

EFCO Technology

Application Note

Document Name	AN10_AIHx_RAID setting
Applicable Products	All AIH series
Application Note Subject	RAID 0,1,5
Usage Designation	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External

Preface

Revision History

Revision	Date	Author	Description
1.0	2020/12/18	J Yen	Preliminary release

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Warnings, Cautions and Notes

Warning! Warnings indicate conditions, which if not observed, can cause personal injury!



Caution! Cautions are included to help you avoid damaging hardware or losing data.



Note! Notes provide optional additional information.



Title

How to create RAID disk on AIH series product?

Answer

AIH series can support 3 type RAID functions, RAID 0 (stripe), RAID 1 (mirroring) and, RAID 5 (distributed parity).

RAID 0 (Stripe)

Software stripping and block interleave (minimum 2 drives). Data is written to each drive-in succession, each block going to the next available drive (striping) for a faster operation and less chance of overloaded. The volume can of course be much larger than any single drive. Since no redundancy is provided, the failure of a single drive brings the system down.

RAID 1 (Mirror)

Disk mirroring and duplexing (minimum 2 drives). Drives are used in pairs and all data is written identically to both drives. Each drive can be duplexed by connecting to its own interface controller. The failure of one drive does not bring down the system. Instead, the other drive continues to operate. Of course, two drives are now used for the equivalent storage capacity of one drive.

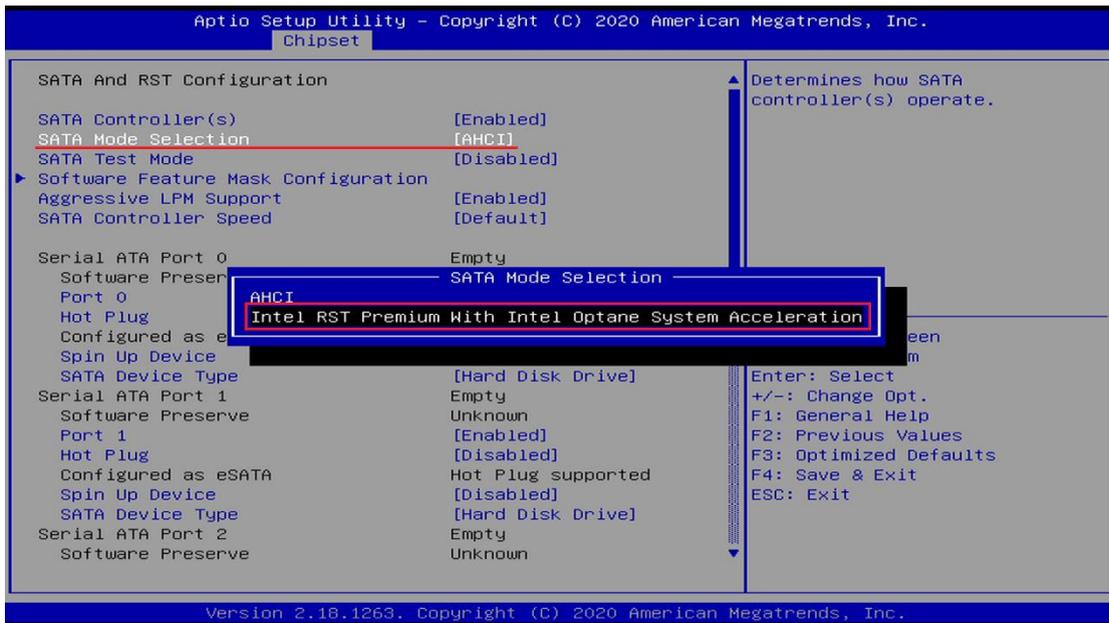
RAID 5 (Parity)

Blocks interleave, and data striping with distributed check data on all drives. The one to use for NetWare. Parity information is distributed across all drives. RAID 5 efficiency goes up as the number of disks increases. You can use hot spares to rebuild a failed drive on "the fly". The best choice in multi-user environments, which are not write performance sensitive. However, at least three, and more typically five drives, are required for RAID 5 arrays.

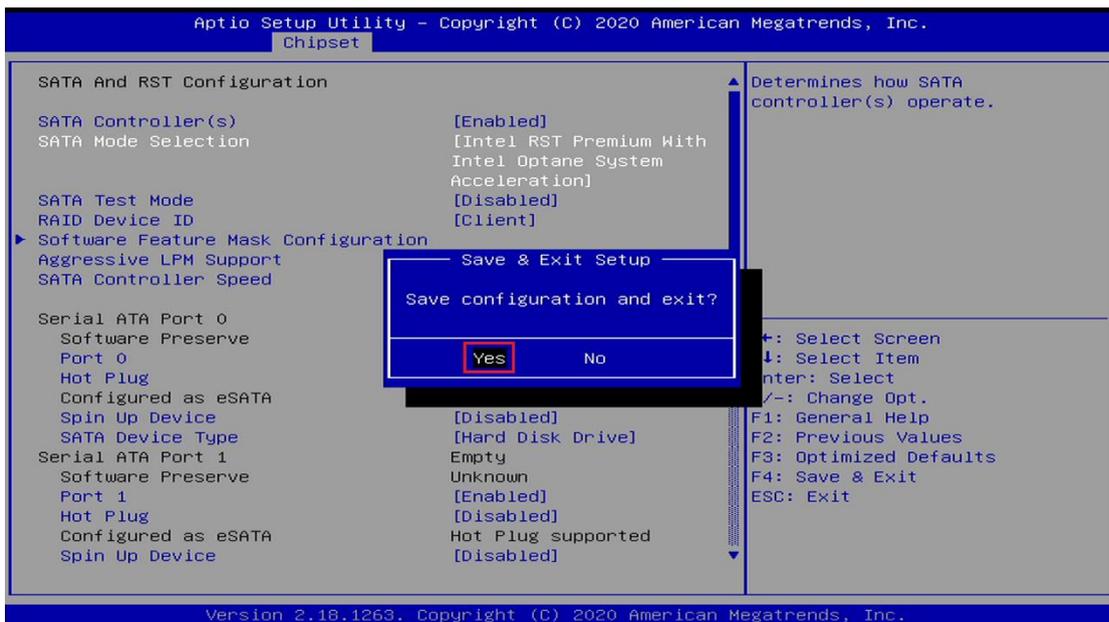
RAID 0 (Stripe)

Step 1: Power on and press “Del” key to enter into BIOS setting mode.

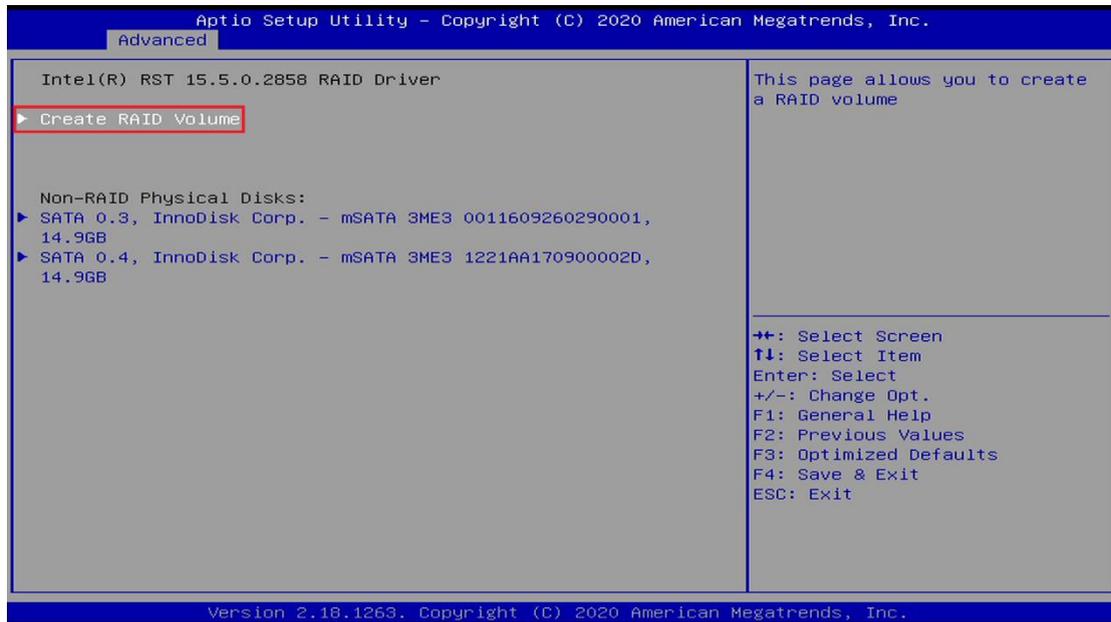
Step 2: Follow the steps below, “Chipset” → “PCH-IO Configuration” → “SATA and RST Configuration” → “SATA Mode Selection”, and then change setting to “Intel RST Premium With Intel Optane System Acceleration”



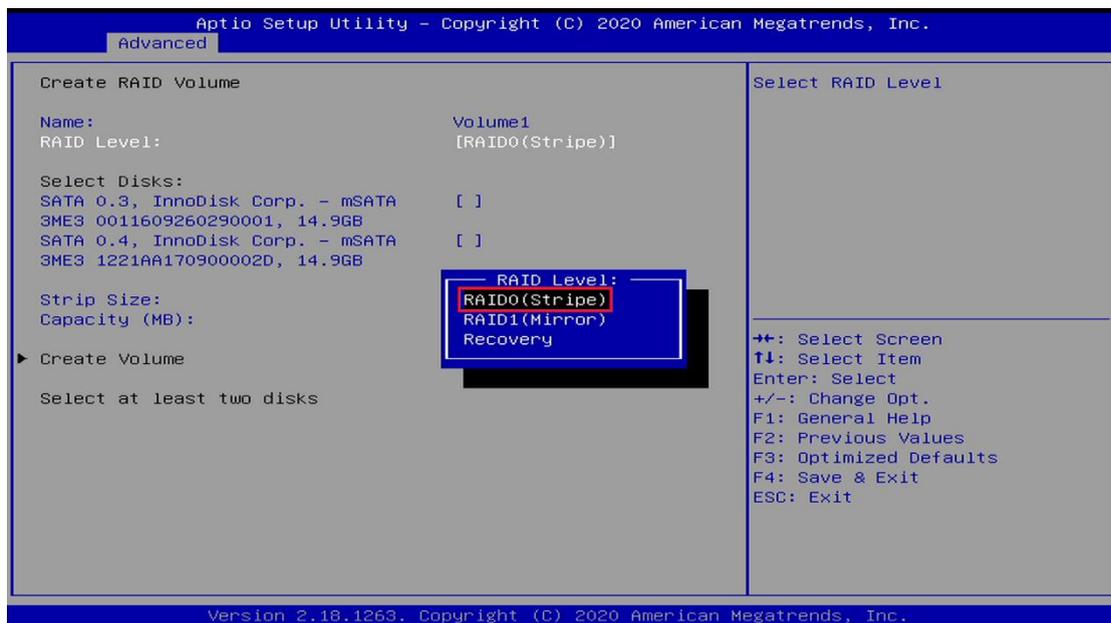
Step 3: Press “F4” key to save and exit, and then press “DEL” key to enter into BIOS mode again.



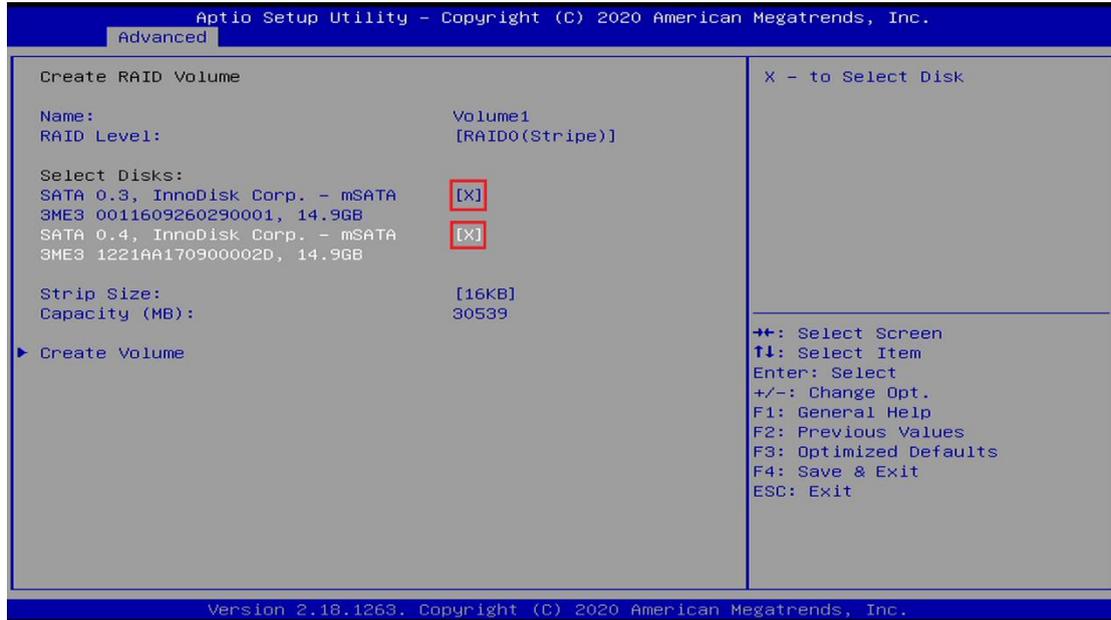
Step 4: Follow the steps below: “Advanced” → “Intel® Rapid Storage Technology” → “Create RAID Volume” to create RAID.



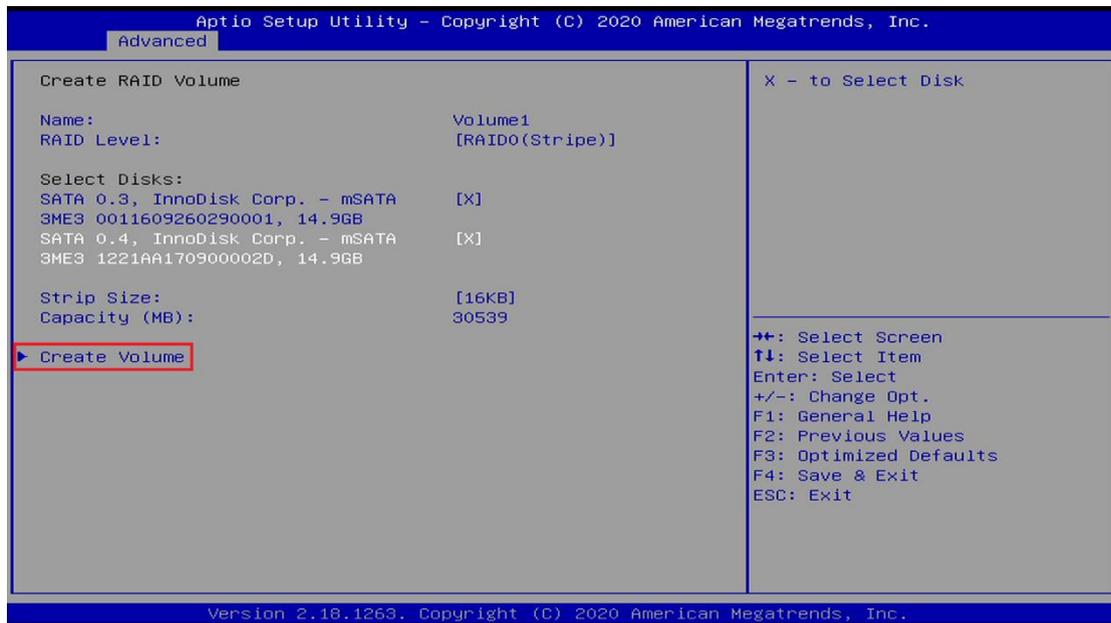
Step 5: Select “RAIDO (Stripe).”

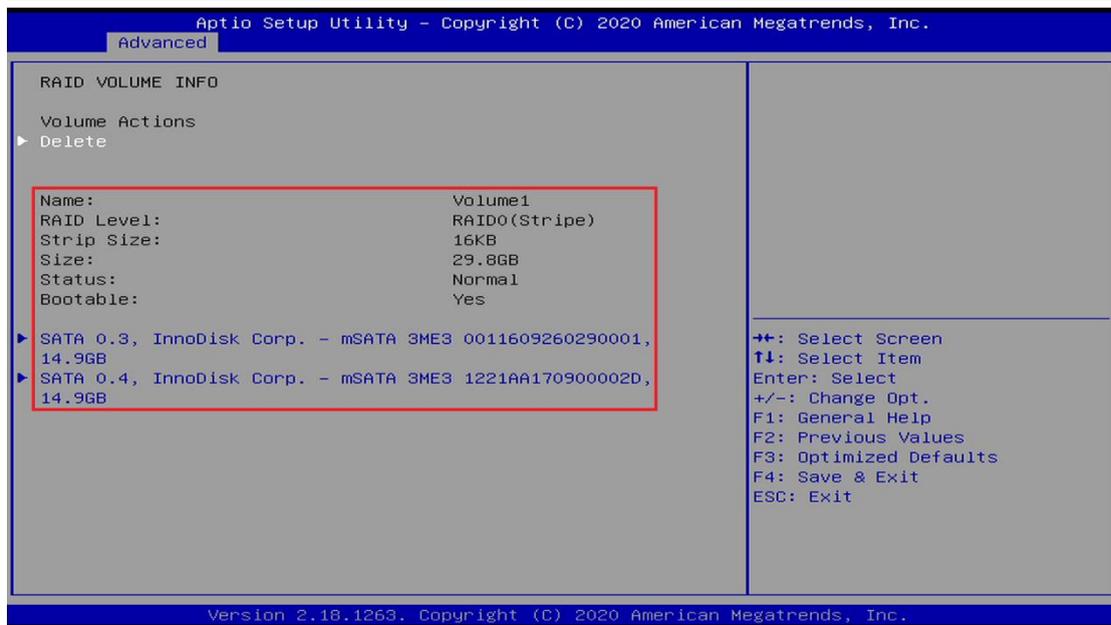
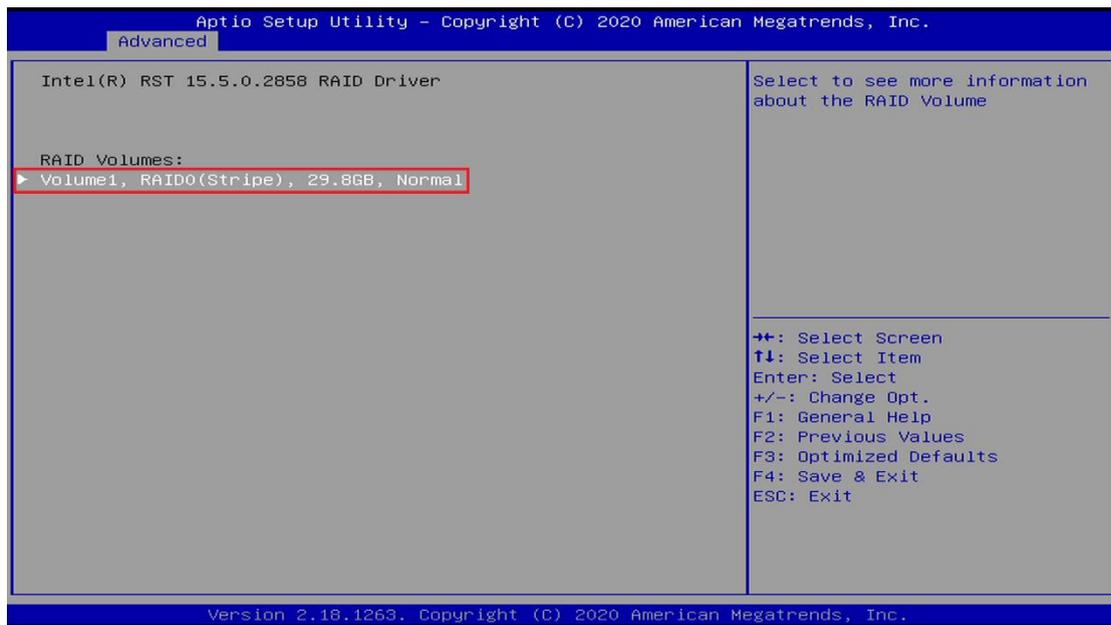


Step 6: Select disks. (2 storage devices minimum required)



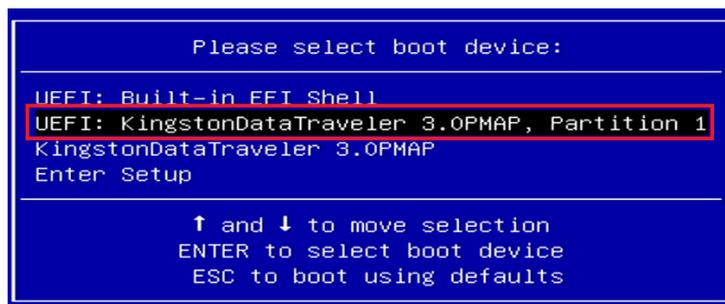
Step 7: Click "Create Volume" → "Volume1, RAID0 (Stripe), xxxxGB, Normal" to check disk status and size.



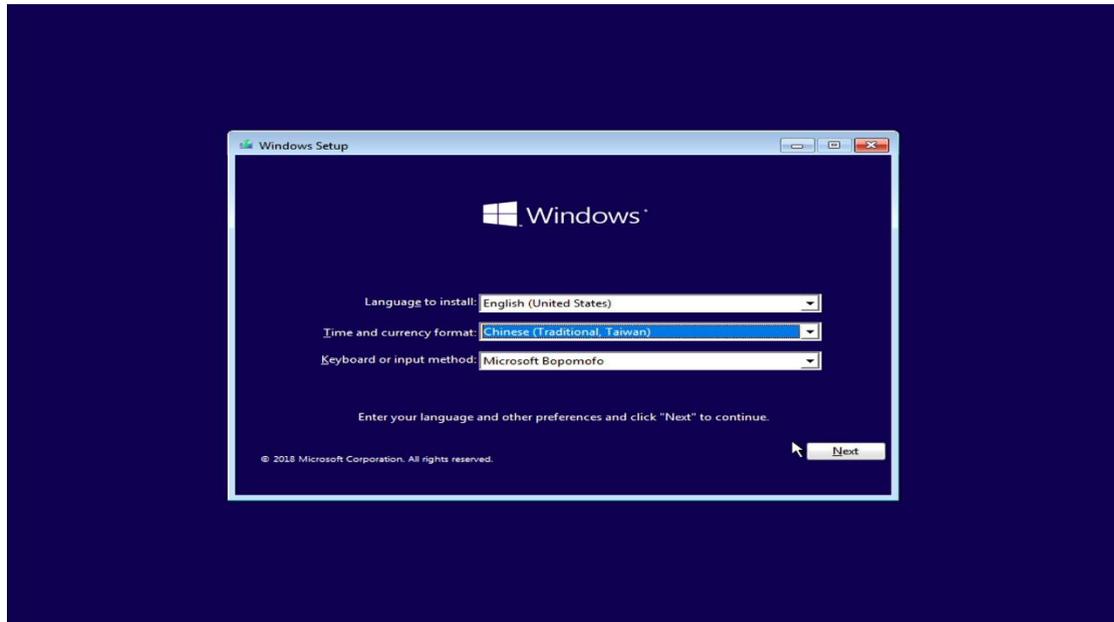


Step 8: Press “F4” key to save and exit, and then reboot the system.

Step 9: Insert Windows OS source disk, and then Press “F7” key choose boot from source disk.



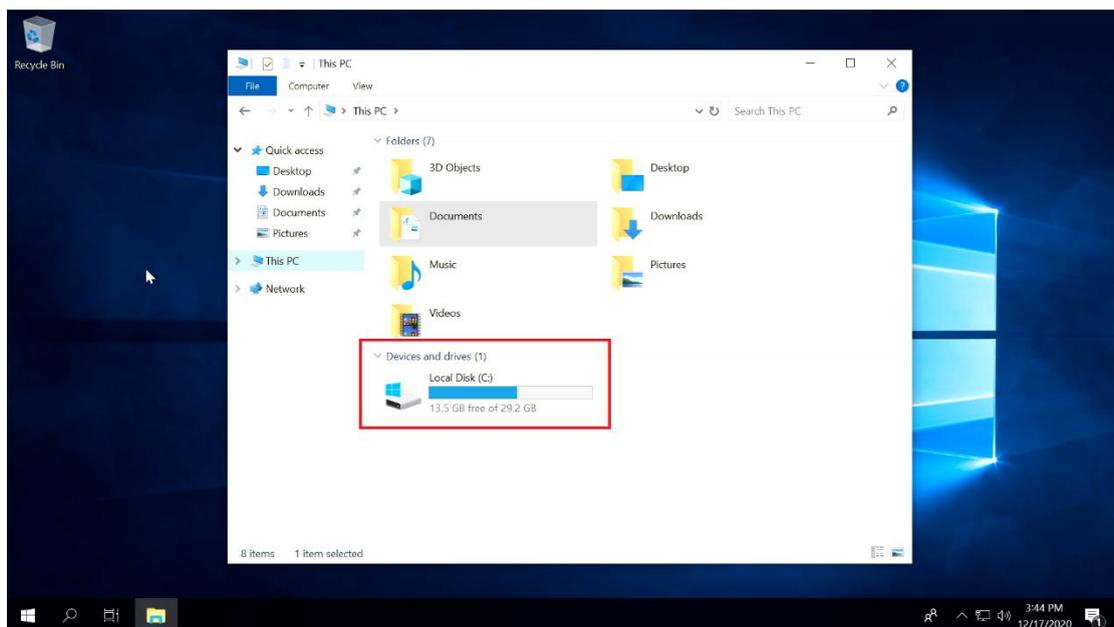
Step 10: Follow the steps to install Windows system.



Caution! For Windows 7 OS, install Intel RST driver first before the OS setup.
Link her: <https://downloadcenter.intel.com/zh-tw/download/28992/Intel-Intel-RST-?product=55005>



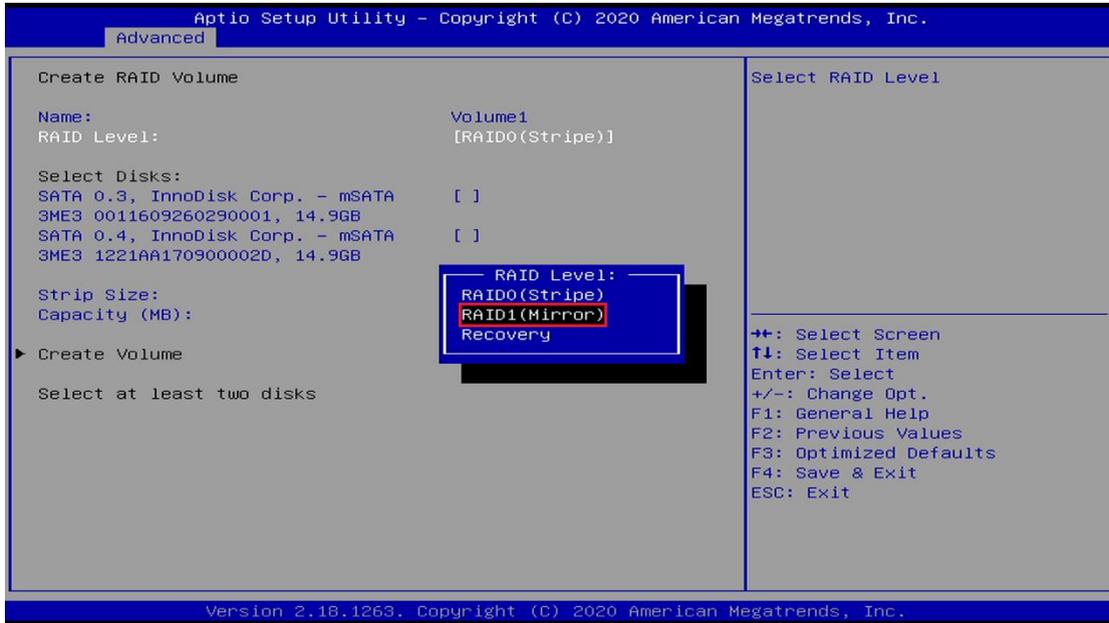
Step 11: Finish OS installation and check the storage size.



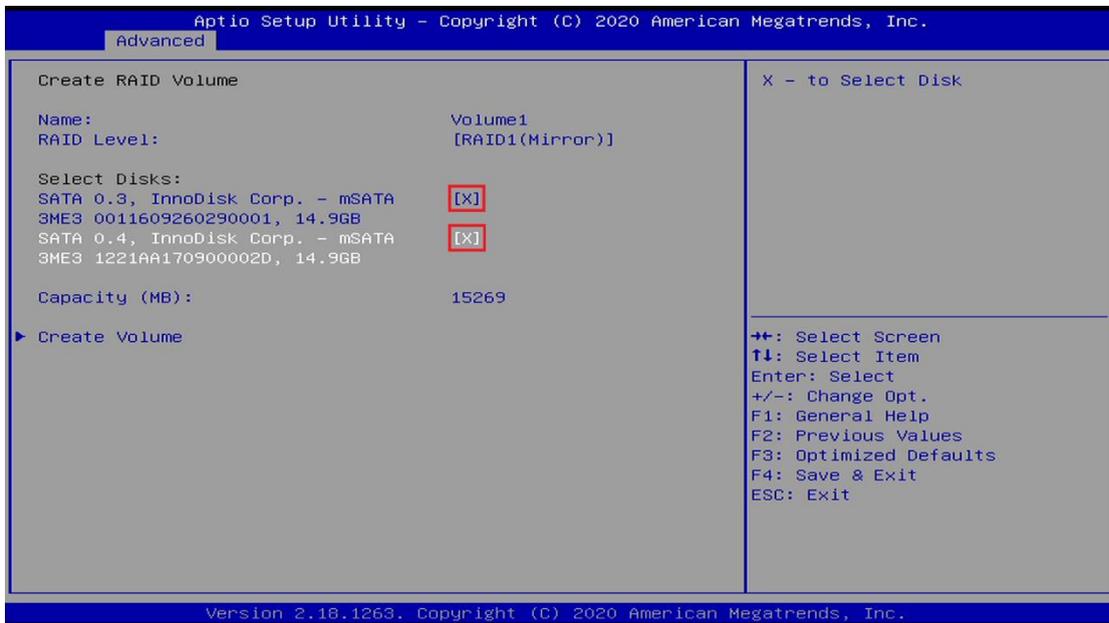
RAID 1 (Mirror)

Step 1 ~ Step 4: Same as “RAID 0” steps.

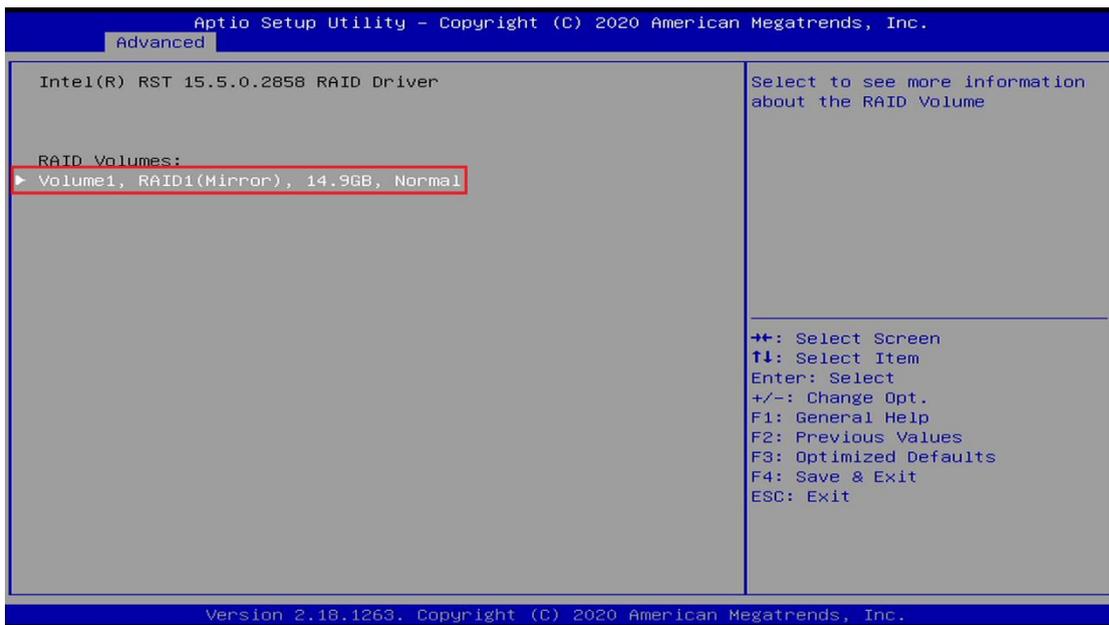
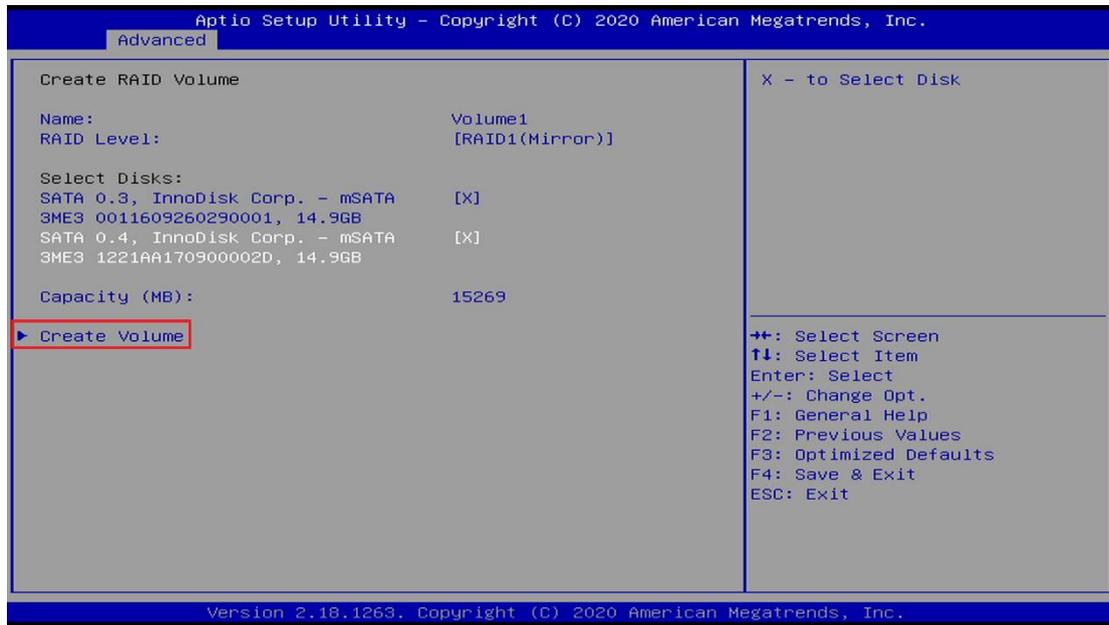
Step 5: Select “RAID1 (Mirror).”

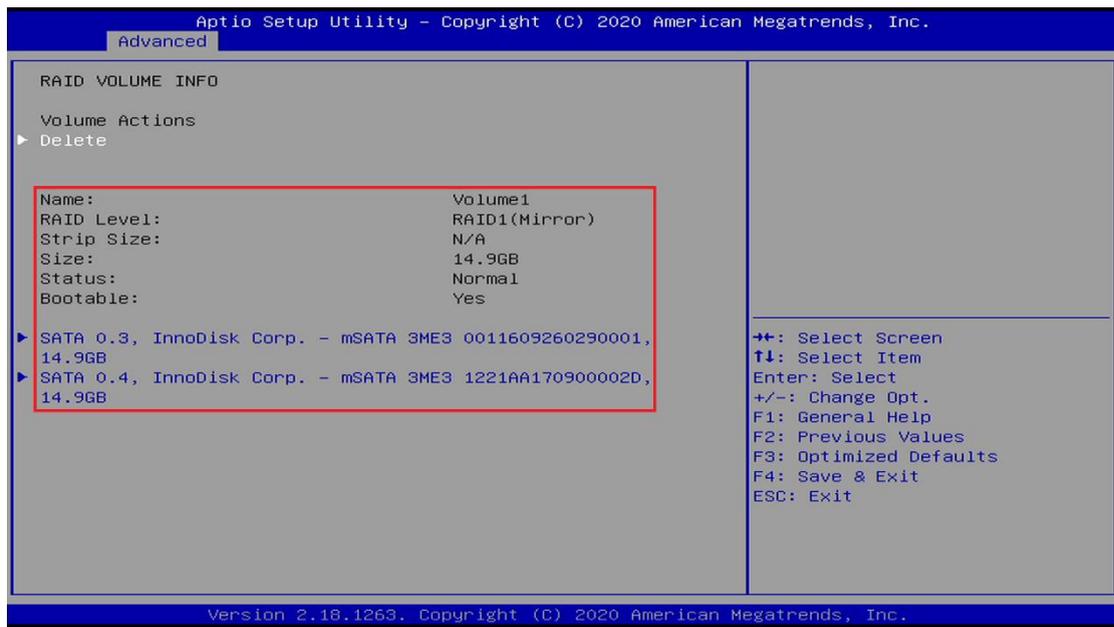


Step 6: Select disks. (2 storage devices minimum required)



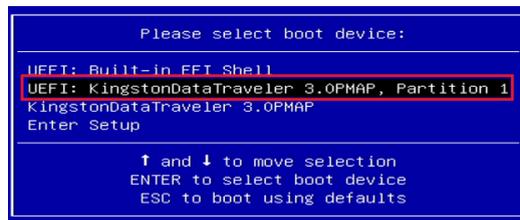
Step 7: Click “Create Volume” → “Volume1, RAID1(Mirror), xxxxGB, Normal” to check disk status and size.



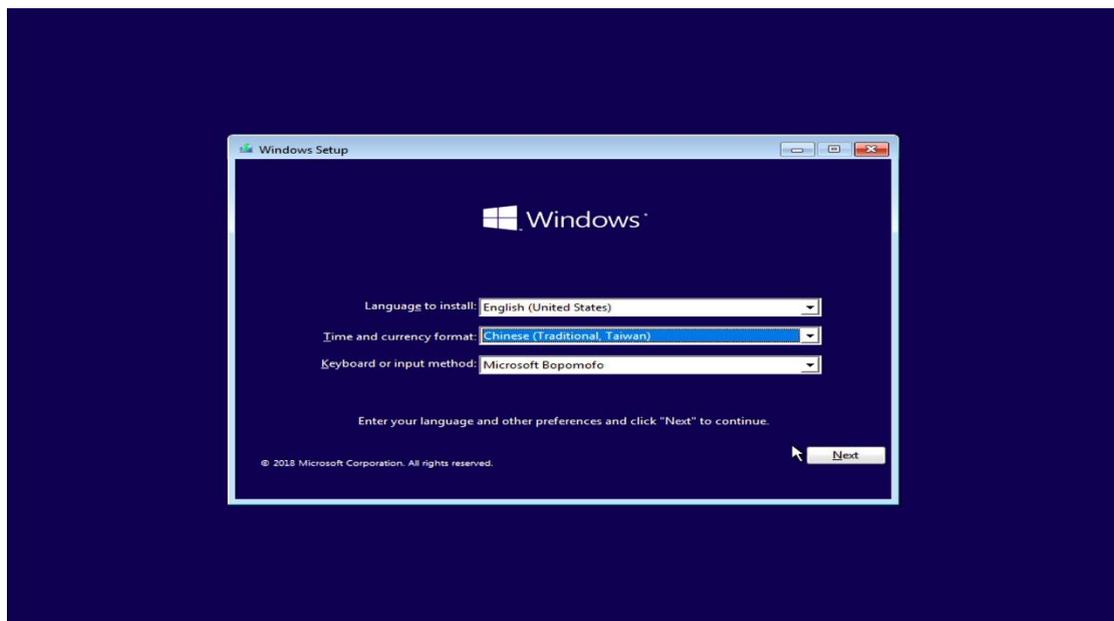


Step 8: Press “F4” key to save and exit, and then reboot system.

Step 9: Insert Windows OS source disk, and then Press “F7” key to choose boot from source disk.



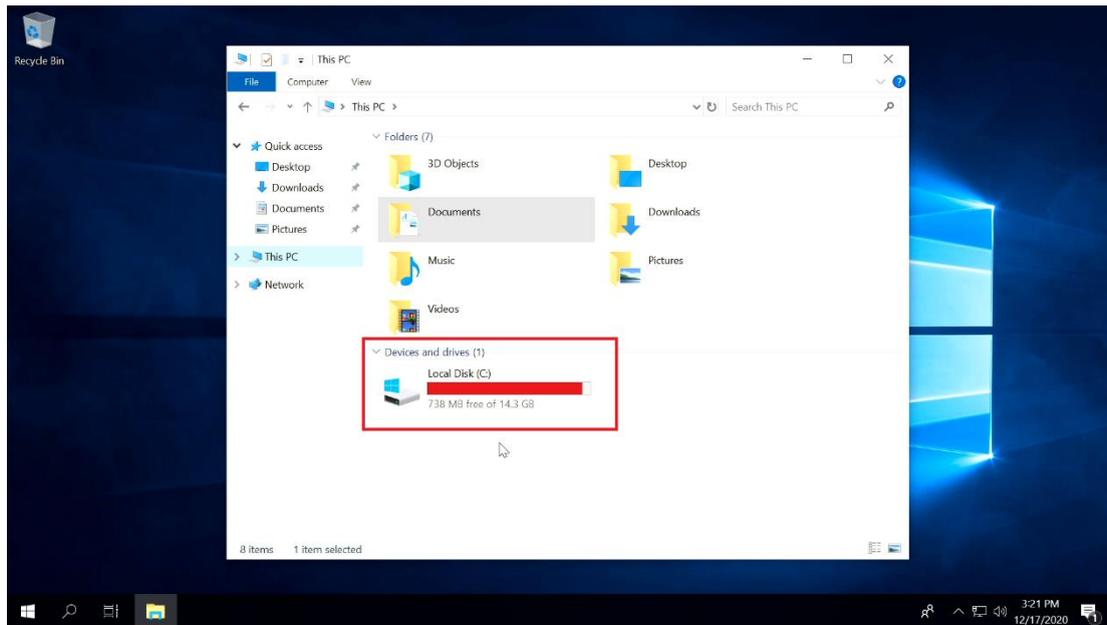
Step 10: Follow the steps to install the Windows system.



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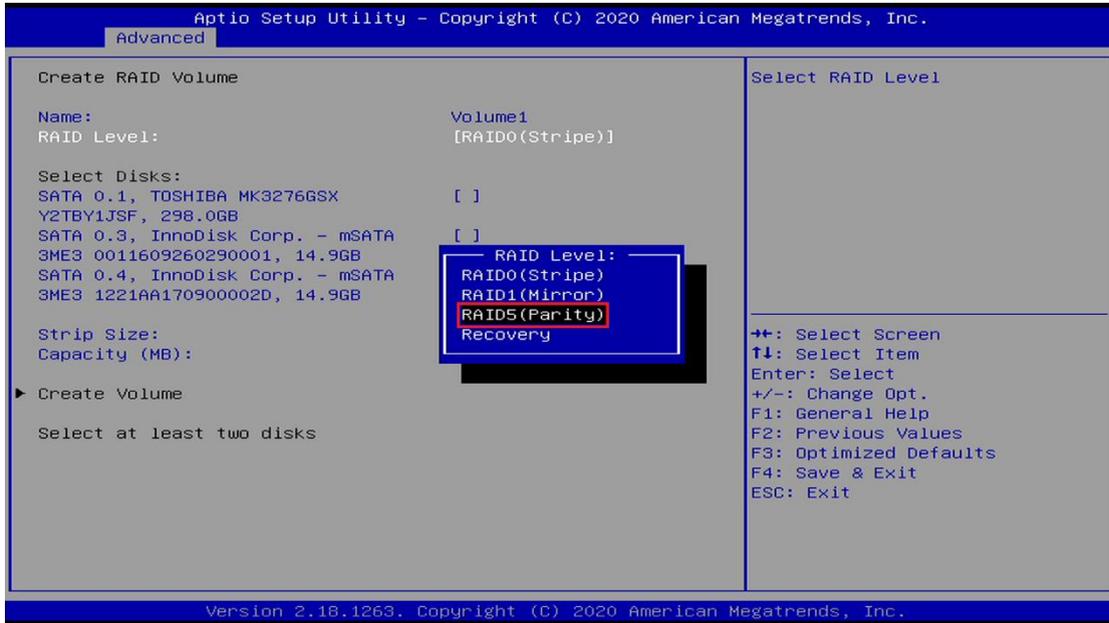
Step 11: Finish OS installation and check the storage size.



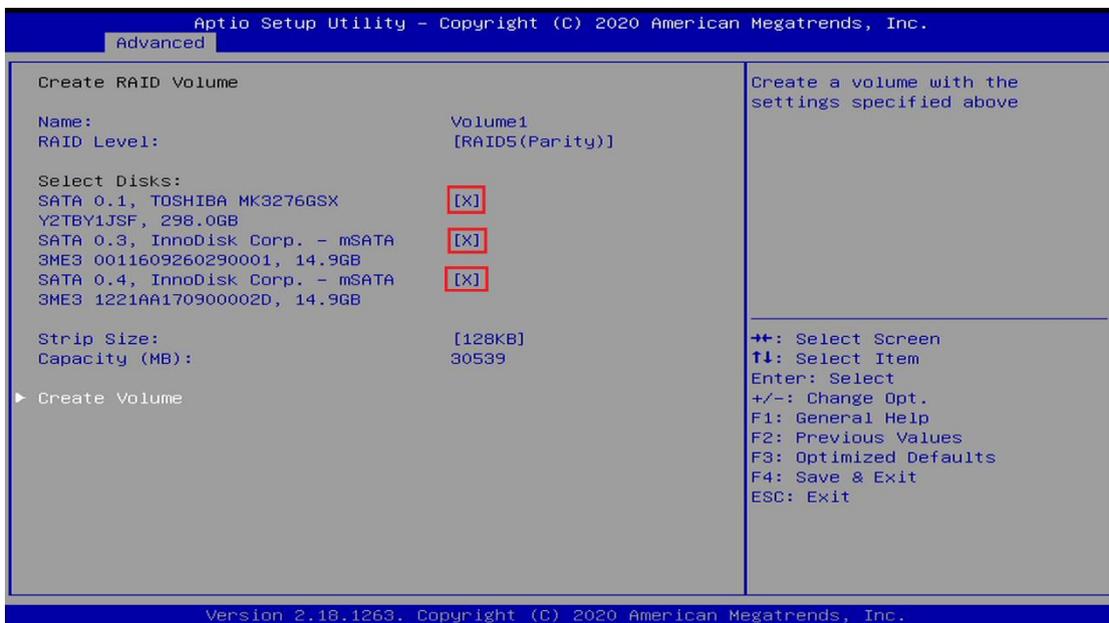
RAID 5 (Parity)

Step 1 ~ Step 4: same as “RAID 0” steps.

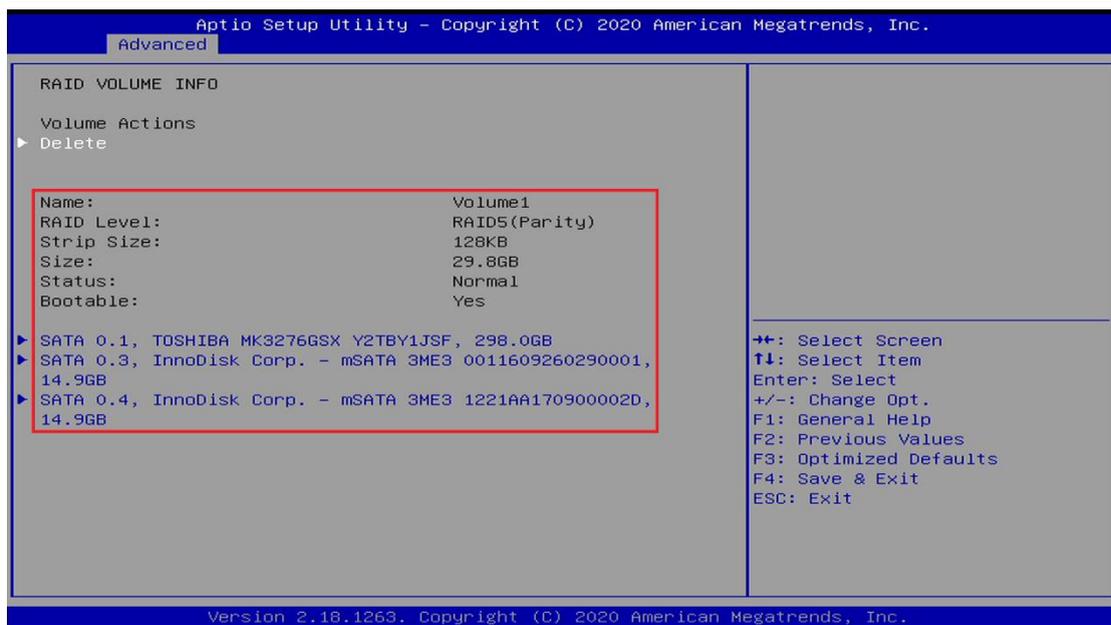
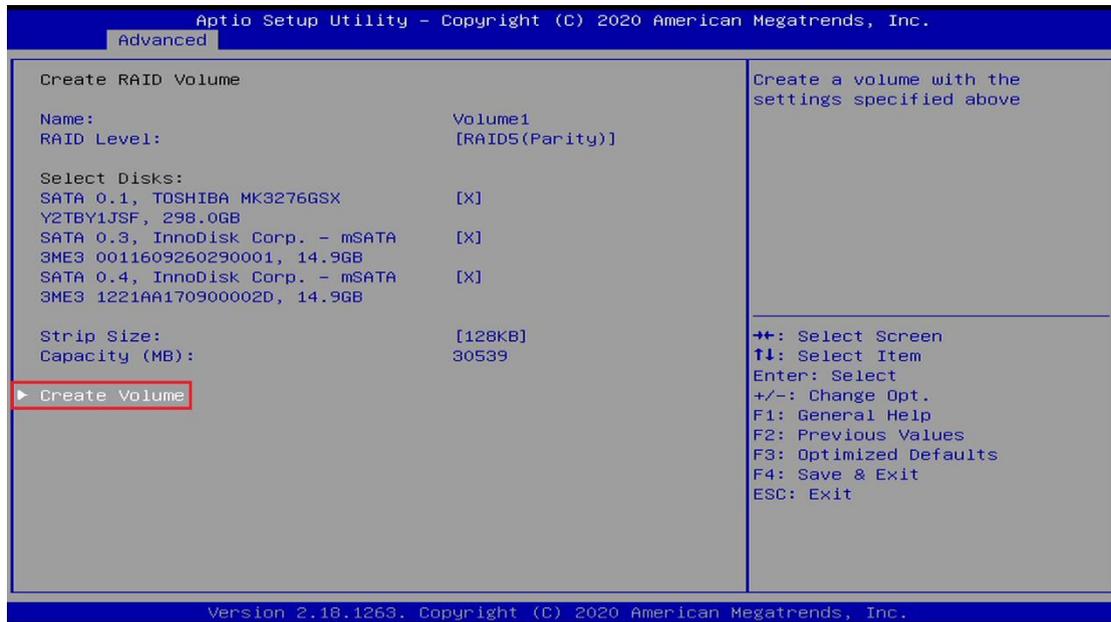
Step 5: Select “RAID5 (Parity).”



Step 6: Select disks. (3 storage devices minimum required)

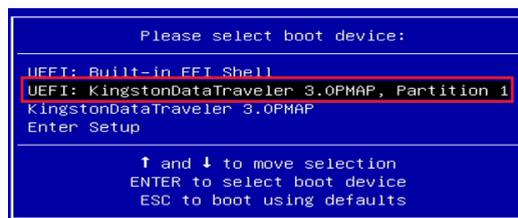


Step 7: Click “Create Volume” → “Volume1, RAID5(Parity), xxxxGB, Normal” to check disk status and size.

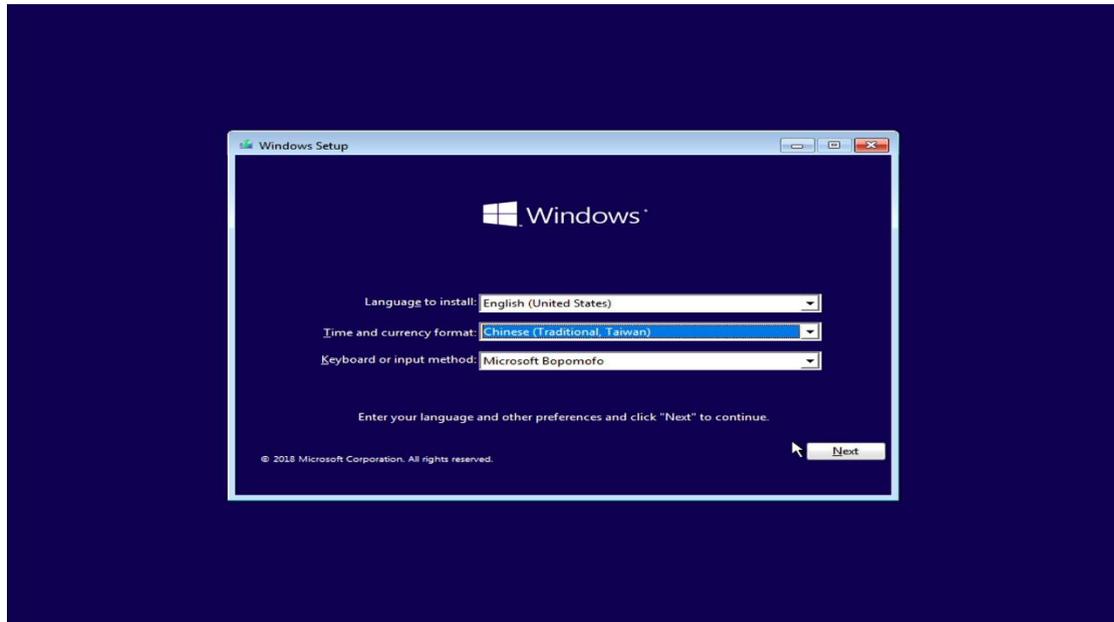


Step 8: Press “F4” key to save and exit, and then reboot the system.

Step 9: Insert Windows OS source disk, and then press “F7” key to choose boot from source disk.



Step 10: Follow the steps to install Windows system.



Caution!



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Step 11: Finish OS installation and check the storage size.

