HighPoint Technologies, Inc.

RocketAIC 7749M2 Series

Up to 128TB PCIe 4.0 x16 NVMe AIC Drive Series

Where Innovation Meets Unmatched Storage Power; Unleashing the Industry's Densest Single-Slot PCIe AIC SSD!

The RocketAIC 7749M2 is a line of ground breaking NVMe storage drives designed for professional workstation and server platforms designed to accommodate high-performance, data-intensive workloads.

RocketAIC 7749M2 drives have redefined the concept of high-density storage by effectively packaging sixteen 2280 form-factor M.2 SSDs into a device with a hardware footprint smaller than most high-end PCIe GPUs. Engineered to satisfy the demands of data-intensive AI & ML, scientific/medical and media applications, Rocket 7749M2 drives offer a revolutionary blend of performance, reliability, efficiency and scalability that empowers enterprises to unlock new levels of data management and processing capability.

RocketAIC 7608AW drives establish a new milestone for high-performance storage solutions; delivering 128TB today and paving the way for 256TB in the near future.

Feature Highlights

- Compact, Single-Sided High-Density Storage Solution: Available with 64TB or 128TB of preconfigured M.2 NVMe Storage
- High-Performance PCIe Gen4 Switch Architecture: x16 lanes of dedicated upstream and x4 lanes of downstream bandwidth for each device port
- Transfer speeds up to 28GB/s (28,000MB/s)
- Precision Engineered Dual-Width Cooling Solution Enhances reliability & Prevents Thermal Throttling
- Intuitive Management & Monitoring Suite
- Available for Linux & Windows platforms

Advanced Architecture Maximizes Capacity and Performance

The RocketAIC 7749M2's unique architecture enables the 16 M.2 SSDs to be oriented vertically, which results in an impressively slim hardware footprint; similar to that of a high-end dual-width GPU. To ensure each SSDs operates and performs optimally, the AIC incorporates HighPoint's proven x48 lane PCIe Switching Technology, which allocates a dedicated x16 lanes of upstream bandwidth (connection to the host platform), and x2 lanes of dedicated downstream bandwidth to each SSD. This enables the SSD7749M2 to optimize signal integrity, reduce latency and deliver an astonishing level of data throughput; upwards of 28GB/s of real-world transfer performance!

The end result is a truly one-of-a-kind, feature-rich turnkey storage solution perfectly suited for data-intensive applications such as medical diagnostics and imaging systems, scientific research and Simulation, Deep Learning Model Training, AI-Powered Video and Image Processing, and AI-Powered Cybersecurity.

State-of-the-Art Three-Pronged Cooling Solution Enhances NVMe Reliability and Prevents Thermal Throttling

The RocketAIC 7749M2's advanced, three-pronged, dual-width NVMe cooling system leverages a full-length aluminum casing and heat sink, a trio of powerful low-decibel cooling fans, and a unique SSD mounting system to enhance reliability and stave off the threat of thermal throttling. The aluminum casing fully encloses the M.2 media and sensitive controller componentry, effectively sealing it away from the surrounding hardware environment. The innovative, tool less SSD loading system arranges M.2 media vertically to optimize airflow within the AIC. Three cooling fans; one mounted directly atop the integrated heatsink, and a pair installed into the side-mounted access hatch, work in unison to condense and circulate cool air throughout the casing, and eject waste heat through the ventilated PCIe bracket.

To compliment the hardware side of the equation, HighPoint has developed an intelligent temperature monitoring and alert system, which is integrated directly into the NVMe storage management & monitoring suite. Administrators can track the temperature and endurance (TBW) of each NVMe device in real-time via HighPoint's innovative SHI (storage health inspector) service, which can be used to configure warning thresholds based on each SSDs specifications and adjust the AIC's triple cooling fans to ensure hosted M.2 media perform optimally, even under the most demanding workflow. The service can be instructed to activate an audible warning alarm or contact one or more administrators via email if temperature thresholds are crossed.

Intuitive NVMe Storage Management and Monitoring Suite

HighPoint's intuitive NVMe storage management and monitoring suite enables administrators to easily configure and maintain the RocketAIC 7749M2 AIC drive using a few simple clicks and commands. The AIC will be recognized as single physical drive, and can be configured and tailored for a variety of roles, such an application drive or virtual scratch disk, a data archive or media library, or even used to host bootable OS's or virtualization platforms.

In addition, a simple and easy 1-click Log Collection solution has been integrated into our WebGUI and CLI management utilities to streamline the troubleshooting process and expedite the service/support process.

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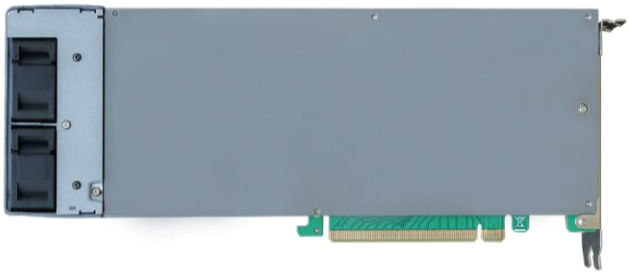
Hardware Features	RocketAIC 7749M2W-A64T0-0F	RocketAIC 7749M2W-A128T0-13
Bus Interface	PCI-Express 4.0 x16	PCI-Express 4.0 x16
Number of Channels / Ports	16x M.2 NVMe port (Dedicated PCIe 4.0 x4 per port)	16x M.2 NVMe port (Dedicated PCIe 4.0 x4 per port)
Port Type	16x M.2 NVMe	16x M.2 NVMe
Performance	Up to 28GB/s	Up to 28GB/s
Capacity	64TB	128TB
SSD Form Factor	2280 M.2	2280 M.2
External Power Support	Yes (Uses 6-pin PCIe Power Connector)	Yes (Uses 6-pin PCIe Power Connector)
Warranty	TBW (Total SSDs): 38400TB TBW (Single SSD): 2400TB	TBW (Total SSDs): 76800TB TBW (Single SSD): 4800TB
	Period: 3 Years	Period: 3 Years
Storage Security Suite		
SED Support	SafeStorage SED Solution	
Mechanical Specifications		
Form Factor	Full-Length, Full-Height, Dual-Width	
Card Dimensions	11.18” (W) x 4.92” (H) x 1.53” (D) (284mm (W) x 125mm (H) x 38.8mm (D))	
Card Weight	2.62 lbs. (1.19kg)	2.62 lbs. (1.19kg)
Cooling Solution	PCIe Gen4 Dual-Width NVMe Hyper-Cooling Solution	
	Full-Length Aluminum casing with integrated Low-Decibel Cooling Fan & Thermal Padding	
Fan Control	Yes	
Supported Systems *(Only supports 64-bit operating systems)*		
Supported Operating Systems	Windows 11, 10 Windows Server 2022, 2019, 2016 Microsoft Hyper-V RHEL, Debian, Ubuntu, Fedora, Proxmox &Rocky Linux (Linux kernel 3.10 and later)	
Platform Support	PC Platforms: PC System or Motherboard with an industry standard PCIe x16 physical Slot (Bifurcation is not required), Refer to the compatibility list.	
Secure Boot	Windows OS	
NVMe RAID Management		
Management Suites	WebGUI (Browser-Based management tool), CLI (Command Line interface), API package, UEFI HII	
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	

Advanced RAID features		
Online Array Roaming	Yes	
RAID Quick Initialization for fast array setup	Yes	
Global Hot Spare Disk support	Yes	
Operating Environment		
Working Temp.	+5°C ~ + 55°C	
Storage Temp.	-20°C ~ +80°C	
Operating Voltage	PCI-e: 12V, 3.3V	
Power	154.88W	161.28W
MTBF	1.5 million hours	
Kit Contents		
Kit Contents	1x RA7749M2W-A64T0-0F (includes 16x Samsung 990 Pro 4TB M.2 SSDs)	1x RA7749M2W-A128T0-13 (includes 16x Samsung 9100 8TB M.2SSDs)
	1x QIG	1x QIG
	16 x M.2 rubber twist pins	16 x M.2 rubber twist pins

SSD7749M2 Series AIC



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