



# RocketAIC 7749EM

8x E1.S to PCIe 4.0 x16 NVMe Expansion Drive Series

122TB

Ultra-Dense Enterprise Grade PCIe Expansion AIC Drives for Ultra M2 Mac Pro Platforms

HighPoint's RocketAIC Ultra-Dense Drives are industry's first Enterprise Grade PCIe Storage Drive solutions for Apple's new Ultra M2 Mac Pro. The compact AIC drives provide ultra-high density NVMe storage with enterprise grade reliability & endurance, and are capable of delivering highly-consistent sustained transfer performance suitable for media-rich workflows and AI applications. RocketAIC Series PCIe Expansion Drives employ industry-proven storage technology, precision engineered hardware architecture, and class-leading media from today's premier NVMe Brands to deliver the speed, endurance and reliability one expects from a professional-grade storage solution. Each drive leverages state of the art PCIe Gen4 switch technology and proven AIC hardware architecture and purpose-built NVMe cooling solutions to ensure each SSD delivers maximum throughput at all times.

Industry's 1st Enterprise Grade PCIe Expansion Drives Designed for 2023 Apple Mac Pro Workstations

2023 Mac Pro workstation platforms are powered by Apple's M2 Ultra architecture, a 24-Core CPU, and powerful, integrated graphics processor (GPU). The platform is many times faster than previous generations of Mac Pros and provides a large number of PCIe expansion ports; 7 full-length slots, 4 of which can accommodate dual-width PCIe devices. This level of computational and graphical power enables the new platform to support an enormous range of professional applications. Of particular note is the built-in GPU, which has up to 76 cores and 192GB of memory at its disposal. This effectively frees up a dedicated PCIe x16 slot for use with other devices, such as a PCIe Expansion AIC Drive. Professional workflows will see immediate benefits from a high-density NVMe based solution, due to the superior reliability, transfer performance, easy to integrate compact form-factor of NVMe storage media. HighPoint's new line of single and dual AIC drive solutions were designed to fulfill this role.

The compact, PCIe form-factor NVMe storages drives are designed to enhance productivity and streamline mission critical workflows for Mac Pro platforms. A wide selection of preconfigured drives are now available for both 2023 and 2019 workstations; customers can opt for a single or dual-drive solution, and tailor them to maximize storage density, reliability or performance.

Built for Demanding Scientific, AI, Deep Learning, & Machine Learning Applications

AI, Deep Learning and Machine Learning applications require a tremendous volume of computational resources to perform optimally. Processing particularly voluminous sets of data or analyzing complex problems or objects can potentially overwhelm available VRAM (video RAM), which would then slow the entire process to a crawl. To combat this risk, the majority of these platforms utilize high-speed storage devices to supplement the VRAM.

RocketAIC expansion drives are designed to address the data-intensive, high-throughput, low-latency workflows associated with Machine Learning systems & AI applications. In particular, our RocketAIC 7749EM and EN series NVMe expansion drives leverage our industry leading NVMe architecture and Solidigm's Data Center Class D7-P5520 Series E1.S SSDs to deliver enterprise grade levels of storage reliability, endurance and transfer performance in a compact package that can be easily integrated into 2023 M2 Ultra Mac Pro platforms.

Your Choice: Maximum Transfer Speed & Capacity, Maximum Data Security, or the Best of Worlds!

RocketAIC NVMe expansion drives were designed to accommodate a wide-range of high-performance workflows, including AI learning and AV systems, content creation and post-production platforms, and high-speed data ingestion and media capture solutions.

Feature Highlights

- Ultra-Dense Storage Solution; up to 122TB!
- Dedicated PCIe Gen4 x16 Host Bandwidth:  
Single-AIC Solutions: 27GB/s  
Dual-AIC Solution: 54GB/s
- Equipped with up to sixteen of Solidigm's Datacenter Class D7-P5520 Series E1.S SSDs
- Precision Engineered Dual-Wide Cooling Solution Prevents Thermal Throttling
- Preconfigured for Maximum Performance & Capacity

RocketAIC NVMe expansion drives are shipped pre-configured to maximize storage and capacity, but can be easily reconfigured using our quick and intuitive management suite.

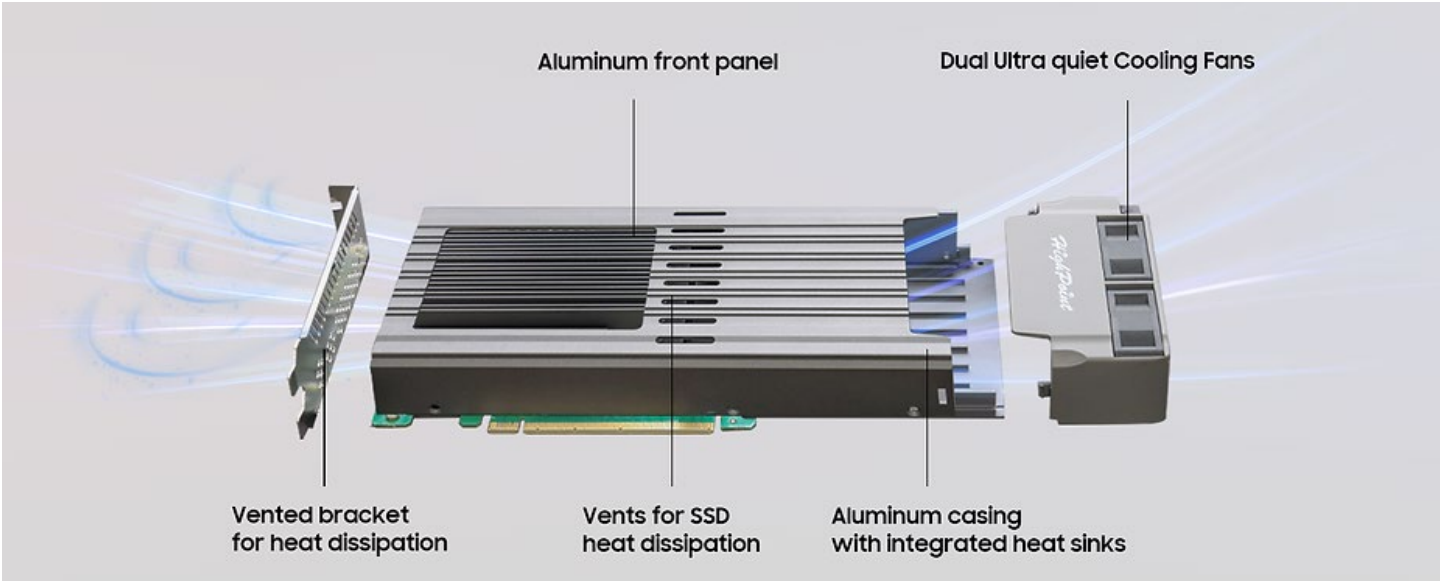
**Striping** - This mode delivers Maximum Performance and capacity by linking multiple NVMe SSD's together to act as a single storage unit.

**Mirroring** - This mode creates a hidden duplicate of the target SSD, and is ideal for applications that require an extra layer of data security, including bootable volumes.

**Security & Speed** -This mode offers the best of both worlds. Two mirrored arrays are striped together to maximize performance with a layer of data redundancy.

Precision Engineered PCIe-Gen4 NVMe Cooling Solutions

RocketAIC 7749EM and EN series drives are equipped with our innovative double-width NVMe cooling system, which was engineered to ensure high-density Gen4 NVMe media consistently deliver maximum throughput for extended I/O sessions. Each drive is fully enclosed by an anodized aluminum casing designed to optimize airflow. The dual-width architecture’s unique socket design enables the Solidigm SSDs to be arranged vertically, similar to how memory is installed into a conventional motherboard. This ensures both sides of each SSD are exposed to the cool air ingested by a pair of powerful, low-decibel cooling fans. The cool air is then condensed and circulated throughout the casing, which then rapidly ejects waste heat via the ventilated PCIe bracket.



**Quick & Intuitive Management Suite:** The novel cooling system was designed to work in conjunction with HighPoint’s SHI (storage health inspector) monitoring service, which can track fan speed and SSD temperature in real time, and our SMTP Email Alert Notification feature, which enables customers to configure one or more Email addresses to receive information about any activity related to the RocketAIC drive, such as maintenance procedures, warnings or errors.

Though RocketAIC drives are designed to work right out of the box; customers are free to install HighPoint’s intuitive WebGUI management software, which includes our SHI solution. Quick, and easily mastered, the WebGUI works with all modern web browsers such as Safari, and can be used to manage, configure and monitor every aspect of your RocketAIC NVMe drive with a few simple clicks.

Global View	Physical	Logical	Setting	Event	SHI	Logout	Help	Schedule
Storage Health Inspector(SHI)								
Controller ID	Port#	Device Serial Number	RAID	°F	Total Bytes Written	S.M.A.R.T		
1	E1_1	PHAY2182002P7P6CGN	None	104	32.64 TB	<a href="#">Detail</a>		
1	E1_2	PHAY2181001G7P6CGN	None	109	34.29 TB	<a href="#">Detail</a>		
1	E1_3	PHAY2181001M7P6CGN	None	109	36.07 TB	<a href="#">Detail</a>		
1	E1_4	PHAY2181002L7P6CGN	None	105	47.16 TB	<a href="#">Detail</a>		
1	E1_5	PHAY2182002G7P6CGN	None	105	34.41 TB	<a href="#">Detail</a>		
1	E1_6	PHAY2181002E7P6CGN	None	107	35.23 TB	<a href="#">Detail</a>		
1	E1_7	PHAY2181002X7P6CGN	None	107	47.60 TB	<a href="#">Detail</a>		
1	E1_8	PHAY2182002J7P6CGN	None	102	34.59 TB	<a href="#">Detail</a>		

Ultra-Dense PCIe Expansion Drives for Mac

The RocketAIC series drives seamlessly integrate up to 16 NVMe SSDs into a single, unified volume. macOS will recognize a single physical drive, up to 122TB in size!

- RA7749EM-S30T7-01: 30.72TB Drive
- RA7749EM-S61T4-02: 61.44TB Drive
- RA7749EN-S61T4-01: 61.44TB Cross-Sync Drive
- RA7749EN-S122T-02: 122.88TB Cross-Sync Drive

Product Feature	
Bus Interface	PCI-Express 4.0 x16
Number of Channel / Port	8x E1.S NVMe port (Dedicated PCIe 4.0 x4 per port)
Port Type	8x E.1S NVMe
Data Transfer Rate	16GT/s
Number of device	8x E1.S NVMe SSDs
SSD Form Factor	9.5mm
External Power Support	Yes (Uses 6-pin PCIe Power Connector)
Form Factor	Full-Height, Full-Length, Dual-Width
Card Dimensions	7.68"(W) x 4.37"(H) x 0.85"(D)
Card Weight	4.03 lbs.
Warranty	3 Years
	TBW: 112PB
Cooling System	PCIe Gen4 Hyper-Cooling Solution
Supported Systems	
OS (Only supports 64-bit OS)	macOS 10.13 ~ macOS Ventura 13.x
System Requirements	2023 M2 Mac Pro Workstation
Secure Boot	No
NVMe Configuration	
RAID Support	Single, RAID 0, 1, 10
TRIM RAID Support	Single, RAID 0, 1, 10
Storage Mode - NVMe	
Data RAID	Yes
Boot RAID	No
NVMe RAID Management	
Management Suites	WebGUI (Browser-Based management tool)
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

Performance*	Single-AIC	Dual-AIC
SEQUENTIAL READ	27, 000MB/s	54,000MB/s
SEQUENTIAL WRITE	27,000MB/s	54,000MB/s
Operating Environment		
Work Temp	+5°C ~ + 55°C	
Storage Temp	-20°C ~ +80°C	
Operating Voltage	PCI-e: 12V, 3.3V	
Power	161.28W	
MTBF	1.5 million hours	
Kit Contents		
Single-AIC Solutions		
RA7749EM-S30T7-01 (30.72TB)	1x RA7749EM (includes 8 x Solidigm D7-P5520 E1.S NVMe SSDs), x1 Q1G	
RA7749EM-S61T4-02 (61.44TB)	1x RA7749EM (includes 8 x Solidigm D7-P5520 E1.S NVMe SSDs), x1 Q1G	
Dual-AIC Solutions		
RA7749EN-S61T4-01 (61.44TB)	2x RA7749EN (includes 16 x Solidigm D7-P5520 E1.S NVMe SSDs), 1x Q1G	
RA7749EN-S122T-02 (122.88TB)	2x RA7749EN (includes 16 x Solidigm D7-P5520 E1.S NVMe SSDs), 1x Q1G	

