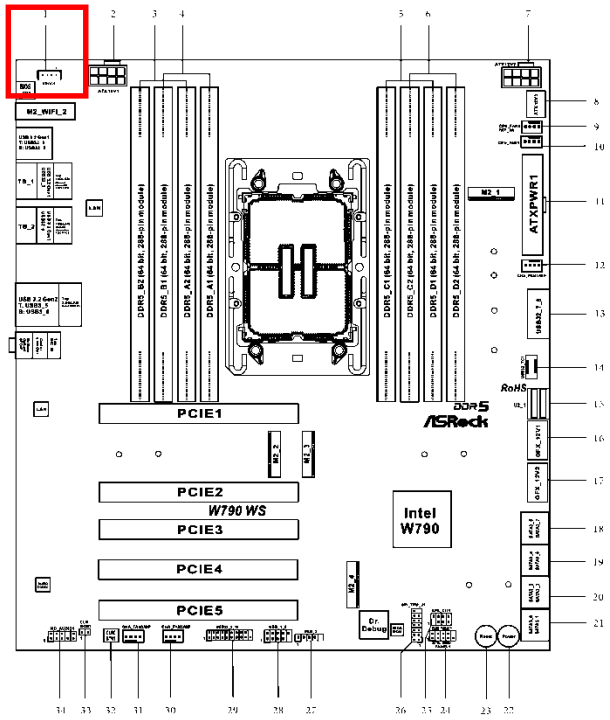
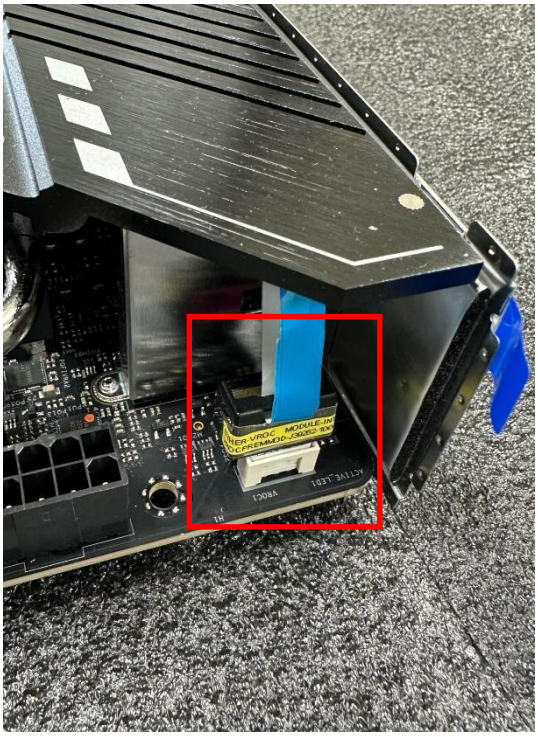
Configuring a RAID array Using UEFI Setup Utility

The BIOS screenshots in this guide are for reference only and may differ from the exact settings for your motherboard. The actual setup options you will see shall depend on the motherboard you purchase. Please refer to the product specification page of the model you are using for information on RAID support. Because the motherboard specifications and the BIOS software might be updated, the content of this documentation will be subject to change without notice.

Before you Begin

To supports Intel VMD technology, an Intel® VROC hardware key is necessary.

Before Configuring a RAID array under UEFI, please install the Intel® VROC hardware key on the motherboard.

Motherboard Layout (Location of VROC Header)	**Intel® VROC hardware key installed**
	

Maximum SSD Total Supported

- 24 SSDs per RAID 0/5 array
- 4 SSDs per RAID 10 array
- 2 SSDs per RAID 1 array

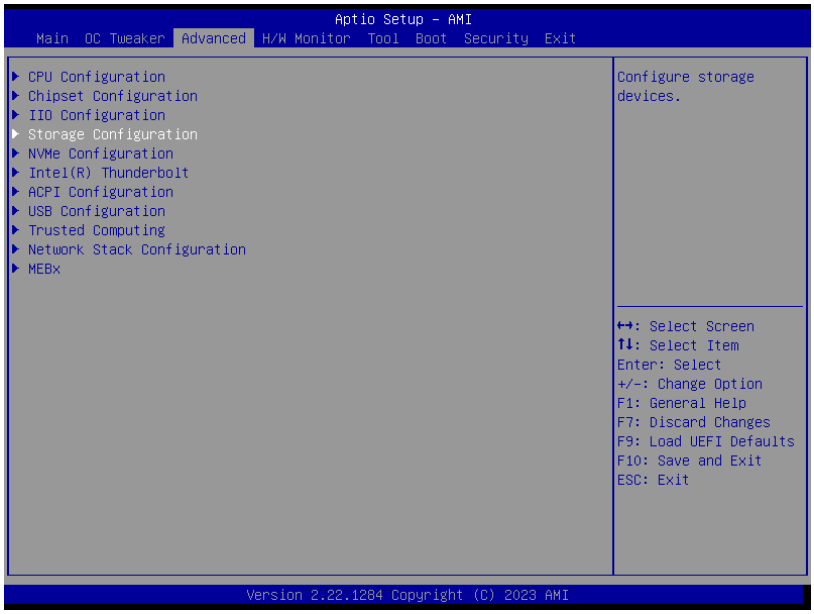
Setup Procedure

Step 1:

Enter the UEFI Setup Utility by pressing <F2> or <Del> right after you power on the computer.

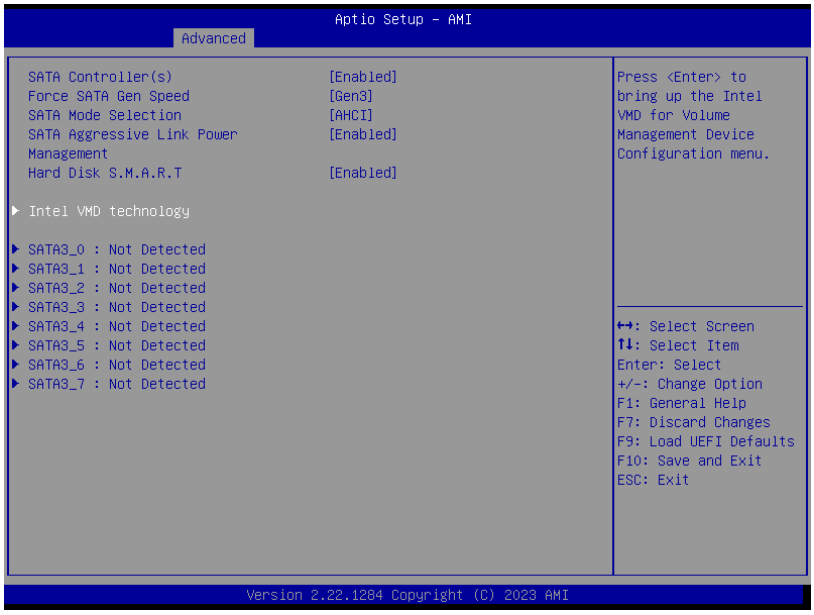
Step 2:

Go to Advanced\Storage Configuration.



Step 3:

Enter “Intel VMD Technology”.



Step 4:

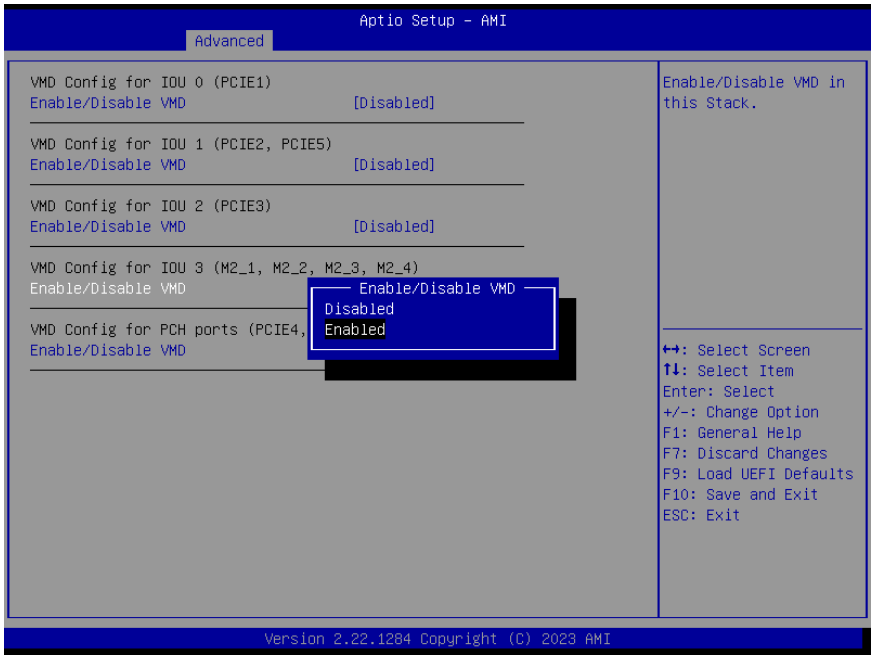
Enable the appropriate VMD ports to configure M.2 RAID array.

Example A:

If four NVMe drives are being installed on the four onboard M.2 sockets, set “VMD Config for IOU 3 (M2_1, M2_2, M2_3, M2_4)” to [Enabled].

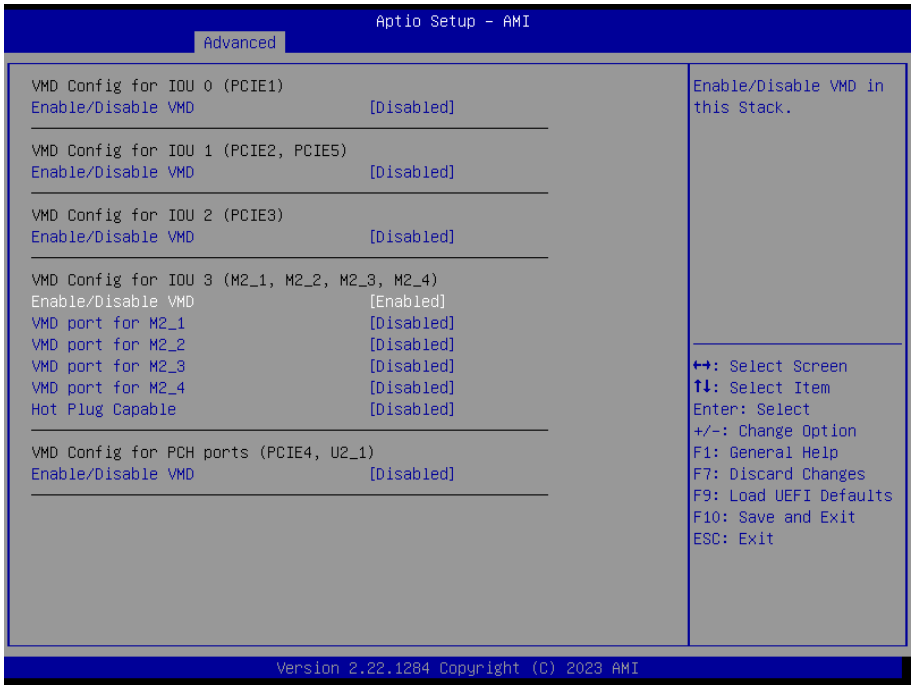
Example B:

If your NVMe drive is being installed on the PCIE1 slot, set “VMD Config for IOU 0 (PCIE1)” to [Enabled].



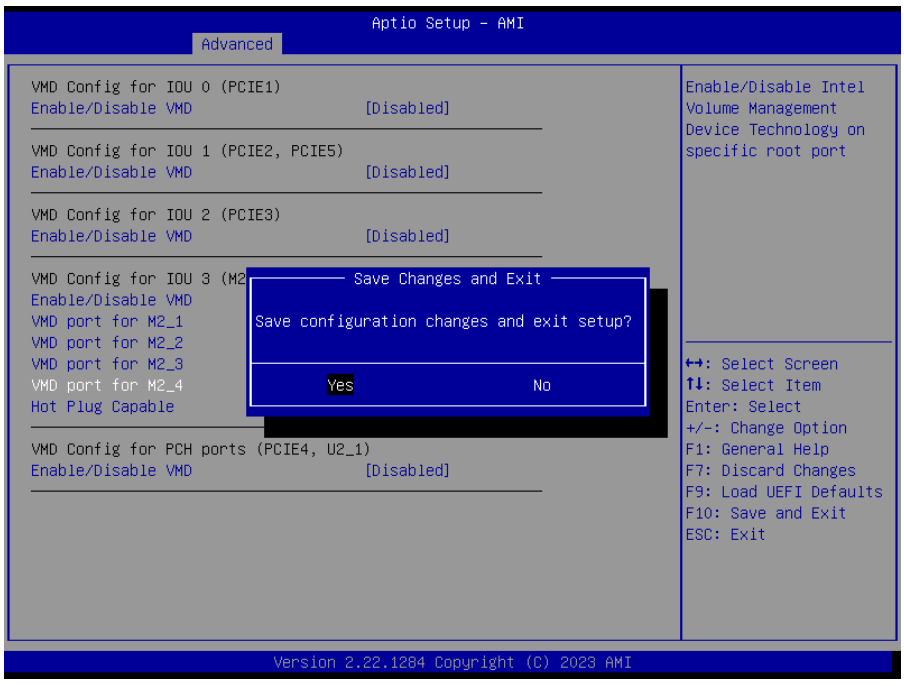
Step 5:

Enable the VMD port that you would like to build the RAID volume.



Step 6.

Press hotkey “F10” to Save Changes and Exit to reboot the system.



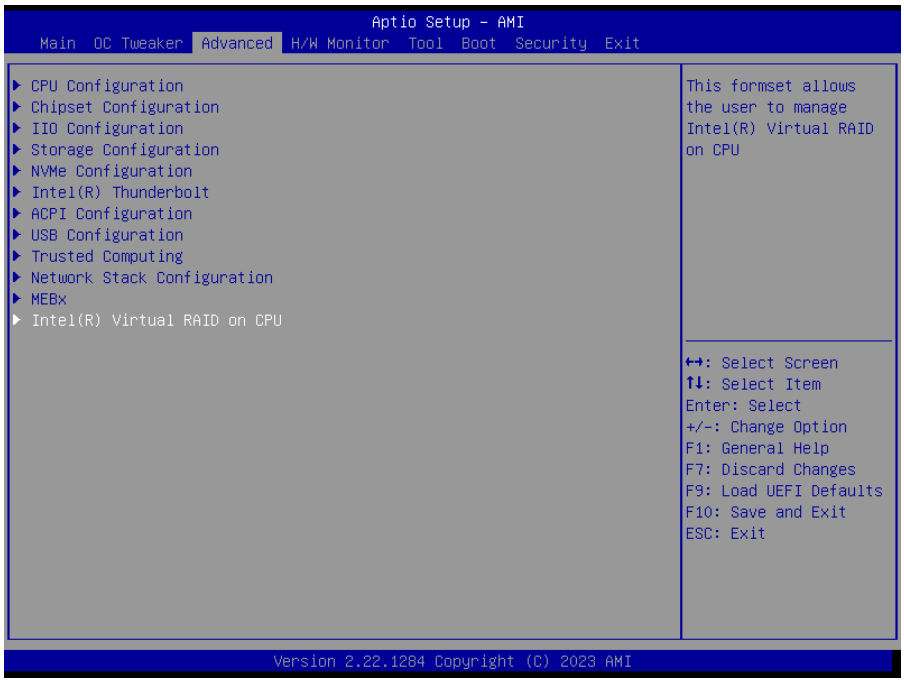
Step 7.

Enter the UEFI Setup Utility after the system reboots.

Step 8.

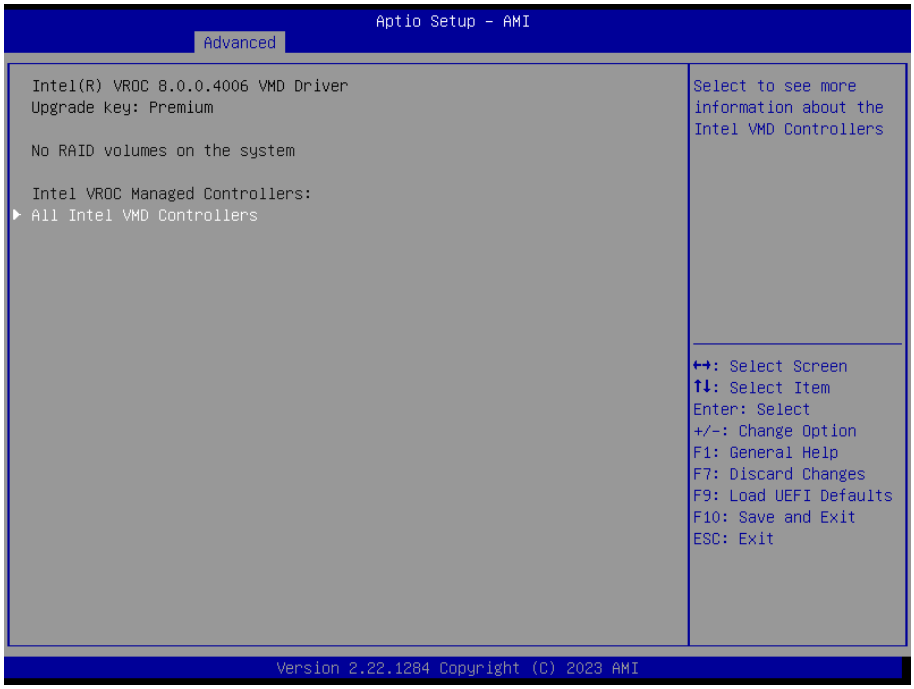
New menu option “Intel® Virtual RAID on CPU” will appear in Advanced page.

Please enter “Intel ®Virtual RAID on CPU”.



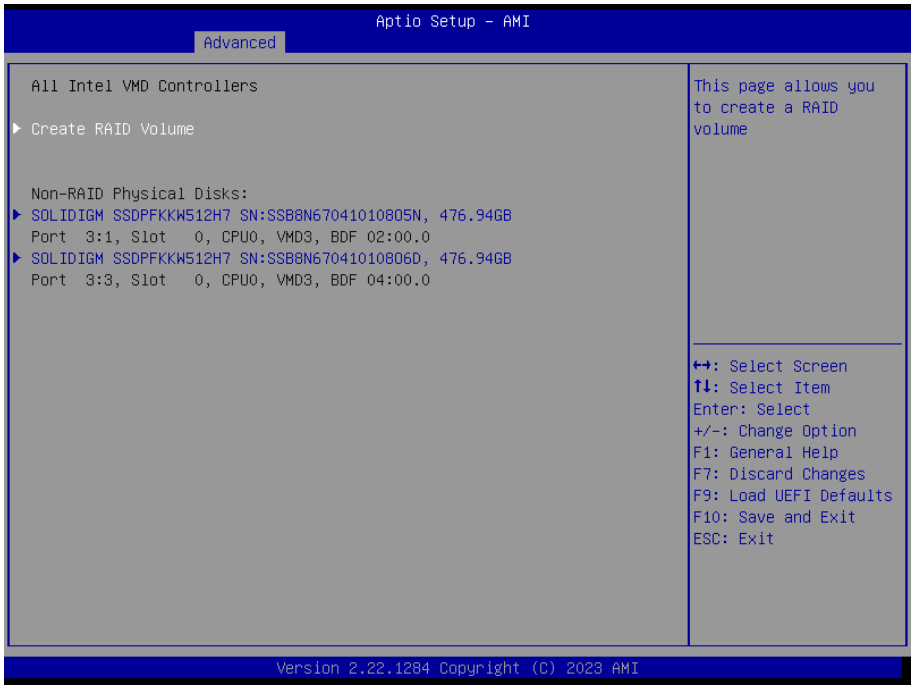
Step 9:

Enter “All Intel VMD Controllers” page.



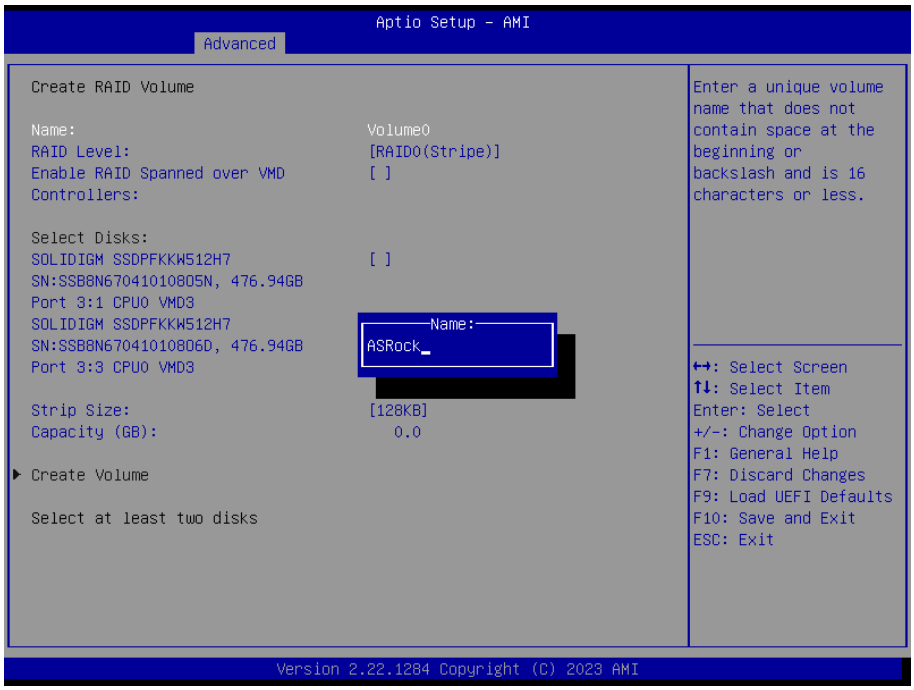
Step 10:

The M.2 SSD will be ready to [Create RAID Volume].



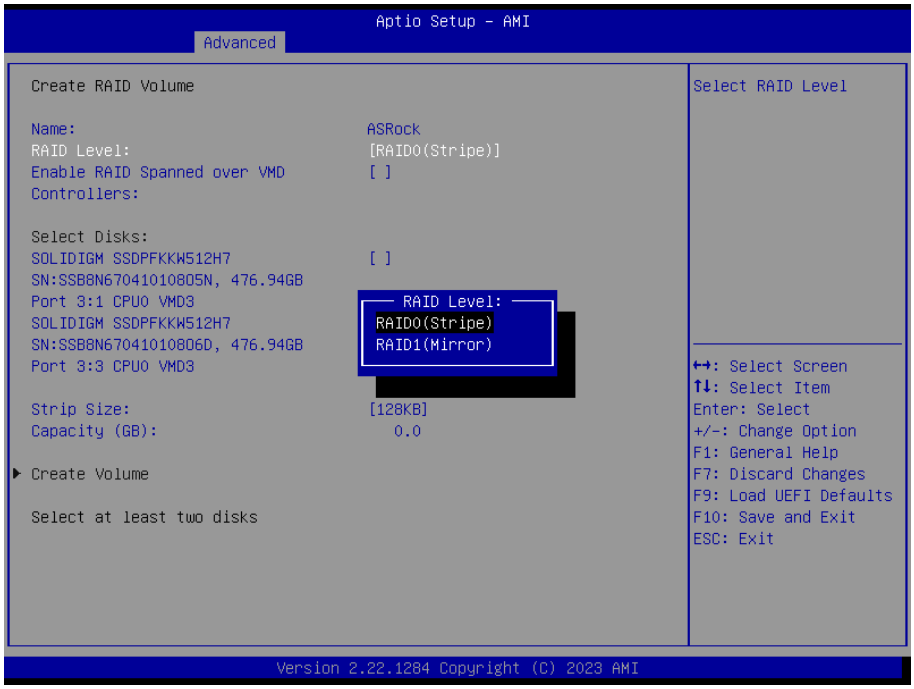
Step 11:

Key-in a volume name and press <Enter>, or simply press <Enter> to accept the default name.



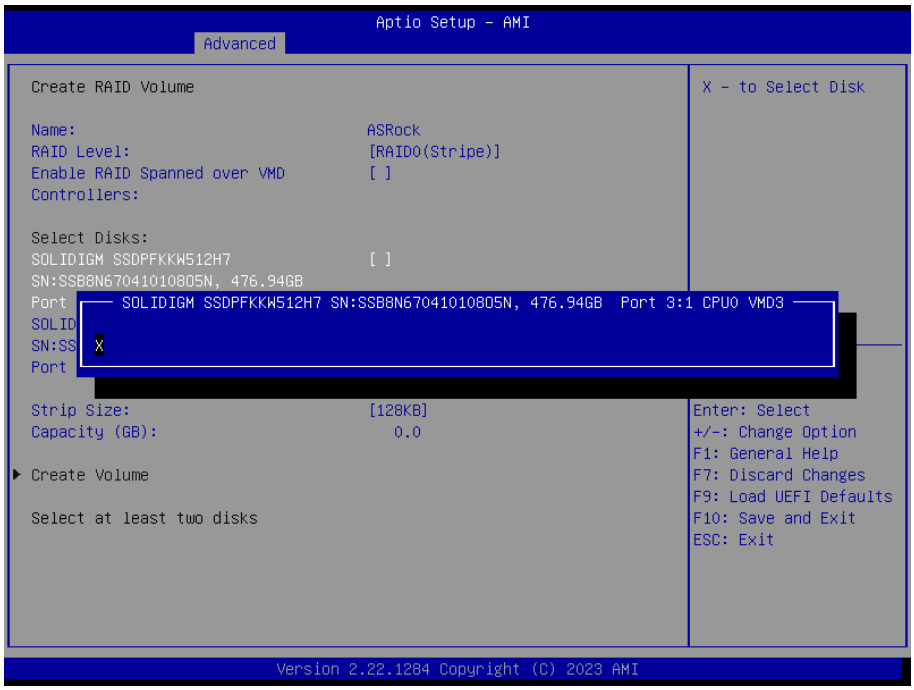
Step 12:

Select your desired RAID Level and press <Enter>.



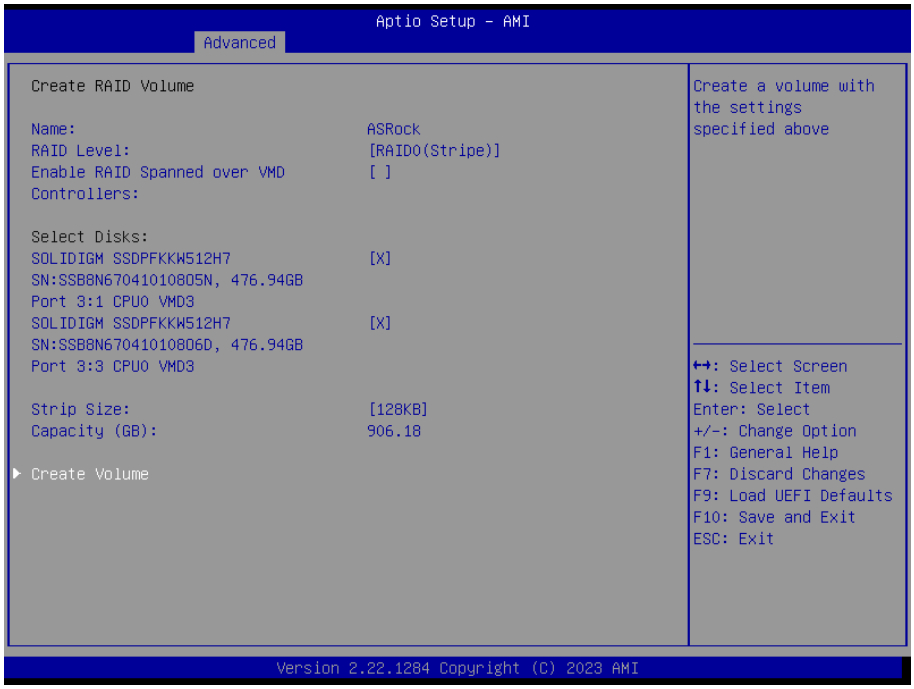
Step 13:

Select the hard drives to be included in the RAID array and press <Enter>.

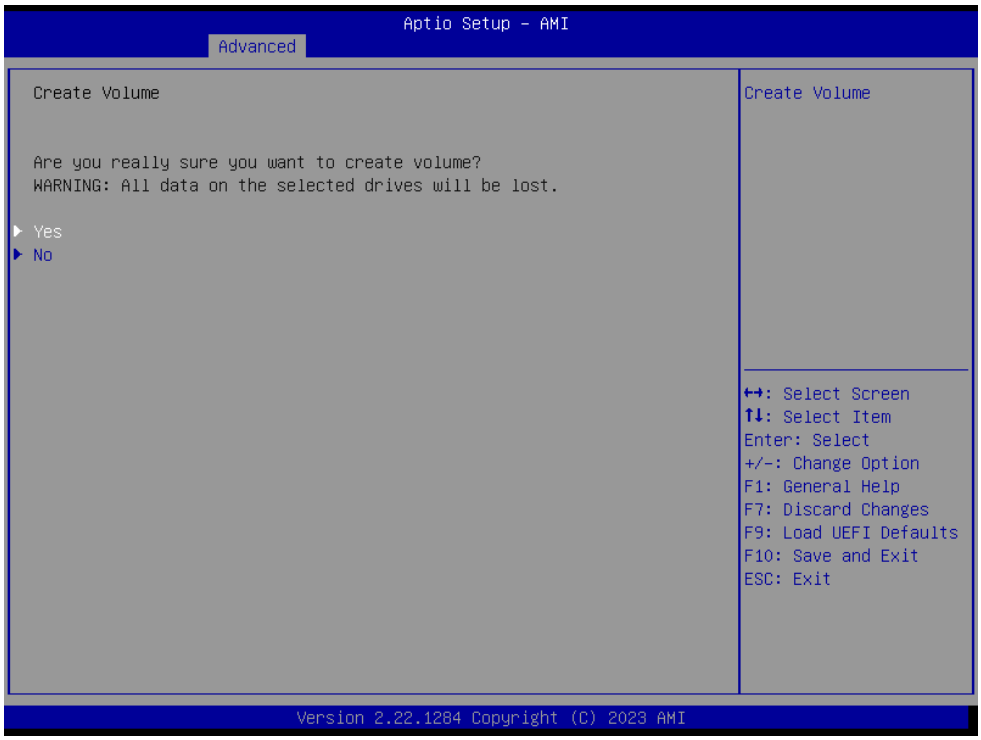


Step 14:

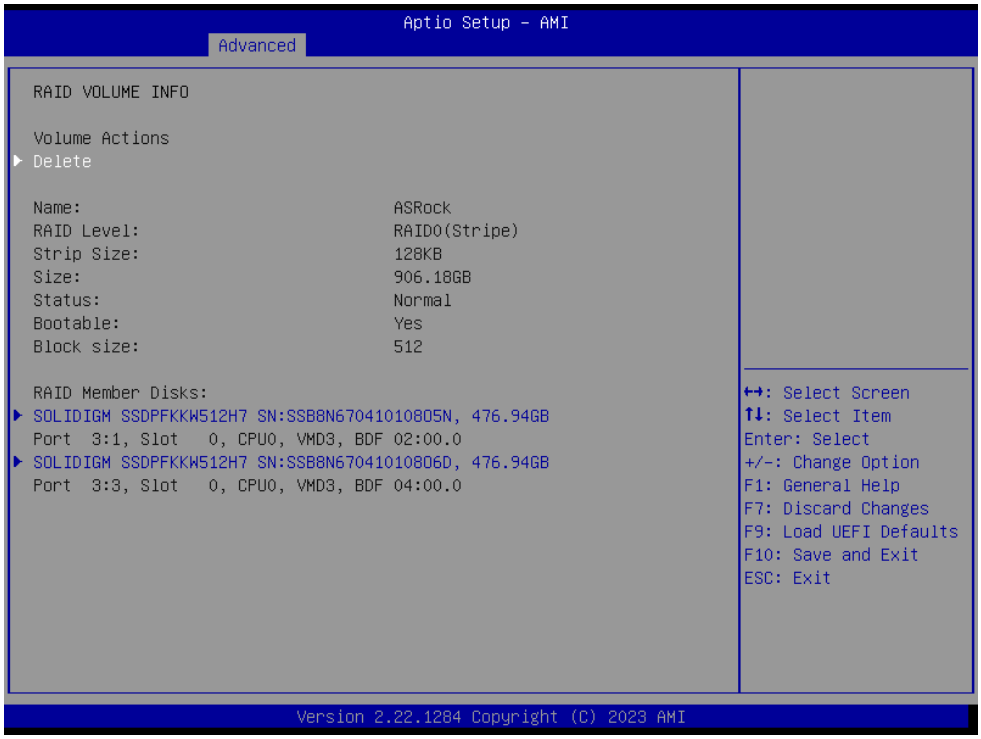
Select Create Volume and press <Enter> to start creating the RAID array.



Please read warning carefully before selecting [Yes].



If you want to delete a RAID volume, select the option “Delete” on the RAID volume info page and press <Enter>.



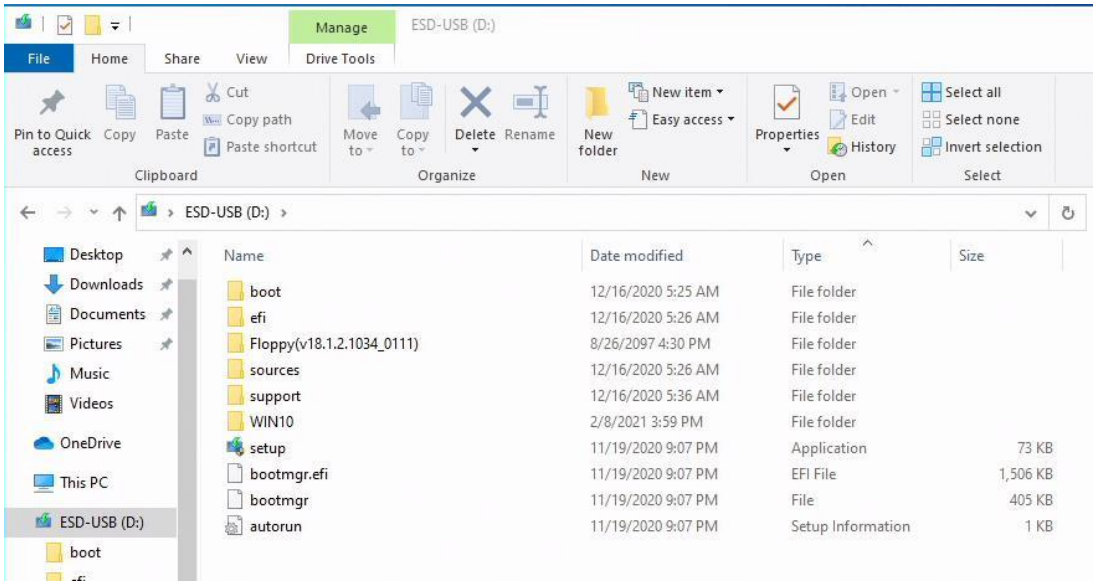
*Please note that the UEFI screenshots shown in this installation guide are for reference only. Please refer to ASRock’s website for details about each model motherboard.
https://www.asrock.com/index.asp

Installing Windows® on a RAID volume

After the UEFI and RAID BIOS setup, please follow the steps below.

STEP 1

Please download the drivers from ASRock's website (https://www.asrock.com/index.asp) and unzip the files to a USB flash drive.

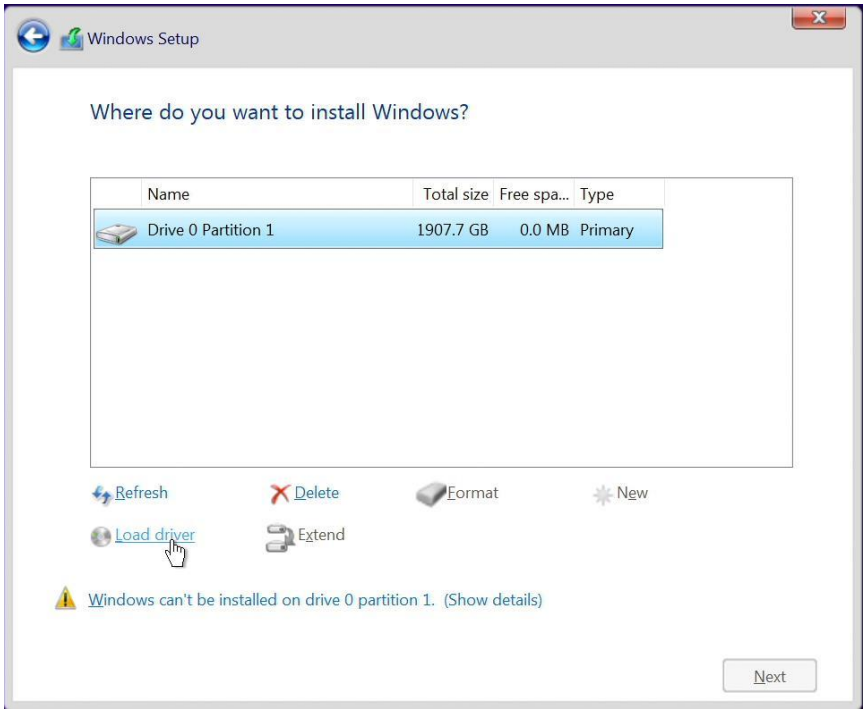


STEP 2

Press <F11> at system POST to launch the boot menu and choose the item “UEFI: <Windows installation media>” to install Windows® 10 64-bit OS.

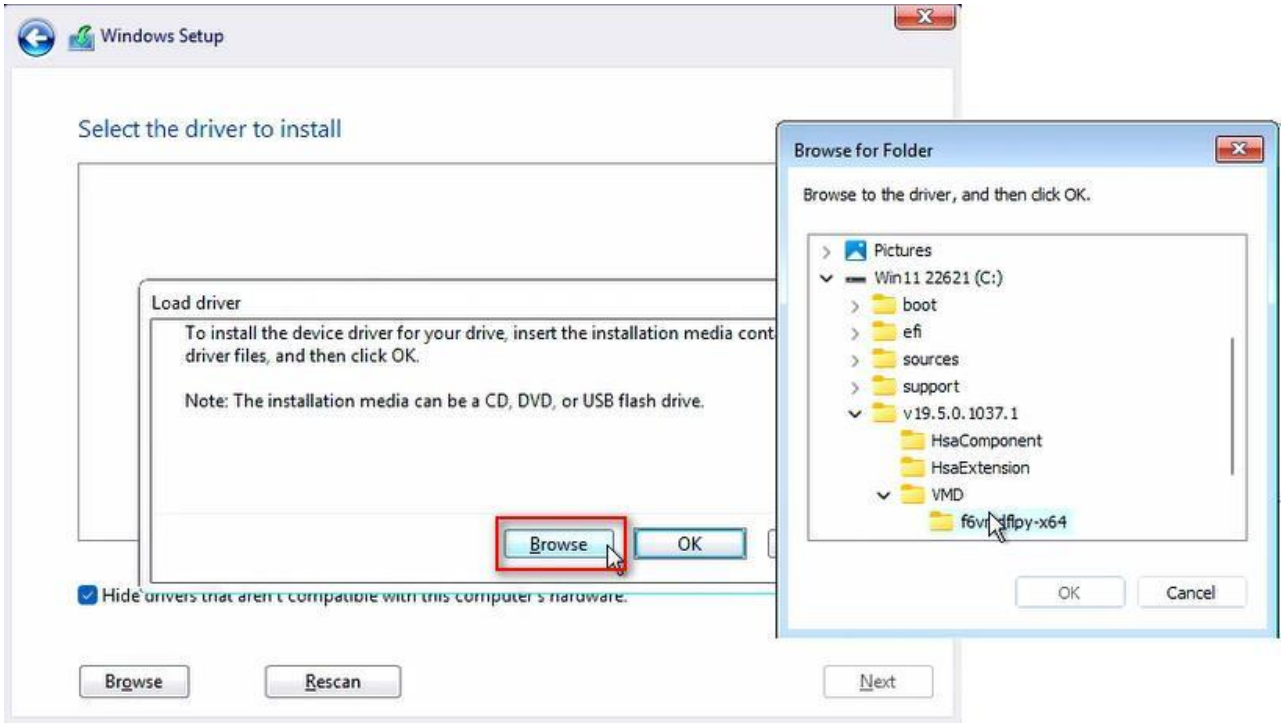
STEP 3 (If the drive that you plan to install Windows is available, please go to STEP 6)

If during the Windows installation process the target drive is not available, please click <Load Driver>.



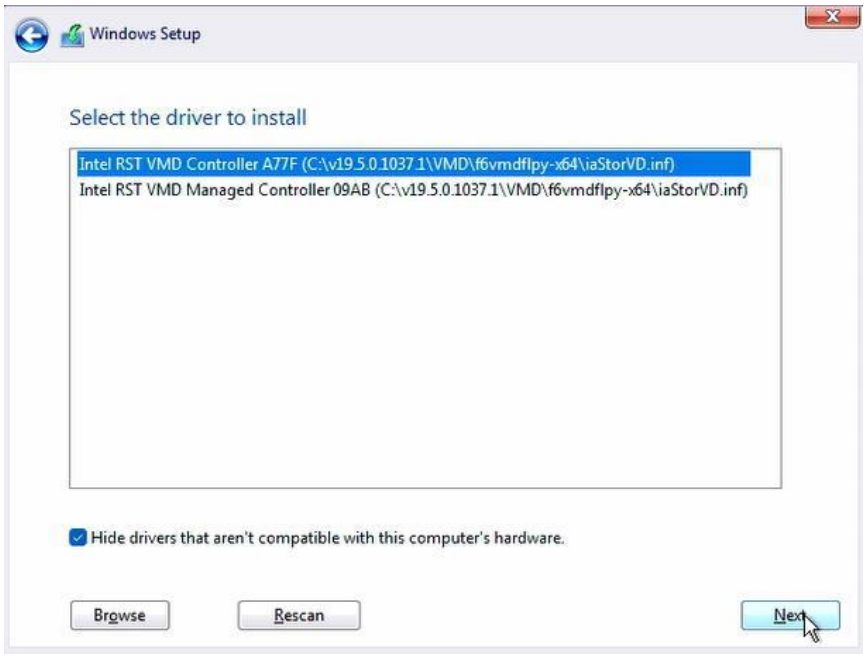
STEP 4

Click <Browse> to find the driver on your USB flash drive.



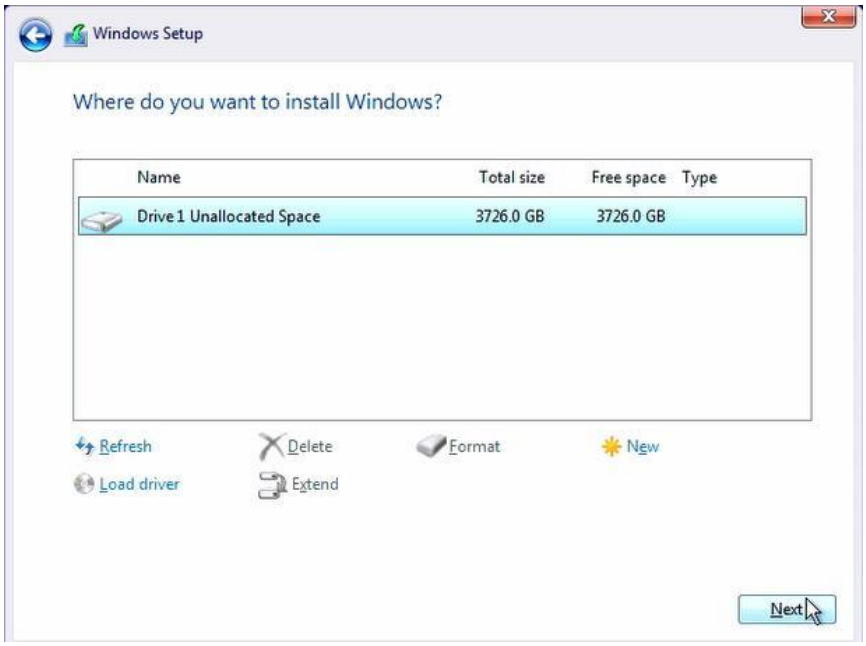
STEP 5

Select “Intel RST VMD Controller” and then click <Next>.



STEP 6

Select unallocated space and then click <Next>.



STEP 7

Please follow Windows' installation instructions to finish the process.

STEP 8

After the Windows installation is finished, please install the Rapid Storage Technology driver and utility from ASRock's website. https://www.asrock.com/index.asp