solution over multi-SSD7101A-1 Controllers	Yes
Operating Environment	
Work Temp:	+5°C ~+ 55°C
Storage Temp:	-20°C ~ +80°C
Relative Humidity:	5% ~ 60% non-condensing
Operating Voltage	PCI-e: 12V, 3.3V
Power	Typical: 8W
MTBF (Mean Time Before Failure)	920,585 Hours
Certification / Approval	FCC, CE, ROHS & REACH

RAID 5 and 10 do not support TRIM

NVMe PCIe 3.0 RAID Controller	SSD7120
Product Image	
Retail Box Dimensions	13.38" L x 7.68" H x 2.76"
Retail Box Weight	1.29 lbs.
Kit Contents	1x –SSD7120 RAID Controller 1x Quick Installation Guide
Product Dimensions	5.97" L x 2.68" H x 0.06" D

Optional Accessories	
	8643-8639-50 - SFF-8643 to U.2 SFF-8639 connector with 15-pin SATA Power Connector The Cable has been tested with the HighPoint SSD7120 NVMe U.2 NVMe RAID Controller, and major U.2 SSDs from Intel, Micron, and the HGST Ultra series.