RAID Configuration Guide (INTEL)

51.

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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 ($\underline{www.asus.com}$) 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.



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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.



 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.

UEFI BIOS Utility - Advanced Mode ^{09/272/2021} 16:04 [¢] ⊕English @My6ivorite & Ofan Control ②search &AURA [®] @Resize BAR @MemTest86		/ /
My Favorites Main Ai Tweaker <u>Advanced</u> Monitor [/] Boot Tool Exit	🔄 Hardwa	are Monitor
← Advanced\System Agent (SA) Configuration\VMD setup menu		
Enable VMD controller	4000 MHz	36°C
Map PCIE Storage under VMD Disabled -	BCLK 100.00 MHz	Core Voltage 1.305 V
Map SATA Controller under VMD Enabled 🗸	Ratio	DRAM Freq.
	402	4000 Mil 12

- 4. Save your changes and exit the BIOS Setup, then enter the BIOS Setup again.
- 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:

 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.

UEFI BIOS Utility - Advanced Mode		/ /
09/22/2021 11:03 ♥ ⊕ English □ MyFavorite みQfan Control 2 Search ②: AURA ™ ReSize BAR ⊞ MemTest86		
My Favorites Main Ai Tweaker <u>Advanced</u> Monitor Boot Tool Exit	🔄 Hardwa	re Monitor
	CPU/Memor	
Name: Volume1	Frequency 4000 MHz	Temperature 36°C
RAID Level: RAID0 (Stripe)	BCLK 100.00 MHz	Core Voltage 1.305 V
Select Disks:	Ratio	DRAM Freq.
SATA 0.6, Seagate FireCuda 120 SSD ZA500GM10001 75V003Z4, 465.7GB X	40x MC Volt.	Capacity
SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 75V003YC, 465.7GB X	1.119 V	8192 MB
Strip Size:	Prediction	
Capacity (MB): 953875	SP 88	Cooler 139 pts
- Costs Velues	P-Core V for 4900MHz	P-Core Light/Heavy
➤ Create volume	1.237 V @L4	5193/4943

- 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.

- 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.
- When the Create Volume item is selected, press <Enter> to create the RAID volume and return to the Intel[®] Rapid Storage Technology menu.

My Favorites Main Ai Tweaker Advanced Monitor Boot Tool Exit E Hardware Mo Utexter Acuta volume CPU/Memory CPU/Memory CPU/Memory CPU/Memory Name: RAID Level: RAID0 (Stripe) Implements Tool Met 36C Select Disks: SATA 0.6, Seagate FireCuda 120 SSD ZA500GM10001 75V00324, 465.7GB X MC Volt. Capacity Strip Size: 54KB Strip Size: 54KB SP Prediction	
L'eare RALD Yolume CPU/Memory Name: Volume1 RAID Level: RAID (Stripe) Select Disks: Ratio (Stripe) SATA 0.6, Seagate FireCuda 120 SSD ZA500GM10001 75V003Z4, 465.7GB X SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 75V003Z4, 465.7GB X Strip Size: 64KB	lonitor
Name: Volume1 Frequency Temp 4000 Mez Temp 3erc RAID Level: RAID0 (Stripe) BCLK Core Select Disks: StAta 0.6, Seagate FireCuda 120 SSD ZA500GM10001 7SV003Z4, 465.7GB X MCVolt. Capect SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 7SV003Z4, 465.7GB X MCVolt. Capect Strip Size: 64KB SP Coole	
RAID Level: RAID0 (Stripe) BCLK Carel Select. Disks: Select. Disks: Raido URM: 1.305 SATA 0.6, Seagate FireCuda 120 SSD ZA500GM10001 75V003Z4, 465.7GB X MCVolt. Carel SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 75V003Z4, 465.7GB X MCVolt. Carel SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 75V003Z4, 465.7GB X MCVolt. Carel Strip Size: 64KB SP Coole	
Select Disks: SATA 0.6, Seagate FireCuda 120 SSD ZA500GM10001 75V00324, 465.7GB X 480 480 SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 75V003YC, 465.7GB X 1.119 V 8192 Strip Size: 64KB SP Coole SP Coole	e Voltage 1 5 V
SATA 0.6, Seagate FireCuda 120 SSD ZA500GM10001 75V00324, 465.7GB X 4800 SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 75V003YC, 465.7GB X 1.119 V Strip Size: 64KB SP Coole	
SATA 0.7, Seagate FireCuda 120 SSD ZA500GM10001 75V003YC, 465.7GB X MC Volt. Capac Strip Size: 64KB SP Coole	0 MHz
Strip Size: Frediction SP Code	acity 2 MB
SP Coole	
Capacity (MB): 953875 88 139 p	ler pts
P-Core V for P-Cor 4900MHz Light	re t/Heavy
➤ Create Volume 1.237 V@L4 5193/	3/4943

- 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 Wedneday 11:04 Henglish ?sea	a AURA See ReSize BAR SM Mem Tesi86	
Information CPU RoG STRIX 2590-E GAMING WIFI BLOS Ver, 9970 Genuine Tritef(0 000 2.40GHz Speed: 4000 MHz Memory: 8192 MB (DDR5 4800MHz)	Temperature CPU Core Voltage 1.305 V Motherboard Temperature 36°C 32°C	Al Overclocking Click the icon below to enable the Al Overclocking feature. This feature can only be enabled when using an unlocked CPU.
DRAM Status DIMM_A1: N/A DIMM_A2: Micron Technology 8192MB 4800MHz DIMM_B1: N/A DIMM_B1: N/A	Storage Information RAID: Intel Volumet (1000.2GB) USB: JetFlashTranscend 4GB 8.07 (4.0GB)	C ↓ J Normal
A.M.E.P. Disabled Disabled	Intel Rapid Storage Technology On Off	Boot Priority Choose one and drag the items. Switch all UEF: JetFlashTranscend 4GB 8.07, Partition 1 (4.066) .::
FAN Profile Opu FAN Opu Opt FAN 2093 RPM N/A Opu CHAI FAN Opu CHAI FAN V/A Opu CHAI FAN V/A Opu CHAI FAN	CPU FAN	
N/A N/A CH43 FAN CH44 FAN N/A N/A Image: State of the sta		상 Root Manu(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>.



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



4. 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.



18)

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.

UEFI BIOS Utility – Advanced Mode		
My Favorites Main Ai Tweaker <u>Advanced</u> Monitor Boot Tool Exit	Hardwa	re Monitor
← Advanced\System Agent (SA) Configuration	CPU/Memor	
	Frequency	
System Agent Bridge Name AlderLake	3500 MHz	36°C
SA PCIe Code Version 12.0.79.16	BCLK	
VT-d Supported	100.00 MHz	1.074 V
VT-d Enabled 👻	Ratio	DRAM Freq.
Control Iommu Pre-boot Behavior Disable IOMMU -	MC Volt.	Capacity
➤ Memory Configuration		0152 110
➤ Graphics Configuration	Prediction	
VMD setup menu	SP	
PCI Express Configuration	88	139 pts
	P-Core V for	

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.

UEFI BIOS Utility - Advanced Mode ^{09/22/2021} 10:57 [¢] ⊕ English @Myfavorite & Ofan Control ②search ☆AURA ¹ 82 Resize BAR ®MemTest86 My Favorites Main Ai Tweaker <u>Advanced</u> Monitor Boot Tool Exit	Hardwa	re Monitor
Advanced\System Agent (SA) Configuration\VMD setup menu VMD Configuration	CPU/Memor	y Temperature
Enable VMD controller	DCLK	Corre Malkana
Map PCIE Storage under VMD Enabled	100.00 MHz	1.074 V
Map SATA Controller under VMD Disabled -	Ratio 33x	DRAM Freq. 4800 MHz

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

4.1 Creating a RAID set

To create a RAID set:

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

UEFI BIOS Utility - Advanced Mode 09/23/2021 09:11* English @MyFavorite & Qtan Control ②search 遊AURA @Resize BAR @MemTest86		
My Favorites Main Ai Tweaker <u>Advanced</u> Monitor Boot Tool Exit	🔄 Hardwa	are Monitor
← Advanced\Intel(R) Rapid Storage Technology		
	Frequency 4000 MHz	Temperature 33°C
► Create RAID Volume	BCLK 100.00 MHz	Core Voltage 1.305 V
	Ratio 40x	DRAM Freq. 4800 MHz
	MC Volt. 1.119 V	Capacity 8192 MB
➤ PCIe 0.0, kimtigo SSD 256GB SA213112Z1100856, 238.4GB		
➤ PCIe 1.0, kimtigo SSD 256GB SA213112Z1100669, 238.4GB		

- 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>.
- 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.

09/2 Thu	େ UEFI BIOS Utility - Advanced Mode ଅଥିଥା 09:11 [©] ⊕ English ାଇMyFavorite ୫୦୧୮an Control ଅsearch	迹 AURA 않 ReSize BAR 때 MemTest86		/ /
	My Favorites Main Ai Tweaker Advanced Monitor	Boot Tool Exit	🔄 Hardwa	re Monitor
÷	Advanced\Intel(R) Rapid Storage Technology\Create RAID Volume		CPU/Memor	
			Frequency 4000 MHz	Temperature 32°C
	Name:	Volume1	BCLK 100.00 MHz	Core Voltage 1.305 V
	RAID Level:	RAID0 (Stripe) -		
			40x	4800 MHz
	PCIe 0.0, kimtigo SSD 256GB SA213112Z1100856, 238.4GB		1.119 V	8192 MB
	- PCIe 1.0, kimtigo SSD 256GB SA213112Z1100669, 238.4GB			
	Strip Size:	64KB -	88	139 pts
	Capacity (MB):	0	P-Core V for 4900MHz 1.237 V @L4	P-Core Light/Heavy 5193/4943

- 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.

- 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.
- When the Create Volume item is selected, press <Enter> to create the RAID volume and return to the Intel[®] Rapid Storage Technology menu.

My Eavorites Main Ai Tweaker Advanced Monitor Boot Tool Exit	Monitor
My avointes Main A weaker Advanced Monitor Boot root Exit	
CPU/Memory	
Kame: Volume1	
RAID Level: + 4000 MHz 3	3°C
BCLK	
Select Disks: 100.00 MHz	.305 V
PCIe 0.0, kimtigo SSD 256GB SA213112Z1100856, 238.4GB X - Ratio	RAM Freq.
PCIe 1.0, kimtigo SSD 256GB 5A213112Z1100669, 238.4GB	apacity 3192 MB
Strip Size: Prediction	
Capacity (MB): 488392	
88	39 pts
P-Core V for a 490MHz	-Core .ight/Heavy

- 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 09/23/2021 Thursday 09:13 C Brglish 7 See	e	
Information CPU ROG STRIX Z590-E GAMING WIFF BLOS Ver, 0601 Genuine Intel(8) 0000 2.40GHz Speecf-4000 Mbłz Memory: 8192 M8 (DDRS 4800MHz)	Temperature CPU Core Voltage 1.305 V Motherboard Temperature 35°C 31°C	AI Overclocking Click the icon below to enable the AI Overclocking feature. This feature can only be enabled when using an unlocked CPU.
DRAM Status DIMM, 41: N/A DIMM, 62: Kikron Technology 8192MB 4800MHz DIMM, 81: N/A DIMM, 82: N/A	Storage Information AHC: SATAGG_3: Segate FireCuda 120 SSD ZAS00GM10001 (500. SATAGG_4: Segate FireCuda 120 SSD ZAS00GM10001 (500. FireCuda 120 SSD ZAS00GM10001 (500. FAID: Intel Volume1 (512.1G8) US8: V	1GB) Normal Bool Priority
A.M.E.P. Disabled • Disabled	JetFlashTranscend 4GB 8.07 (4.0GB) Intel Rapid Storage Technology On Off	Choose one and drag the items. Switch all UEFL jetFlashTranscend 4GB 8.07, Partition 1 (4.0GB)
FAN Profile 1962 289M CPU OPT FAN NA NA CHAT FAN CHAZ FAN NA CHAT FAN CHAT FAN CHAZ FAN NA NA CHAT FAN CHAT FAN CHAT FAN CHAT FAN CHAT FAN CHAT FAN NA NA NA MA NA MA	CPU FAN	No part to a state
	Uran Control Default(F5) Save & Exit(F10) Advanced Mode(F7)

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



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



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



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



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

. Enter the BIOS Setup during POST.



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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.

WEFI BIOS Utility - Advanced Mode 9222021 10:57 [¢] ⊕English ⊡Myfavorite &Qfan Control ⑦search ﷺAURA ﷺResize BAR MemTest86		/ /
My Favorites Main Ai Tweaker <u>Advanced</u> Monitor / Boot Tool Exit	날 Hardwa	ire Monitor
Advanced/System Agent (SA) Configuration/VMD setup menu VMD Configuration	CPU/Memo	ry Temperature
Enable VMD controller	3300 MHZ	36°C
Map PCIE Storage under VMD	BCLK 100.00 MHz	Core Voltage 1.074 V
Map SATA Controller under VMD Disabled -	Ratio 33x	DRAM Freq. 4800 MHz

4. 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.

UEFI BIOS Utility - Advanced Mode Verzazzazi 17:54 [¢] ⊕ English @Myfavorite & Qfan Control ⑦Search ﷺ, AURA BarReSize BAR @MemTest86		/ /
My Favorites Main Ai Tweaker <u>Advanced</u> Monitor Boot Tool Exit	🔄 Hardwa	are Monitor
Intel LAN Enabled +	CPU/Memo	
USB power delivery in Soft Off state (S5) Enabled -	4000 MHz	30°C
Connectivity mode (Wi-Fi & Bluetooth) Enabled -	BCLK 100.00 MHz	Core Voltage 1.305 V
LED lighting	Ratio	
When system is in working state	40x	4800 MHz
Q-Code LED Function Dual M.2 SSD Optane Memory at ROG Hyper M.2_	MC Volt. 1.119 V	Capacity 8192 MB
When system is in sleep, hibernate or soft off states		
Optane Memory at ROG Hyper M.2_ 2 Dual Optane Memory	Prediction SP	Cooler
PCIEX16(G4) Mode Dual M.2 SSD 🗸	00	129 brs
U32G2X2_3 Type C Power Mode	P-Core V for 4900MHz	P-Core Light/Heavy
U32G2_C7 Type C Power Mode Auto -	E-Core V for 3600MHz	E-Core Light/Heavy

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.

UEFI BIOS Utility - EZ Mode	·····································	
Information CPU Tem Rod STRX 2590-E GAMING WIFI BIOS Ver, 0601 Gemuine Enrike(N 0000 2: 40GHz Speed: 4000 MHz Speed: 4000 MHz Memory: 8192 MB (DDRS 4800MHz)	perature CPU Core Voltage 1.296 V Motherboard Temperature 35°C 33°C	AI Overclocking Click the icon below to enable the AI Overclocking feature. This feature can only be enabled when using an unlocked CPU.
DRAM Status DIMM, 21: NA DIMM, 22: Micron Technology 8192MB 4800MHz DIMM, 82: N/A DIMM, 82: N/A	Storage Information AHC: >Segate FireCude 120 SSD ZA50606H10001 (500.1GB) X1MAC:3: Segate FireCude 120 SSD ZA50606H10001 (500.1GB) X1MBC:3: Segate FireCude 120 SSD ZA50606H10001 (500.1GB) Mintge SSD 25668 (556.0GB) Limitge SSD 25668 (556.0GB) USE: Lister FireCude 120 SSD ZA50607 Jintel Rapid Storage Technology	Normal Boot Priority Choose one and drag the Items. Switch all
Disabled	On Off	UEFI: JetFlashTranscend 4GB 8.07, Partition 1 (4.0GB)
FAN Profile CPU OPT FAN COB DB PM CPU OPT FAN CBM FAN CPU OPT FAN CHAT FAN CPU OPT FAN CHAT FAN CPU OPT FAN CHAT FAN CPU OPT FAN	CPU FAN	

 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** 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.

(g)

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

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	My Favorites Main Ai Tweaker Advanced Monitor	Boot Tool Exit	🔄 Hardwa	re Monitor
÷	Advanced\Intel(R) Rapid Storage Technology\Create RAID Volume			
			Frequency 4000 MHz	Temperature 35°C
	Name:	Volume1	BCLK 100.00 MHz	Core Voltage 1.296 V
	RAID Level:	RAID0 (Stripe) 👻		
			40x	4800 MHz
	Select Disks:			
	PCIe 0.0, kimtigo SSD 256GB SA213112Z1100669, 238.4GB		1.119 V	8192 MB
	PCIe 1.0, kimtigo SSD 256GB SA213112Z1100856, 238.4GB			
	Strip Size:	64KB 👻		139 pts
	Capacity (MB):	0	P-Core V for 4900MHz	P-Core Light/Heavy
			1.237 V @L4	5193/4943

- 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.

- 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.
- When the Create Volume item is selected, press <Enter> to create the RAID volume and return to the Intel[®] Rapid Storage Technology menu.

09	UEFI BIOS Utility - Advanced Mode		/ /
We	ednesday IO, IO		
	My Favorites Main Ai Tweaker <u>Advanced</u> Monitor Boot Tool Exit	🔄 Hardwa	re Monitor
•	Auvanceutinen(k) kapiu storage rechnology/create kAto volume		
	Create RAID Volume	Frequency 4000 MHz	Temperature 32°C
	Name: Volume1	BCLK 100.00 MHz	Core Voltage
	RAID Level: RAID0 (Stripe) -	Ratio	DRAM Freq.
	Select Disks:	404	4000 1112
	PCIe 0.0, kimtigo SSD 256GB 5A213112Z1100669, 238.4GB X -	MC Volt. 1.119 V	Capacity 8192 MB
	PCIe 1.0, kimtigo SSD 256GB SA213112Z1100856, 238.4GB X -		
	Strip Size: 64KB -	SP 88	Cooler 139 pts
	Capacity (MB): 488392	P-Core V for 4900MHz	P-Core Light/Heavy
	► Create Volume	1.237 V @L4 E-Core V for 3600MHz	5193/4943 E-Core Light/Heavy

- 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 M 09/22/2021 Wednesday 17:08 [†] ⊕ English	lode Search 쇼 AURA °ස Resize BAR (영 Mem Testille	
Information RGG STRIX 2590-E GAMING WIFI BLOS Ver, 0601 Genuine Intel(8) 0000 2.40GHz Speed: 4000 MHz Memory: 8192 MB (DDR5 4800MHz)	CPU Temperature CPU Core Voltage 1,296 V Motherboard Temperature 35°C 33°C	At Overclocking Click the icon below to enable the Al Overclocking feature: This feature can only be enabled when using an unlocked CPU.
DRAM Status DIMMLA1: N/A DIMMLA2: Micron Technology 8192MB 4800MHz DIMMLB1: N/A DIMMLB2: N/A	Storage Information AHC: SATAGG 3: Segate FireCuda 120 SSD 2A500GM10001 (500.1GB SATAGG 4: Segate FireCuda 120 SSD 2A500GM10001 (500.1GB MDD: Intel Volumet (512.1GB) USB:	Normal Boot Priority
A.M.E.P. Disabled Tisabled	jeffashTrancend 4GB 8.07 (4.0GB) Intel Rapid Storage Technology On Off	Choose one and drag the items.
EAN Forbile • CPU GAN • CPU G	CPU FAN 10 10 10 10 10 10 10 10 10 10	· ** Boot Menu(F8)
	Default(P5)	Save & Exit(F10) Advanced Mode(F7)

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>.



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



6. 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:

- 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).

Ingrade: Install Window	es and keep files, settings, and applications
he files, settings, and appli vailable when a supported	actions are moved to Windows with this option. This option is only version of Windows is already running on the computer.
ustom: Install Window	s only (advanced)
he files, settings, and appli nake changes to partitions ecommend backing up you	cations aren't moved to Windows with this option. If you want to and drives, start the computer using the installation disc. We ir files before you continue.
elo me decide	

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.
- When the system finishes loading the RAID driver, select the drive to install Windows and click Next.

	Name	Total size	Free space	Туре
P	Drive 0 Partition 1: System Reserved	350.0 MB	88.0 MB	System
-	Drive 0 Partition 2	148.7 GB	139.6 GB	Primary
* Refr	esh 🗙 Delete	Format	* New	

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

