



SSD710x Series M.2 RAID Controllers

4-Channel M.2, PCIe 3.0 x16



Industry's Fastest 4-Port PCIe Gen3 NVMe RAID Controllers

Unbeatable Gen3 Storage Performance

HighPoint's SSD710x Series are the industry's fastest PCIe Gen3 4-Port M.2 NVMe RAID controllers, and are capable of delivering up to 14,000MB/s of sustained transfer performance. The compact single-width, full-height controller cards can directly host up to four M.2 NVMe SSDs of any form factor (2242/2260/2280/22110) in one or more RAID 0, 1, 10 configurations.

Platform Independent NVMe RAID Solution

SSD710x series controllers are fully independent NVMe storage solutions, and are not tied to a specific hardware platform or brand of SSD/motherboard, nor are they reliant on OS-based RAID support. SSD710x controllers stand-alone RAID storage solutions; they do not require a hardware environment with Bifurcation support, or any specialized software released by SSD manufacturers. Each controller is powered by HighPoint's unique RAID IP, and can be easily integrated into any AMD or Intel motherboard with a dedicated PCIe 3.0 or 4.0 x16 slot.

Performance-Focused Architecture

The SSD710x RAID controllers benefit from our performance-focused NVMe PCIe Gen3 hardware architecture. Designed to deliver uncompromised end to end x16 bandwidth, SSD710x controllers employ Smart-Switching technology, which allocates 4x dedicated lanes for each SSD to ensure maximum transfer speed and immediate response time.

Cross-Sync RAID Technology

Customers can link two SSD710x controllers to act as a single storage device. Cross-Sync technology can effectively double available storage capacity and deliver transfer speeds up to 28,000MB/s!

Ultra-Efficient, Low-Noise Hyper Cooling Solution with Fan Control

The SSD7104F employs HighPoint's 2nd Generation Low-Noise Hyper-Cooling solution ensures hosted NVMe SSD's consistently operate within their 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 OS Platform Support

Linux Distributions: A dedicated team of engineers proactively monitors and updates support for all major Linux distributions. Our innovative Auto Compile feature is now embedded directly into our open-source driver packages.

macOS Ready: SSD710x NVMe RAID controllers are fully compatible with Apple's 2019 Mac Pro workstation platform, and are macOS 11x ready.

Windows Platforms: Like the entire SSD7000 series product family, SSD710x controllers are fully compatible with current Windows operating systems including Windows 11, 10 and Server 2019.

Complete Fan Control

SSD710x Series NVMe RAID controllers now feature Fan Control via the WebGUI Management software. Customers can adjust fan-speed using the SHI tab, and select from 3 speed settings. In addition, the fan can be completely powered off for silent operation. Administrators can monitor temperatures of each NVMe SSD using SHI, which can track the state of individual devices via SMART attributes, and adjust fan speeds to keep temperatures in check.

Key Benefits

- 4x M.2 Ports (2242/2260/2280/22110)
- 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
- Integrated TRIM & S.M.A.R.T. Monitoring with TBW Tracking
- For Windows, macOS & Linux

Suggested Applications

- High-speed data acquisition & processing applications
- Professional Workstations
- Media Servers

Graphical & Command Line Management interface

The SSD710x series management suite includes both a graphical web-based interface, and command line utility.

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

The **CLI** (command line interface) is a powerful, text-only management interface designed for advanced users and professional administrators. The universal command lines work with any platform, and are shared across our entire product line.



Comprehensive user guides are available for both management interfaces, and are included with the most recent product updates available from the Software Updates webpage of each SSD710x Series Controller.

Advanced RAID Technology

RAID 0 (Striping) - Also known as a “stripe” array, this mode delivers Maximum Performance and capacity by linking multiple NVMe SSD's together to act as a single storage unit.

RAID 1 (Mirroring) - This mode creates a hidden duplicate of the target SSD, and is ideal for applications that require an extra layer of data security.

RAID 10 (Security & Speed) - RAID 10 offers the Best of Both Worlds. Two RAID 1 arrays are striped together to maximize performance. RAID 10 is 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 DWPD/TBW life span of NVMe SSDs.

Feature Specifications		
Model	SSD7101A-1	SSD7104F
		
Bus Interface	PCI-Express 3.0 x16	PCI-Express 3.0 x16
Number of Channel / Port	4x M.2 NVMe port (Dedicated PCIe 3.0 x4 per port)	4x M.2 NVMe port (Dedicated PCIe 3.0 x4 per port)
Port Type	4x M.2 NVMe	4x M.2 NVMe
Data Transfer Rate	8GT/s	8GT/s
Number of devices	4x M.2 NVMe SSD	4x M.2 NVMe SSD
SSD Form Factor	2242/2260/2280/22110 (supports single & double sided)	2242/2260/2280/22110 (supports single & double sided)
Form Factor	Full-Height	Full-Height
Card Dimensions	8.31" (W) x 4.37" (H) x 0.67" (D)	7.68" (W) x 4.38"(H) x 0.82"(D)
Card Weight	1.37 lbs.	1.34 lbs.
Supported OS		
Windows	Windows 11 and 10, Windows Server 2022/Server 2019/Server 2016/Server 2012 R2, Microsoft Hyper-V	
Linux	Linux Kernel 3.10 or later (Note: Proxmox systems are not supported; if required, we recommend the SSD6200 series.)	
macOS	macOS 10.13 or later	
System Requirements	Mac Platforms: <ul style="list-style-type: none"> • Apple Mac Pro Systems: 2012 and later Mac Pro systems; 5.1, 7.1 (2019) • Apple M1 Platform compatible • Thunderbolt™ 3 Connectivity via Thunderbolt™ Expansion chassis: RocketStor6661A 	
	PC Platforms: <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 	
Cooling System	Aluminum casing with integrated thermal pad & cooling fan	Full-length anodized aluminum heat sink with a built-in Low-Noise fan
Fan Control	Yes (Windows, Mac)	Yes (Windows, Mac)

NVMe Configuration		
RAID Support	Single, RAID 0, 1, 10	
TRIM RAID Support	Single, RAID 0, 1, 10	
Storage Mode-NVMe		
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	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 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)	
Operating Environment	SSD7101A-1	SSD7104F
Working Temp	+5°C ~ + 55°C	+5°C ~ + 55°C
Storage Temp	-20°C ~ +80°C	-20°C ~ +80°C
Operating Voltage	PCI-e: 12V, 3.3V	PCI-e: 12V, 3.3V
Power	Typical: 7.74W	Typical: 7.29W
MTBF (Mean Time Before Failure)	920,585 Hours	920,585 Hours
Certification / Approval	CE, FCC, RoHS, REACH, WEEE	CE, FCC, RoHS, REACH, WEEE
Kit Contents	SSD7101A-1	SSD7104F
Kit Contents	SSD7101A-1 RAID Controller	SSD7104F RAID Controller
	QIG	QIG

HighPoint Headquarters
 Phone 1-408-942-5800
 Fax 1-408-942-5801
 E-mail sales@highpoint-tech.com
 Website www.highpoint-tech.com
 Address 41650 Christy St. Fremont
 CA, 94538

HighPoint China
 Phone + 86(10)-53519056 (Ext. 8003)
 Fax + 86-10-6897-5074
 E-mail sales@highpoint-tech.com
 Website www.highpoint-tech.cn
 Address ROOM 512, Building 1,
 No 4 JinHang Xi Rd, ShunYi District

