

# VIA RAID configurations

The motherboard includes a high performance IDE RAID controller integrated in the VIA VT8237R southbridge chipset. It supports RAID 0, RAID 1 and JBOD with two independent Serial ATA channels.

RAID 0 (called 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 (called 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.

JBOD (Spanning) stands for Just a Bunch of Disks and refers to hard disk drives that are not yet configured as a RAID set. This configuration stores the same data redundantly on multiple disks that appear as a single disk on the operating system. Spanning does not deliver any advantage over using separate disks independently and does not provide fault tolerance or other RAID performance benefits.



---

If you use either Windows® XP or Windows® 2000 operating system (OS), copy first the RAID driver from the support CD to a floppy disk before creating RAID configurations.

---

## 1!% Installing hard disks

The motherboard supports Ultra DMA 133/100/66/33 and Serial ATA hard disk drives. For optimal performance, install identical drives of the same model and capacity when creating a disk array.

### Installing Serial ATA (SATA) hard disks

To install the SATA hard disks for a RAID configuration:

1. Install the SATA hard disks into the drive bays.
2. Connect the SATA signal cables.
3. Connect a SATA power cable to the power connector on each drive.

## 2 VIA RAID configurations

The motherboard includes a high performance IDE RAID controller integrated in the VIA VT8237R PLUS southbridge chipset. It supports RAID 0 and RAID 1 with two independent Serial ATA channels.

### Setting the BIOS RAID items

After installing the hard disk drives, make sure to set the necessary RAID items in the BIOS before setting your RAID configuration.

To set the BIOS RAID items:

1. Boot the system and press **<Del>** during the Power-On Self-Test (POST) to enter the BIOS Setup Utility.
2. From the **Integrated Peripherals > OnChip Device Function**, then Set the SATA Operation Mode item as Enabled (or select RAID Mode).
3. Save your changes and exit Setup.

### Entering the VIA Tech RAID BIOS Utility

1. Boot up your computer.
2. During POST, press **<Tab>** to enter VIA RAID configuration utility. The following menu options will appear.



The RAID BIOS setup screens shown in this section are for reference only, and may not exactly match the items on your screen.

### Create Array

From the VIA RAID BIOS utility main menu, select Create Array then press **<Enter>**. The main menu items on the upper-left corner of the screen are replaced with create array menu options.

```
VIA Tech. VT8237 Series SATA RAID BIOS Ver x.xx

▶ Auto Setup For Data Security
▶ Array Mode RAID 1 (Mirroring)
▶ Select Disk Drives
▶ Start Create Process

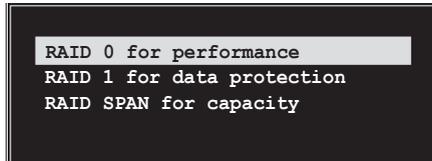
Create a RAID array with
the hard disks attached to
VIA RAID controller

F1 : View Array/Disk Status
↑,↓ : Move to next item
Enter : Confirm the selection
ESC : Exit

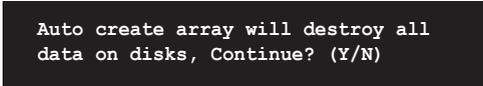
Channel      Drive Name      Array Name Mode  Size(GB) Status
Serial_Ch0 Master XXXXXXXXXXXX  ARRAY 0  SATA  999.99  XXXXXXXX
Serial_Ch1 Master XXXXXXXXXXXX  ARRAY 0  SATA  999.99  XXXXXXXX
```

## RAID 0 for performance

1. From the create array menu, select Array Mode, then press <Enter>. The supported RAID configurations appear on a pop-up menu.



2. Select RAID 0 for performance then press <Enter>. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Performance or manually configure the RAID array for striped sets. If you want to auto-configure, proceed to the next step, otherwise, skip to step 5.
3. Select Auto Setup for Performance and press <Enter>. The following confirmation message appears.

A screenshot of a confirmation message in a terminal window:

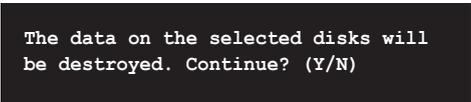
```
Auto create array will destroy all
data on disks, Continue? (Y/N)
```

4. Press <Y> to confirm or <N> to return to the configuration options. If you selected <Y>, proceed to step 9.
5. Select Disk Drives, then press <Enter>. Use arrow keys to select disk drive, then press <Enter> to mark selected drive. An asterisk appears before a selected drive.
6. Select Block Size, then press <Enter> to set array block size. A list of valid array block sizes are displayed on a pop-up menu.



TIP: For server systems, use of a lower array block size is recommended. For multimedia computer systems used mainly for audio and video editing, a higher array block size is recommended for optimum performance.

- Use arrow keys to move selection bar on items and press <Enter> to select.
7. Select Start Create Process and press <Enter> to set up hard disk for RAID system. The following confirmation message appears:

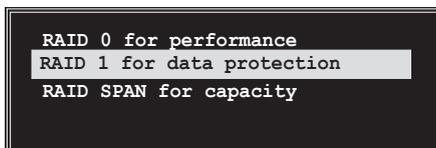
A screenshot of a confirmation message in a terminal window:

```
The data on the selected disks will
be destroyed. Continue? (Y/N)
```

8. Press <Y> to confirm or <N> to return to the configuration options.
9. Press <Esc> to go back to main menu.

## RAID 1 for data protection

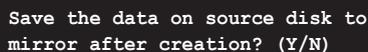
1. From the create array menu, select Array Mode, then press <Enter>. The supported RAID configurations appear on a pop-up menu.



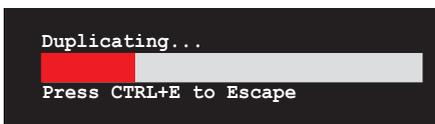
2. Select RAID 1 for data protection then press <Enter>.
3. From this point, you can auto-configure the RAID array by selecting Auto Setup for Data Security or manually configure the RAID array for mirrored sets. If you want to auto-configure, proceed to the next step, otherwise, skip to step 6.
4. Select Auto Setup for Data Security and press <Enter>. The following confirmation message appears.

A screenshot of a confirmation message displayed in a black box with white text. The message reads: "Auto create array will destroy all data on disks, Continue? (Y/N)".

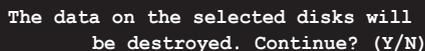
5. Press <Y> to confirm or <N> to return to the configuration options. If you selected <Y>, proceed to step 11.
6. Select Select Disk Drives, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter>. An asterisk appears before a selected drive.
7. Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following inquiry appears:

A screenshot of an inquiry message displayed in a black box with white text. The message reads: "Save the data on source disk to mirror after creation? (Y/N)".

8. If you select <Y> the utility will duplicate your data. Press <Y> anytime if you want to exit the duplication process.



9. If you select <N>, the following confirmation message appears.

A screenshot of a confirmation message displayed in a black box with white text. The message reads: "The data on the selected disks will be destroyed. Continue? (Y/N)".

10. Press <Y> to confirm or <N> to return to the configuration options.
11. Press <Esc> to go back to main menu.

## %' Creating a RAID driver disk

A floppy disk with the RAID driver is required when installing Windows® 2000/XP operating system on a hard disk drive that is included in a RAID set. You can create a RAID driver disk using your motherboard support CD.

To create a RAID driver disk:

1. Insert the motherboard support CD into the CD-ROM drive.
2. When the Drivers menu appears, click RAID Driver Disk to create a VIA 8237 RAID PLUS Driver Disk.
3. Insert floppy disk to floppy disk drive.
4. Follow succeeding screen information to complete process.
5. Write-protect the floppy disk to avoid computer virus infection.

To install the RAID driver:

1. During the OS installation, the system prompts you to press the F6 key to install third-party SCSI or RAID driver.
2. Press <F6> then insert the floppy disk with RAID driver into the floppy disk drive.
3. Follow the succeeding screen instructions to complete the installation.