

Marvell RAID Configuration Guide

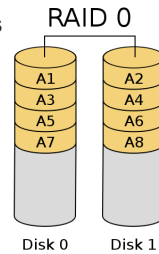
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1. Introduction of RAID

This motherboard adopts a chipset that supports RAID. The term “RAID” stands for “Redundant Array of Independent Disks”, which is a method of combining two or more hard disk drives into one logical unit. For optimal performance, please install identical drives of the same model and capacity when creating a RAID set. The following are common examples of RAID. Please refer to the user manual for the types of RAID your motherboard supports, and notice that other requirements such as a RAID supporting disk drive and operating system are also crucial for creating a RAID volume.

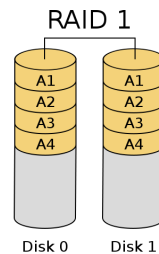
RAID 0 (Data Striping)

RAID 0 is called data striping that optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. It will improve data access and storage since it will double the data transfer rate of a single disk alone while the two hard disks perform the same work as a single drive, but at a sustained data transfer rate and it has no fault tolerance.



RAID 1 (Data Mirroring)

RAID 1 is called data mirroring that copies and maintains an identical image of data from one drive to a second drive. It provides data protection and increases fault tolerance to the entire system since the disk array management software will direct all applications to the surviving drive as it contains a complete copy of the data in the other drive if one drive fails.



2. RAID Configuration

RAID Configuration Precautions

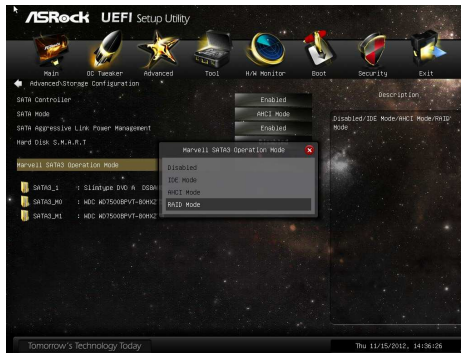
1. Before creating a RAID array, please check the user manual for information of what levels of RAID does your motherboard support, which SATA ports support RAID and other related requirements.
2. Please use two new drives if you are creating a RAID 0 (striping) array for performance. It is recommended to use two SATA drives of the same size. If you use two drives of different sizes, the smaller capacity hard disk will be the base storage size for each drive.
3. You may use two new drives, or use an existing drive and a new drive to create a RAID 1 (mirroring) array for data protection (the new drive must be of the same size or larger than the existing drive). If you use two drives of different sizes, the smaller capacity hard disk will be the base storage size.
4. Please verify the status of your hard disks before you set up your new RAID array.
5. Please backup your data first before you create RAID functions. In the process you create RAID, the system will ask if you want to “Clear Disk Data” or not. It is recommended to select “Yes”, and then your future data building will operate under a clean environment.

2.1 Install the hard disk drives

Connect two or more **new** hard disk drives of the **same model** and **capacity** to your system.

2.2 Set up the UEFI

Enter the UEFI SETUP UTILITY → Advanced screen
→ Storage Configuration. Set “SATA Mode Selection” to [RAID Mode].

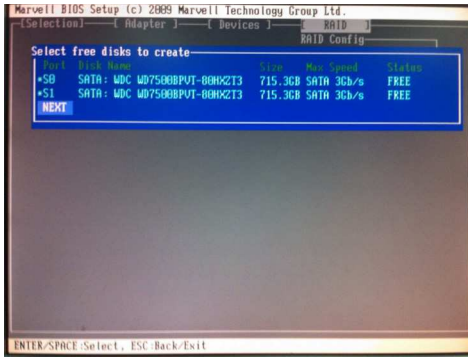


2.3 Configure Marvell RAID BIOS

Press <Ctrl + M> to launch the Marvell RAID BIOS at system POST. Select RAID → Create VD.



Select the disks you want to create a RAID array then press NEXT.



You may configure the RAID Array by the Create VD Menu.

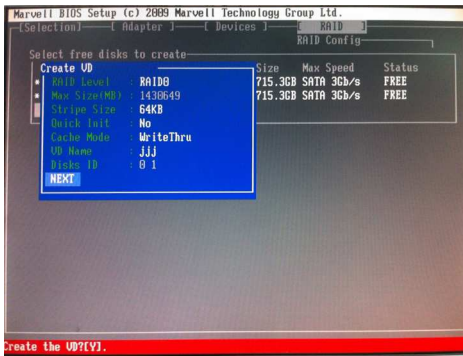


RAID Level: Select the desired RAID level.

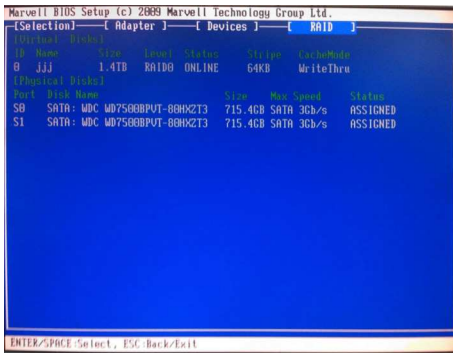
Max Size(MB): Enter the maximum size of your RAID array.

Stripe Size: If you selected RAID 0 (Stripe), you are required to select the stripe size for your RAID 0 array.

Select NEXT when you're done setting the RAID array, then click Y to create the RAID array.

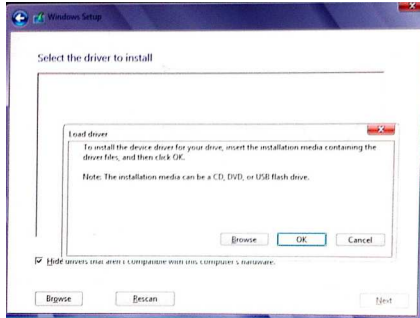


Once the Status and details of your RAID Array is shown in the main menu, you may exit the Marvell RAID BIOS and start installing an operating system.

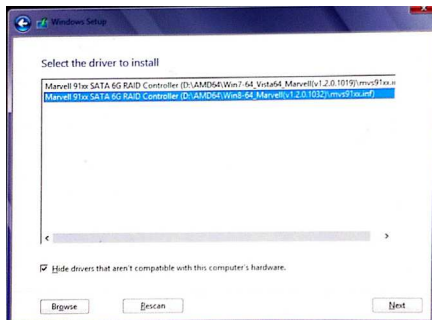


2.4 Install Marvell RAID drivers

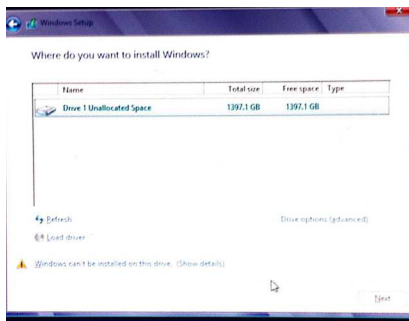
If you have not installed the RAID drivers the RAID array will not be shown in Windows Setup. Please Insert the support CD and click OK to load the RAID drivers.



Choose the corresponding driver for your operating system.



You may start to install the operating system after installing the RAID driver.



3. RAID Configuration by UEFI Shell

3.1 Install the hard disk drives

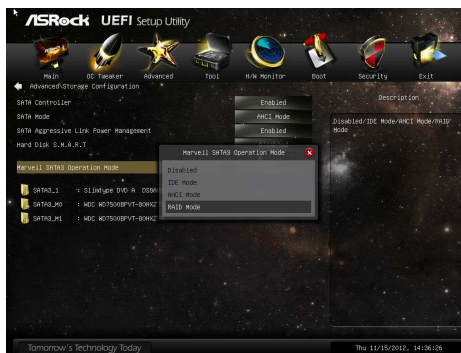
Connect two or more **new** hard disk drives of the **same model** and **capacity** to your system.

3.2 Set up the UEFI

Enter the UEFI SETUP UTILITY → Advanced screen
→ ACPI Configuration. Set “CSM” to [Disabled].



Next, go to Advanced screen → Storage Configuration. Set “SATA Mode Selection” to [RAID Mode].



RAID Level: Select the desired RAID level.

Stripe Size: If you selected RAID 0 (Stripe), you are required to select the stripe size for your RAID 0 array.

Max Size(MB): Enter the maximum size of your RAID array.

When your done configuring, select Next to create the RAID Array.

```
ENTER/SPACE>Select, ESC/Back/Exit, F7/Write Disk
[Create] [Delete]
Adapter 0
[Virtual Disks]
0 N/A 1.5TB RAID0 ONLINE 64KB 512B 0.1
[Physical Disks]
0 0 SATA:WDC WD7500BPVT-80HXZT3 750.1GB 3.0Gbps ASSIGNED
1 0 SATA:WDC WD7500BPVT-80HXZT3 750.1GB 3.0Gbps ASSIGNED
Marvell EFI RAID Configuration (c) 2010 Marvell Technology, Ltd.
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Once the Status and details of your RAID Array is shown in the main menu, you may exit the Marvell RAID BIOS and start installing an operating system.