SSD7101A-1

4x M.2 Port to PCIe 3.0 x16 NVMe RAID Controller

User Guide

V1.00

Table of Contents

SSD7101A-1 Overview

The SSD7101A-1 is the industry's fastest NVMe M.2 RAID Controller. Designed for high-end desktop & workstation platforms, it is capable of delivering transfer performance over 8x faster than onboard NVMe solutions, and over 40x faster than conventional SATA SSD's. The SSD7101A-1 RAID Controller's unique hardware architecture provides dedicated PCIe 3.0 x4 (32Gb/s) bus bandwidth for each M.2 SSD, and unlocks the true performance potential of NVMe based storage configurations.

Key Features
- Dedicated PCIe 3.0 x16 bus bandwidth
- Dedicated PCIe 3.0 x4 bandwidth for each NVMe M.2 SSD
- Over 8X faster than NVMe storage locked behind Intel DMI 3.0
- Independent, Stand-Alone NVMe SSD Solution
- Scale Performance across Multiple SSD7101A-1 NVMe RAID Controllers
- Supports Windows & Linux Systems

Kit Contents

- 1x SSD7101A-1 Controller Card
- 1x Quick Installation Guide
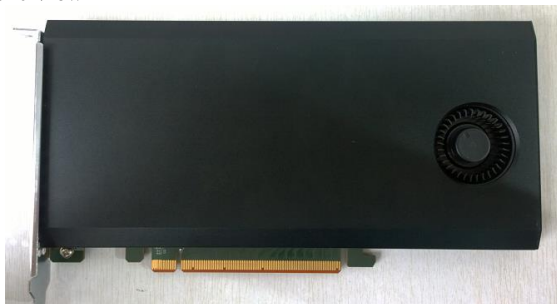
System Requirements

PC Requirements
- Windows 10 or later
- Linux Kernel 3.19 or later

For motherboard and SSD compatibility list, please refer to the below link:
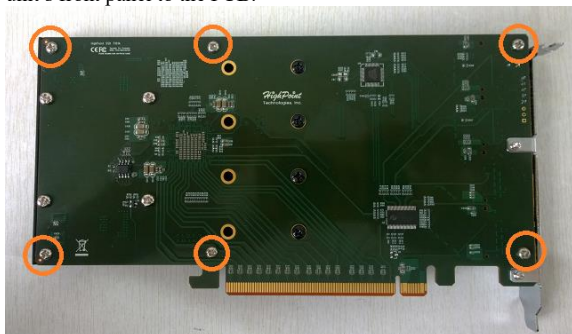[SSD7100 Compatibility list](#)
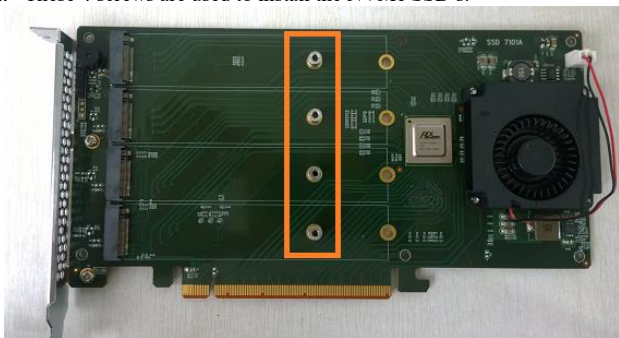
SSD7101A-1 Hardware

Front View

NVMe Drive Installation:

Step 1. On the rear of the SSD7101A-1, remove the six screws that secure the
unit's front panel to the PCB.

After removing the screws, carefully remove the front panel from the
SSD7101A-1.

Step 2. These 4 screws are used to install the NVMe SSD's.

Step 3. The SSDs should be installed from top to bottom. To begin, remove the top screw.

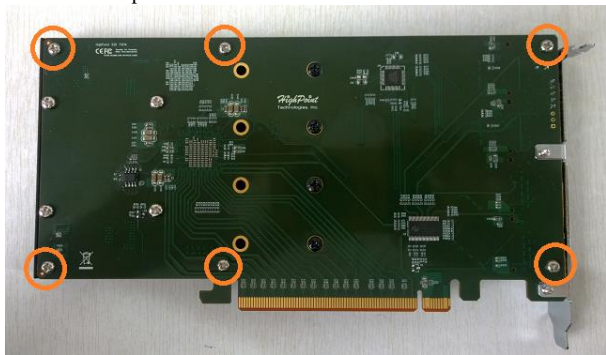Step 4. Gently insert the SSD into the slot.

Step 5. Refasten the screw to secure the SSD.

Repeat Steps 3 to 5 to install the remaining SSDs.

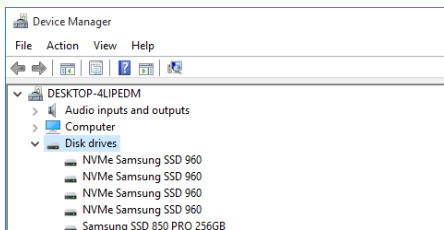Step 6.   Replace the front panel after installing all SSDs

Step 7. On the rear of the SSD7101A-1, refasten the 6 screws that were removed in step 1.

## Setting up the SSD7101A-1 for a Windows operating system

1. Verifying Installation

   After booting Windows, open **Device Manager**, and expand **Disk drives**. The installed NVMe Samsung SSD 960 should be displayed:
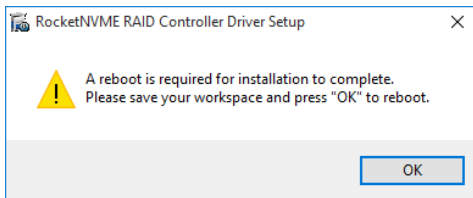
2. Driver Installation

1) Download the Windows driver package from the HighPoint website:
   http://www.highpoint-tech.com/USA_new/series-SSD7101A-1
   -download.htm

2) Once downloaded, locate the folder you downloaded the driver to. Extract the driver package and double click the **setup.exe** file to start the Driver Setup Wizard.
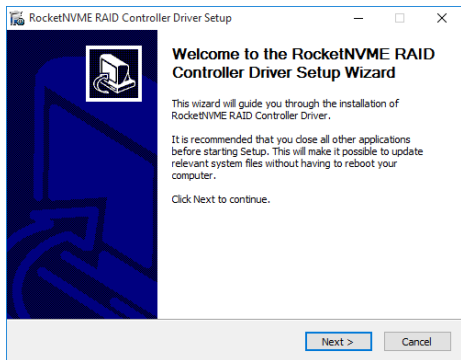
3) Follow the wizard and reboot system to complete the driver installation.

4) Rebooting. A **RocketNVME RAID Controller** entry should be displayed under **Storage Controllers**:
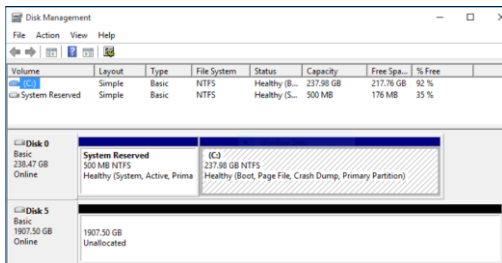

3. Installing the HighPoint NVMe Manager software

The HighPoint NVMe Manager is used to configure and monitor the SSD7101A-1. Download the HighPoint NVMe Manager Software package from the HighPoint website:

http://www.highpoint-tech.com/USA_new/series-SSD7101A-1 -download.htm

1) Extract the package and double-click the setup.exe program to install the software.

2) The HighPoint NVMe RAID Manager will configure the SSD7101A-1 NVMe drive automatically after installation is complete.

3) Open Windows Disk Management and check to make sure the SSD drive is configured.

4) Create and format the partition using Disk Management to start using the SSD7101A-1 drive.

Setting up the SSD7101A-1 for a Linux Distribution

Please download the Linux Software Package from the HighPoint Website:
http://www.highpoint-tech.com/USA_new/series-SSD7101A-1-download.htm

Please follow the Linux Installation guide included with the software package to install and setup the SSD7101A-1 drive.

Using the HighPoint NVMe Manager

1. Starting the HighPoint NVMe Manager

    Double click the Desktop ICON to start the Web browser. It will automatically log-in to the HighPoint NVMe Manager using the default password.

    The password can be set after the first log-in. To change the password, select **Setting>Security** from the menu bar (see page 15 for more information).

2. Verify the SSD7101A-1 Status

The **Manage** Tab will display the status of the installed SSD7101A-1.
The Virtual Disk is listed under **Logic Device Information**. The
individual M.2 SSDs are listed under **Physical Device Information.**

3. Manage the RAID disk

The SSD7101A-1 only supports one RAID disk, and NVMe Manager will
automatically configure this RAID disk after the software has been
installed. If you need to add another M.2 SSD, you must first delete the
existing RAID disk, and then re-create a new RAID disk using all of the
M.2 SSDs.

To delete an existing RAID disk:

Under Logical Device Information, click the **Maintenance** link located to the right of the Status column. Click the **Delete** button from the pop-up **Array Information** Window:

Warning:
Deleting the RAID disk will destroy all data on the existing RAID array. Please make sure to back up important data before proceeding.

Rename a RAID disk:

The NVMe Manager will automatically name a RAID disk as **RAID_NVME**. It will display the disk name under the system device list. You may rename the RAID disk at any time, by clicking Maintenance and accessing the Array Information window.
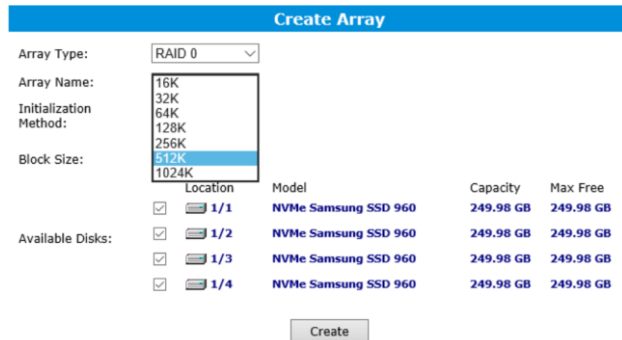
To create a new RAID disk:

1) Click the Create Array link from the Manage page:

2) Review the array settings and confirm RAID creation.
The SSD7101A-1 supports variable RAID Block Sizes from 16K to 1024K. You may adjust the RAID Block size from the Create Array page. Click the Create Button to create the RAID disk.

4.   Product Information and Settings

The **Setting** page includes **Product Information**, **Email notification** and **Security** settings.

Product Information:

This section reports the SSD7101A-1's PCI Bus information and PCIe Link status.

Email Notification:
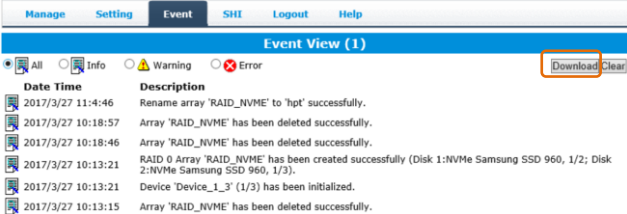
This feature allows you to configure email notification. You can instruct NVMe Manager to send all, or specific Event Log notifications to an Email address of your choice.

Security:

This option allows you to set the NVMe Manager's Log-in port number and Password.

5.   Event log

All NVMe Manager operations and disk status updates will be recorded to
the Event log. The Event log can be downloaded and saved to a file by
clicking the Download button.

The **Clear** button can be used to delete all entries and reset the event log.

Warning:
We recommend downloading and saving a copy of the current Event Log
before using the Clear option.

6.   SHI (Storage Health Inspector)

The **SHI** page will display S.M.A.R.T. data for each individual M.2 SSD.
Click the **Detail** link to the right of each SSD to view the corresponding
S.M.A.R.T. attributes. The SSD's TBW (Total Bytes Written) information
may help you review and track the SSD's life cycle.

Manage	Setting	Event	SHI	Logout	Help

Storage Health Inspector(SHI)

Port#	Device Serial Number	RAID	Temperature	Total Bytes Written	S.M.A.R.T
1	S3ESNX0J108927R	RAID_NVME	Normal	28.97 TB	Detail
2	S3ESNX0J108901R	RAID_NVME	Normal	31.39 TB	Detail
3	S3ESNX0J108493B	RAID_NVME	Normal	31.17 TB	Detail
4	S3ESNX0J108922W	RAID_NVME	Normal	31.07 TB	Detail

Device Name   Device_1_1

Model Number   NVMe Samsung SSD 960

Temperature Celsius 22

NVME S.M.A.R.T Attributes

Name	Value
Critical Warning	0x0
Composite Temperature (C)	22
Avaliable Spare	100%
Avaliable Spare Threshold	10%
Precentage Used	11%
Data Units Read	0x3fb452d
Data Units Written	0x3b5735d
Host Read Commands	0x108c6260
Host Write Commands	0xfb7c00e
Controller Busy Time	0x733
Power Cycles	0x90
Power On Hours	0x35
Unsafe Shutdowns	0x36
Media and Data Integrity Errors	0x0
Number of Error Information Log Entries	0x184
Warning Temperature Time	0x0
Critical Composite Temperature Time	0x0
Temperature Sensor 1 (C)	22
Temperature Sensor 2 (C)	27

Customer Support

If you encounter any problems while utilizing the SSD7101A-1 drive, or have any questions about this or any other HighPoint Technologies, Inc. product, feel free to contact our Customer Support Department.

Web Support: http://www.highpoint-tech.com/websupport/

HighPoint Technologies, Inc. websites:
http://www.highpoint-tech.com