



# **HighPoint NVMe G4 Data RAID Installation Guide (Windows)**

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## Overview

This guide includes important hardware/software requirements, installation & upgrade procedures, and troubleshooting tips for using NVMe products with a Windows operating system.

The following is a list of supported NVMe products using Windows G4 driver.

Supported Controller	SSD7101A SSD7204 SSD7104 SSD7104F SSD7140A SSD7120 SSD7180 SSD7184 RocketAIC 7140AW Series
Supported Enclosure	SSD6540 SSD6540M SSD6444 SSD6444M

## Prerequisites

This section describes the base hardware and software requirements for the NVMe products.

## Driver Installation

This section covers driver installation, driver upgrade and driver uninstallation procedures for NVMe products.

## Management Software Installation

This section explains how to download and install RAID Management Software Suite for Windows operating systems. The download includes both the Web RAID Management Interface (WebGUI), and the CLI (Command Line Interface).

## **Troubleshooting**

Please consult this section if you encounter any difficulties installing or using the NVMe products. It includes descriptions and solutions for commonly reported technical issues.

## **Appendix**

A selection of useful information and web links for the NVMe products.

## Prerequisites for a Data-RAID Configuration

The NVMe products can support Data-RAID arrays. In order to configure a Data-RAID array, you will need the following:

1. **An NVMe SSD must be installed.** You must have at least one NVMe SSD installed into the NVMe products.  
*Note: The RocketAIC 7140AW series NVMe drives already include pre-configured SSDs.*
2. **A PCIe 3.0/4.0/5.0 slot with x8 or x16 lanes.**
3. **Make sure any non-HighPoint drivers are uninstalled for any SSDs hosted by the NVMe products.** 3rd party software and manufacturer provided drivers may prevent the NVMe products from functioning properly.

### Warnings:

- 1) **Failing to remove the controller and SSDs when uninstalling the driver may result in data loss.**
- 2) **Always make sure the HighPoint Windows driver is installed before moving a NVMe product & RAID array to another Windows system.**

Windows operating systems will always load the default NVMe support after the HighPoint Windows driver has been uninstalled, or if it detects the present of a card when no driver has been loaded – this driver will only recognize the NVMe SSDs as separate disks.

## Driver Installation

### Installing the Device Driver

The following section discusses driver installation for a non-bootable NVMe configuration.

#### 1. Install NVMe products and disks into the system

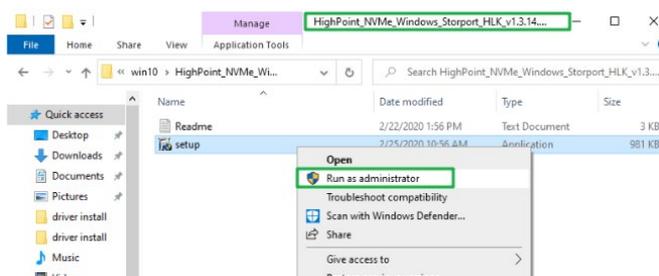
After installing the NVMe products and disks into the system, power on the motherboard.

#### 2. Download the Device Driver

Download the appropriate driver from the NVMe products's Software Downloads webpage.

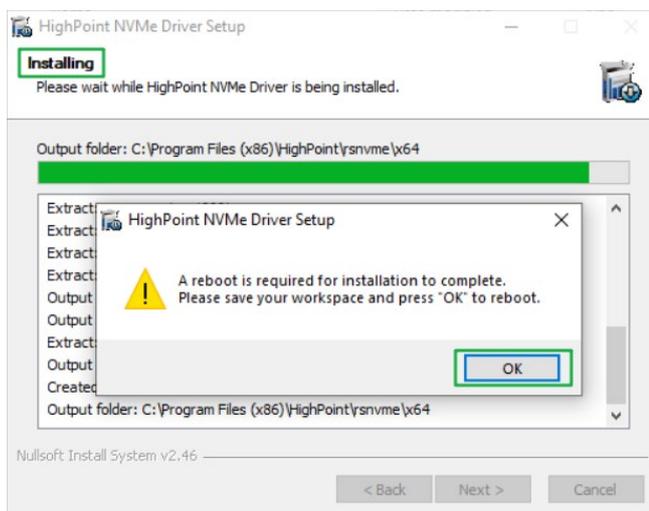
#### 3. Install the Device Driver

- 1) Locate the driver download and open the file.
- 2) Double-click **setup**.



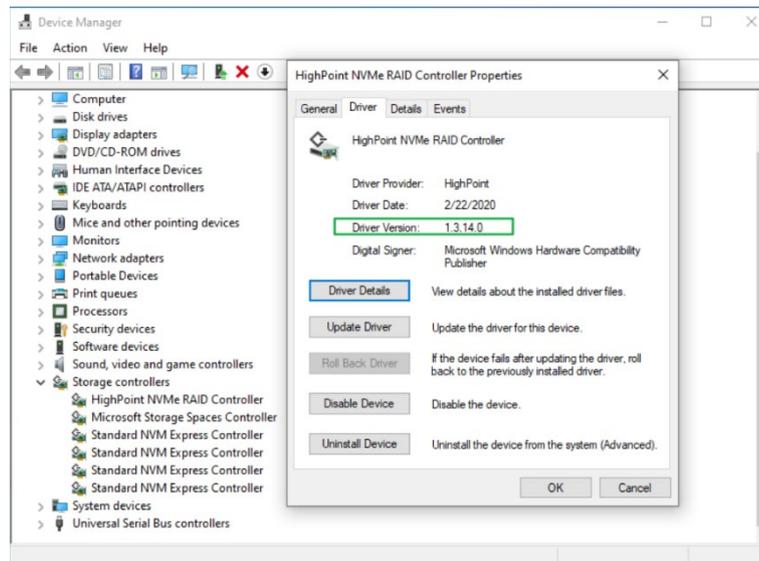
**Note:** If installation does not start, you may have to manually start setup using Administrator Privileges. Right-click **setup**, select **Run as Administrator** from the menu, and confirm the pop-up window to proceed.

- 3) After driver installation is complete, click **OK** to reboot.



- 4) Once Windows has rebooted, open **Device Manager** to check the status of the driver. Expand **Storage controllers** and click on the **HighPoint NVMe RAID Controller** entry. View the properties and click the **Driver** tab:

### Example screenshot



**Note:** The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.

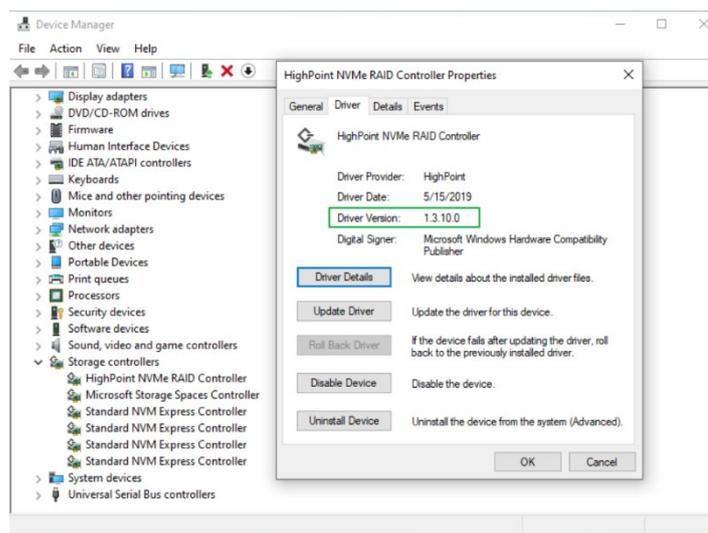
## Updating the Device Driver

**Note:** Before attempting to update the driver entry, ensure that the NVMe products are removed from the motherboard.

### 1. Check the Driver version

Open **Device Manager** to check the current driver version. Expand **Storage controllers** and click on the **HighPoint NVMe RAID Controller** entry. View the properties and click the **Driver** tab:

#### Example screenshot



### 2. Download the Device Driver

Download the latest driver from the controller's Software Downloads webpage.

### 3. Shutdown and Remove the Device

- 1) Power down the system and remove the NVMe products from the motherboard.

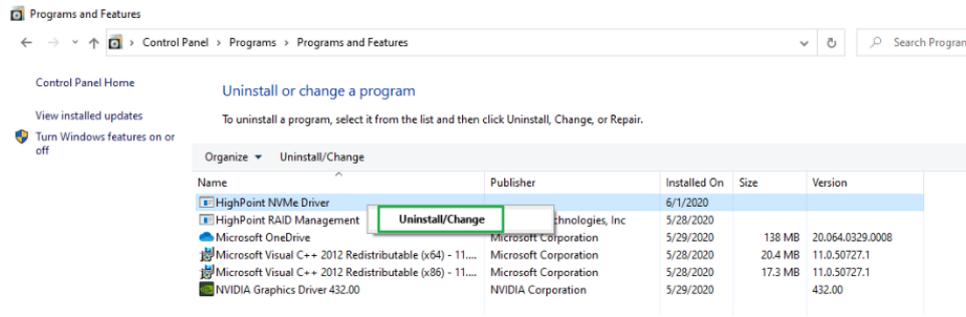
**Note:** *Failing to remove the NVMe products from the motherboard during the uninstall process may result in data loss. Whenever the driver is uninstalled, Windows will attempt to install the default NVMe support, which may corrupt the RAID configurations and any data stored on SSD's hosted by the NVMe products.*

- 2) Power on the system and boot Windows.

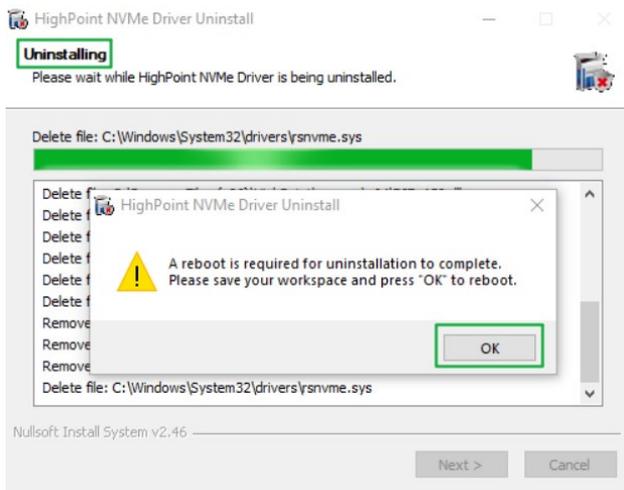
### 4. Uninstall the old Device Driver

- 1) Access **Control Panel** and select **Programs** → **Programs and Features**, and click on the **HighPoint NVMe Driver** entry.

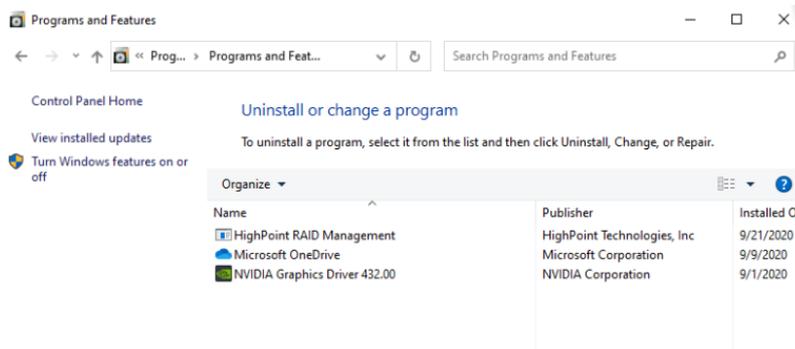
2) Click **Uninstall/Change**.



3) After uninstalling the driver, click **OK** to reboot.

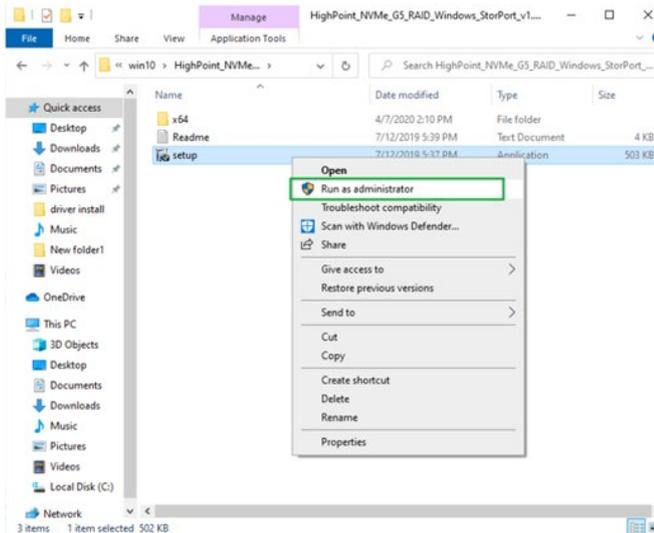


4) After Windows has rebooted, access **Control Panel** to make sure the driver has been uninstalled. If there are no **HighPoint NVMe Driver** entries present, the driver has been successfully uninstalled:



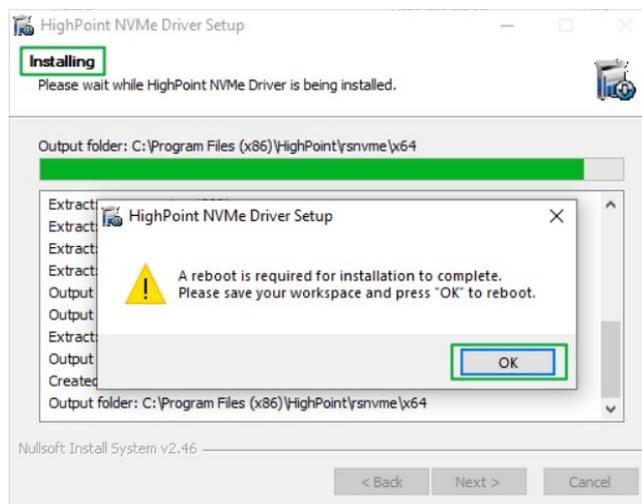
## 5. Install the new Device Driver

- 1) Locate the driver download and open the file.
- 2) Double-click **setup**.



***Note:** If installation does not start, you may have to manually start setup using Administrator Privileges. Right-click **setup**, select **Run as Administrator** from the menu, and confirm the pop-up window to proceed.*

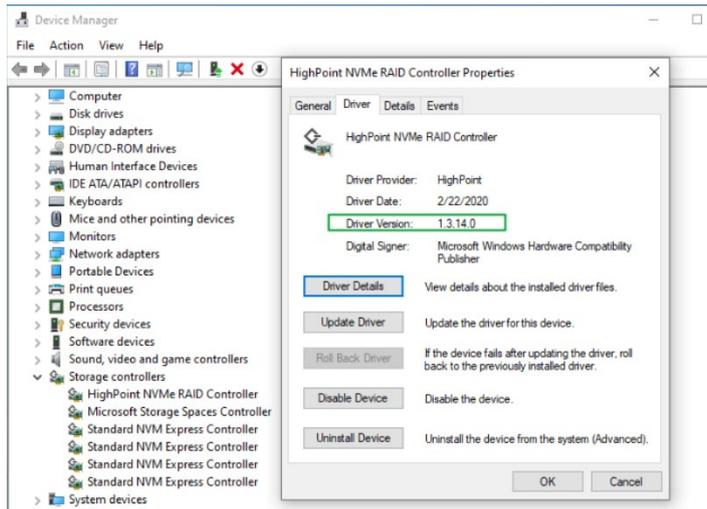
- 3) Windows will notify you that the driver is already installed. Click **OK** to reboot.



- 4) After entering the system, **shut down** the system. In the shutdown state, connect the NVMe products to the motherboard.
- 5) Boot into the system.

- Once Windows has rebooted, open **Device Manager** to check the status of the driver. Expand **Storage controllers** and click on the **HighPoint NVMe RAID Controller** entry. View the properties and click the **Driver** tab:

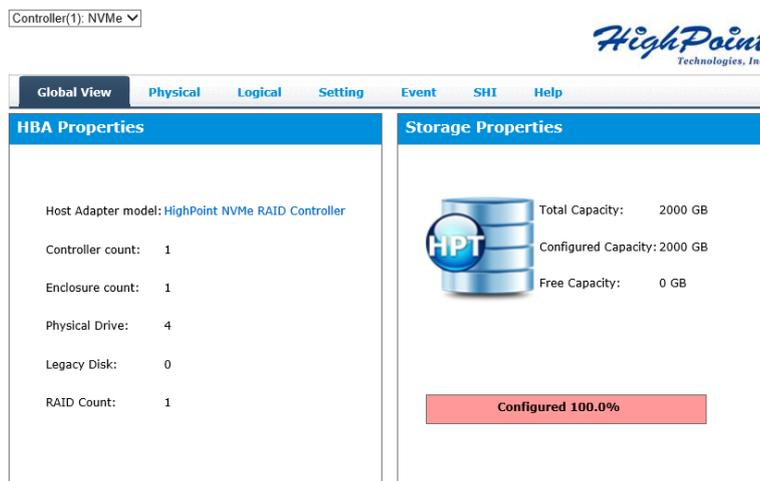
**Example screenshot**



***Note:** The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product’s Software Updates page.*

- Open the WebGUI and make sure the SSD’s arrays are properly recognized.

***Note:** make sure the HighPoint RAID Management Software has been installed ([Install HighPoint RAID Management Software](#)).*

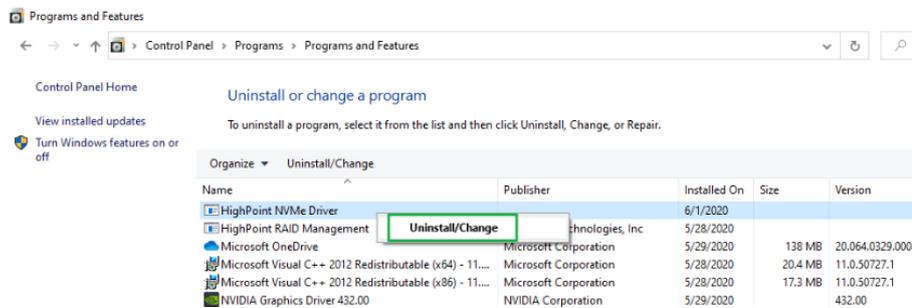


## Uninstalling the Device Driver

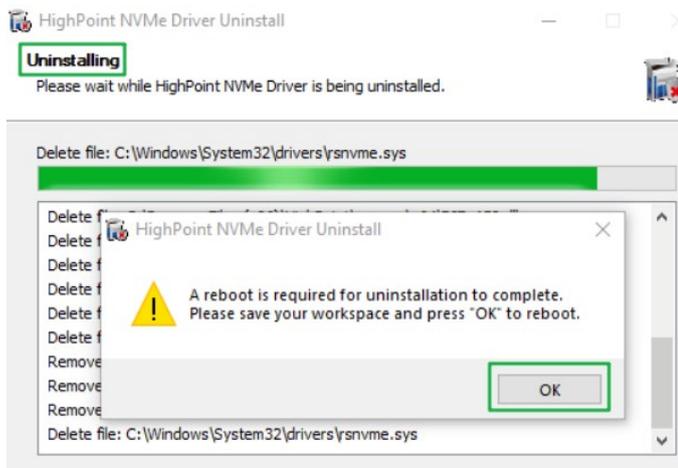
1. Power down the system and remove the NVMe products from the motherboard.

**Note: Failing to remove the NVMe products from the motherboard during the uninstall process may result in data loss.** Whenever the driver is uninstalled, Windows will attempt to install the default NVMe support, which may corrupt the RAID configurations and any data stored on SSD's hosted by the NVMe products.

2. Power on the system and boot Windows.
3. Access **Control Panel** and select **Programs**→ **Programs and Features**, and click on the **HighPoint NVMe Driver** entry.
4. Click **Uninstall/Change**.

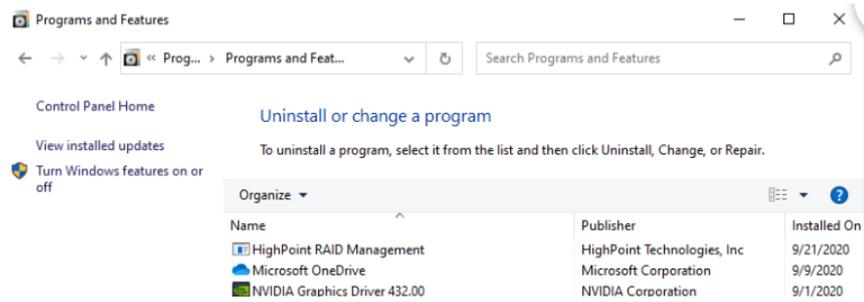


5. After uninstalling the driver, click **OK** to reboot.



6. After Windows has rebooted, access **Control Panel** to make sure the driver has been uninstalled. If there are no HighPoint NVMe Driver entries present, the driver has been successfully uninstalled.

### Example screenshot



## Installing the HighPoint RAID Management Software (WebGUI & CLI)

The HighPoint RAID Management Software (WebGUI and CLI utilities) are used to configure and monitor NVMe SSDs hosted by the NVMe products. Download the latest software package from the HighPoint website.

1. Extract the package and double-click the HighPoint RAID Management program to install the software.
2. Once installed, locate the Management icon on the desktop and double-click to start the WebGUI interface.

### Example screenshot

Controller(1): NVMe ▾

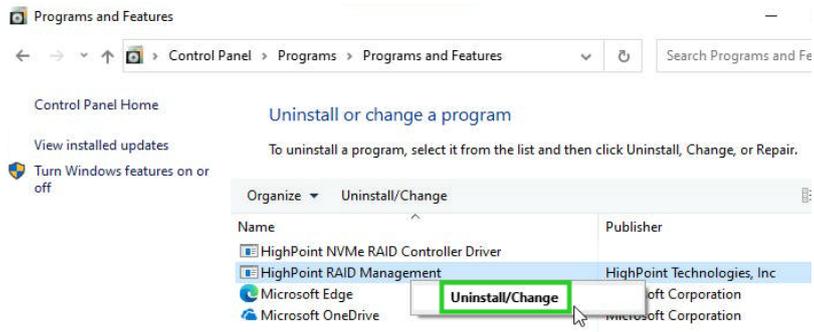


Global View Physical Logical Setting Event SHI Help

HBA Properties	Storage Properties
Host Adapter model: HighPoint NVMe RAID Controller	 <p>Total Capacity: 2000 GB Configured Capacity: 2000 GB Free Capacity: 0 GB</p> <p>Configured 100.0%</p>
Controller count: 1	
Enclosure count: 1	
Physical Drive: 4	
Legacy Disk: 0	
RAID Count: 1	

## Uninstalling the HighPoint RAID Management Software (WEBGUI & CLI)

1. Access **Control Panel** and select **Programs**→ **Programs and Features**, and **right-click on the HighPoint RAID Management** entry.
2. Click **Uninstall/Change**



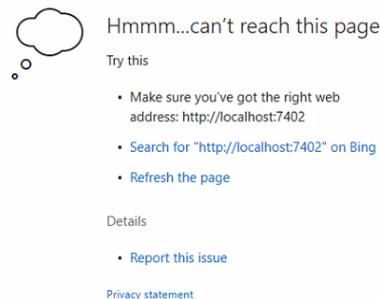
3. After uninstalling the HighPoint RAID Management, click **Finish**.



## Troubleshooting

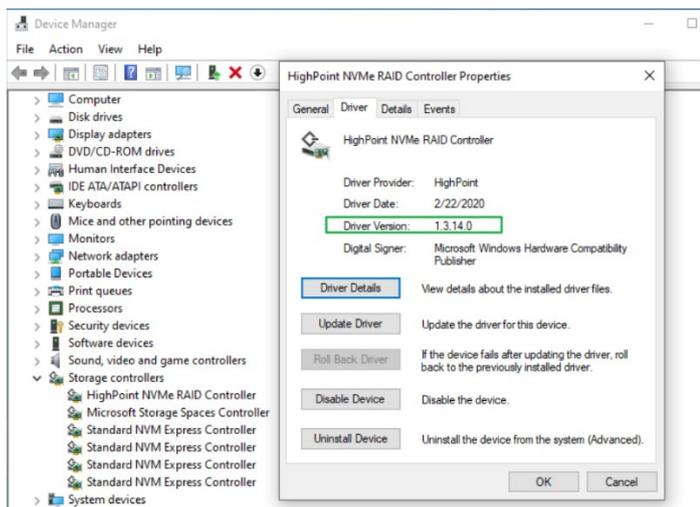
**Note:** When troubleshooting your NVMe products, make sure all of the Prerequisites have been met before proceeding.

### The WebGUI will not start after double-clicking the desktop icon.



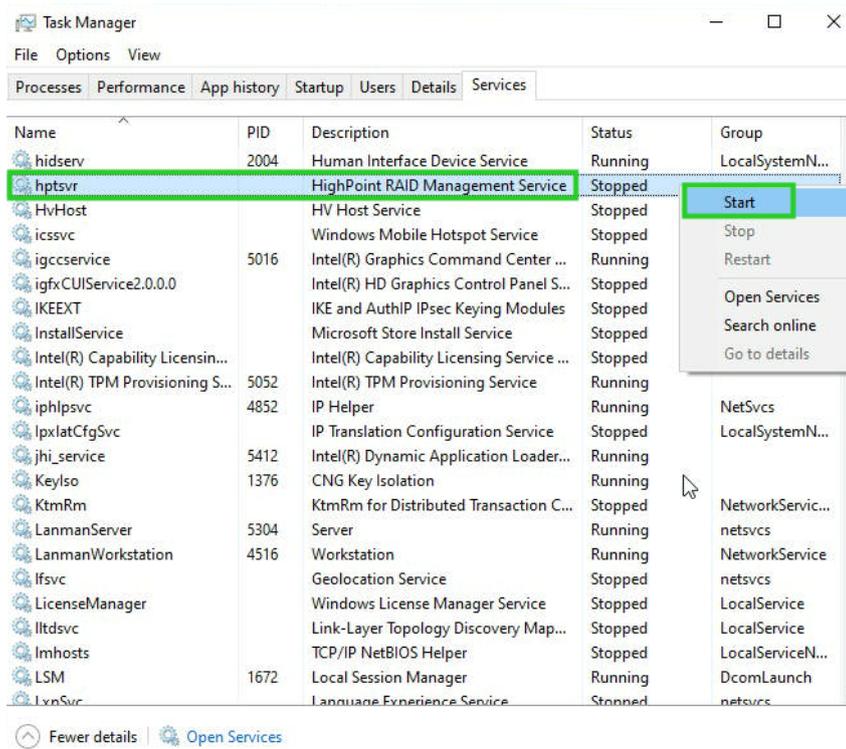
1. This is often the result of a missing driver or improperly installed driver. Open **Device Manager** and check under **Storage Controllers**. If the Driver is properly installed, you should see a **HighPoint NVMe Controller** entry for each NVMe SSD hosted by the NVMe products, followed by **HighPoint NVMe RAID Controller** entry:

#### Example screenshot



**Note:** The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.

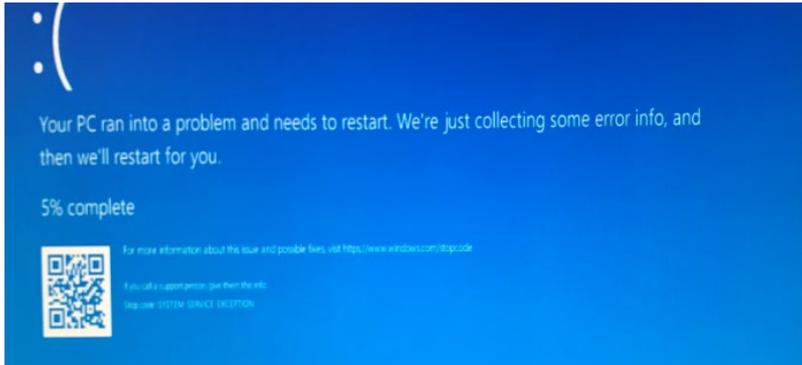
- You should also check to make sure **hptsvr** is running under **Task Management** → **Services**. If the status of **hptsvr** process is **Stopped**, right-click on this entry and select **Start** from the menu:



## BSOD (Blue Screen of Death)

There are three scenarios in which a BSOD may occur with:

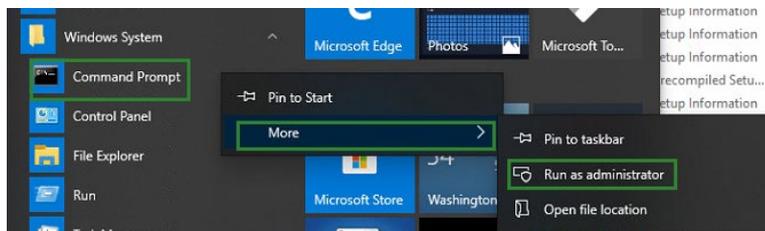
### 1. Windows displays a BSOD when the controller is installed.



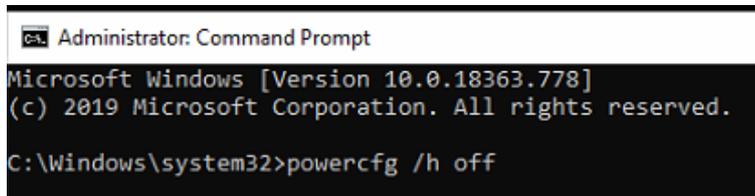
If you are running Windows 10, please make sure that any **Quick Shutdown** options are disabled – these features can cause a BSOD when the NVMe product is installed into or removed from your motherboard. BSODs can be avoided by **completely powering off** your system.

### How to Turn off Quick Shutdown for Windows

1) Use administrator privileges to access the Command Prompt utility:



2) Enter the command in cmd to close the quick shutdown: **powercfg /h off**



- 3) Enter the command to check that the quick shutdown is turned off: **powercfg / a**

```
C:\Windows\system32>powercfg /a
The following sleep states are available on this system:
  Standby (S3)

The following sleep states are not available on this system:
  Standby (S1)
    The system firmware does not support this standby state.

  Standby (S2)
    The system firmware does not support this standby state.

  Hibernate
    Hibernation has not been enabled.

  Standby (S0 Low Power Idle)
    The system firmware does not support this standby state.

  Hybrid Sleep
    Hibernation is not available.

  Fast Startup
    Hibernation is not available.

C:\Windows\system32>a
```

- 4) Shut down the computer and remove the NVMe product from the motherboard;
- 5) Restart the system and open the NVMe products's driver download.
- 6) Double-click Setup to reinstall the driver; if you are prompted to uninstall the driver, you will need to follow the prompts and restart. After rebooting, double-click **Setup** once more to install the driver.
- 7) After the driver installation is complete, shut down the computer. Connect the NVMe SSDs to the NVMe products and insert it into the motherboard PCIe slot.
- 8) Power on the system, boot Windows and access the WebGUI; if the WebGUI can't connect, you need to restart again.
- 9) If it fails to start the second time, please access our Online Support portal and submit a support ticket.

## 2. A BSOD is encountered when installing the driver:

If you experience a BSOD during driver installation, please collect please collect a series of log files: [How to Collect Diagnostic Logs](#) and submit a new support ticket via our Online Support Portal.

## 3. If Windows reports that driver installation has failed:

Please collect a series of log files and submit a new support ticket via our Online Support service: <https://www.highpoint-tech.com/support-and-services>

**Note:** *If you experience a BSOD or error when installing the driver, please ensure that any **Quick Shutdown** options are **not enabled** – Quick shutdown can cause a BSOD when removing the NVMe products from your motherboard, and plugging it back in. BSODs can be avoided by **completely powering off** your system.*

## Controller and Drive Detection Issues

- If your motherboard or Windows is unable to detect the NVMe products or NVMe SSDs, please shutdown the system and try moving the controller to another PCIe slot.
- Make sure any unrelated NVMe devices are removed from the motherboard while troubleshooting the NVMe products.

## Appendix

When submitting a support ticket via our Online Support Portal, the following information will help our Support Department diagnose and resolve your issue as quickly and efficiently as possible.

### How to Collect Diagnostic Logs in WebGUI

We have provided a detailed video on log collection methods: [link](#)

1. Start the WEBGUI, Diagnostic view will appear when Driver or HPT card does not effect, you can see the system information and HPT Product information in this view.

The screenshot shows the 'Diagnostic View' in the HighPoint WebGUI. It features a navigation bar with 'Global View', 'Physical', 'Logical', 'Setting', 'Event', 'SHI', and 'Help'. The main content is divided into two columns: 'System' and 'Product'.

System	Product
OS: Microsoft Windows 10 Enterprise	Controller: HighPoint NVMe RAID Controller
Kernel: 10.0.19043	Driver Name: rsnvme
CPU: AMD Ryzen Threadripper 3960X 24-Core Processor	Driver Version: 1.3.19.0
MotherBoard: ASUSTeK COMPUTER INC. PRIME TRX40-PRO Rev 1.xx	
BIOS: American Megatrends Inc. 1303 AMD - 3242016	
Disk: Samsung SSD 860 PRO 256GB 238.467911GB	
Chipset: Advanced Micro Devices	

Below the tables, the 'Logs Location' is displayed: **Logs have been saved in following path:** C:\Program Files (x86)\HighPoint Technologies, Inc\HighPoint RAID Management\Service\webguiroot\HighPoint\_rsnvme\_1.3.19.0\_2021.11.12\_09.46.zip. A 'Save Logs' button is visible to the right.

2. You can also click 'Help' → 'Diagnostic' to enter the diagnostic view.

The screenshot shows the 'Controller Info' page in the HighPoint WebGUI. At the top, there is a dropdown menu for 'Controller(1): HighPoint'. The HighPoint Technologies, Inc. logo is visible in the top right. The navigation bar includes 'Global View', 'Physical', 'Logical', 'Setting', 'Event', 'SHI', and 'Help'. The 'Controller Info' section displays the following details:

<b>Model Name:</b>	HighPoint NVMe RAID Controller
<b>Vendor:</b>	HighPoint Technologies, Inc.

Additional options like 'Controller', 'Rescan', 'Online Help', and 'Diagnostic' are visible in the interface.

3. Click the “**Save Logs**” button to create the diagnostic file.

**Note:** You need to wait until the log location shows "Logs **have been saved** in following path:"

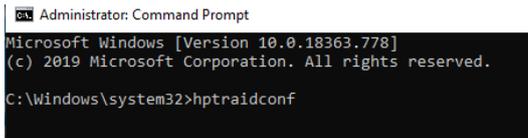
Diagnostic View	
System	Product
OS: Microsoft Windows 10 Enterprise	Controller: HighPoint NVMe RAID Controller
Kernel: 10.0.19043	Driver Name: rsnvme
CPU: AMD Ryzen Threadripper 3960X 24-Core Processor	Driver Version: 1.3.19.0
MotherBoard: ASUSTEK COMPUTER INC. PRIME TRX40-PRO Rev 1.xx	
BIOS: American Megatrends Inc. 1303 AMD - 3242016	
Disk: Samsung SSD 860 PRO 256GB 238.467911GB	
Chipset: Advanced Micro Devices	

Logs Location: **Logs have been saved in following path:** Save Logs

C:\Program Files (x86)\HighPoint Technologies, Inc\HighPoint RAID Management\Service\webguiroot\HighPoint\_rsnvme\_1.3.19.0\_2021.11.12\_09.46.zip

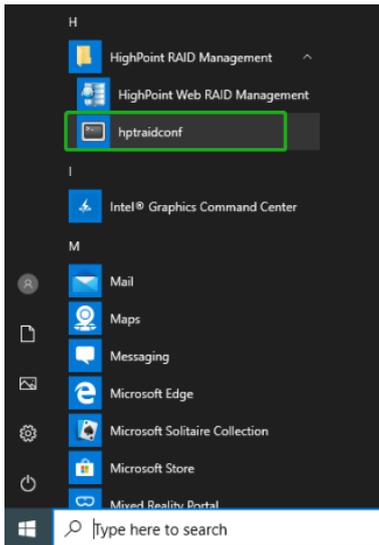
## How to Collect Diagnostic Logs using the CLI

1. Run '**Command Prompt**' as **Administrator** and enter **hptraidconf** and press Enter.

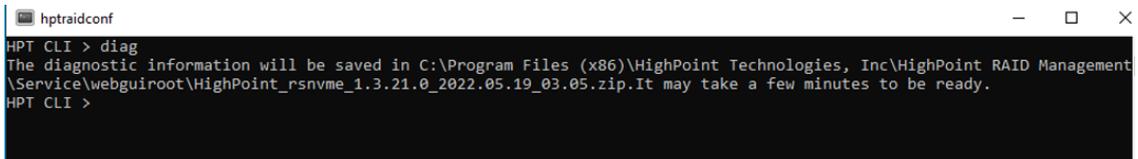


```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.18363.778]
(c) 2019 Microsoft Corporation. All rights reserved.
C:\Windows\system32>hptraidconf
```

or Click '**Start**' to find the **HighPoint RAID Management** folder, and click on **hptraidconf**



2. Execute the command '**diag**' in **CLI**, your log information will be collected.



```
hptraidconf
HPT CLI > diag
The diagnostic information will be saved in C:\Program Files (x86)\HighPoint Technologies, Inc\HighPoint RAID Management
\Service\webguiroot\HighPoint_rsnvme_1.3.21.0_2022.05.19_03.05.zip.It may take a few minutes to be ready.
HPT CLI >
```

Please submit the log file to our **Support Department** using our online services: [Link](#).