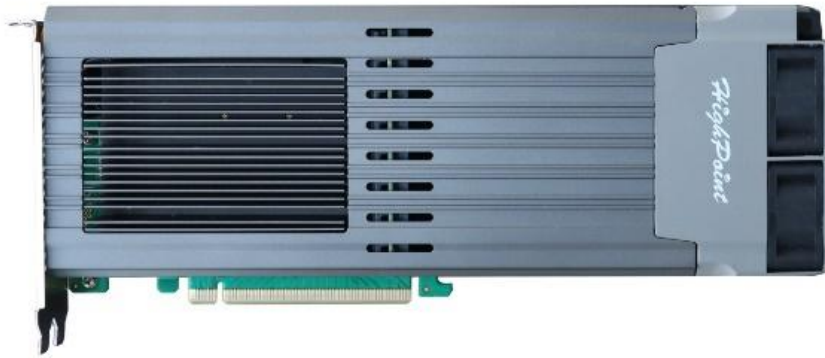




Rocket 1749E (R1749E)

NVMe Switch AIC User Guide



V1.00 - January 6, 2025

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1. Overview

The R1749E is the latest member of our PCIe Gen4 NVMe Switch AIC product family.

HighPoint Rocket Series NVMe connectivity AICs address the needs of solution providers and system integrators that cater to vertical marketplaces for high-speed industrial, corporate, and media applications. They were designed for professional applications that demand uncompromised storage performance, scalability, and adaptability in a compact, easy-to-integrate package that is universally compatible with industry-standard x86-64 (Intel/AMD) platforms.

The R1749E's eight independent device ports can support E1.S NVMe SSDs.

All major Windows operating systems and current distributions of Linux natively support the R1749E. You won't need to juggle a series of device drivers, install a complex software suite, or master a specialized management interface. Your NVMe SSDs will be automatically recognized and can be prepped and mounted using the operating system's standard tool set.

1.1. Key Features

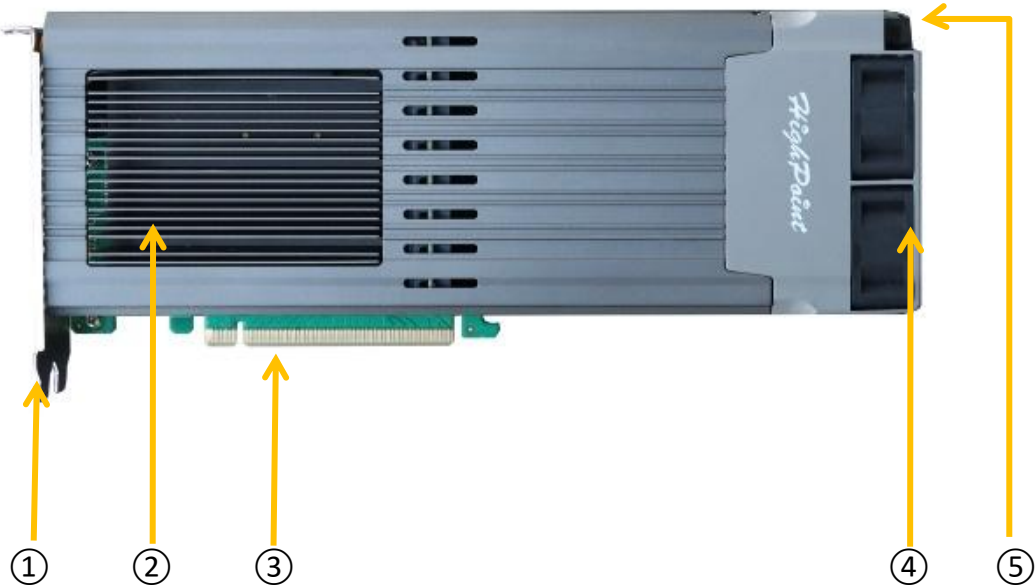
- Dedicated PCIe 4.0 x16 host interface
- Support data transfer rate 32GB/s
- Support eight dedicated 9.5mm E1.S NVMe devices
- Support four dedicated 15mm E1.S NVMe devices
- Software Secure Boot
- Support all the operating systems with a native NVMe driver

2. R1749E Hardware Description

2.1. R1749E Layout

- **Front View**

The following figure shows the key components of the R1749E.



The following table describes the key components of the R1749E.

Table 1: Key component of the R1749E

Number	Type	Description
①	Bracket	Double Width Full Height Ventilate Bracket. The SSD7749M2 is secured to the chassis by the Full-height bracket.
②	Heatsink	Dissipate heat from institutions prone to heat generation.
③	PCIe Host Interface	The interface between the storage adapter and the host system. With the PCIe interface, this connector provides power to the board.
④	Low-Noise Cooling Fan	The fan is used to dissipate heat from the SSDs in the institution.
⑤	External Power Port	The system power supply unit powers the R1749E through this port connected to the external 6-pin PCIe power cable.

2.2. PCIe Host Interface

The R1749E's PCIe 4.0 host interface provides maximum transmission.

Other PCIe host interface features include the following:

- 16-lane PCIe host interface
- Support of x16 link width
- 16-lane aggregate bandwidth of up to 32GB/s

2.3. Storage Interface

The R1749E has eight E1.S connectors.

Other storage interface features include the following:

- Dedicated PCIe 4.0 x4 per port
- Support eight dedicated 9.5mm E1.S NVMe devices
- Support four dedicated 15mm E1.S NVMe devices
- Data transfer at 8GB/s

2.4. Basic Specifications

The following table describes the basic specifications of the R1749E.

Table 4: Basic Specifications of R1749E

Model		R1749E
Form Factor		Full-Height, Full-Length, Double-Width
Card Weight		1.18kg
Dimension	Length	11.18"
	Height	4.33"
Power consumption		Typical: 17.28W
Power supply		PCIe: 12V(±8%), 3.3V (±8%)
Work temperature		+5°C ~ +55°C
Storage temperature		-20°C ~ +80°C
MTBF (Mean Time Before Failure)		920,585 Hours

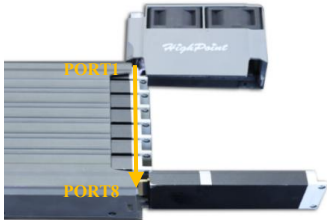
3. R1749E Installation Instructions

1. Use a wired ESD wrist strap that is properly grounded.
2. Unpack and remove the R1749E and check it for damage. If it appears damaged, please get in touch with HighPoint Technical Support.
3. Apply pressure to release the lock, and turn it counter-clockwise.



Warning: Please pay attention to opening the fan module carefully to avoid causing damage to the fan module.

4. Gently insert the SSD into the slot.

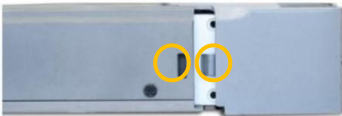


Notes:

Ensure the SSD contacts (“golden fingers”) are clean before installation.

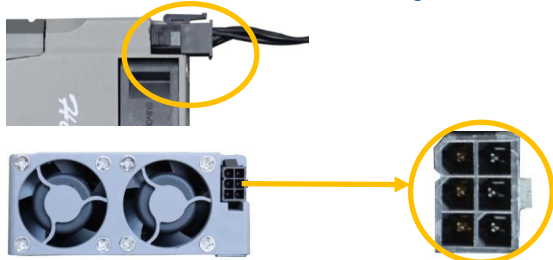
Ensure the NVMe SSD is carefully but securely mounted to each port. Loose connections can cause various stability and performance issues and may ultimately result in data loss.

5. Align the fan module and press down to secure.



6. Shut down the system and disconnect the AC power cord.
7. Align the R1749E to one of the motherboard’s available slots. Press down gently but firmly to seat the R1749E correctly in the slot.
8. Turn on the power to the system.

Note: In case the motherboard PCIe slot has insufficient power, connect the 6-pin PCIe power cable to the external power connector on the right side of the R1749E before turning on the system's power.



4. Revision History

Version 1.00, January 6, 2025

Initial version.