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Configuring SATA Hard Drive(s) (Controller: VIA VT8237/VT8237R)

To configure SATA hard drive(s), follow the steps below:

- (1) Install SATA hard drive(s) in your system.
- (2) Configure SATA controller mode and boot sequence in BIOS Setup.
- (3)* Configure RAID set in RAID BIOS.
- (4) Make a floppy disk containing the SATA controller driver.
- (5) Install the SATA controller driver during OS installation.

Before you begin

Please prepare:

- (a) Two SATA hard drives (to ensure optimal performance, it is recommended that you use two hard drives with identical model and capacity). If you do not want to create RAID with the SATA controller, you may prepare only one hard drive.
- (b) An empty formatted floppy disk.
- (c) Windows XP/2000 setup disk.
- (d) Driver CD for your motherboard.

(1) Installing SATA hard drive(s) in your computer

Attach one end of the SATA signal cable to the rear of the SATA hard drive and the other end to available SATA port(s) on the motherboard. (If there are more than one SATA controller on your motherboard, you may check the name of the SATA connector to identify the SATA controller for the connector. For example, SATA0_SB/SATA_SB is controlled by the SATA controller on South-Bridge.) Then connect the power connector from your power supply to the hard drive.

*** Skip this step if you do not want to create RAID array on the SATA controller.

(2) Configuring SATA controller mode and boot sequence in BIOS Setup

You have to make sure whether the SATA controller is configured correctly in system BIOS Setup and set BIOS boot sequence for the SATA hard drive(s).

Step 1:

Turn on your computer and press Del to enter BIOS Setup during POST (Power-On Self Test). If you want to create RAID, select **SATA Mode** under the **Integrated Peripherals** menu (Figure 1) and set this item to **RAID (RAID)** by default). Set **SATA Mode** to **IDE** if you do not want to create RAID.

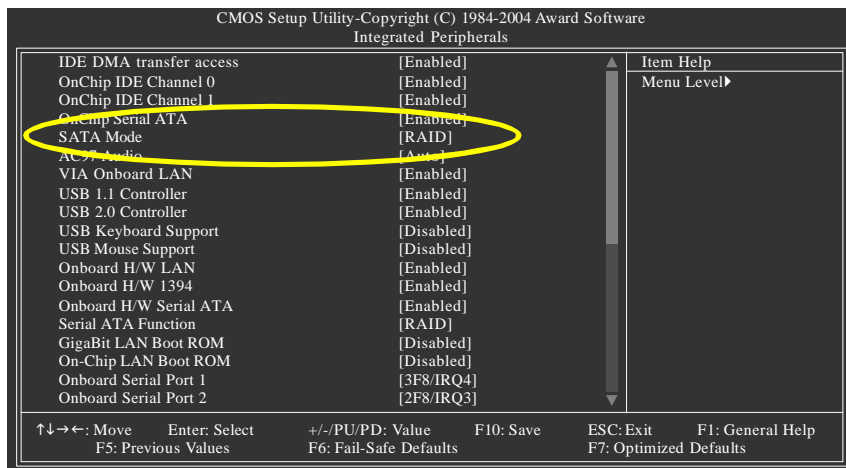


Figure 1



NOTE The BIOS Setup menus described in this section may not show the exact settings for your motherboard. The actual BIOS Setup menu options you will see shall depend on the motherboard you have and the BIOS version.

Step 2:

Later, select **Hard Disk Boot Priority** under the **Advanced BIOS Features** menu. In the **Hard Disk Boot Priority** submenu, select the model of the SATA hard drive onto which you intent to install Microsoft Windows 2000/XP (Figure 2).

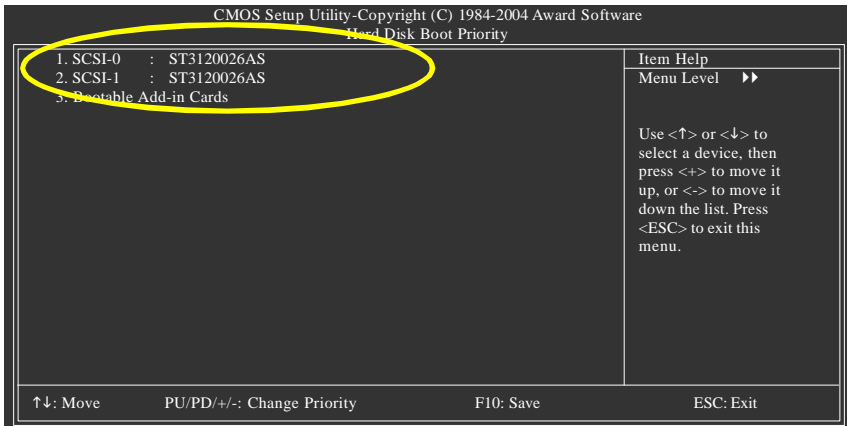


Figure 2

Step 3:

Set **First Boot Device** under the **Advanced BIOS Features** menu to **CDROM** to boot from CD-ROM after system restarts (Figure 3).

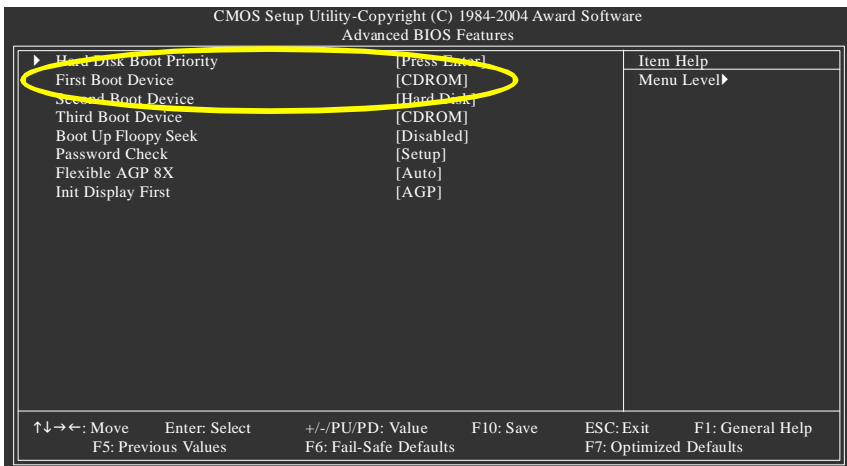


Figure 3

Step 4:

Save and exit BIOS Setup.

(3) Configuring RAID set in RAID BIOS

Enter the RAID BIOS setup utility to configure a RAID array. Skip this step and proceed to Section 4 if you do not want to create RAID.

Step 1:

After the POST memory test begins and before the operating system boot begins, the following information will appear on screen (Figure 4). Press the TAB key to enter the **VT8237 Serial ATA RAID BIOS** configuration utility.

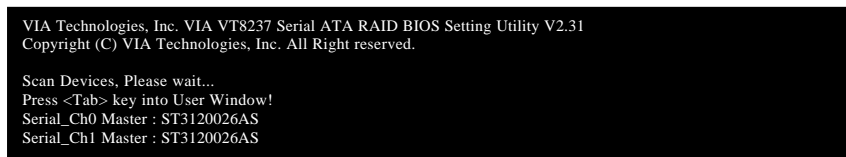


Figure 4

Step 2:

In the **VT8237 SATA RAID BIOS** utility screen (Figure 5), you can use the UP or DOWN ARROW key to highlight through choices. Highlight an item that you want to execute and press ENTER.

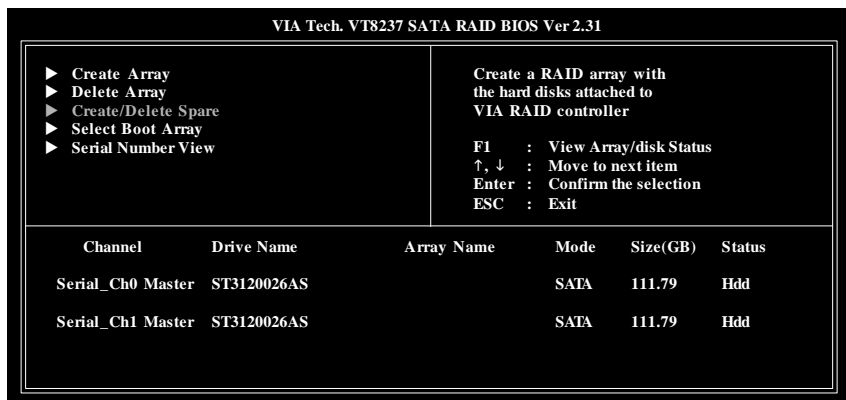


Figure 5

A. Create Array:

In Main Menu, select **Create Array** and press ENTER, a screen similar to Figure 6 below will appear.

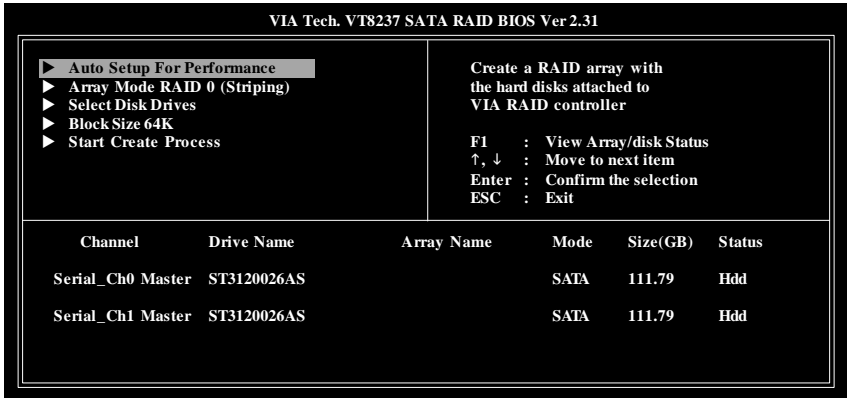


Figure 6

The first step to create a RAID array is to set the RAID mode. Select **Array Mode** and press ENTER. And the RAID mode selection menu will appear (Figure 7). The supported RAID modes include **RAID 0 for performance**, **RAID 1 for data protection**, and **RAID SPAN for capacity**. Use the UP or DOWN ARROW key to select a RAID mode.

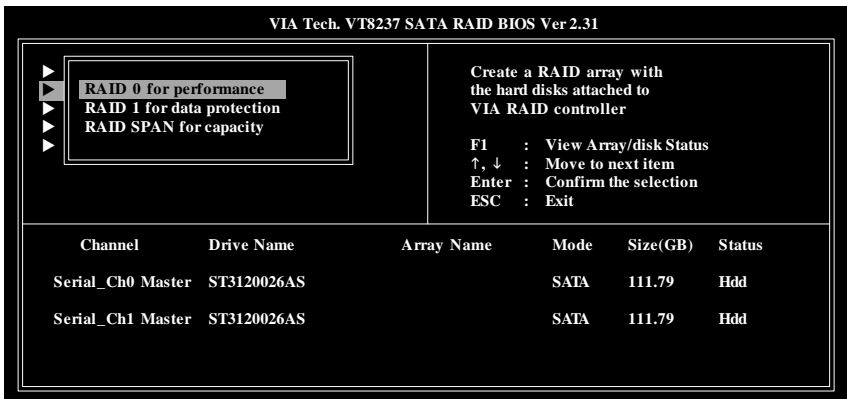


Figure 7

After selecting a RAID mode, you must decide whether you want the RAID array to be configured automatically or manually.

Auto Setup allows BIOS to assign the hard drives and create arrays automatically, but it does not duplicate the mirroring drives even if user selects **Create and duplicate for RAID 1**. It is recommended all hard drives are new ones when you want to create an array.

Select Disk Drives lets users select the array drives by their requirements. Select the **Select Disk Drives** item and press ENTER, use the ARROW keys to select the target hard drive(s). The selected hard drives will be marked with an asterisk (Figure 8).

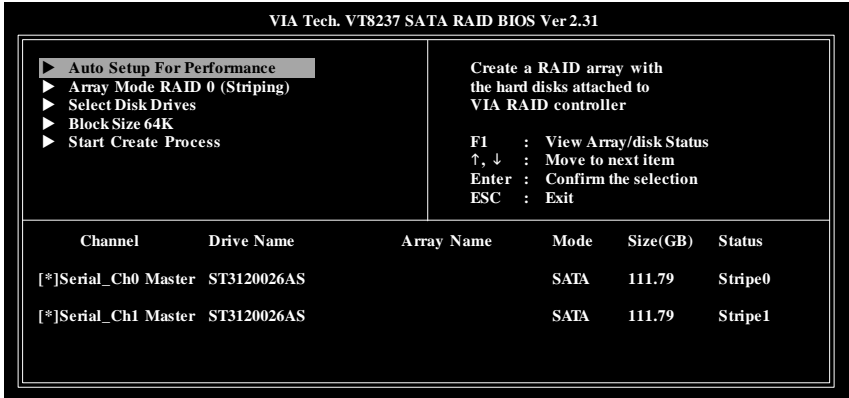


Figure 8

If you select to create RAID 0 array manually, you can specify the block size. Use the UP or DOWN ARROW keys to select **Block Size** and press ENTER. Select the block size from the popup menu. The block size can be set between 4KB to 64KB (Figure 9).

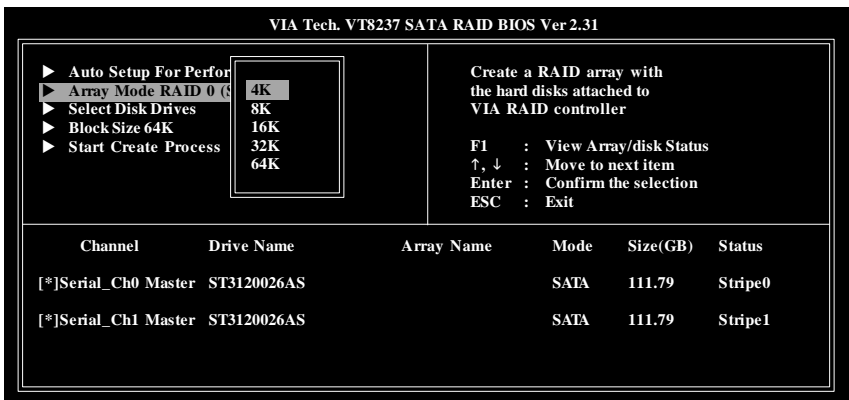


Figure 9

Next, use the ARROW keys to select **Start Create Process** and press ENTER. The prompt "**The data on the selected disks will be destroyed. Continue? (Y/N)**" will appear. Press Y to confirm or N to abort.

Important All existing contents in the hard drive will be destroyed after the array creation.

B. Delete Array:

If you want to delete an existing array, select **Delete Array** in Main Menu and press ENTER. The channel will be activated. Select the member of an array that is to be deleted and press ENTER. A warning message will show up, press Y to confirm or press N to cancel (Figure 10).

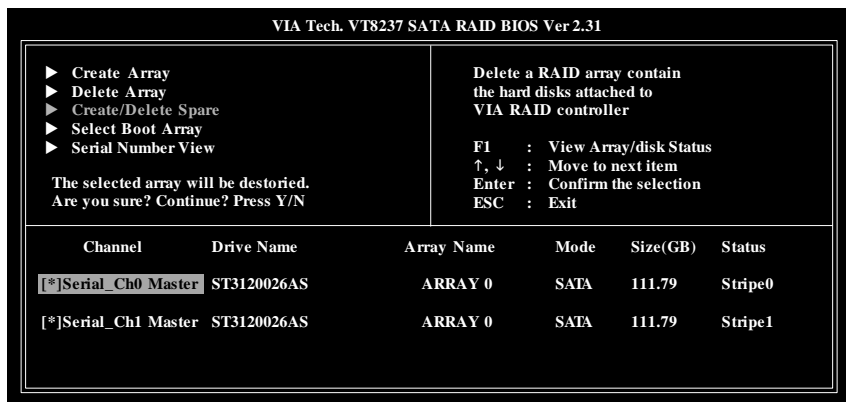


Figure 10

Deleting a disk array will destroy all the data on the disk array except for RAID 1 array(s). When a RAID 1 array is deleted, the data on the two hard drives will be reserved and the two hard drives will become two normal drives.

C. Select Boot Array:

You can select a disk array as boot device if you want to boot operating system from an array. Boot disk array cannot be selected if the operating system does not boot from the disk array. Highlight the **Select Boot Array** item in Main Menu; press ENTER and the channel column will be activated. Then highlight the target disk array and press ENTER. Press ESC to go back to Main Menu. If you want to cancel the boot array setting, select the disk array that has an asterisk and press ENTER, its boot setting will be canceled (Figure 11).

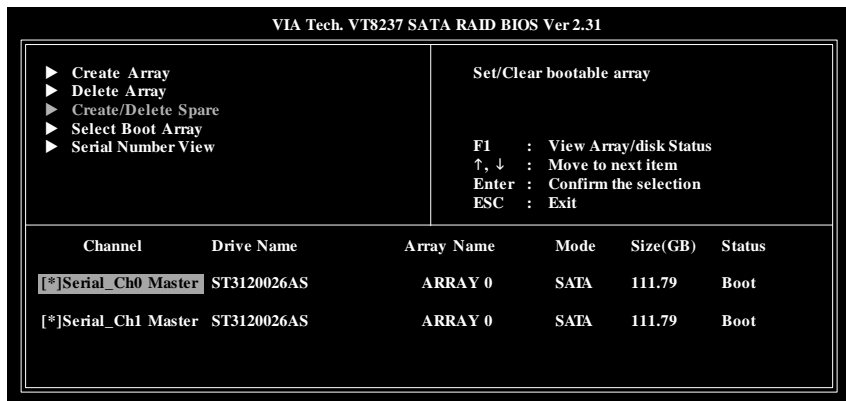


Figure 11

D. Serial Number View:

Highlight **Serial Number View** and press ENTER. Use the ARROW keys to select a drive, and the selected drive's serial number can be viewed in the last line. The serial number is assigned by the disk drive manufacturer (Figure 12).

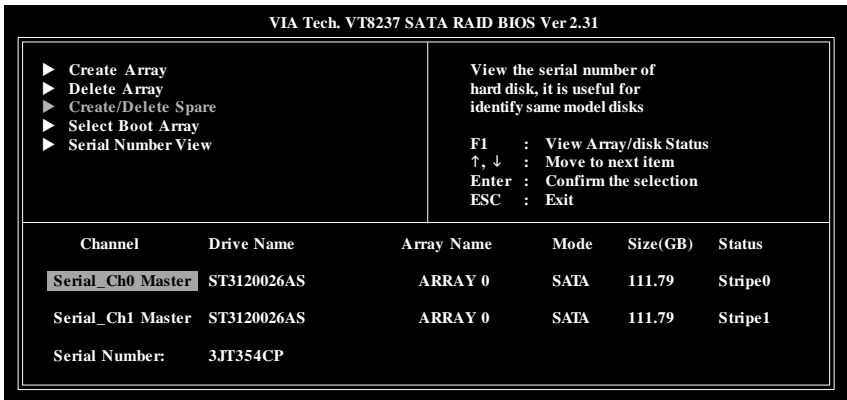


Figure 12

E. View Array Status:

Press F1 to show the array status on the lower screen. If there are no disk arrays then nothing will be displayed on the screen (Figure 13).

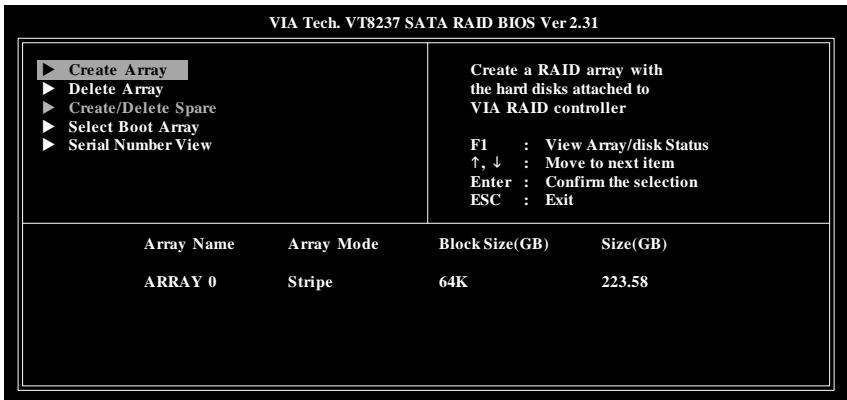


Figure 13

(4) Making a SATA Driver Disk

To install Windows 2000/XP onto a SATA hard drive on the VT8237 controller successfully, you need to install required driver for the SATA controller during OS installation. Without the driver, the hard drive may not be recognized during the Windows setup process.

First of all, you need to copy the driver for the SATA controller from the motherboard driver CD to a floppy disk. The instructions below explain how to copy the driver.

Step 1: Find an available system and insert the motherboard driver CD into the CD-ROM drive. The installation utility will appear automatically. Quit the installation utility first.

Step 2: Go to **My Computer** and right-click the CD-ROM drive icon and select **Open** (Figure 14).

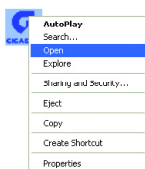


Figure 14

Step 3: Go to the **BootDrv** folder and look for an executable program named MENU.exe (Figure 15).

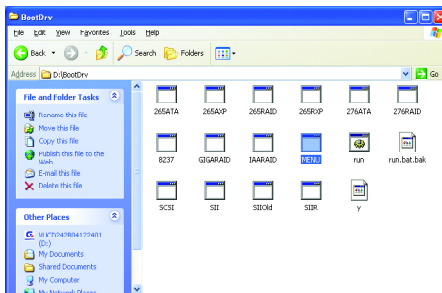


Figure 15

Step 4:

Double-click MENU.exe. An MS-DOS prompt screen similar to Figure 16 below will appear.

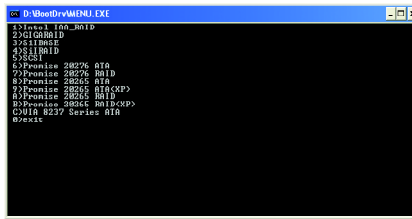


Figure 16

Step 5:

Insert an empty floppy disk. Press C to select the **C) VIA 8237 Series ATA** item. Then it will take about one minute to copy the SATA driver from the motherboard driver CD to the floppy disk.

Step 6:

Press 0 to exit when the procedure is complete (Figure 17). You have copied the SATA driver successfully.

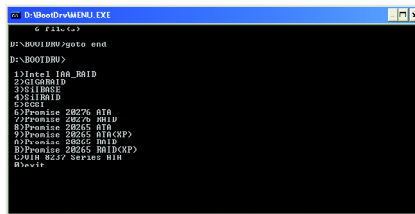


Figure 17

(5) Installing SATA controller driver during OS installation

Now that you have prepared the SATA driver disk and configured BIOS settings, you are ready to install Windows 2000/XP onto your SATA hard drive with the SATA driver. The following is an example of Windows XP installation.

Step 1: Restart your system to boot from the Windows 2000/XP Setup disk and press F6 as soon as you see the "Press F6 if you need to install a 3rd party SCSI or RAID driver" message (Figure 18). After pressing F6, there will be a few moments of some files being loaded before you see the next screen.

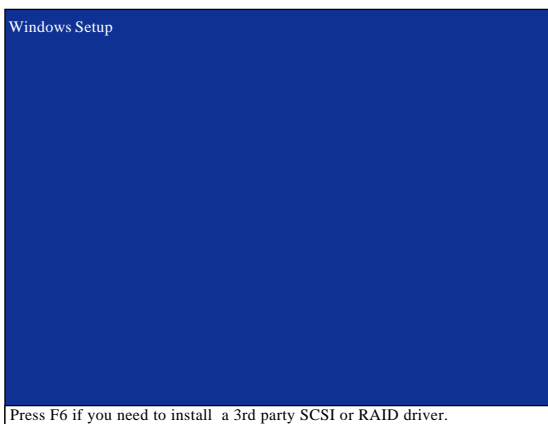


Figure 18

Step 2:

When a screen similar to that below appears, insert the floppy disk containing the SATA driver and press S (Figure 19).

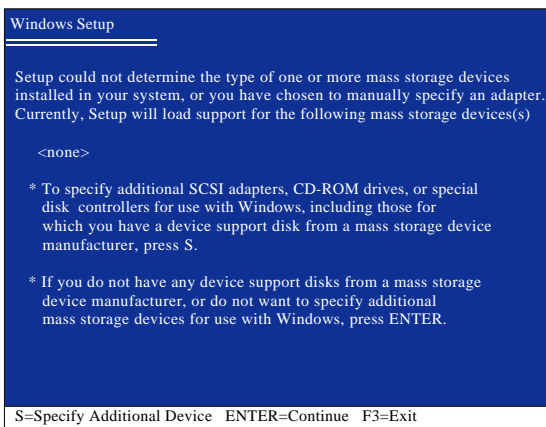


Figure 19

Step 3:

If Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 20 below will appear. If you want to install Windows XP, use the ARROW keys to select **VIA Serial ATA RAID Controller(Windows XP)*** and press ENTER. Then it will begin to load the SATA driver from the floppy disk.

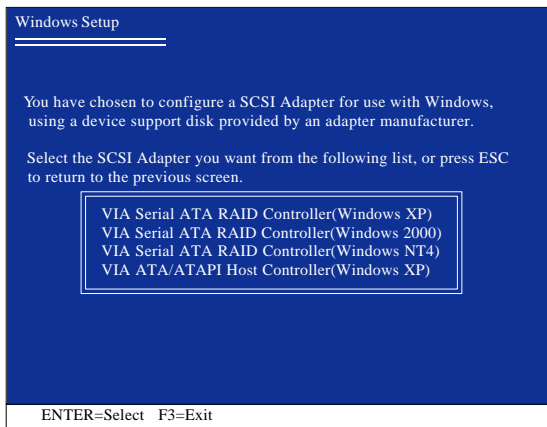


Figure 20



If a message appears saying one or some file(s) cannot be found, please check the floppy disk or copy the correct SATA driver again from the motherboard driver CD.

Step 4:

When the screen as shown below appears, press ENTER to continue the SATA driver installation from the floppy disk. The driver installation will be finished in about one minute.

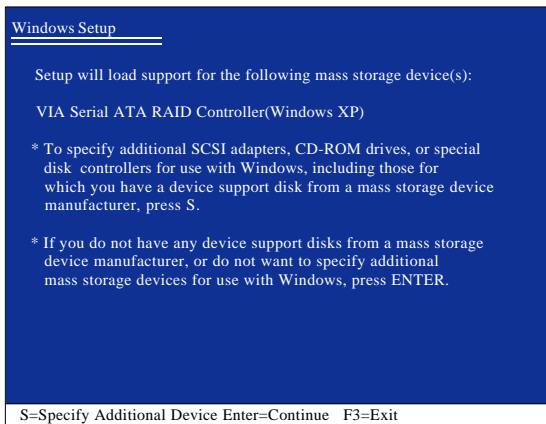


Figure 21

**** If you want to create a RAID array, select the item depending on the operating system that you want to install. (Windows XP, Windows 2000 or Windows NT4). If you do not want create a RAID array, select **VIA ATA/ATAPI Host Controller(Windows XP)**.

After the SATA controller driver installation is completed, you should see a screen as below. It indicates that you have installed the SATA controller driver successfully. You can proceed with the Windows 2000/XP installation.

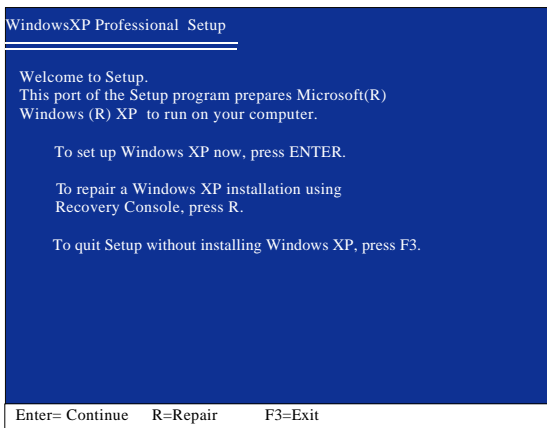


Figure 19

(Note: Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.)