



BRD7103DC & BRD7505DC Boot RAID Windows Installation Guide

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Prerequisites for a Bootable RAID Configuration

The BRD7103DC/BRD7505DC NVMe AIC RAID Drives can support bootable RAID arrays. After configuring an array using the UEFI RAID tool, you can install a Windows or Linux operating system to the NVMe SSD's. In order to configure a bootable NVMe RAID array, you will need the following:

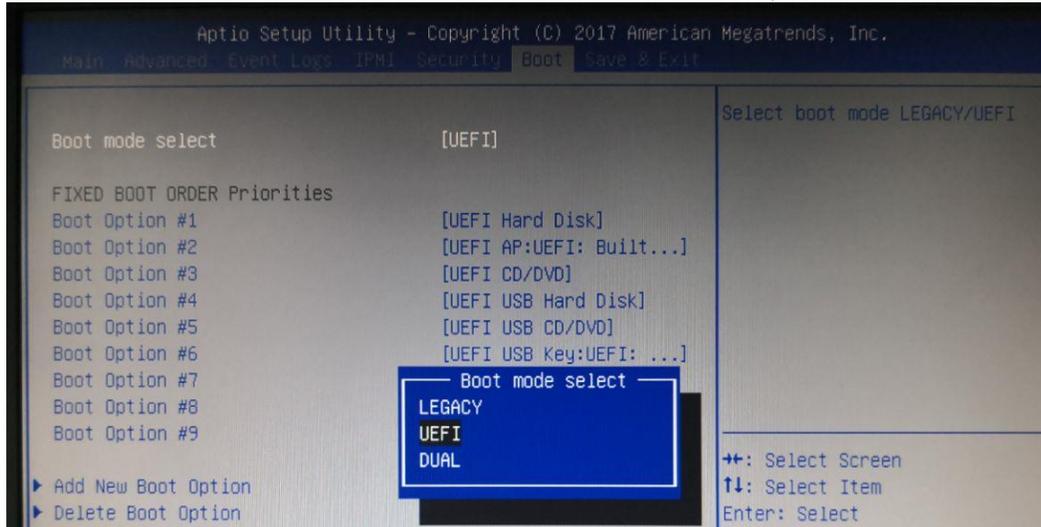
Note: Prior to system installation, please do not connect any NVMe to the motherboard M.2 SLOT to prevent any unexpected situation during the installation process.

1. **NVMe AIC RAID Drives must be installed.** The BRD7103DC/BRD7505DC NVMe controllers must be installed into a PCIe 3.0/4.0 slot with x8 or x16 lanes.
2. **Your motherboard must have a UEFI BIOS with option ROM settings** for third party devices (such as the BRD7103DC/BRD7505DC, optical drives and USB flash drives). If this is not configured correctly, the system will fail to load the BRD7103DC/BRD7505DC NVMe controller. Please check the [BRD7103DC](#), [BRD7505DC](#) compatibility lists for recommended motherboards.
3. **Secure Boot must be disabled.** The BRD7103DC/BRD7505DC UEFI capability has not been signed and certified. If Secure Boot is enabled, the motherboard will not recognize the BRD7103DC/BRD7505DC NVMe AIC RAID Drives, and you will be unable to proceed with installation.
4. **Install an optical drive into the system** (such as a DVD-ROM, DVD-RW or Blu-Ray drive).
5. **Prepare the OS Installation disc** (Windows 10 & later / Windows server 2016 & later, or a Linux Distribution that corresponds with the binary diver you intend to install). Download and burn an official copy of the latest ISO image of your preferred operating system to a DVD. This should be inserted into the optical drive when booting the system.
6. **Remove all other drives during the OS installation process.** Make sure only the BRD7103DC/BRD7505DC NVMe AIC RAID Drives, and the optical drive are installed into the system during this procedure. This includes any other USB hard drives, USB flash drives, memory sticks, or SAS/SATA drives. You can reattach these drives after the operating system has been successfully installed.
7. **You will need a USB flash drive** – the BRD7103DC/BRD7505DC driver should be extracted to the root directory of this flash drive.
8. **Make sure any non-HighPoint drivers are uninstalled for any SSD's hosted by the BRD7103DC/BRD7505DC NVMe AIC RAID Drives. 3rd party software and manufacturer provided drivers may prevent the BRD7103DC/BRD7505DC from functioning properly.**
9. **For Windows 10 users, make sure to Disable Fast Boot.**

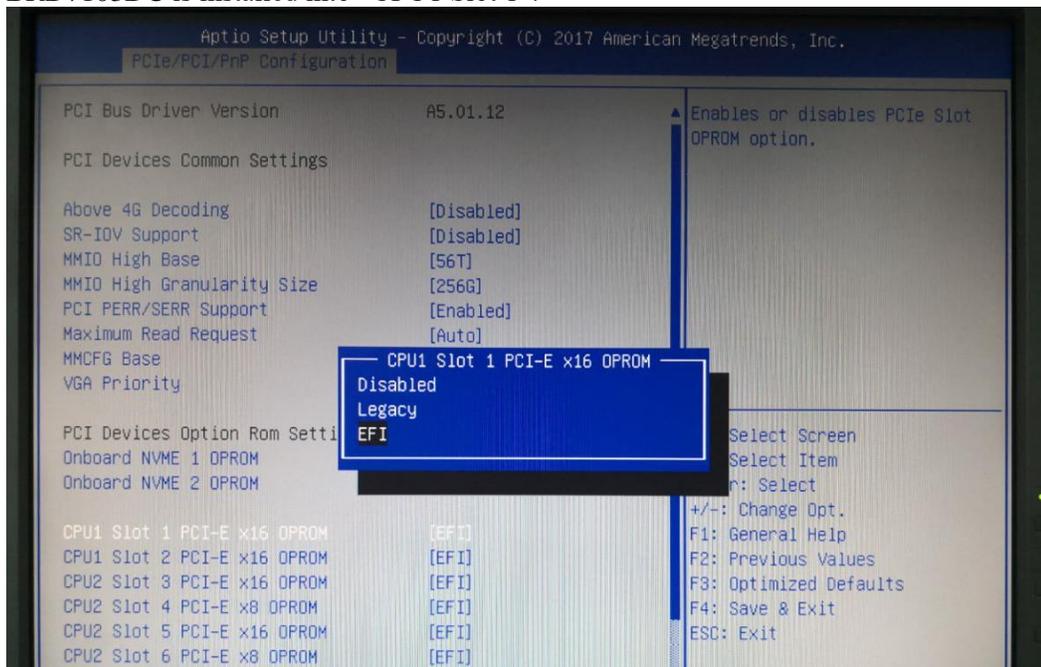
UEFI BIOS Settings

Different motherboards will provide different UEFI-related BIOS settings. Please consult your motherboard's user manual for more information. This section provides examples for two different types of motherboard BIOS menus.

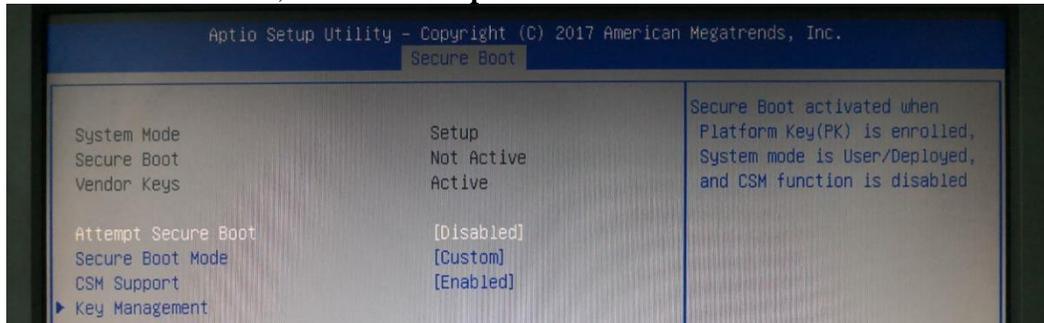
1. **Example 1:** Changing the UEFI setting (SuperMicro X11DAi-N motherboard).
 1. Boot the system and access the motherboard BIOS menu.
 2. Scroll to the **Boot** tab and set the "**Boot Mode Select**" to "**UEFI**";



3. Under "**Advanced->PCIe/PCI/PnP Configuration->**, change "**CPUx Slot x PCI-E OPROM**" to "**EFI**". "**x**" represents the PCIE slot assignment. For this example, the BRD7103DC is installed into "**CPU1 Slot 1**".

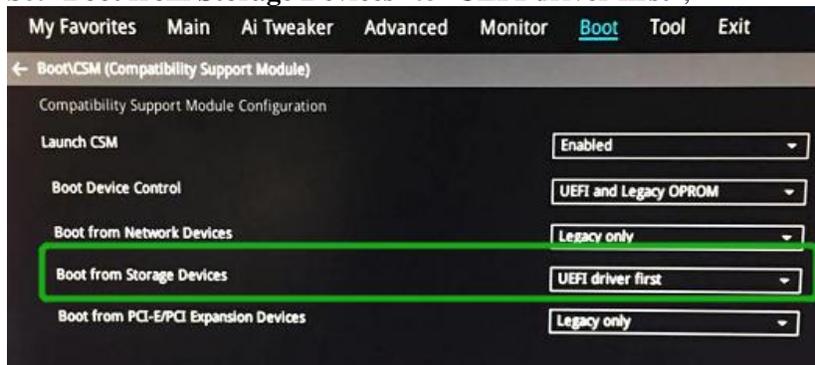


4. Disable "Secure Boot", and set "Attempt Secure Boot" to "Disabled".

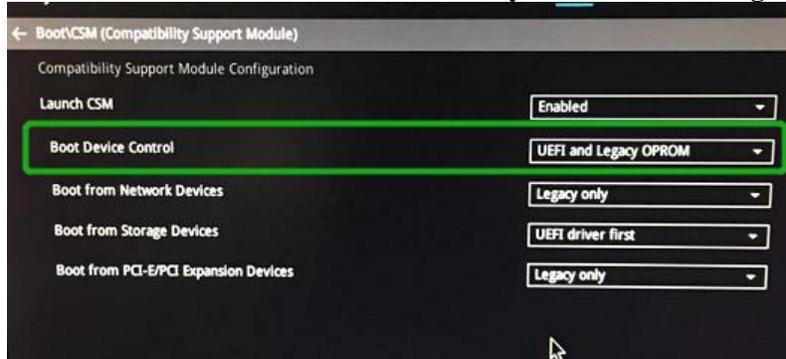


2. **Example 2:** Changing the UEFI setting (ASUS PRIME X299 –DELUXE):

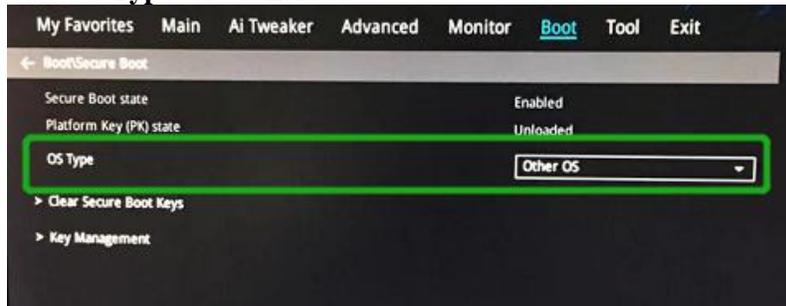
- a. Boot the system and access the motherboard's BIOS menu.
- b. Set "**Boot from Storage Devices**" to "**UEFI driver first**";



- c. Set "**Boot Device Control**" to "**UEFI Only**" or "**UEFI and Legacy OPROM**";



- d. Set "**OS Type**" to "**Other OS**".

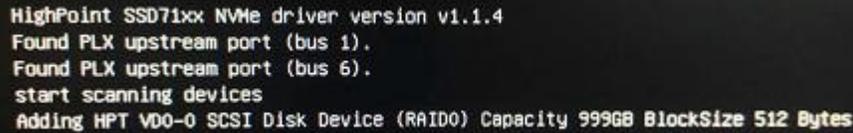


How to install Windows to the BRD7103DC/BRD7505DC NVMe AIC RAID Drives

Note: The following installation process uses the BRD7103DC as an example

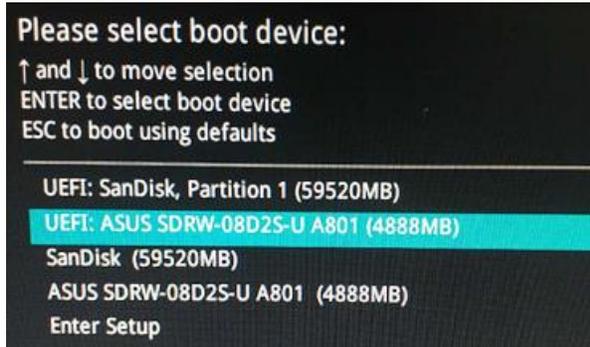
Step 1 - Install Windows

- a. Insert the Windows install DVD in your optical drive (DVD/Blu-ray, etc.) and then reboot your system.
- b. The following RAID information should be displayed by the motherboard BIOS post screen:



```
HighPoint SSD71xx NVMe driver version v1.1.4
Found PLX upstream port (bus 1).
Found PLX upstream port (bus 6).
start scanning devices
Adding HPT V00-0 SCSI Disk Device (RAID0) Capacity 999GB BlockSize 512 Bytes
```

- c. Enter the Boot list, and select start from **UEFI DVD:**

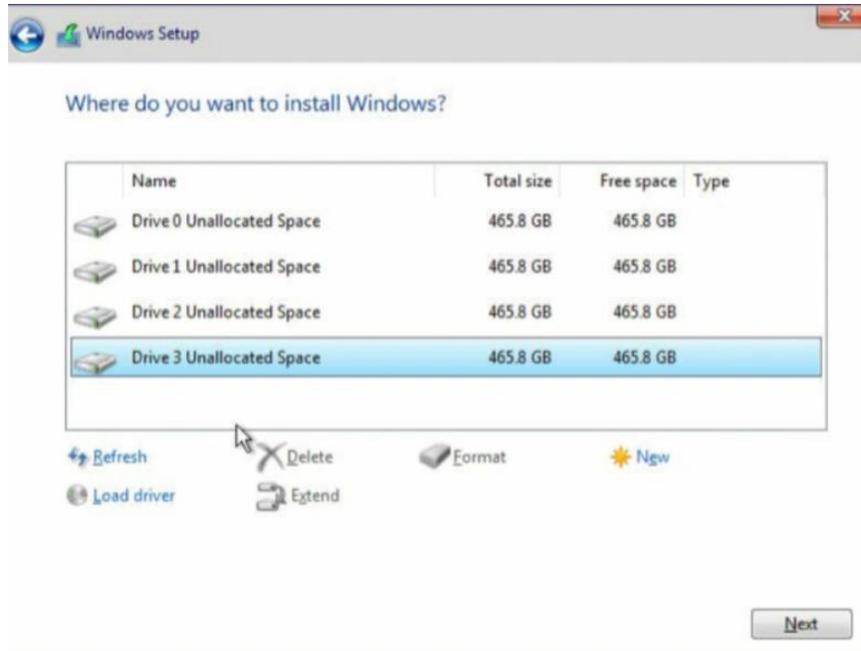


```
Please select boot device:
↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults

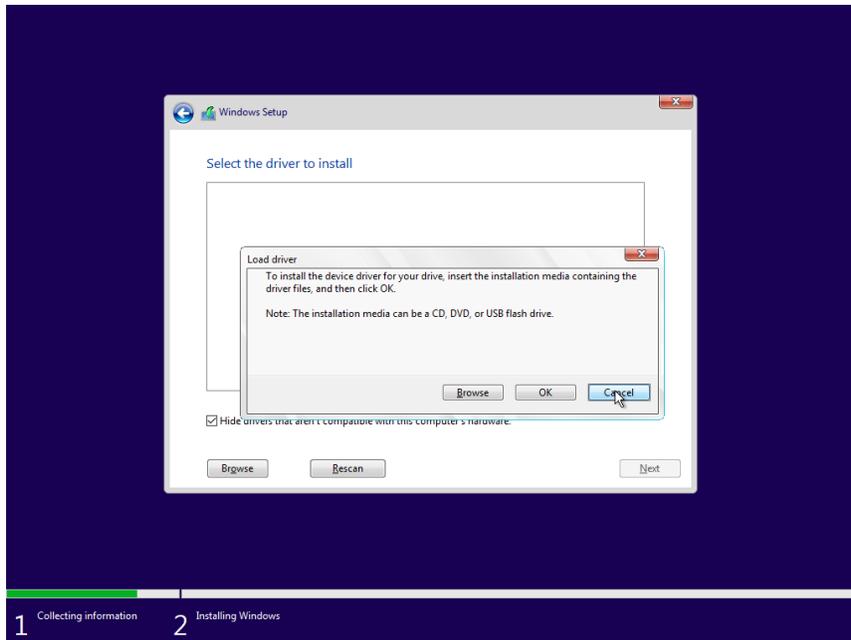
UEFI: SanDisk, Partition 1 (59520MB)
UEFI: ASUS SDRW-08D2S-U A801 (4888MB)
SanDisk (59520MB)
ASUS SDRW-08D2S-U A801 (4888MB)
Enter Setup
```

- d. Install Windows, to “**Where do you want to install Windows?**”, you should see several Legacy disks available (one for each SSD have been installed into the BRD7103DC/BRD7505DC NVMe AIC RAID Drives).

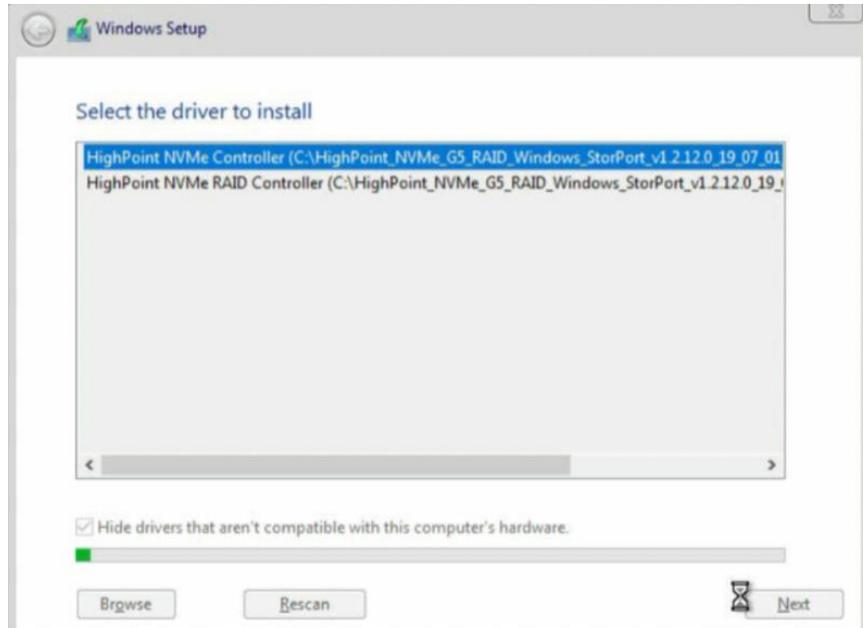
Note: The screenshot below shows 4 SSD’s that have been installed into a BRD7103DC controller:



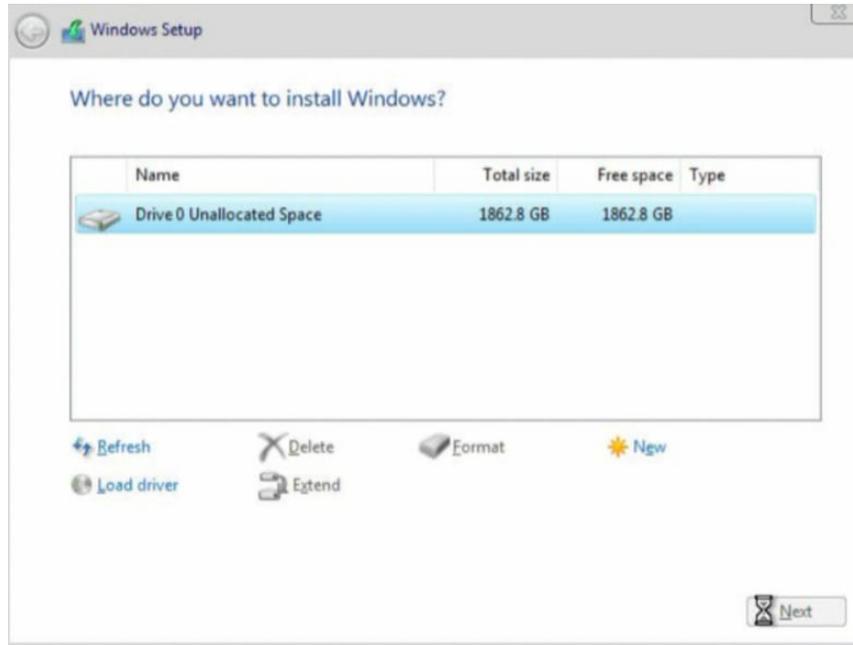
- e. Click “Load driver”, in the pop-up window and click “Cancel”:



- f. Next, insert the USB flash that contains the BRD7103DC/BRD7505DC driver into the motherboard USB slot and click “Browse”. Select the driver file as shown:



- g. After loading the driver, return to the “Where do you want to install Windows?” interface. The previous Legacy disks will now be recognized as a RAID array:



- h. After partitioning, continue and complete the Windows installation procedure.

Step 3 - Disabling Hibernation

- a. After Windows is installed, boot into the operating system and disable Hibernation. Hibernation fails when the system is installed on an NVMe RAID array; this bug will slow down or prevent startup and disable sleep mode.

If you do not turn the hibernation functionality off, you may experience the following problems:

- a) Shutdown time is extended by an additional 3-5 minutes.
- b) You cannot shut down properly; you need to manually press the power switch button of the motherboard to power off the system.

Please use **administrator privileges** to turn off hibernation using the following command (Command Prompt utility):

#powercfg /h off

 Administrator: Command Prompt

```
Microsoft Windows [Version 10.0.17763.194]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Windows\system32>powercfg /h off

C:\Windows\system32>
```

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.

  Hibernation
    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.

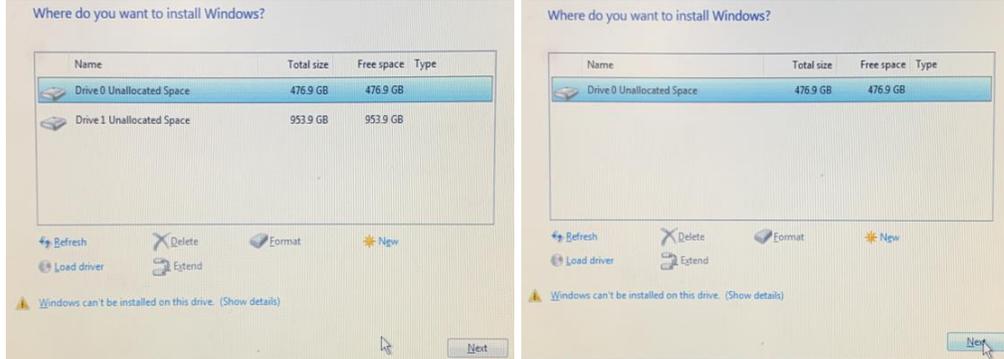
  Fast Startup
    Hibernation is not available.

C:\Windows\system32>a
```

Trouble shooting

Yellow warning before and after installation of the driver.

Before and after installing the driver, a yellow exclamation point warning appears in the lower left corner of the installation interface.

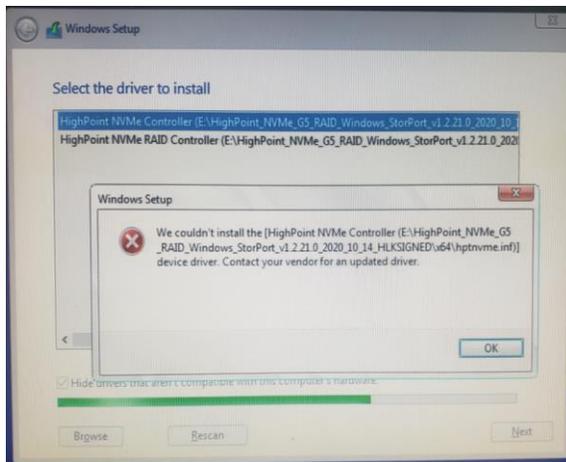


Solution:

- Please confirm "Boot from Storage Devices" is set to "UEFI driver first";
- Confirm whether UEFI DVD is selected to enter the system installation interface.

Load driver error

When installing the driver, it prompts that the driver needs to be updated.



Solution: The appearance of the error message indicates that other NVMe Drives are connected to your applicable motherboard. Try the following:

- Remove all NVMe Drive installed on the motherboard and reinstall OS.

If none of the above methods work, please provide pci&driver information. You can submit a support ticket using our [Online Support Portal](#), include a description of the problem in as much detail as possible.