

**RAID
Configuration
Guide
(INTEL)**

ASUS

Motherboard

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About this guide

This guide contains information that you need to create Intel® RAID configurations. You can create different RAID configurations based on your motherboard chipset and software.



The screenshots in this guide are for reference only. The screenshots may vary with models, but the configurations steps are similar.

Where to find more information

The ASUS website (www.asus.com) provides updated information on ASUS hardware and software products.

Intel® RAID configurations

If your motherboard supports Intel® Rapid Storage Technology, you can create RAID 0, RAID 1, RAID 5 or RAID 10 configurations.



If you want to install a Windows® operating system to a hard disk drive included in a RAID set, you have to create a RAID driver disk and load the RAID driver during OS installation. Refer to section 6. **Installing the RAID controller driver during Windows® 10 and Windows® 11 OS installation** for details.

1. RAID definitions

RAID 0 (Data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. Two hard disks perform the same work as a single drive but at a sustained data transfer rate, double that of a single disk alone, thus improving data access and storage. Use of two new identical hard disk drives is required for this setup.

RAID 1 (Data mirroring) copies and maintains an identical image of data from one drive to a second drive. If one drive fails, the disk array management software directs all applications to the surviving drive as it contains a complete copy of the data in the other drive. This RAID configuration provides data protection and increases fault tolerance to the entire system. Use two new drives or use an existing drive and a new drive for this setup. The new drive must be of the same size or larger than the existing drive.

RAID 5 stripes both data and parity information across three or more hard disk drives. Among the advantages of RAID 5 configuration include better HDD performance, fault tolerance, and higher storage capacity. The RAID 5 configuration is best suited for transaction processing, relational database applications, enterprise resource planning, and other business systems. Use a minimum of three identical hard disk drives for this setup.

RAID 10 is data striping and data mirroring combined without parity (redundancy data) having to be calculated and written. With the RAID 10 configuration you get all the benefits of both RAID 0 and RAID 1 configurations. Use four new hard disk drives or use an existing drive and three new drives for this setup.

2. Installing storage devices

The motherboard supports SATA mode storage devices and PCIE SSD storage devices. For optimal performance, install identical drives of the same model and capacity when creating a disk array.



Refer to Chapter 2 in your motherboard's user guide for details on installing storage devices to your motherboard.

3. Creating a SATA RAID set in UEFI BIOS



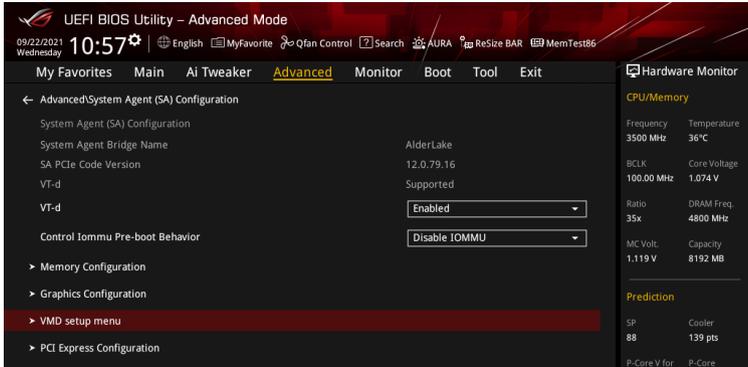
You can create a RAID set with SATA mode M.2 modules and SATA SSD/HDD.

1. Enter the BIOS Setup during POST.



Refer to Chapter 3 in your motherboard's user guide for details on entering and navigating through the BIOS Setup.

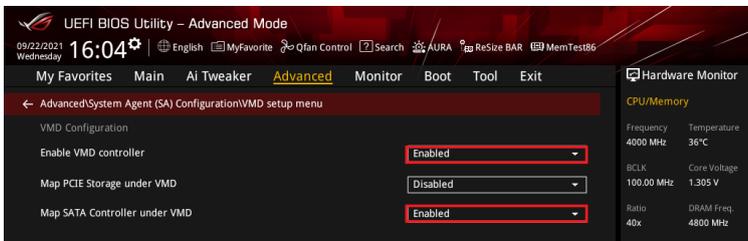
2. Go to **Advanced > System Agent (SA) Configuration > VMD Setup Menu**.



3. In the VMD setup menu, set **Enable VMD controller** and **Map SATA Controller under VMD** to **[Enabled]**, and set **Map PCIE Storage under VMD** to **[Disabled]**.



SATA RAID support varies between different motherboard models. Make sure to check the product specification for more information.

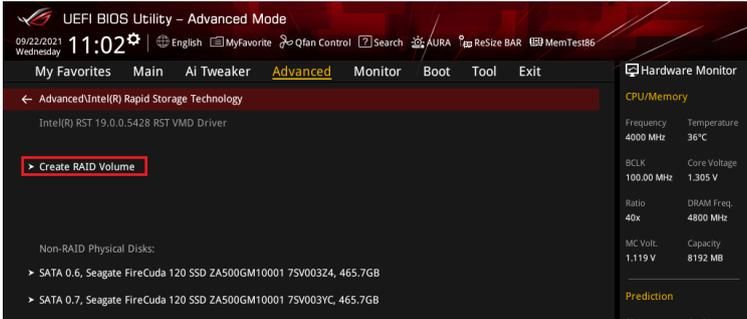


4. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
5. Go to **Advanced > Intel(R) Rapid Storage Technology** to display the Intel® Rapid Storage Technology menu.

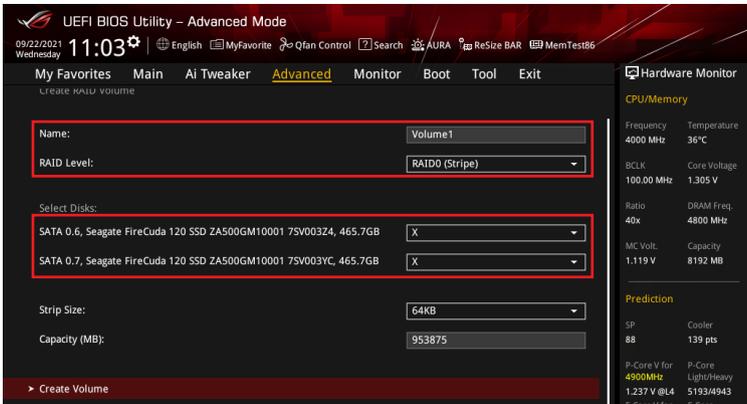
3.1 Creating a RAID set

To create a RAID set:

1. From the Intel® Rapid Storage Technology menu, select **Create RAID Volume** and press <Enter>.



2. When the **Name** item is selected, enter a name for the RAID set and press <Enter>.
3. When the **RAID Level** item is selected, press <Enter> to select the RAID level to create, and then press <Enter>.
4. Under **Select Disks**, press <Enter> and select **X** for the disks you want to include in the RAID set.

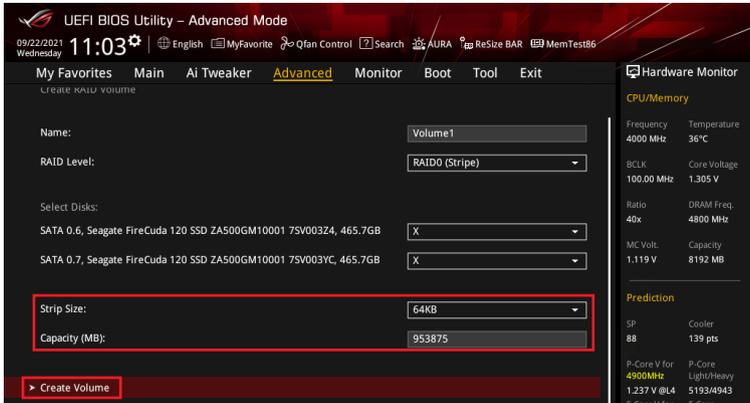


5. When the **Strip Size** item is selected, press <Enter> to select strip size for the RAID array (for RAID 0, 10 and 5 only), and then press <Enter>. The available strip size values range from 4 KB to 128 KB. The following are typical values:
 - RAID 0: 128 KB
 - RAID 10: 64 KB
 - RAID 5: 64 KB

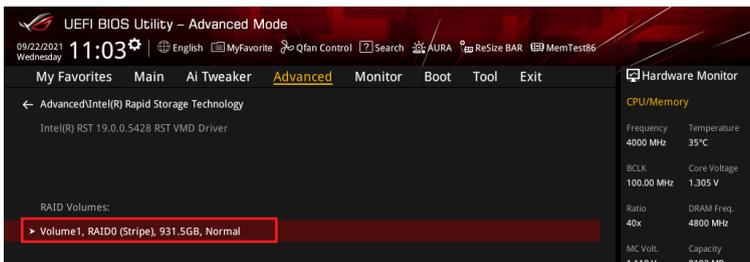


We recommend a lower strip size for server systems, and a higher strip size for multimedia computer systems used mainly for audio and video editing.

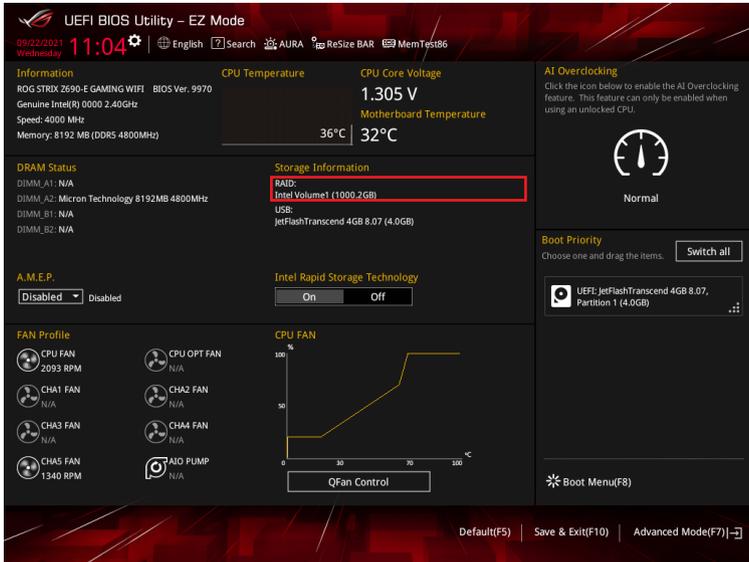
6. When the **Capacity (MB)** item is selected, enter the RAID volume capacity that you want and press <Enter>. The default value indicates the maximum allowed capacity.
7. When the **Create Volume** item is selected, press <Enter> to create the RAID volume and return to the Intel® Rapid Storage Technology menu.



8. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
9. The RAID volume should appear in the Intel(R) Rapid Storage Technology menu.



And also appear in the **EZ Mode** menu.



UEFI BIOS Utility – EZ Mode

09/22/2021 11:04 English Search AURA ReSize BAR MemTest86

Information
ROG STRIX 2690-E GAMING WIFI BIOS Ver. 9970
Genuine Intel(R) 0000 2.40GHz
Speed: 4000 MHz
Memory: 8192 MB (DDR5 4800MHz)

CPU Temperature 36°C

CPU Core Voltage 1.305 V

Motherboard Temperature 32°C

DRAM Status
DIMM_A1: N/A
DIMM_A2: Micron Technology 8192MB 4800MHz
DIMM_B1: N/A
DIMM_B2: N/A

Storage Information
RAID: Intel Volume1 (1000.2GB)
USB: JetFlashTranscend 4GB 8.07 (4.0GB)

A.M.E.P.
Disabled

Intel Rapid Storage Technology
On Off

FAN Profile
CPU FAN 2093 RPM
CHA1 FAN N/A
CHA2 FAN N/A
CHA3 FAN N/A
CHA4 FAN N/A
AIO PUMP N/A

CPU FAN
QFan Control

AI Overclocking
Click the icon below to enable the AI Overclocking feature. This feature can only be enabled when using an unlocked CPU.
Normal

Boot Priority
Choose one and drag the items. Switch all

UEFI: JetFlashTranscend 4GB 8.07, Partition 1 (4.0GB)

Boot Menu(F8)

Default(F5) Save & Exit(F10) Advanced Mode(F7)

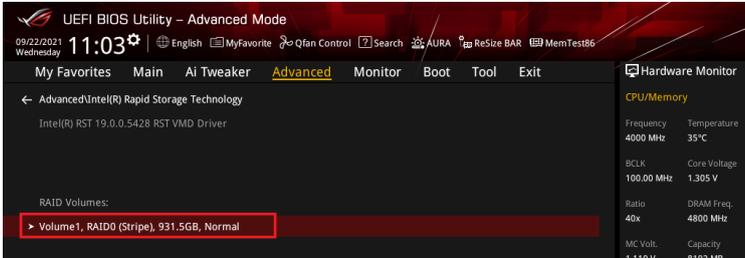
3.2 Deleting a RAID set



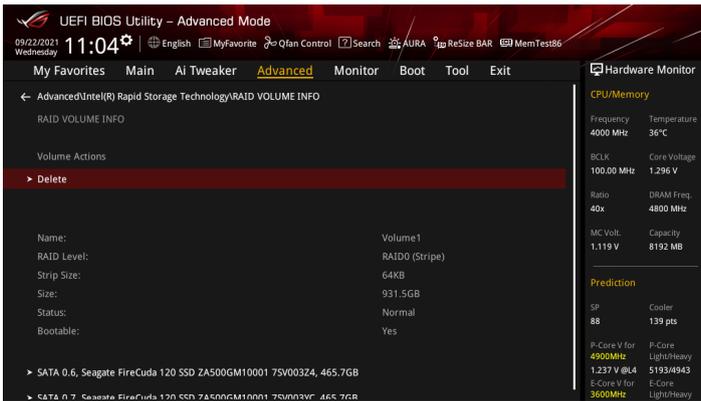
Be cautious when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

To delete a RAID set:

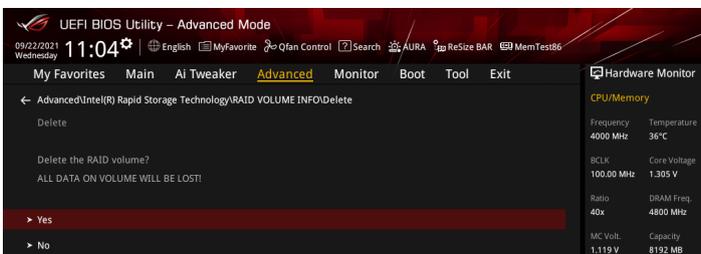
1. From the Intel® Rapid Storage Technology menu, select the RAID volume you want to delete and press <Enter>.



2. Select the **Delete** item and press <Enter>.



3. Select **Yes** to delete the RAID volume and return to the Intel® Rapid Storage Technology menu, or select **No** to cancel.



4. Creating a SATA RAID set in BIOS



Some BIOS options may differ, but the steps remain the same.

1. Install the VROC key to the motherboard.



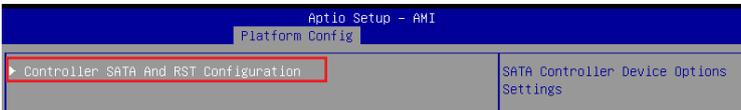
Refer to your motherboard's user guide for the location of the VROC Key slot.

2. Power on your board and enter the BIOS Setup during POST.



Refer to Chapter 3 in your motherboard's user guide for details on entering and navigating through the BIOS Setup.

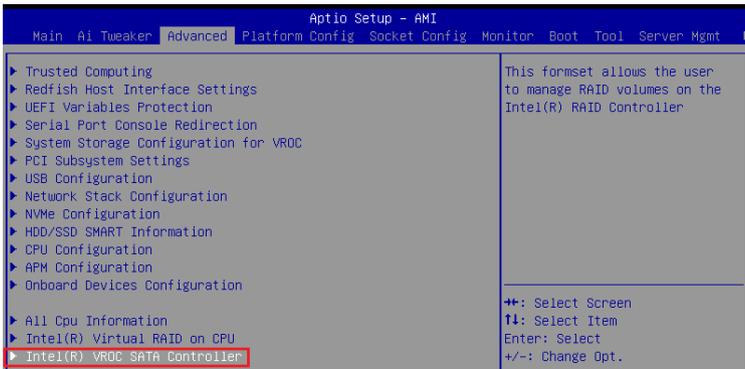
3. Go to **Platform Config > PCH Configuration > PCH Storage Configuration > Controller SATA and RST Configuration**.



4. Set **SATA Mode Selection** to [RAID].



5. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
6. Go to **Advanced > Intel(R) VROC SATA Controller** to display the Intel® VROC SATA controller menu.



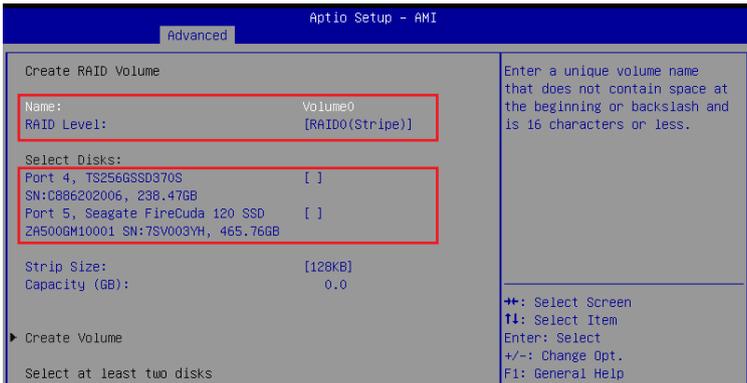
4.1 Creating a RAID set

To create a RAID set:

1. From the Intel® VROC SATA controller menu, select **Create RAID Volume** and press <Enter>.



2. When the **Name** item is selected, enter a name for the RAID set and press <Enter>.
3. When the **RAID Level** item is selected, press <Enter> to select the RAID level to create, and then press <Enter>.
4. Under **Select Disks**, press <Enter> and select **X** for the disks you want to include in the RAID set.



- When the **Strip Size** item is selected, press <Enter> to select strip size for the RAID array (for RAID 0, 10 and 5 only), and then press <Enter>. The available strip size values range from 4 KB to 128 KB. The following are typical values:
 - RAID 0: 128 KB
 - RAID 10: 64 KB
 - RAID 5: 64 KB

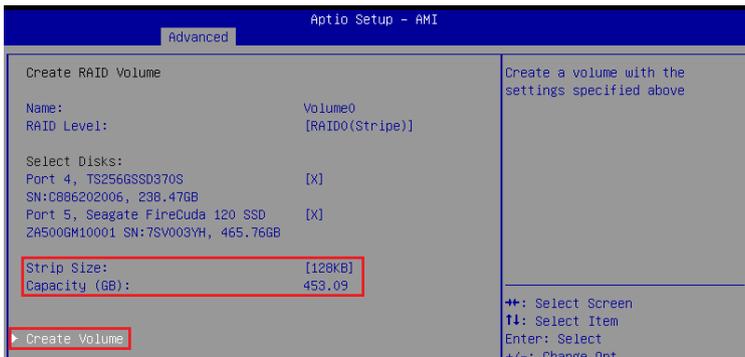


We recommend a lower strip size for server systems, and a higher strip size for multimedia computer systems used mainly for audio and video editing.

- When the **Capacity (GB)** item is selected, enter the RAID volume capacity that you want and press <Enter>. The default value indicates the maximum allowed capacity.
- Select the **Create Volume** item, then click **Yes** on the confirmation screen to create the RAID set.



Creating a RAID volume will delete all data on the selected drives. Ensure to back up the data on the drives before creating a RAID volume.



- After the RAID set has been created, you will be directed back to the Intel® VROC SATA controller menu and the newly created RAID volume should appear under the RAID Volumes item.

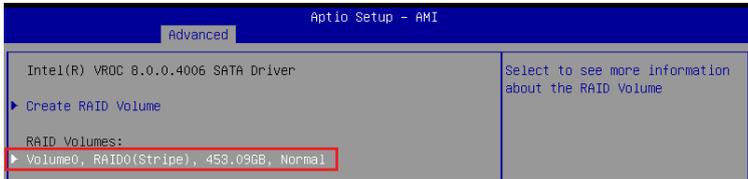
4.2 Deleting a RAID set



Be cautious when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

To delete a RAID set:

1. From the Intel® VROC SATA controller menu, select the RAID volume you want to delete.



2. Select the **Delete** item.



3. Select **Yes** to delete the RAID volume and return to the Intel® VROC SATA controller menu, or select **No** to cancel.



5. Creating an NVMe RAID set with onboard M.2 modules in UEFI BIOS



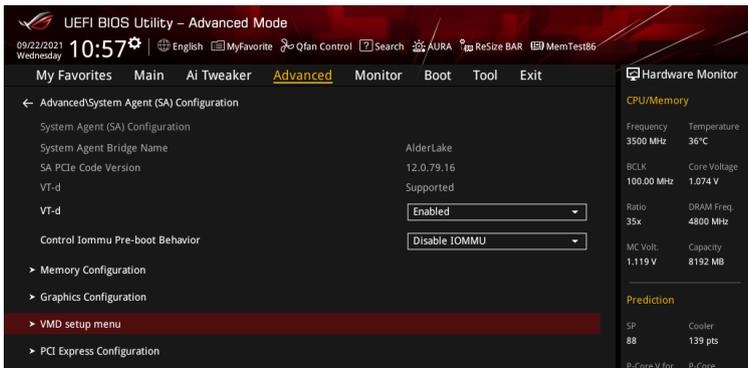
- You can create a RAID set with the following setups:
 - NVMe SSDs from the CPU.
 - NVMe SSDs from the PCH.
 - NVMe SSDs from the CPU and PCH.
 - Third-party storage devices.
- PCIe RAID support varies between different motherboard models. Make sure to check the product specification for more information.

1. Enter the BIOS Setup during POST.



Refer to Chapter 3 in your motherboard's user guide for details on entering and navigating through the BIOS Setup.

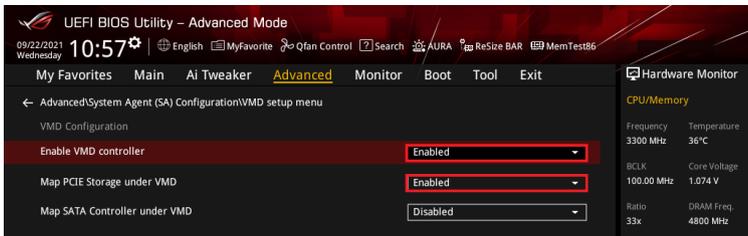
2. Go to **Advanced > System Agent (SA) Configuration > VMD Setup Menu**.



3. In the VMD setup menu, set **Enable VMD controller** and **Map PCIe Storage under VMD** to **[Enabled]**, and set **Map SATA Controller under VMD** to **[Disabled]**.



NVMe RAID support varies between different motherboard models. Make sure to check the product specification for more information.

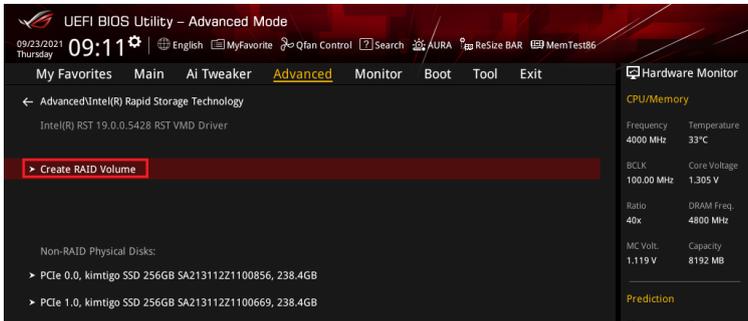


4. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
5. Go to **Advanced > Intel(R) Rapid Storage Technology** to display the Intel® Rapid Storage Technology menu.

5.1 Creating a RAID set

To create a RAID set:

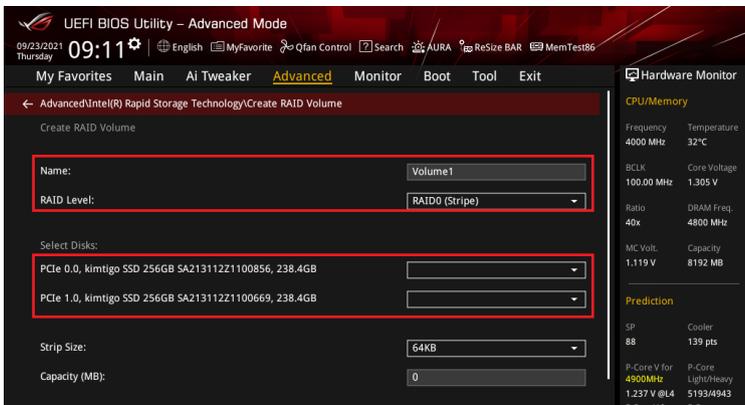
1. From the Intel® Rapid Storage Technology menu, select **Create RAID Volume**.



2. When the **Name** item is selected, enter a name for the RAID set and press <Enter>.
3. When the **RAID Level** item is selected, press <Enter> to select the RAID level to create, and then press <Enter>.
4. Under **Select Disks**, press <Enter> and select **X** for the disks you want to include in the RAID set.



Only full SATA or full NVMe RAID is supported, different interfaces of RAID cannot be created, such as half NVMe and half RAID.

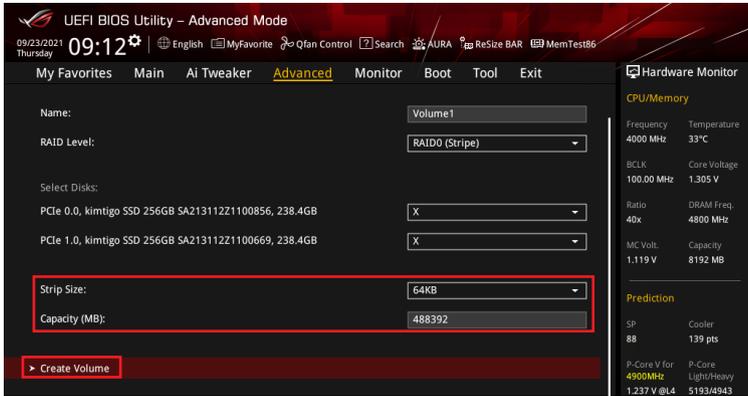


5. When the **Strip Size** item is selected, press <Enter> to select strip size for the RAID array (for RAID 0, 10 and 5 only), and then press <Enter>. The available strip size values range from 4 KB to 128 KB. The following are typical values:
 - RAID 0: 128 KB
 - RAID 10: 64 KB
 - RAID 5: 64 KB

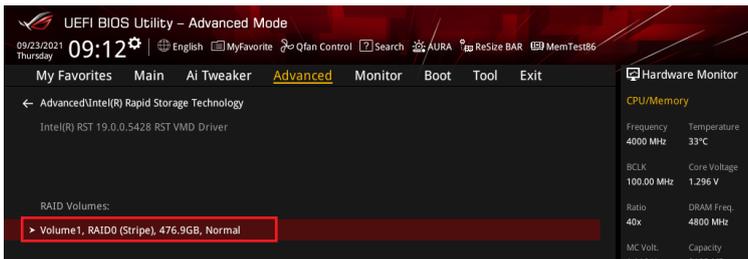


We recommend a lower strip size for server systems, and a higher strip size for multimedia computer systems used mainly for audio and video editing.

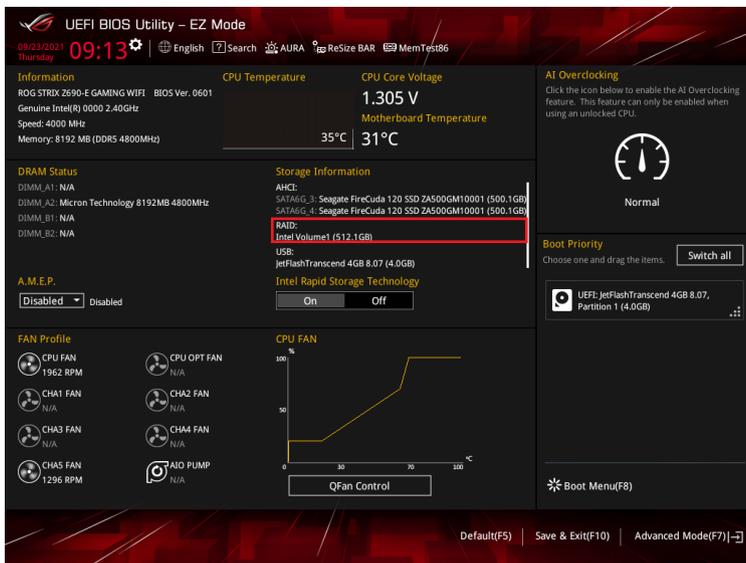
6. When the **Capacity (MB)** item is selected, enter the RAID volume capacity that you want. The default value indicates the maximum allowed capacity.
7. Select the **Create Volume** item to create the RAID volume and return to the Intel® Rapid Storage Technology menu.



8. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
9. The RAID volume should appear in the Intel(R) Rapid Storage Technology menu.



And also appear in the **EZ Mode** menu.



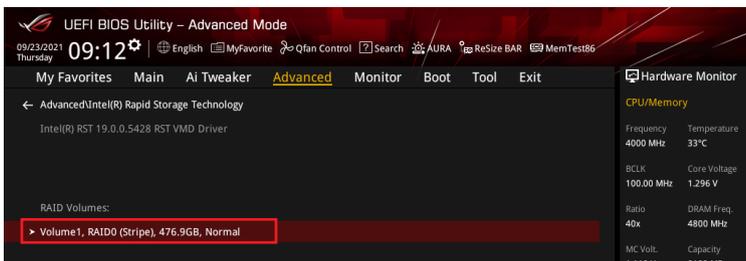
5.2 Deleting a RAID set



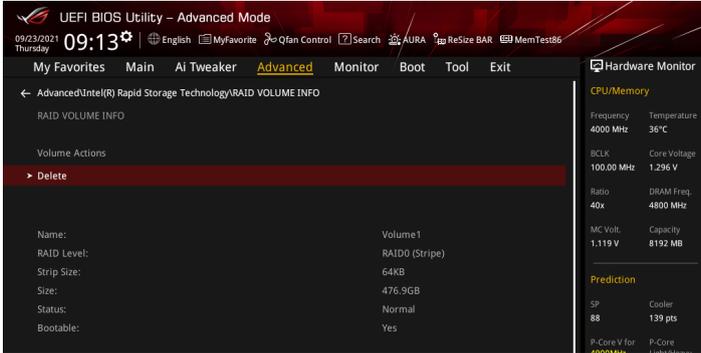
Be cautious when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

To delete a RAID set:

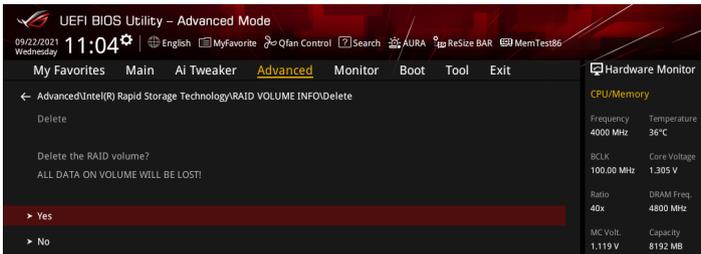
1. From the Intel® Rapid Storage Technology menu, select the RAID volume you want to delete and press <Enter>.



2. Select the **Delete** item and press <Enter>.



3. Select **Yes** to delete the RAID volume and return to the Intel® Rapid Storage Technology menu, or select **No** to cancel.



6. Creating an NVMe RAID set with onboard M.2/PCIe storage modules in BIOS



- You can create a RAID set with the following setups:
 - NVMe SSDs from the CPU.
 - NVMe SSDs from the PCH.
 - NVMe SSDs from the CPU and PCH.
 - Third-party storage devices.
- PCIe RAID support varies between different motherboard models. Make sure to check the product specification for more information.

1. Install the VROC key to the motherboard.



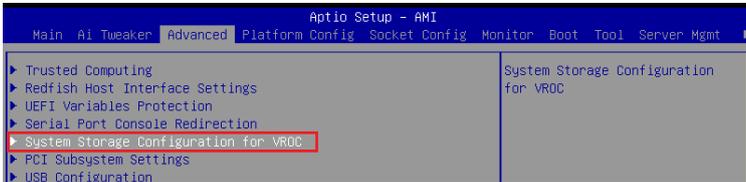
Refer to your motherboard's user guide for the location of the VROC Key slot.

2. Power on your board and enter the BIOS Setup during POST.



Refer to Chapter 3 in your motherboard's user guide for details on entering and navigating through the BIOS Setup.

3. Go to **Advanced > System Storage Configuration for VROC**.



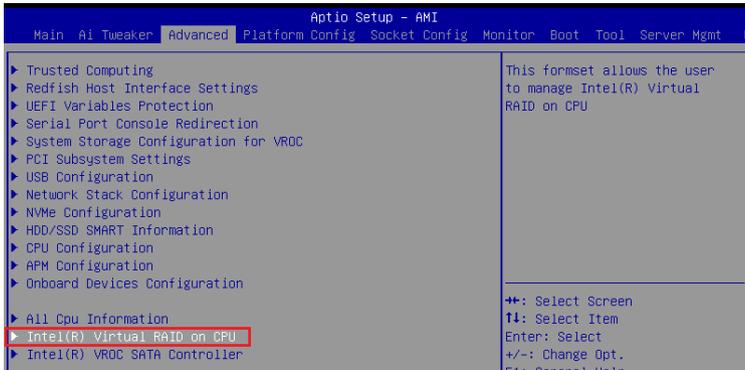
4. Set the M.2 or SlimSAS items to **[Enabled]** depending on the storage device installed.



NVMe RAID support varies between different motherboard models. Make sure to check the product specification for more information.



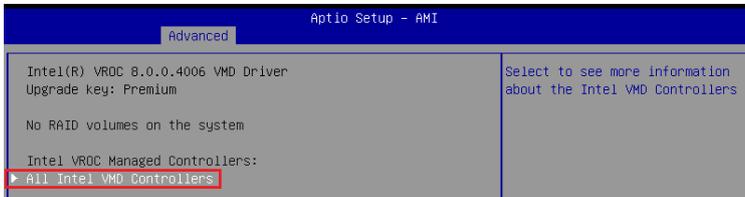
5. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
6. Go to **Advanced > Intel(R) Virtual RAID on CPU** to display the Intel® Virtual RAID on CPU menu.



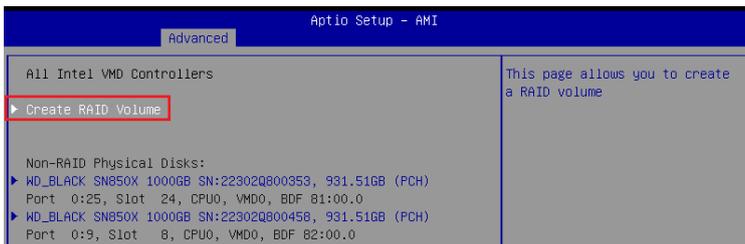
6.1 Creating a RAID set

To create a RAID set:

1. From the Intel® Virtual RAID on CPU menu, select **All Intel VMD Controllers**.



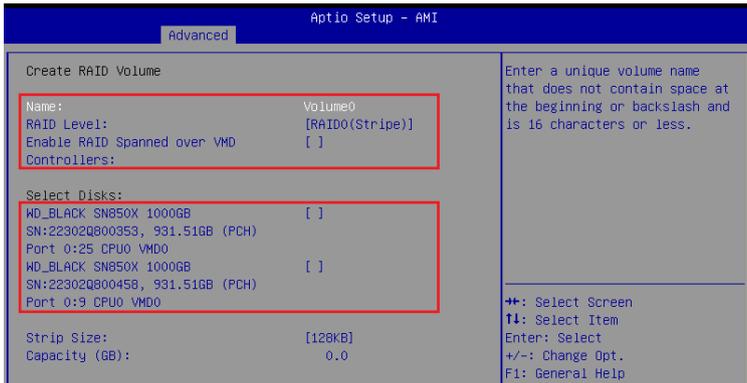
2. Select **Create RAID Volume**.



3. When the **Name** item is selected, enter a name for the RAID set and press <Enter>.
4. When the **RAID Level** item is selected, press <Enter> to select the RAID level to create, and then press <Enter>.
5. When the **Enable RAID Spanned over VMD Controllers** item is selected, press <Enter> and select **X** to enable RAID spanned over VMD controllers. This is for Data RAID only, boot is not supported.
6. Under **Select Disks**, press <Enter> and select **X** for the disks you want to include in the RAID set.



Only full SATA or full NVMe RAID is supported, different interfaces of RAID cannot be created, such as half NVMe and half RAID.



- When the **Strip Size** item is selected, press <Enter> to select strip size for the RAID array (for RAID 0, 10 and 5 only), and then press <Enter>. The available strip size values range from 4 KB to 128 KB. The following are typical values:
 - RAID 0: 128 KB
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 - RAID 5: 64 KB

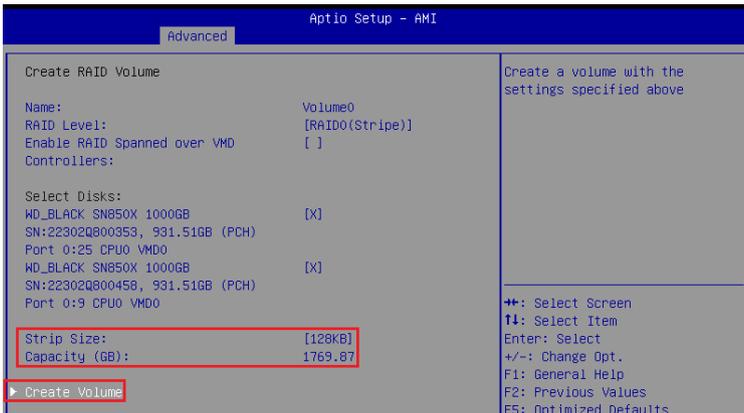


We recommend a lower strip size for server systems, and a higher strip size for multimedia computer systems used mainly for audio and video editing.

- When the **Capacity (GB)** item is selected, enter the RAID volume capacity that you want. The default value indicates the maximum allowed capacity.
- Select the **Create Volume** item, then click **Yes** on the confirmation screen to create the RAID set.



Creating a RAID volume will delete all data on the selected drives. Ensure to back up the data on the drives before creating a RAID volume.



- After the RAID set has been created, you will be directed back to the Intel(R) VROC SATA Controller menu and the newly created RAID volume should appear under the RAID Volumes item.

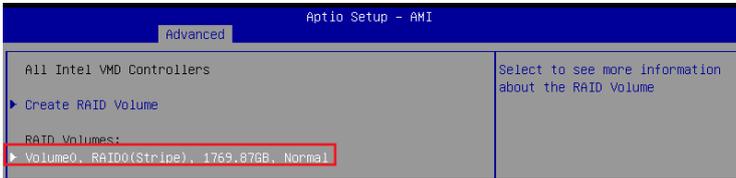
6.2 Deleting a RAID set



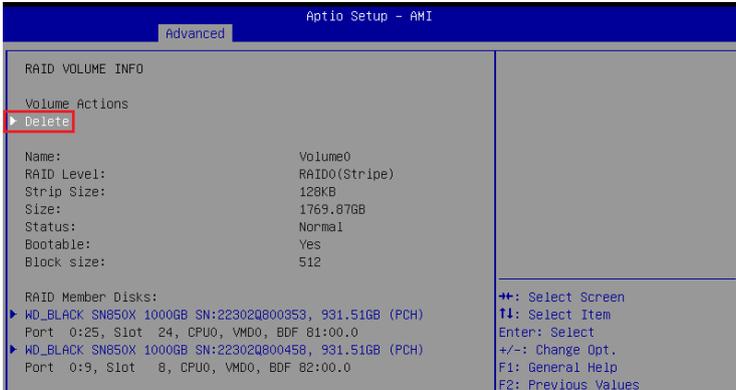
Be cautious when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

To delete a RAID set:

1. From the Intel® Virtual RAID on CPU menu, select the RAID volume you want to delete.



2. Select the **Delete** item.



3. Select **Yes** to delete the RAID volume and return to the Intel® Virtual RAID on CPU menu, or select **No** to cancel.



7. Creating an NVMe RAID set with expansion M.2 card in UEFI BIOS



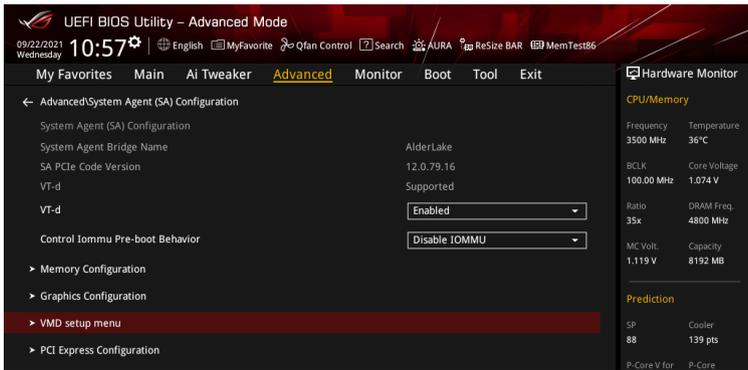
Some BIOS options may differ, but the steps remain the same.

1. Enter the BIOS Setup during POST.



Refer to Chapter 3 in your motherboard's user guide for details on entering and navigating through the BIOS Setup.

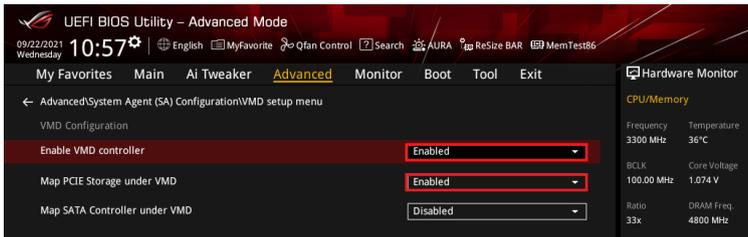
2. Go to **Advanced > System Agent (SA) Configuration > VMD Setup Menu**.



3. In the VMD setup menu, set **Enable VMD controller** and **Map PCIe Storage under VMD** to **[Enabled]**, and set **Map SATA Controller under VMD** to **[Disabled]**.



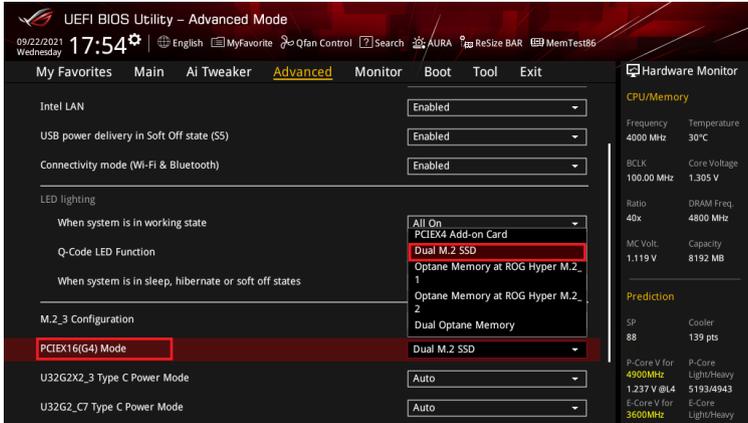
NVMe RAID support varies between different motherboard models. Make sure to check the product specification for more information.



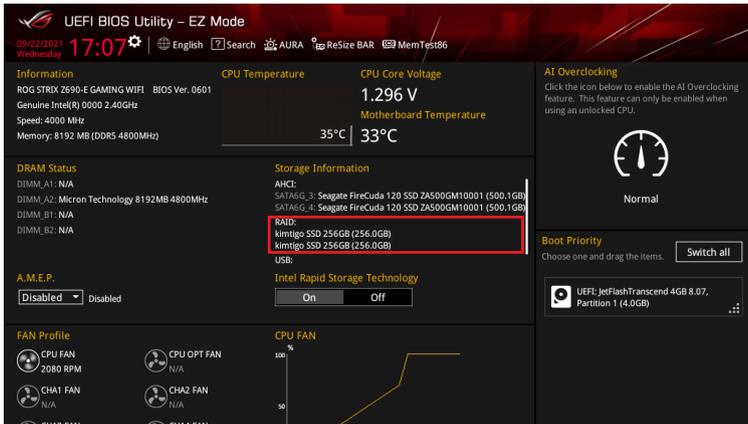
- Go to **Advanced > Onboard Devices Configuration**, and set the PCIEX16 configuration as **[Dual M.2]**.



- Please refer to the support site or your motherboard's user guide for more information on the Hyper M.2 card configurations.
- The PCIEX16 configuration option may differ between models, please refer to the actual BIOS of your motherboard for the correct item.



- Save your changes and exit the BIOS Setup, then enter the BIOS Setup again. You may check if the Hyper M.2 card and installed M.2 modules have been properly recognized in **EZ mode**.

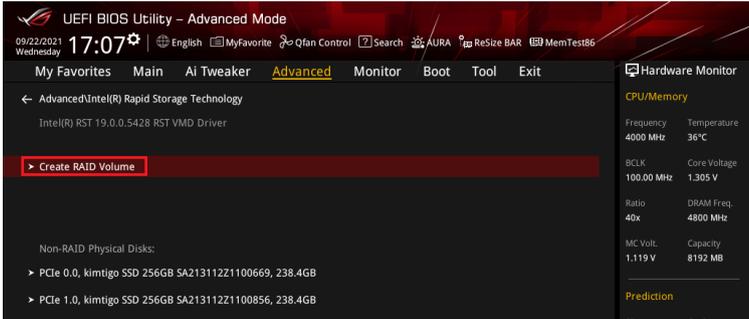


- Go to **Advanced > Intel(R) Rapid Storage Technology** to display the Intel® Rapid Storage Technology menu.

7.1 Creating a RAID set

To create a RAID set:

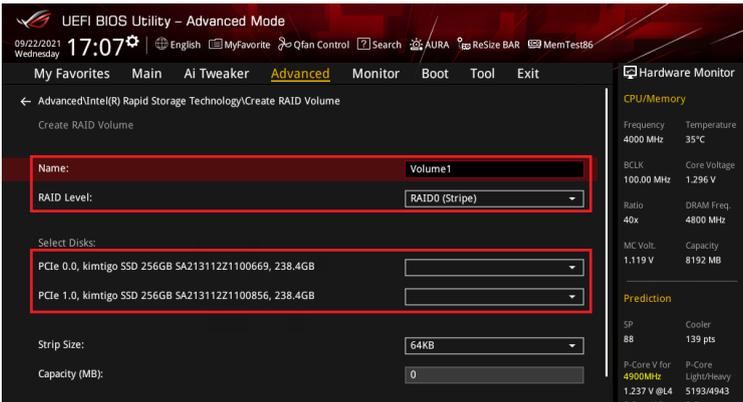
1. From the Intel® Rapid Storage Technology menu, select **Create RAID Volume** and press <Enter>.



2. When the **Name** item is selected, enter a name for the RAID set and press <Enter>.
3. When the **RAID Level** item is selected, press <Enter> to select the RAID level to create, and then press <Enter>.
4. Under **Select Disks**, press <Enter> and select **X** for the disks you want to include in the RAID set.



Only full SATA or full NVMe RAID is supported, different interfaces of RAID cannot be created, such as half NVMe and half RAID.



5. When the **Strip Size** item is selected, press <Enter> to select strip size for the RAID array (for RAID 0, 10 and 5 only), and then press <Enter>. The available strip size values range from 4 KB to 128 KB. The following are typical values:
 - RAID 0: 128 KB
 - RAID 10: 64 KB
 - RAID 5: 64 KB



We recommend a lower strip size for server systems, and a higher strip size for multimedia computer systems used mainly for audio and video editing.

6. When the **Capacity (MB)** item is selected, enter the RAID volume capacity that you want and press <Enter>. The default value indicates the maximum allowed capacity.
7. When the **Create Volume** item is selected, press <Enter> to create the RAID volume and return to the Intel® Rapid Storage Technology menu.

UEFI BIOS Utility – Advanced Mode
09/22/2021 18:16 English MyFavorite Qfan Control Search AURA ReSize BAR MemTest86

My Favorites Main Ai Tweaker **Advanced** Monitor Boot Tool Exit

Hardware Monitor

← Advanced Intel(R) Rapid Storage Technology Create RAID Volume

Create RAID Volume

Name: Volume1

RAID Level: RAID0 (Stripe)

Select Disks:

PCIe 0.0, kimtigo SSD 256GB SA213112Z1100669, 238.4GB X

PCIe 1.0, kimtigo SSD 256GB SA213112Z1100856, 238.4GB X

Strip Size: 64KB

Capacity (MB): 488392

> Create Volume

CPU/Memory

Frequency	Temperature
4000 MHz	32°C
BCLK	Core Voltage
100.00 MHz	1.305 V
Ratio	DRAM Freq.
40x	4800 MHz
MC Volt.	Capacity
1.119 V	8192 MB

Prediction

SP	Cooler
88	139 pts
P-Core V for	P-Core
4900MHz	Light/Heavy
1.237 V@L4	5193/4943
E-Core V for	E-Core
3600MHz	Light/Heavy
1.071 V@L4	3712/2552

8. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
9. The RAID volume should appear in the Intel(R) Rapid Storage Technology menu.

UEFI BIOS Utility – Advanced Mode
09/22/2021 17:55 English MyFavorite Qfan Control Search AURA ReSize BAR MemTest86

My Favorites Main Ai Tweaker **Advanced** Monitor Boot Tool Exit

Hardware Monitor

← Advanced Intel(R) Rapid Storage Technology

Intel(R) RST 19.0.0.5428 RST VMD Driver

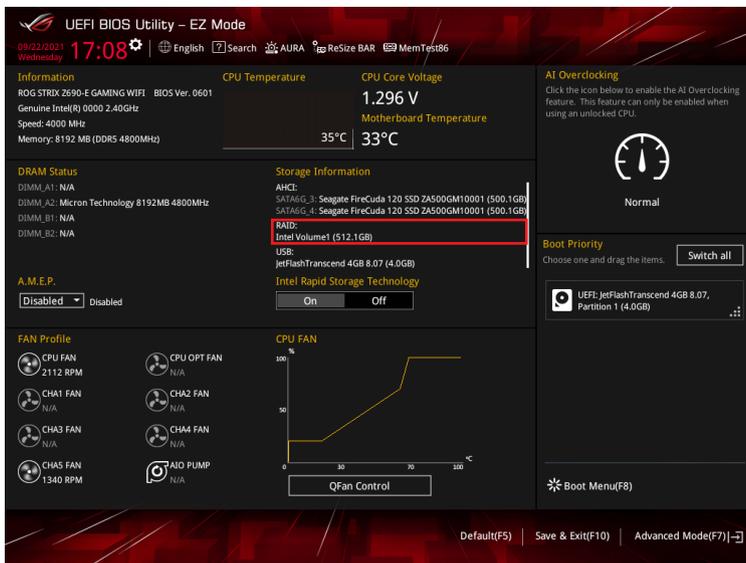
RAID Volumes:

> Volume1, RAID0 (Stripe), 476.9GB, Normal

CPU/Memory

Frequency	Temperature
4000 MHz	33°C
BCLK	Core Voltage
100.00 MHz	1.305 V
Ratio	DRAM Freq.
40x	4800 MHz
MC Volt.	Capacity
1.119 V	8192 MB

And also appear in the **EZ Mode** menu.



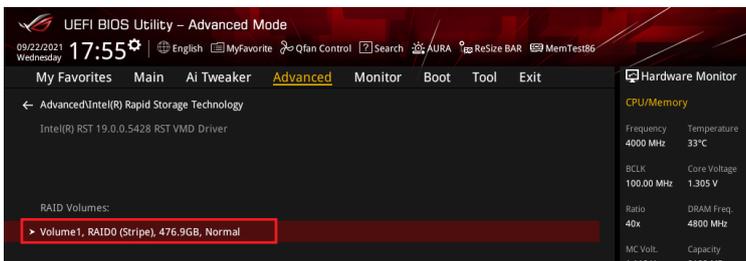
7.2 Deleting a RAID set



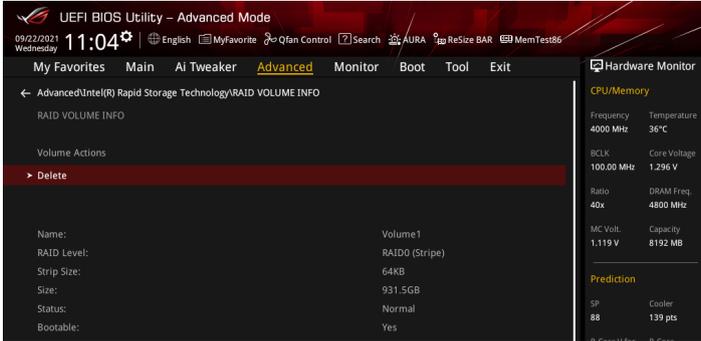
Be cautious when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

To delete a RAID set:

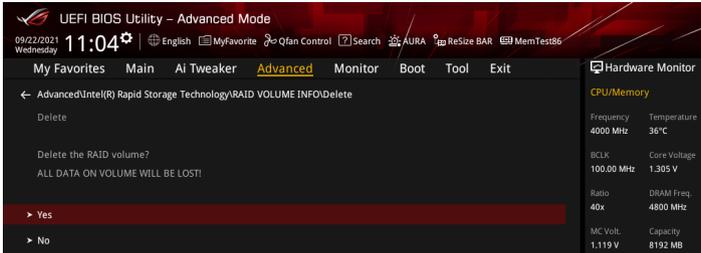
1. From the Intel® Rapid Storage Technology menu, select the RAID volume you want to delete and press <Enter>.



2. Select the **Delete** item and press <Enter>.



3. Select **Yes** to delete the RAID volume and return to the Intel® Rapid Storage Technology menu, or select **No** to cancel.



8. Creating an NVMe RAID set with expansion M.2 card in BIOS



Some BIOS options may differ, but the steps remain the same.

1. Install the VROC key to the motherboard.



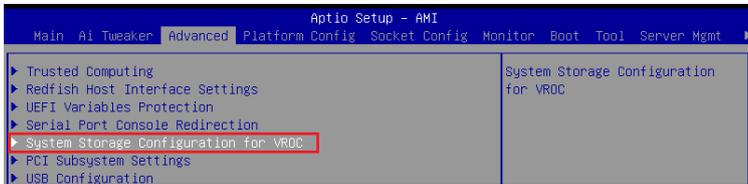
Refer to your motherboard's user guide for the location of the VROC Key slot.

2. Power on your board and enter the BIOS Setup during POST.



Refer to Chapter 3 in your motherboard's user guide for details on entering and navigating through the BIOS Setup.

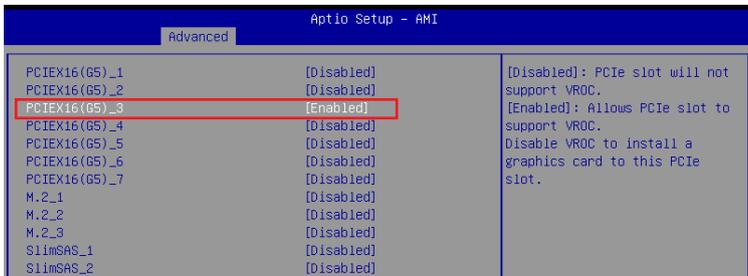
3. Go to **Advanced > System Storage Configuration for VROC**.



4. Set the PCIe slot with the expansion M.2 card to **[Enabled]**.



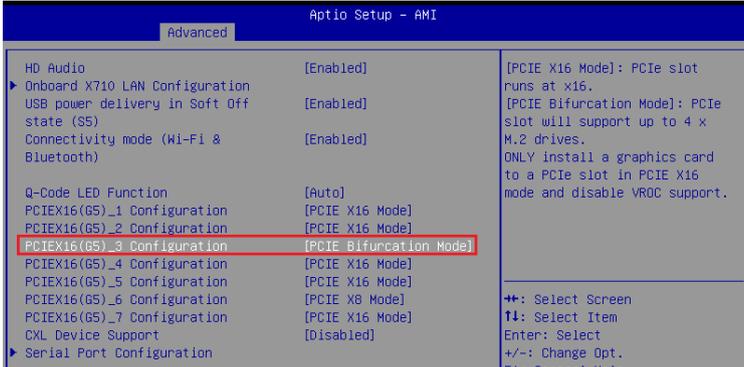
NVMe RAID support varies between different motherboard models. Make sure to check the product specification for more information.



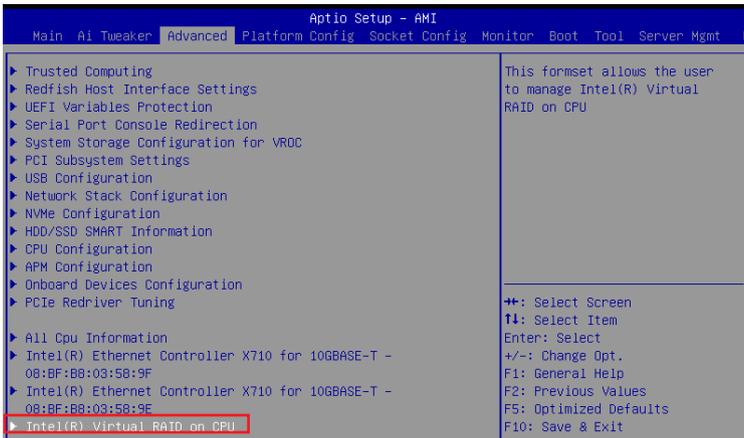
5. Go to **Advanced > Onboard Devices Configuration**.
6. Set the PCIe slot configuration of the slot you installed the expansion M.2 card to **[PCIe Bifurcation Mode]**.



The PCIe slot configuration option may differ between models, please refer to the actual BIOS of your motherboard for the correct item.



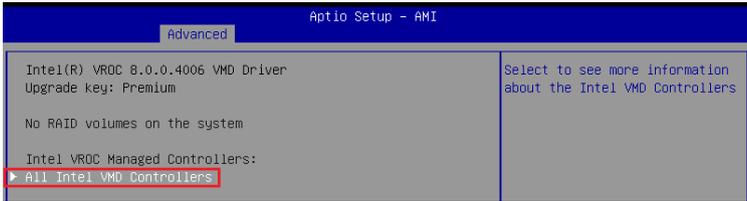
7. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
8. Go to **Advanced > Intel(R) Virtual RAID on CPU** to display the Intel® Virtual RAID on CPU menu.



8.1 Creating a RAID set

To create a RAID set:

1. From the Intel® Virtual RAID on CPU menu, select **All Intel VMD Controllers**.



2. Select **Create RAID Volume**.



3. When the **Name** item is selected, enter a name for the RAID set and press <Enter>.
4. When the **RAID Level** item is selected, press <Enter> to select the RAID level to create, and then press <Enter>.
5. When the **Enable RAID Spanned over VMD Controllers** item is selected, press <Enter> and select **X** to enable RAID spanned over VMD controllers. This is for Data RAID only, boot is not supported.
6. Under **Select Disks**, press <Enter> and select **X** for the disks you want to include in the RAID set.



Only full SATA or full NVMe RAID is supported, different interfaces of RAID cannot be created, such as half NVMe and half RAID.

Aptio Setup - AMI

Advanced

<p>Create RAID Volume</p> <div style="border: 1px solid red; padding: 2px; margin-bottom: 5px;"> <p>Name: Volume0</p> <p>RAID Level: [RAID0(Stripe)]</p> <p>Enable RAID Spanned over VMD Controllers: []</p> </div> <p>Select Disks:</p> <div style="border: 1px solid red; padding: 2px; margin-bottom: 5px;"> <p>AS2280Q4 SN:BBB20796131700011485, [] 931.51GB Port 2:0 CPU0 VMD2</p> <p>SOLIDIGM SSDPFKX010X7 [] SN:SSBBN723810A09B6T, 953.87GB Port 2:1 CPU0 VMD2</p> <p>ADATA SWORDFISH SN:2K1720073202, [] 232.89GB Port 2:2 CPU0 VMD2</p> <p>WD Blue SN570 1TB SSD [] SN:21410G803233, 931.51GB Port 2:3 CPU0 VMD2</p> </div> <p>Strip Size: [128KB]</p> <p>Capacity (GB): 0.0</p> <p>▶ Create Volume</p>	<p>Enter a unique volume name that does not contain space at the beginning or backslash and is 16 characters or less.</p> <hr/> <p>++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F5: Optimized Defaults F10: Save & Exit F12: Print Screen <k>: Scroll help area upwards <v>: Scroll help area downwards</p>
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7. When the **Strip Size** item is selected, press <Enter> to select strip size for the RAID array (for RAID 0, 10 and 5 only), and then press <Enter>. The available strip size values range from 4 KB to 128 KB. The following are typical values:
 - RAID 0: 128 KB
 - RAID 10: 64 KB
 - RAID 5: 64 KB

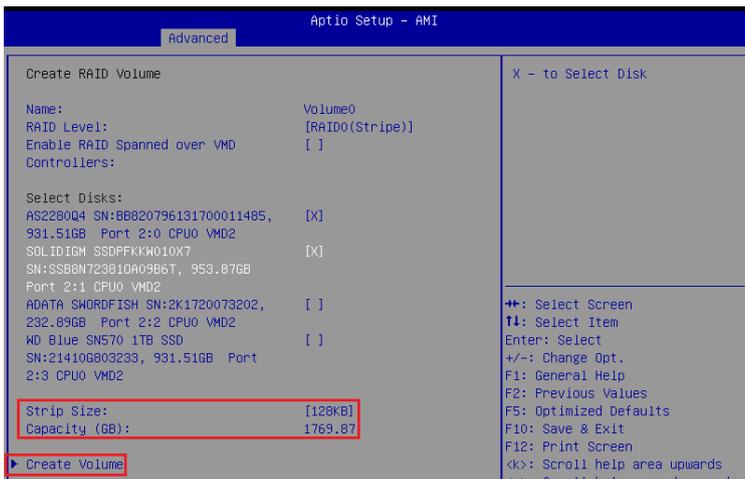


We recommend a lower strip size for server systems, and a higher strip size for multimedia computer systems used mainly for audio and video editing.

8. When the **Capacity (GB)** item is selected, enter the RAID volume capacity that you want. The default value indicates the maximum allowed capacity.
9. Select the **Create Volume** item, then click **Yes** on the confirmation screen to create the RAID set.



Creating a RAID volume will delete all data on the selected drives. Ensure to back up the data on the drives before creating a RAID volume.



10. After the RAID set has been created, you will be directed back to the Intel(R) VROC SATA Controller menu and the newly created RAID volume should appear under the RAID Volumes item.

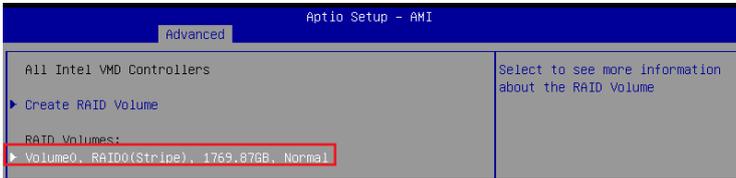
8.2 Deleting a RAID set



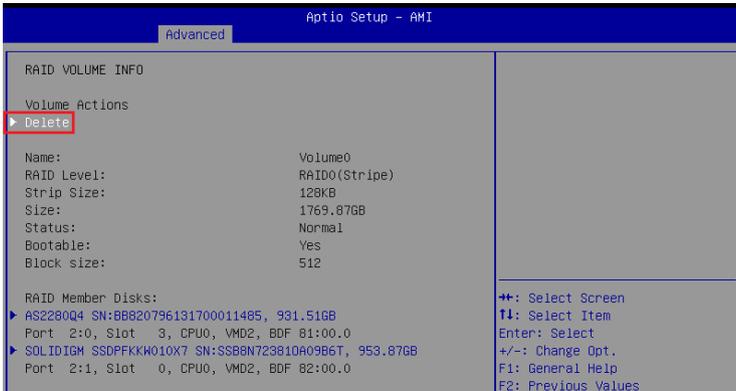
Be cautious when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

To delete a RAID set:

1. From the Intel® Virtual RAID on CPU menu, select the RAID volume you want to delete.



2. Select the **Delete** item.



3. Select **Yes** to delete the RAID volume and return to the Intel® Virtual RAID on CPU menu, or select **No** to cancel.



9. Installing the RAID controller driver during Windows® 10 or Windows® 11 OS installation

After creating the RAID sets, you are now ready to install an operating system to the independent drives or bootable array. This part provides the instructions on how to install the RAID controller drivers during OS installation.



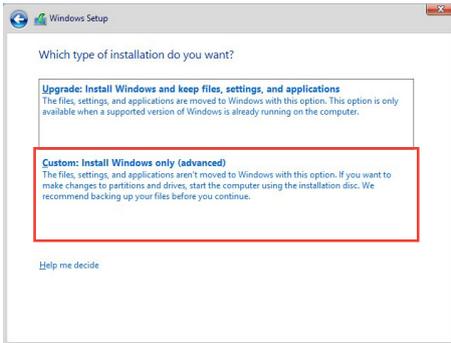
The steps and screenshots are for reference only and may change with newer Windows updates.



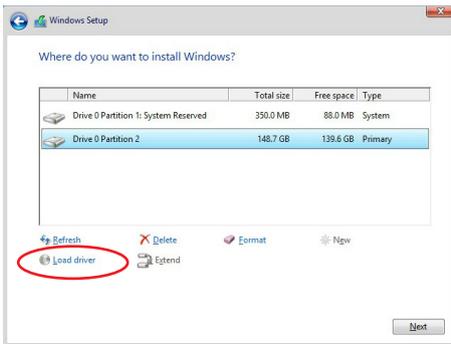
If you created a SATA RAID set, you will not be able to use the optical drive connected to a SATA port before the RAID driver is loaded.

To install the RAID controller driver when installing Windows® 10 or Windows® 11 OS:

1. Boot the computer using the Windows® 10 OS or Windows® 11 installation disc or drive. Follow the screen instructions to start installing Windows®.
2. When prompted to choose a type of installation, click **Custom: Install Windows only (advanced)**.



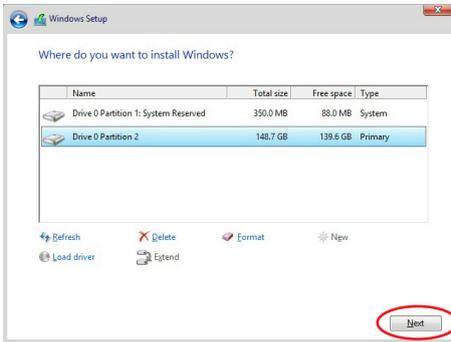
3. Click **Load Driver**.



4. A message appears, reminding you to insert the installation media containing the driver of the RAID controller driver. Click **Browse** to continue.



5. Locate the driver in the corresponding folder of the Support DVD or the USB flash drive with RAID driver, then click **OK** to continue.
6. Select the RAID controller driver you need from the list and click **Next**.
7. When the system finishes loading the RAID driver, select the drive to install Windows and click **Next**.



8. Setup then proceeds with the OS installation. Follow screen instructions to complete.