*HighPoint*
Technologies, Inc.

# *e*NVMe SSD6540M

## 4-Bay M.2 NVMe RAID Enclosure

- Blistering 14,000 MB/s Transfer Performance!
- 4x Faster than Thunderbolt™ 3!
- Up to four M.2 NVMe SSD's
- Easily Access M.2 Drives
- PCIe 3.0 x16 Host Interface
- Windows, Linux & macOS platforms

## The Fastest External Desktop Storage – 14,000MB/s! Powered by M.2 NVMe SSD's

The SSD6540M is designed for professional grade, performance-hungry applications that demand uncompromised transfer bandwidth. The unique NVMe architecture provides dedicated PCIe 3.0 x4 bandwidth for each drive-bay; this allows each M.2 SSD to interface directly with the platform's CPU, and deliver sustained transfer performance in excess of 14,000MB/s – faster than any other external desktop RAID storage solution in today's marketplace!

### PCIe Gen3 x16 NVMe RAID Turnkey Solution

The SSD6540M is the industry's first external NVMe storage solution to deliver uncompromised end-to-end PCIe Gen 3.0 x16 transfer bandwidth. Our innovative external data cables work in conjunction with the removable M.2 drive bays to deliver dedicated PCIe 3.0 x4 transfer bandwidth; this unique, performance-focused architecture ensures each M.2 SSD operates at peak performance. The SSD6540M is a complete, stand-alone solution, and includes a 4-Bay NVMe M.2 enclosure, PCIe 3.0 x16 controller card with external SFF-8644 connectors, two SFF-8644 PCIe Gen3 x8 data cables, and all necessary fastening and power accessories.

### Powered by Proven RAID Technology

The SSD6540M is powered by our industry proven NVMe RAID technology, and can accommodate a variety of RAID and non-RAID storage configurations, including single M.2 SSD's and multiple RAID arrays.

- **RAID 0**: Also known as a "stripe" array. This mode delivers Maximum Performance, and requires 2 to 4 M.2 SSD's.
- **RAID 1**: This mode creates a hidden duplicate of the target M.2 SSD, and requires 2 drives.
- **RAID 5**: Stripe with Parity – this mode requires 3 or 4 M.2 SSD's, and provides a boost in performance and enables your data to remain intact should 1 M.2 drive fail.
- **RAID 1/0**: Mirrored Stripe arrays. This mode requires 4 M.2 SSD's – it will mirror the data of one stripe array to a second, hidden stripe array for security.

### Robust & Simple NVMe RAID Management

Each SSD6540M RAID Enclosure includes a simple, intuitive web-based management interface. A Quick Configuration menu allows new users to get everything up and running with a few simple clicks. Experienced Pros can fine tune configurations for specific applications using the Advanced Options menu.
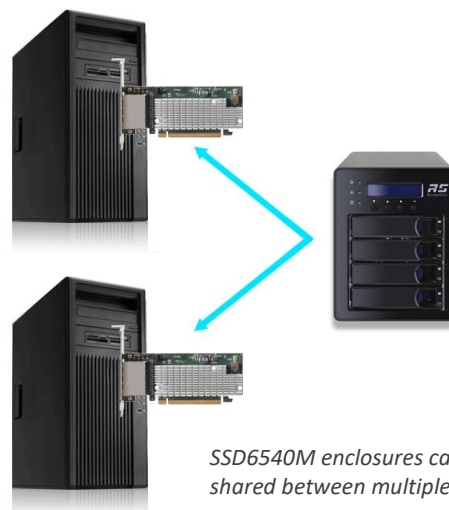
**Integrated TRIM & S.M.A.R.T. Monitoring with Terabyte Written (TBW) Tracking:** TRIM streamlines performance and expands the lifespan of NVMe storage by enabling each SSD to handle garbage collection more efficiently, which helps eliminate write speed degradation. S.M.A.R.T. monitoring allows you to check the temperature, voltage and TBW of each NVMe SSD.
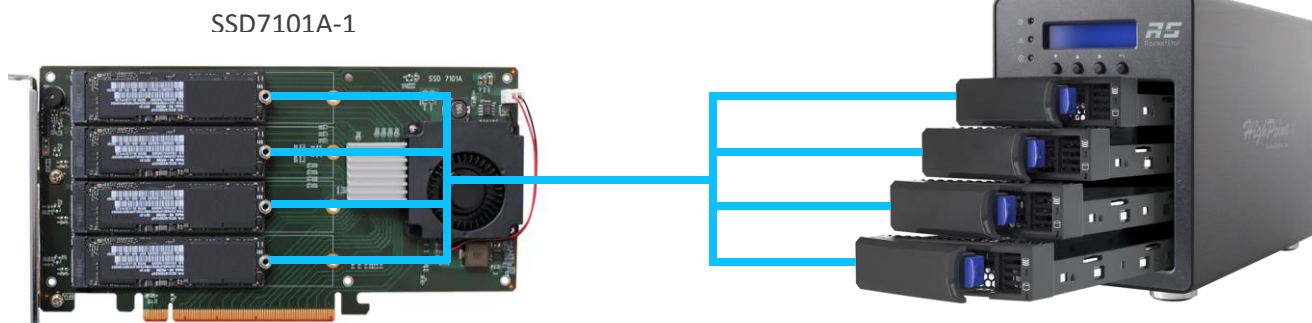
## Rapidly Adapts to Changing Workflows

The SSD6540M's flexible architecture enables you to adapt or transform NVMe storage to meet the needs of each application.

A single SSD6540M enclosure can be shared between multiple desktops and workstations – the included controller card is also available as a standalone accessory, and can be installed into any system with a free dedicated PCIe 3.0 x16 slot.

In addition, M.2 SSD's hosted by the SSD6540M can be installed into any M.2 capable SSD7100 series RAID controller; your array and data will remain intact and accessible.



*SSD6540M enclosures can be shared between multiple systems*

SSD7101A-1



*M.2 SSD's can be moved between the SSD6540M and SSD7100 Series RAID controllers*

## Optimized for Serviceability



The SSD6540M's is ideal for professional applications that require a robust, easily serviceable, high-speed storage solution.

Unlike other M.2 based storage solutions, the SSD6540M's four removable drive bays enable quick and safe access to the NVMe media to streamline upgrade, transfer or maintenance sessions.

The professional-grade, all-aluminum enclosure is rugged enough for work in the field, yet perfectly suitable for live-demoing a media project or delivering finished product direct to the client.

## Built-in LCD screen Streamlines Monitoring & Maintenance

Each SSD6540M features a built-in LCD screen that displays environmental conditions in real-time. Customers can quickly access the temperature of storage configurations and adjust fan speed to ensure the NVMe drives stay healthy and run optimally. In addition, a built in alarm can be set to activate in the case of temperature or enclosure related warning or failure.

## Feature Specifications

| | |
|---|---|
| Bus Interface | 16-lane, PCI Express 3.0 Compliant |
| Bus Speed | 128Gbps |
| Data Transfer Rates | 8GT / 8Gbps per lane |
| Number of Devices | 4 |
| Form factor | 2.5" M.2 |
| Capacity | Unlimited |
| Storage Mode | Data storage (non-bootable) |
| Platform Support | SSD / motherboard compatibility list |
| Operating System | Windows 10 / Windows Server 2012 R2 or later |
| | Linux Kernel 3.3 or later |
| | macOS 10.13 and later |
| Storage Health Inspector | NVMe SSD SMART and TBW status |
| TRIM Support | RAID 0, 1, 1/0 |
| Cross-Sync RAID Solution Across Controllers | macOS and Windows |
| Power Supply | 250W PSU Low Noise |
| | AC INPUT: 100-240 V 50/60Hz |
| Cooling | Aluminum casing with single 80x80 fan |
| Material | Brushed aluminum housing |
| Dimensions | 5.71" (W) x 7.67" (H) x 10.23" (D) |
| Weight | 12.1 lbs. |
| Warranty | 2 Years |
| Compliance Certification | CE, FCC, RoHS, REACH, WEEE |
| MTBF | 920,585 Hours |

## Advanced RAID Features

| | |
|---|---|
| RAID Level support | RAID 0, 1, 5 and 1/0, |
| | *RAID 5:* macOS not supported; please contact support@highPoint-tech.com for further information) |
| | Note: *RAID 1/0 is the equivalent of RAID 10* |
| Web based SSD Storage Manager | Yes |
| Disk media scan and repair | Yes |
| Device Error Recovery support | Yes |

## Monitoring and Management Suite

| | |
|---|---|
| LED Features | Device: Present, Active |
| | Enclosure: Power, Warning, Fail |
| LCD Features | • Show enclosure temperature<br>• Show fan speed<br>• Smart fan or manual fan speed control<br>• Enable/Disable LCD backlight |
| Management Suites | • Browser-Based management tool<br>• CLI (Command Line Interface)<br>• API package |
| SMTP Email Alert Notification | Yes |
| Alarm Buzzer (mutable) | Enclosure error or temperature over 50℃ |

## Operating Environment

| | |
|---|---|
| Temperature | (operating) +5°C ~ +55°C |
| | (non-operating) – 20°C ~ +80°C" |
| Relative Humidity | 5% ~ 60% (Non-condensing) |
| Operating Voltage | PCI-e: 12V, 3.3V |
| Power | Typical: 25W |

## Optional Accessories

**8644-8644-220**
The 8644-8644-220 2 meter , external NVMe PCIe 3.0 x8  SFF-8644 to SFF-8644 cable was designed for use HighPoint SSD6540 series eNVMe RAID Enclosures, and has been thoroughly tested to ensure ease of integration and to streamline maintenance or upgrade procedures.

**R744A**
Internal PCIe 3.0 x16 adapter card designed for use with SSD6540 series NVMe RAID Enclosures. Each card features four external SFF-8644 connectors.

**RS6540M-Tray**
Spare/replacement drive tray for the SSD6540M NVMe RAID Enclosure.