



SSD7120

NVMe U.2 RAID Controller

User Guide

V1.00

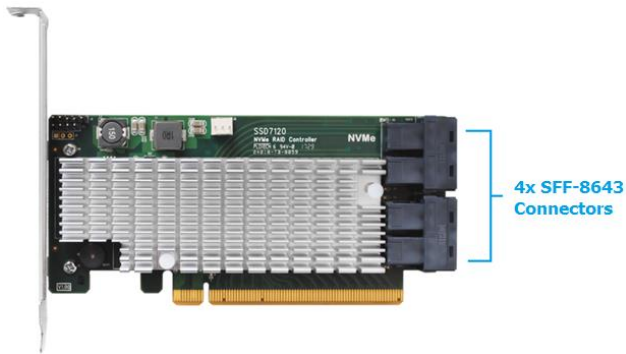
System Requirements

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- System with an empty PCIe 3.0 x16 slot
- SSF-8643 to U.2 Cable or SFF-8643 cable with NVMe backplane
- Windows 10 or later
- Linux Kernel 3.19 or later

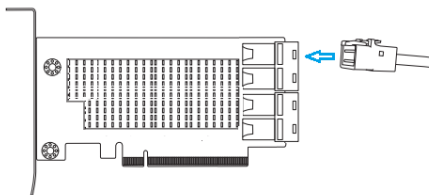
SSD7120 Hardware Overview

Front View



Hardware Installation:

1. Remove the system cover.
2. Insert the SSD7120 card into an open PCI-E 3.0 x16 slot on the motherboard.
3. After you have inserted the SSD7120 card, you can connect the SFF-8643 cables.

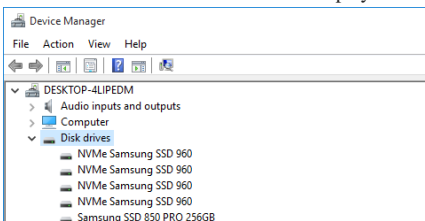


4. Connect the SSD7120 to the NVMe SSD's using the appropriate SFF-8643 cables.
5. Replace the system cover and power up the system.

Setting up the SSD7120 for a Windows operating system

1. Verifying Installation

After booting Windows, open **Device Manager**, and expand **Disk drives**. The installed NVMe Drive should be displayed:



6. Driver Installation

- 1) Download the Windows driver package from the HighPoint website: http://www.highpoint-tech.com/USA_new/series-SSD7120-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**:



7. Installing the HighPoint NVMe Manager software

The HighPoint NVMe Manager is used to configure and monitor the SSD7120. Download the HighPoint NVMe Manager Software package from the HighPoint website:

http://www.highpoint-tech.com/USA_new/series-SSD7120-download.htm

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

Setting up the SSD7120 for a Linux Distribution

Please download the Linux Software Package from the HighPoint Website:

http://www.highpoint-tech.com/USA_new/series-SSD7120-download.htm

Please follow the Linux Installation guide included with the software package to install and setup the SSD7120 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 SSD7120 Status

The **Manage** Tab will display the status of the installed SSD7120. The Virtual Disk is listed under **Logic Device Information**. The individual NVMe SSDs are listed under **Physical Device Information**.

Controller(1): RocketNVMe ▾

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The screenshot shows the RAID management interface with the following sections:

- Logical Device Information**

Name	Type	Capacity	BlockSize	SectorSize	OS Name	Status
RAID_NVME	RAID 0	999.92 GB	512k	512B	HPT DISK 0_0	Normal Maintenance
- Physical Device Information**

Location	Model	Capacity	Max Free
1/1	NVMe Samsung SSD 960	249.98 GB	0.00 GB
1/2	NVMe Samsung SSD 960	249.98 GB	0.00 GB
1/3	NVMe Samsung SSD 960	249.98 GB	0.00 GB
1/4	NVMe Samsung SSD 960	249.98 GB	0.00 GB

3. Manage the RAID disk

The SSD7120 only supports one RAID disk. If you need to add new NVMe SSD, you must first delete the existing RAID disk, and then re-create a new RAID disk using all of the NVMe SSDs.

To create a new RAID disk:

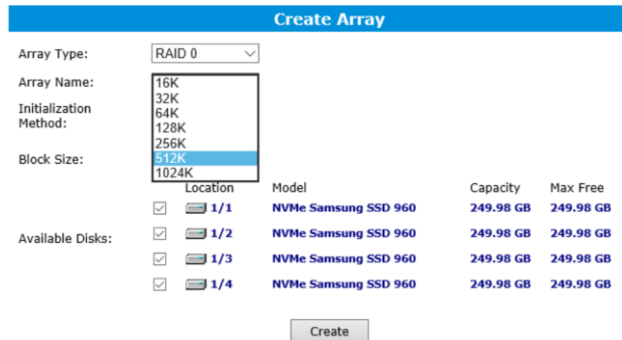
- 1) Click the Create Array link from the Manage page:



The screenshot shows a navigation bar with 'Manage', 'Setting', 'Event', 'SHI', 'Logout', and 'Help'. Below it, a sidebar contains 'Create Array' (highlighted with a red box) and 'Logical Device'. The main content area is titled 'Logical Device Information' and 'Physical Device Information'. The physical device information table is as follows:

Location	Model	Capacity	Max Free
1/1	NVMe Samsung SSD 960	249.98 GB	249.98 GB
1/2	NVMe Samsung SSD 960	249.98 GB	249.98 GB
1/3	NVMe Samsung SSD 960	249.98 GB	249.98 GB
1/4	NVMe Samsung SSD 960	249.98 GB	249.98 GB

- 2) Review the array settings and confirm RAID creation.
The SSD7120 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.



The 'Create Array' page shows the following configuration options:

- Array Type: RAID 0
- Array Name: [Empty field]
- Initialization Method: [Empty field]
- Block Size: 512K (selected from a dropdown menu with options: 16K, 32K, 64K, 128K, 256K, 512K, 1024K)

Available Disks table:

Location	Model	Capacity	Max Free
<input checked="" type="checkbox"/> 1/1	NVMe Samsung SSD 960	249.98 GB	249.98 GB
<input checked="" type="checkbox"/> 1/2	NVMe Samsung SSD 960	249.98 GB	249.98 GB
<input checked="" type="checkbox"/> 1/3	NVMe Samsung SSD 960	249.98 GB	249.98 GB
<input checked="" type="checkbox"/> 1/4	NVMe Samsung SSD 960	249.98 GB	249.98 GB

At the bottom, there is a 'Create' button.

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:

The screenshot shows the 'Logical Device Information' window. At the top, there is a table with columns: Name, Type, Capacity, BlockSize, SectorSize, OS Name, and Status. The first row is 'RAID_NVME' with Type 'RAID 0', Capacity '999.92 GB', BlockSize '512k', SectorSize '512B', OS Name 'HPT DISK 0_0', and Status 'Normal'. A 'Maintenance' link is highlighted in a red box to the right of the Status column. Below this, an 'Array Information' pop-up window is shown, listing four devices: 'Device_1_1', 'Device_1_2', 'Device_1_3', and 'Device_1_4'. A 'Delete' button is highlighted in a red box next to 'Device_1_2'. Other buttons like 'Rename' and 'Close' are also visible. In the background, a table lists the physical disks with columns for Location, Model, Capacity, and Max Free.

Name	Type	Capacity	BlockSize	SectorSize	OS Name	Status	Maintenance
RAID_NVME	RAID 0	999.92 GB	512k	512B	HPT DISK 0_0	Normal	Maintenance

Location	Model	Capacity	Max Free
1/1	NVMe Samsung S	9.98 GB	0.00 GB
1/2	NVMe Samsung S	9.98 GB	0.00 GB
1/3	NVMe Samsung S	9.98 GB	0.00 GB
1/4	NVMe Samsung S	9.98 GB	0.00 GB

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.

4. Product Information and Settings

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

Manage	Setting	Event	SHI	Logout	Help
Product	Product Info				
Email Notification	Product Name: SSD7101A-1				
Security	PCI Bus Number: 2				
	PCI Device Number: 0				
	PCI Func Number: 0				
	Link Width: x16				
	Link Speed: Gen 3				
	Serial Number: 1712B1R100001				

Product Information:

This section reports the SSD7120's PCI Bus information and PCIe Link status.

Email Notification:

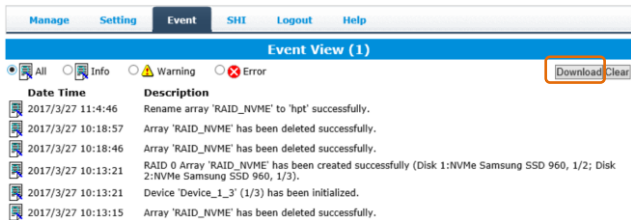
This feature allows you to configure email notification. You can instruct NVMe Manager to send all, or specific Event Log notifications to an Email address of your choice.

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 NVMe 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				
Available Spare	100%				
Available Spare Threshold	10%				
Percentage 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 SSD7120 controller, 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>

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