



SSD7104

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



Silent, High-Performance 4-Channel PCIe Gen3 M.2 NVMe RAID Solution

Unbeatable Gen3 Storage Performance

The SSD7104 is the fan-less iteration of our second generation PCIe 3.0 Ge4 4-Port M.2 NVMe RAID controller, and is capable of delivering up to 14,000MB/s of transfer performance.

The compact controller card is no larger than your average GPU, and directly hosts up to four M.2 NVMe SSDs of any form factor(2242/2260/2280/22110).

Truly 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

Performance-Focused NVMe Architecture

The SSD7104 benefits from the latest generation of our industry proven, performance-focused NVMe hardware architecture. Designed to deliver uncompromised end to end PCIe 3.0 x16 bandwidth, the integrated Smart-Switching technology allocates 4x dedicated lanes for each SSD to ensure maximum transfer speed and immediate response time.

Multi-CPU/Core Performance Optimizer: multi-core/Multi-CPU platforms have plentiful resources, but these may not be properly allocated to the target application and NVMe media. HighPoint's HPT-Optimize utility Simplifies the Complicated Tuning Process for all Multi-Core platforms.

Cross-Sync RAID Technology: The SSD7104 enables administrators to optimize RAID performance by scaling available bus bandwidth up to 32 lanes, and deliver up to 28,000MB/s of transfer performance.

Distraction-Free, Zero-Noise Cooling Solution

The SSD7104 is ideal for high-performance media applications that require a distraction free work environment. The compact single-width RAID HBA can operate in complete silence, thanks to its full-length black anodized aluminum heat sink and ventilated PCIe bracket, which work in conjunction to dissipate waste heat away from critical NVMe chipset componentry and hosted M.2 NVMe SSDs.

Industry Proven NVMe RAID Technology

HighPoint 7000 Series NVMe RAID controllers will automatically recognize new NVMe SSDS's as single drives; no configuration necessary. In addition, our proven NVMe RAID stack enables each controller to support multiple RAID arrays or mixed configurations of single disks and RAID storage.

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 SSDs.

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

RAID 1 (Security) - This mode creates a hidden duplicate of the target SSD, and requires 2 NVMe SSD to configure.

Key Benefits

- 4x M.2 Ports (242/2260/2280/22110)
- Dedicated PCIe 3.0 x16 bus bandwidth
- Works with any PC & Mac Platform with a dedicated PCIe 3.0 or 4.0 x16 slot
- Cross-Sync Technology: double capacity & performance up to 28,000MB/s!
- RAID 0, 1, 10 & JBOD
- Silent, Passive cooling system
- Integrated TRIM & S.M.A.R.T. Monitoring with TBW Tracking
- For Windows, macOS & Linux


Universal Software Suite Easily Manages & Monitors RAID Storage

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

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.

| Product feature | SSD7104 |
|---|---|
| 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 Rate | 8GT/s |
| Number of device | 4x M.2 NVMe SSD |
| SSD Form Factor | 2242/2260/2280/22110 (supports single & double sided) |
| Form Factor | Full-Height |
| Card Dimensions | 7.68" (W) x 4.38"(H) x 0.82"(D) |
| Card Weight | 1.34 lbs. |
| Warranty | 2 Years |
| Windows (only supports 64-bit operating system) | Windows 11, 10 Windows Server 2022, 2019, 2016 Microsoft Hyper-V |
| Linux (only supports 64-bit operating system) | RHEL/Debian/Ubuntu/Fedora/Proxmox/Rocky Linux(Linux kernel 3.10 and later) |
| macOS | macOS 10.13 ~ macOS Ventura 13.x |
| ARM Platform Support(NVIDIA model) | Yes (Linux) |
| System Requirements | <p>Mac Platforms:</p> <ul style="list-style-type: none"> • 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 <p>PC Platforms:</p> <ul style="list-style-type: none"> • 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: Supports Secure Boot enable or disabled Linux: Supports Secure Boot disabled |
| Cooling System | Full-length anodized aluminum heatsink & thermal padding |

| NVMe Configuration | |
|---|--|
| RAID Support | Single, RAID 0, 1, 10 |
| TRIM RAID Support | Single, RAID 0, 1, 10 |
| Data RAID(Non-Bootable) | Windows, Linux, Mac |
| Boot RAID | Windows: Not supported |
| | Linux: Not supported |
| | Mac: Bootable using one (non-RAID) M.2 SSD as the boot drive. Only supports up to macOS 10.15. |
| NVMe RAID Management | |
| Management Suites | WebGUI (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 & 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) |
| Advanced RAID features | |
| Flash ROM for Upgradeable UEFI | No |
| Bootable RAID Array | No |
| Multiple RAID Partitions supported | Yes |
| Online Array Roaming | Yes |
| RAID Quick Initialization for fast array setup | Yes |
| Global Hot Spare Disk support | Yes |
| Operating Environment | |
| Work Temp | +5°C ~ + 55°C |
| Storage Temp | -20°C ~ +80°C |
| Operating Voltage | PCI-e: 12V, 3.3V |
| Power | Typical: 7.29W |
| MTBF (Mean Time Before Failure) | 920,585 Hours |
| Certification / Approval | CE, FCC, RoHS, REACH, WEEE |
| Kit Contents | 1x SSD7104 |
| | 1x Quick Installation Guide |
| Optional Accessories | |
| HS8004 | Replacement fan-less cooling system |
| HS8004F | Optional Advanced cooling system (included with the SSD7104F) |

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