HighPoint Technologies, Inc.

RocketAIC 6542AWW

Nearly 1/2 Terabyte of Turnkey Enterprise-Class External NVMe Storage

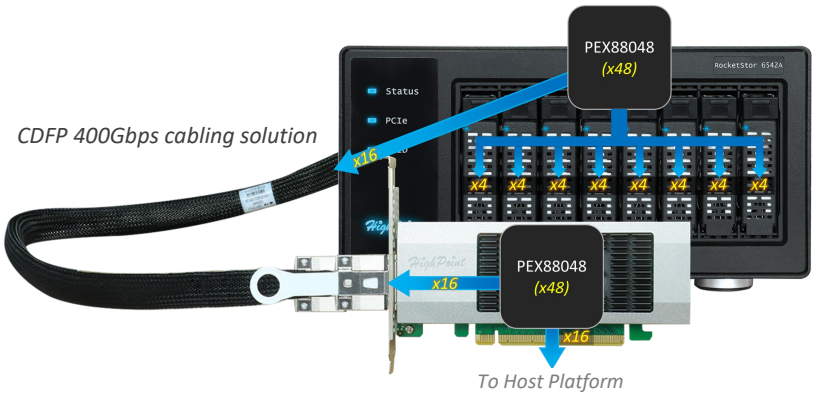
NVMe Solution

The RocketAIC 6542AWW establishes a new milestone for turnkey NVMe Storage.

- Turnkey Enterprise-Class External NVMe RAID Storage Solution
- Includes 8x Solidigm D5-P5336 SSDs & 491.52TB of Storage Capacity
- Dedicated Host-to-Device PCIe Gen4 x16 Connectivity delivers transfer speeds up to 28,000MB/s
- Advanced Cooling Solution Enhances reliability & Prevents Thermal Throttling
- Comprehensive Management & Monitoring Suite
- SafeStorage SED Solution

The ultra compact & portable external device stands less than 5” in height, yet provides an astonishing 491.52TB of storage capacity and is capable of delivering 28GBs of real-world transfer performance; ideal for tackling data-intensive applications such as such as AI training, high-speed data ingestion workflows, M&E post production, and critical asset backup and recovery.

Dedicated Host to Device PCIe Gen4 x16 Connectivity



Integrated PCIe switching technology and 400Gbps CDFP connectivity enables the RocketAIC 6542AWW to maximize data transfer speed by fully utilizing all x16 lanes of PCIe bandwidth provided by the host platform. Both the enclosure (device-side) and PCIe adapter (host-side), are equipped with dedicated PCIe switch ICs. This enables each solution to provide x16 lanes of dedicated PCIe Gen4 upstream bandwidth and x4 lanes of dedicated downstream bandwidth to each U.2 or U.3 SSD.

Workload Segregation Enhances Efficiency and Serviceability

The external form factor makes it easy to allocate storage to a specific task or application. And thanks to the dedicated PCI switch architecture, resource allotment is all handled outside of the primary computing environment. The RocketStor 654x’s dedicated PCIe switch architecture directly manages all I/O between hosted NVMe, freeing up CPU resources for other critical tasks. In addition, the external form factor optimizes platform performance by isolating SSD media from the host hardware environment.

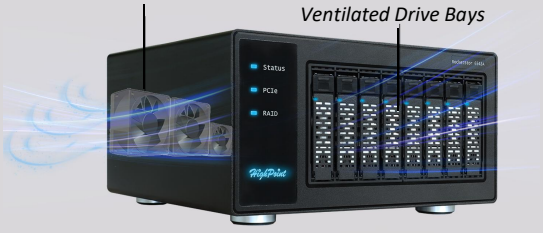
Reduces Power Consumption:

Dedicated PSU offsets power consumption from the host platform.

Offloads Waste Heat Management:

Ultra-Efficient Low-Decibel Cooling Fans

Ventilated Drive Bays



The external form factor enhances reliability by ensuring that waste heat generated by the NVMe media never enters the computing environment.

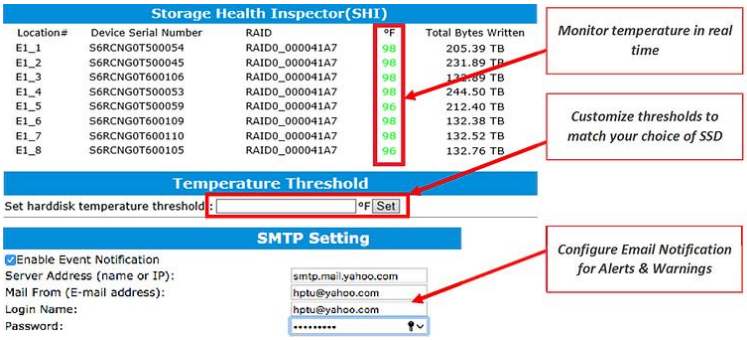
Advanced Cooling System

The robust, aluminum enclosures employ a pair of powerful, low-decibel cooling fans to ingest cool air from the outside environment and circulate it throughout the interior of the chassis. Waste heat is then drawn away from the SSD media and critical RAID controller componentry and dispensed through the ventilated drive trays.

Real-Time SSD Monitoring System

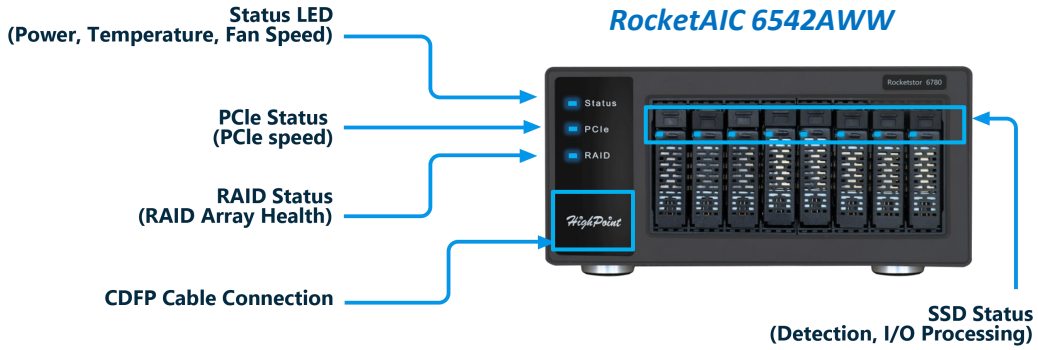
HighPoint's SSD6780A takes a no-holds-barred approach to thermal throttling.

SHI (Storage Health Inspector) enables administrators to monitor the temperature of each NVMe SSD in real time, and configure warning thresholds to correspond with each make & model, via the WebGUI and CLI software suites.



Intelligent Self-Diagnostic & Monitoring Services

The enclosure's advanced suite of sensors, LED indicators and alarms streamline service & management workflows.



These integrated, self-diagnostic and monitoring services actively survey and report the status of the host to device cable connection, PCIe lane assignment, enclosure /SSD temperature, and the condition and status of hosted NVMe SSDs/RAID arrays.

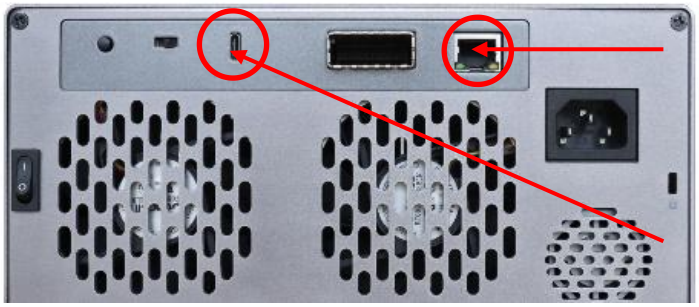
Each service was designed to work in conjunction with the HighPoint WebGUI and CLI software management suites, and are universally compatible with Linux, macOS and Windows based computing platforms.

The enclosure LEDs employ simple color-codes to immediately indicate the status or condition of the enclosure and hosted storage. Blue indicates an optimal/normal condition, Yellow indicates a Warning or Error condition, and Red is used to indicate a failure or disabled device condition.

Monitor Your NVMe Storage Outside of the OS

The RocketAIC 6542AWW enables administrators to monitor and maintain NVMe storage outside of the host operating system.

The rear panel of the enclosure features out-of-band (OOB) and remote management ports.



Comprehensive Management & Monitoring Suite

The RocketAIC 6542AWW includes a comprehensive suite of graphical and command-line based management and monitoring tools suitable for administrators of any experience level.

The **WebGUI** is a simple, intuitive Web-based graphical user interface. It is equipped with Wizard-like quick configuration menus as well as a suite of advanced tools for expert administrators.

The **CLI (Command Line Interface):** ideal for seasoned administrators or platforms that do not utilize graphical operating systems.

SHI (Storage Health Inspector): instantly check the status of NVMe media in real-time. SHI utilizes SMART technology to log & report the physical characteristics of each SSD, such as temperature, voltage & TBW (Total Bytes Written).

Intelligent 1-Click Self-Diagnostic & Logging Solution: HighPoint's WebGUI includes a host of automated diagnostic tools designed to streamline the troubleshooting process, even for novice administrators. The Diagnostic tab enables the interface to gather all necessary hardware, software and storage configuration data and compile it into a single file, which can be transmitted directly to our FAE Team via our Online Support Portal.

Integrated Hot-Swap Capability Streamlines Field Service & Maintenance Workflows

The RocketAIC 6542AWW features true Hot-Swap capability, which can drastically streamline service and upgrade workflows. Administrators can safely eject the entire RAID array while the host system remains operational. The solution will automatically notify the operating system of any changes, in real time – no reboot required!

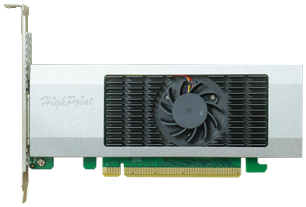
Protect Data Assets with HighPoint SafeStorage

SafeStorage was developed to work in conjunction with SED capable Datacenter and Enterprise class NVMe media. It is designed to protect data assets when physical drives are misplaced or stolen by preventing unauthorized access to stored data.

SafeStorage can be applied to both single-disk and RAID configurations and can be administered via the WebGUI and CLI management suites.

Hardware Features		
Bus Interface		PCI-Express 4.0 x16
Number of Channels / Host		1x CDFP
Data Transfer Rate		400Gb/s Port Bandwidth (Transfer rates up to 32GB/s)
Capacity		491.52TB
Audible Alarm		Dropped Disk, Fan Speed, SSD Temperature, Switch IC Temperature
Smart Fan Control		SMART & Manual Modes (with 5 speed settings)
OOB Support		Yes
Security Suite		
SED		SafeStorage SED Solution
LED Indicators - Enclosure		
Status LED		Temperature & Fan Status
PCIe LED		PCIe connection status
RAID LED		RAID Status & Activity
Logo LED		Power & CDFP cable connection status
HDD LED on the Tray		Power, Disk Status & Activity
LED Indicators - Adapter		
PCIe LED		Adapter PCIe host interface status
Connection LED		CDFP Cable connection status
Enclosure Backpanel Features		
100M Ethernet RJ45 Port	DHCP / Static	Supports DHCP to allocate the IP Address and can assign the IP Address manually
	SSDP embedded	Firmware implement SSDP *(i.e, Devices will report their IP/Mac/SN/Name to the local network so that the application/program can know how many RocketAIC 6542A units are connected to the local network and list them quickly)*
	User Management	Supports Only 1 User & 1 session at a time
	Command Support	The Commands in the MCU spec are supported for both Ethernet & USB connectivity
USB Type-C Support *(Command Line)*	Type-C	USB 2.0 Supported
	Command Support	The Commands in the MCU spec are supported for both Ethernet & USB connectivity (*Note: Requires Switch set to "1")*
Switch	switch to "1"	Embedded MCU's USB is redirected to USB Type-C connector
	switch to "2"	Broadcom chipset's SDB connector is redirected to USB Type-C connector (can be used recovery/internal debugging)
Power Switch		ON/OFF
CDFP Port		Upstream Port for the Enclosure (connects to the Adapter)
Mute Button		Used to mute the enclosure's Audible Alarm
Kensington Lock		Kensington Lock
Platform Support		
OS Support		Microsoft Windows, Linux
Secure Boot		Yes (Windows OS)
RAID Configuration Support		
RAID Level Support		Single, RAID 0, 1, 10
TRIM RAID Level Support		Single, RAID 0, 1, 10
Storage Mode		
Data RAID		Yes
Boot RAID		Yes

NVMe Storage Management	
Management Suites	WebGUI (Browser-Based management tool), CLI (Command Line Interface-scriptable configuration tool), API package, UEFI BIOS/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	PCIe: 12V, 3.3V
MTBF (Mean Time Before Failure)	920,585 Hours
Warranty	TBW (Total SSDs): 52160TB / TBW (Single SSD): 6520TB / 3 Years



Kit Contents	• 1x Low-Profile PCIe Adapter (CDFP connection to host computer) • 1x 8-Bay Enclosure (with 8x Solidigm D5-P5336 61.44TB SBFPF2BV614TOP1 U.2 NVMe SSDs) • 1x CDFP-CDFP-1M 1M Cable • 1x QIG • 1x UL Cable

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PCIe 4.0 Switch

U.2/U.3 & E3.S