XP-M8VM800

AMD Socket 754 Processor Motherboard

User's Manual

M-050601

Copyright Declaration

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To avoid unnecessary errors of operation, please consult the user manual prior to hardware installation. For more up-to-date information, please link to our company website at http://www.axper.com.tw

Prior to beginning installation procedures, please make sure that your computer turned off and is connected to a grounded power outlet. If your system is not turned off during installation, this could result in harm or damage to the motherboard, the components as well as to the user.

Declaration of Conformity

We, Manufacturer/Importer
(full address)
Gigatrend Technology Co., Ltd.
Ausschlager Weg 41, 1F 20537 Hamburg, Germany
declare that the product
(description of the apparatus, system, installation to which it refers)
Motherboard
XP-M8VM800
is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ EN 55011	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment	☒ EN 61000-3-2	Disturbances in supply systems caused
		☒ EN 61000-3-3	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ EN 55013	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☒ EN 55024	Information Technology equipment-Immunity characteristics-Limits and methods of measurement
☐ EN 55014-1	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☐ EN 50082-1	Generic immunity standard Part 1: Residual, commercial and light industry
		☐ EN 50082-2	Generic immunity standard Part 2: Industrial environment
☐ EN 55015	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ EN 55014-2	Immunity requirements for household appliances tools and similar apparatus
☐ EN 55020	Immunity from radio interference of broadcast receivers and associated equipment	☐ EN 50091- 2	EMC requirements for uninterruptible power systems (UPS)
☒ EN 55022	Limits and methods of measurement of radio disturbance characteristics of information technology equipment		
☐ DIN VDE 0855 ☐ part 10 ☐ part 12	Cabled distribution systems; Equipment for receiving and/or distribution from sound and television signals		
☒ CE marking		(EC conformity marking)	

The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC

☐ EN 60065	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ EN 60950	Safety for information technology equipment including electrical business equipment
☐ EN 60335	Safety of household and similar electrical appliances	☐ EN 50091-1	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

(Stamp)

Date : Aug. 18, 2005

Signature : Timmy Huang

Name : Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

Responsible Party Name: **Gigatrend Technology Co., Ltd.(U.S.A.)**

Address: **17358 Railroad Street**
City of Industry, CA 91748

Phone/Fax No: (818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: Motherboard

Model Number: XP-M8VM800

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a), Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any inference received, including that may cause undesired operation.

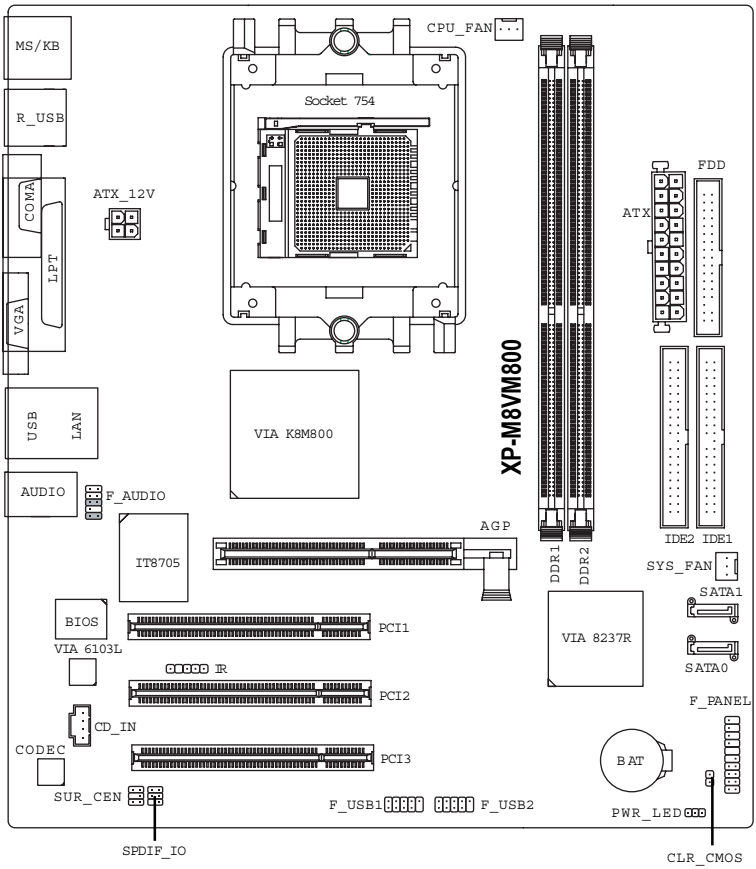
Representative Person's Name: ERIC LU

Signature: ERIC LU

Date: Aug. 18, 2005

Contents

Motherboard Layout



1. Product Introduction

The user manual provides steps related to quick installation. If you wish to view complete product information, please select the "  ",Open User Manual button located on the driver CD or link to our website at http://www.axper.com to received the most up-to-date information.

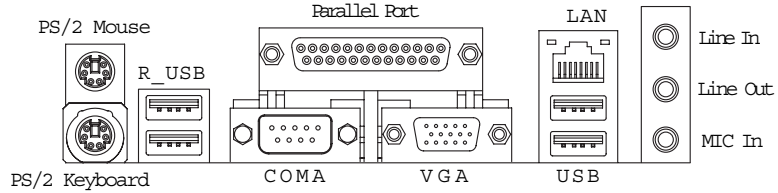
1.1. Feature Summary

CPU	Socket 754 for AMD Athlon™ 64 processor (K8) 1600MHz system bus
Chipset	Northbridge:VIA K8M800 Southbridge:VIA 8237R
Memory	2 184-pin DDR DIMM sockets, supports up to 2GB DRAM (Max.) Supports DDR400 (Note 1)/DDR333/DDR266 DIMM Supports only 2.5V DDR SDRAM
Slots	1 AGP slot device support 3 PCI slots support 33MHz & PCI 2.2 compliant
On-Board IDE	2 IDE controller provide IDE HDD/CD-ROM with PIO, Bus Master (Ultra DMA33/ATA66/ATA100/ATA133) operation modes Can connect up to 4 IDE devices
On-Board Floppy	1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes
On-Board SATA	2 SATA ports support 2 SATA devices with up to 150MB/s transfer rate and can support data striping (RAID 0) and mirroring (RAID 1)
On-Board Peripherals	1 Parallel port supports Normal/EPP/ECP mode 1 Serial port (COMA), 1 VGA port 8 USB 2.0/1.1 ports (4 x Rear, 4 x Front by cable) 1 Front Audio connector 1 PS/2 Keyboard 1 PS/2 Mouse
On-Board VGA	Built-in VIA K8M800 chip
On-Board LAN	Built-in VIA6103L chip 1 RJ45 port
On-Board Sound	ALC655 CODEC Supports 2/4/6 channel Line Out / Line In / Mic In CD In
BIOS	Licensed AWARD BIOS Supports BIOSNow!
I/O Control	IT8705
Hardware Monitor	CPU/System fan revolution detect CPU/System temperature detect System voltage detect
Form Factor	Micro-ATX size form factor, 24.4cm x 21cm

(Note 1) Due to CPU limitations, if you wish to install DDR400 memory modules, install either one double-sided or two single-sided DDR400 memory modules. The DDR400 speed will slow down to DDR333 if two double-sided or three single-sided DDR400 memory modules are installed.

1.2. I/O Back Panel and Connectors&Jumper Setting

1.2.1. I/O Back Panel

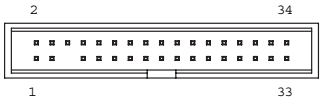


PS/2 Keyboard PS/2 Mouse connector	Connects PS/2 standard keyboard and PS/2 standard mouse
Parallel port (LPT)	Connects to printer
COMA(Serial port)	Connects to serial-based mouse or data processing devices
VGA port	Connects to 15pin D-Sub device such as a monitor
USB (Universal Serial Bus Port)	Prior to use, please make sure that your system as well as the connected attachments support the USB interface. If driver installation is required, please consult the USB section of the user manual.
LAN (RJ45 LAN Port)	Internet connection with speed of up to10/100Mbps
Line In	Connects to optical devices, CD players and other audio input devices
Line Out	Connects to speakers or headphones
MIC In	Connects to microphone

1.2.2. Connectors&Jumper Setting

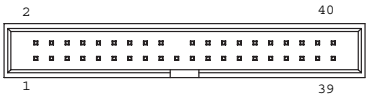
FDD (Floppy Disk Drive Connector)

The FDD connector is able to connect a single floppy disk drive via a FDD cable. Usually one edge of the FDD cable is marked in red, please attach this marked edge to position 1 on the connector.



IDE1/IDE2 (IDE Connector)

The IDE connector is able to connect two IDE devices via an IDE cable and requires checking of the IDE jumper setting.



CPU_FAN (CPU Fan Power Connector); SYS_FAN (System Fan Power Connector)

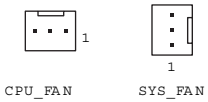
The cooler fan power connector supplies a +12V power voltage via a 3-pin power connector and possesses a fool-proof connection design.

Most coolers are designed with color-coded power connector wires. A red power connector wire indicates a positive connection and requires a +12V power voltage. The black connector wire is the ground wire (GND).

Please remember to connect the power to the cooler to prevent system overheating and failure.

Caution!

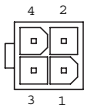
Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.



PIN	SIGNAL
1	GND
2	+12V
3	Sense

ATX_12V (+12V Power Connector)

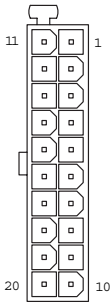
The ATX_12V power connector provides power to the CPU. If this connector is not Attached, the system will not start.



PIN	SIGNAL
1	GND
2	GND
3	+12V
4	+12V

ATX (ATX Power Connector)

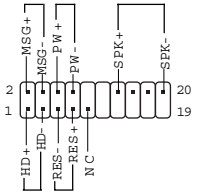
The ATX power connector provides power to the motherboard. Prior to connection, please make sure that the power supply is disconnected.



PIN	SIGNAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	VCC	14	PS_ON
5	GND		(soft on/off)
6	VCC	15	GND
7	GND	16	GND
8	Power Good	17	GND
9	5VSB	18	-5V
	(stand by +5V)	19	VCC
10	+12V	20	VCC

F_PANEL (Front Panel Control Connector)

The F_Panel Control Connector connects to certain connectors on the front panel of the system casing such as IDE Hard Disk Active LED, speaker, reset, and power on/off connectors. You can use the schematic diagram below as the basis for connection.



PIN	SIGNAL
HD	IDE Hard Disk Active LED
SPK	Speaker Connector
RES	Reset Switch
PW	Soft Power Connector
MSG	Message LED/Power/Sleep LED
NC	NC

SATA0/SATA1 (Serial ATA Connector)

The SATA0/1 connector is able to connect a single Serial ATA device via a SATA cable. For the connected SATA hard disk to work correctly, please check the related BIOS setting and install proper driver for the SATA controller.

PIN	SIGNAL	PIN	SIGNAL
1	GND	5	RXN
2	TXP	6	RXP
3	TXN	7	GND
4	GND		

F_AUDIO (Front Audio Connector)

Connects to the audio connector located on the front panel of the system casing (dependent on case design). When use of the front panel audio connector is required, please remove the 5-6 pin, 9-10 pin jumper.

Please note that use of only the front panel audio connector or the rear panel audio connector is permitted.

PIN	SIGNAL	PIN	SIGNAL
1	MIC	6	Rear Audio (R)
2	GND	7	Reserved
3	MIC_BIAS	8	NO PIN
4	POWER	9	Front Audio (L)
5	Front Audio (R)	10	Rear Audio (L)

CD_IN (Optical Drive Audio Connector)

Connects CD-ROM or DVD-ROM audio connector.

PIN	SIGNAL
1	CD_L
2	GND
3	GND
4	CD_R

F_USB1 / F_USB2 (Front USB Connector)

Connects to the USB connector located on the front panel of the system casing (dependent on case design). Note: Please make sure that each USB connection matches its designated position. If connections are made incorrectly, the result can lead to inability to use the function or even damage.

PIN	SIGNAL	PIN	SIGNAL
1	POWER	6	USB Dy+
2	POWER	7	GND
3	USB Dx-	8	GND
4	USB Dy-	9	NO PIN
5	USB Dx+	10	NC

CLR_CMOS (Clear CMOS)

You can clear the motherboard CMOS with the jumper to return your system to its initial status. To prevent improper usage, the jumper does not include the jumper plug. If you wish to use the Clear CMOS function, please short circuit the 1-2 Pin.

Open : Normal

Short : Clear CMOS

SUR_CEN (Surround Center Connector)

Please contact the place of purchase for the optional SUR_CEN cable.

PIN	SIGNAL
1	SUR OUTL
2	SUR OUTR
3	GND
4	No Pin
5	CENTER_OUT
6	BASS_OUT

PWR_LED

Connects to the system power LED indicator whereby the power is indicated as ON or OFF. However, the indicator will flash when the system is suspended.

PIN	SIGNAL
1	MPD+
2	MPD-
3	MPD-

SPDIF_IO

Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF cable. Incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.

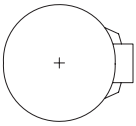
PIN	SIGNAL
1	Power
2	No PIN
3	SPDIF
4	SPDIFI
5	GND
6	GND

IR

Be careful with the polarity of the IR connector while you connect the IR. Please contact your nearest dealer for optional IR device.

PIN	SIGNAL
1	Power
2	No PIN
3	IR RX
4	GND
5	IR TX

BAT(Battery)



The improper removal of the battery can result in harm. When replacing a battery, please make sure you use one that is of similar brand and model number.

For information related to battery specifications and precautions, please refer to the manufacturer instructions.

If you wish to delete the data stored in the CMOS, please follow the steps below:

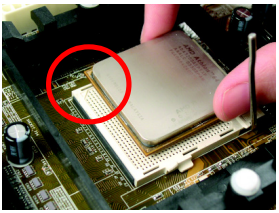
1. Please turn off your computer and unplug the power.
2. Remove the battery from the motherboard.
3. Wait 10 minutes and then replace the battery onto the motherboard.
4. Plug in the power supply and turn on your system.

2. Hardware Installation

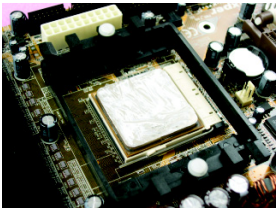
CAUTION

1. Please make sure that the CPU used is supported by your motherboard.
2. Please be aware of the placement position of the CPU. If the CPU does not insert properly, do not apply force but check the placement position.
3. Please make sure that an even layer of heat sink paste is added between the CPU and the fan sink.
4. Please do not turn on the power prior to installing the fan sink. Doing so can result in overheating and lead to permanent damage to the CPU.
5. Please follow the CPU specifications when setting the frequency. It is not recommended that system speed settings exceed that of hardware specifications. If you wish to set your system speed to exceed the recommended specifications, please check your hardware specifications eg: CPU, graphics card, memory, hard drive

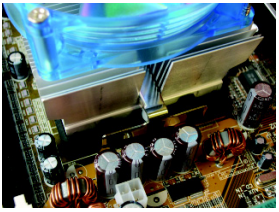
2.1. Installation of a Socket 754 CPU and Fan Sink



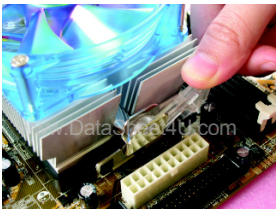
1. Note the small gold colored triangle on one corner of the CPU. Place the triangle in the corner of the CPU socket that also have a triangle marking and gently insert the CPU into its position.



2. When the CPU is inserted into its position, gently press the metal lever downwards until a click is heard. Then add an even layer of heat sink paste between the CPU and fan sink for heat dissipation.



3. Hook the clip on one side (the side without the cam lever) of the fan sink to the mounting lug on the retention frame.



4. Please do the same for the clip on the other side and then gently turn the cam lever to the installed position. (Please consult the fan sink manual for more installation information)

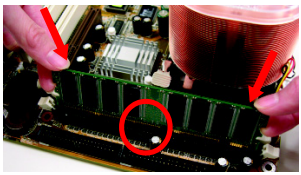
5. Connect the 3-pin cooler power connector to the CPU fan connector located on the motherboard.

2.2. Installation of Memory

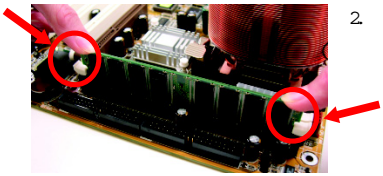
CAUTION

1. Before installing or removing memory, please make sure that the computer power is turned off to prevent hardware damage.
2. Please make sure that the memory used is supported by the motherboard.
3. Memory modules have a foolproof insertion design. The memory can be in stalled only when facing the correct position. If you cannot insert the module, please switch directions.
4. It is recommended that memory of similar capacity, specifications and brand be used.

The motherboard supports DIMM memory modules, whereby BIOS will automatically detect memory capacity and specifications. Memory modules are designed so that they can be inserted only in one direction.



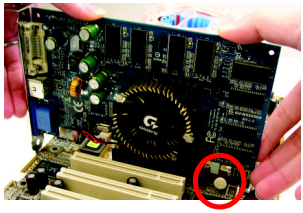
1. Unfasten the clips on each end of the memory slots. Correctly align the memory module in the slot and push downwards..



2. Once the memory module is correctly inserted, the clips will automatically refasten. If the memory module is positioned in the wrong direction, it will not insert. If this occurs, please switch directions.

2.3. Installation of the Graphics Card

1. Before installing the graphics card, please carefully read the accompanying user manual. As well, make sure the computer power is turned off
2. When installing or removing the graphics card, first pull out the white AGP knob before insertion or removal. Releasing the AGP knob will hold the graphics card firmly in place.



3. BIOS Setup

BIOS (Basic Input and Output System) stores all the information of the motherboard settings that is needed for system initiation within the CMOS. The CMOS SETUP utility allows the user to make changes in BIOS configurations that are required or to activate certain features.
The CMOS SETUP saves each item configuration in the CMOS SRAM of the motherboard. When the power is turned off, the battery on the motherboard supplies the required power to the CMOS SRAM.
When the power is turned on, pushing the <Del> button during the BIOS POST (Power-On Self Test) will bring up the CMOS SETUP screen. If you wish to enter the BIOS setup, please press "Ctrl + F1" at the BIOS setup screen.
When using BIOS setup for the first time, it is recommended that you save the present BIOS onto a disk in case you need to reset the BIOS back to its original settings. If you wish to update to a new BIOS, the "BIOSNow!" can be used.
The user can select "BIOSNow!" as a way to quickly and easily update or back up BIOS without entering the operating system.

3.1. Setup Screen Features (BIOS version:D2)

※ When you enter the CMOS SETUP screen, you will see the following screen and setting selections as shown below.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software

▸ Standard CMOS Features	Load Fail-Safe Defaults
▸ Advanced BIOS Features	Load Optimized Defaults
▸ Integrated Peripherals	Set Supervisor Password
▸ Power Management Setup	Set User Password
▸ PnP/PCI Configurations	Save & Exit Setup
▸ PC Health Status	Exit Without Saving
▸ Frequency/Voltage Control	
ESC: Quit	↑↓→←: Select Item
F8: BIOSNow!	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

Instructions

<↑,↓,←,→ ,Enter>	Movement in all four directions to highlight a desired option, pressing <Enter> will select the option and take you to its appropriate screen
<Page Up, Page Down>	Used to toggle up and down the available options for a particular item, whereby <Page Up> can also be used to increase value option and <Page Down> to decrease value option
<Esc>	Return to main setup screen or exit setup
<F1>	Gives the list of options available for each item
<F2>	Gives the list of options available for the current item
<F5>	Returns settings to previous values (not applicable to main setup screen)

<F6>	Gives the list of options available for each item
<F7>	Return to Optimized default values (not applicable to main setup screen)
<F8>	Enters BIOSNow! feature
<F9>	Displays system information
<F10>	Saves settings and exits setup

3.2. Standard CMOS Features

※ Includes the settings for items such as date, time, floppy disk drive specifications, and hard drives connected to the IDE interface.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
Standard CMOS Features

Date (mm:dd:yy)	Fri, Jan 9 2005	Item Help
Time (hh:mm:ss)	22:31:24	Menu Level▸
▸ IDE Channel 0 Master	[None]	Change the day, month, year
▸ IDE Channel 0 Slave	[None]	
▸ IDE Channel 1 Master	[None]	<Week>
▸ IDE Channel 1 Slave	[None]	Sun. to Sat.
▸ IDE Channel 2 Master	[None]	
▸ IDE Channel 3 Master	[None]	<Month>
		Jan. to Dec.
Drive A	[1.44M, 3.5"]	
Drive B	[None]	<Day>
Floppy 3 Mode Support	[Disabled]	1 to 31 (or maximum allowed in the month)
Halt On	[All, But Keyboard]	
		<Year>
Base Memory	640K	1999 to 2098
Extended Memory	127M	
Total Memory	128M	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- **Date (mm:dd:yy)**

  Allows you to setup the date in the mm:dd:yy fashion.

- **Time (hh:mm:ss)**

  Allows you to set up the date in the hh:mm:ss fashion. The time must be entered in the 24-hour format.

- **IDE Channel 0/1 Master(Slave) [IDE Device Setup]**

  IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

  IDE Channel 0/1 Master(Slave) You can use one of three methods:

Auto	Allows BIOS to automatically detect IDE devices during POST(default)
None	Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
Manual	User can manually input the correct settings
Access Mode	Use this to set the access mode for the hard drive. The four options are:CHS/LBA/Large/Auto(default:Auto)

- **IDE Channel 2/3 Master**

  [IDE Device Setup]

  IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

Extended IDE Drive You can use one of two methods:

Auto Allows BIOS to automatically detect IDE devices during POST(default)

None Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.

Access Mode Use this to set the access mode for the hard drive. The two options are:Large/Auto(default:Auto)

Hard drive information should be labeled on the outside drive casing. Enter the appropriate option based on this information.

- Drive A/B

Allows user to configure the type of floppy drive his/she installs.

Options:
- None (No floppy drive installed)
- 360K, 5.25" (5.25 inch PC-type high-density drive; 360K bytes capacity.)
- 1.2M, 5.25" (5.25 inch AT-type high-density drive; 1.2M bytes capacity.)
- 720K, 3.5" (3.5 inch double-sided drive; 720K bytes capacity.)
- 1.44M, 3.5" (3.5 inch double-sided drive; 1.44M bytes capacity.)
- 2.88M, 3.5" (3.5 inch double-sided drive; 2.88M bytes capacity.)

- Floppy 3 Mode Support

Allows user to configure a Japanese standard 3 Mode floppy drive.

Options:
- Disabled (No 3 Mode drive installed)
- Drive A (3 Mode Drive installed in A:)
- Drive B (3 Mode Drive installed in B:)
- Both (3 Mode Drive installed in A: and B:)

- Halt on

Tells the BIOS specifically which types of errors will halt the computer during the power-on self test (POST) section of the boot.

Options:
- No Errors (Never halt when an error is detected)
- All Errors (Halt whenever an error is detected)
- All, But Keyboard (Halt whenever an error is detected with the exception of the keyboard)
- All, But Diskette (Halt whenever an error is detected with the exception of the diskette)
- All, But Disk/Key (Halt whenever an error is detected with the exception of the diskette and keyboard) (default:All, But Keyboard)

- Memory

When BIOS is displayed during POST, memory capacity is also displayed as shown below:

Base Memory, Extended Memory,Total Memory (the user can verify the accuracy of these values)

3.3. Advanced BIOS Features

※ Allows the configuration of advanced settings such as boot sequence, password check, etc.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
Advanced BIOS Features

▸ Hard Disk Boot Priority	[Press Enter]	Item Help
First Boot Device	[Floppy]	Menu Level▸
Second Boot Device	[Hard Disk]	
Third Boot Device	[CDROM]	Select Hard Disk Boot
Password Check	[Setup]	Device Priority

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- **Hard Disk Boot Priority**

  The user can select the boot order for hard disks connected to onboard IDE, SATA, SCSI, RAID controllers or other add-on cards.

- **First / Second / Third Boot Device**

  The user can select the order in which the system will boot.

  Options: Floppy, LS120,Hard Disk, CDROM, ZIP,USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, Legacy LAN, Disabled

- **Password Check**

  Allows user to set a password. To remove the password entry requirement, enter SETUP and make sure there is no entry and then press <Enter>.

  Options: System (Password entry is required during system start up and to enter CMOS SETUP)

  Setup (Password entry is required to enter CMOS SETUP) (default:Setup)

3.4. Integrated Peripherals

※ This menu allows you to control the various ports of the computer such as IDE, SATA, USB, IEEE1394, COM port, LPT port, AC97 audio, etc.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
Integrated Peripherals

	IDE DMA transfer access	[Enabled]	Item Help
	On-Chip IDE Channel 0	[Enabled]	Menu Level▸
	On-Chip IDE Channel 1	[Enabled]	
	OnChip Serial ATA	[Enabled]	
	SATA Mode	[RAID]	
	AC97 Audio	[Auto]	
	VIA Onboard LAN	[Enabled]	
	USB 1.1 Controller	[Enabled]	
	USB 2.0 Controller	[Enabled]	
	USB Keyboard Support	[Disabled]	
	USB Mouse Support	[Disabled]	
	On-Chip LAN Boot ROM	[Disabled]	
	Onboard FDC Controller	[Enabled]	
	Onboard Serial Port 1	[3F8/IRQ4]	
	Onboard Serial Port 2	[2F8/IRQ3]	
	UART Mode Select	[Normal]	
x	UR2 Duplex Mode	Half	
	Onboard Parallel Port	[378/IRQ7]	
	Parallel Port Mode	[SPP]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
Integrated Peripherals

	Midi Port Address	[Disabled]	Item Help
x	Midi Port IRQ	10	Menu Level▸

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- **IDE DMA transfer access**
  Allows the user to enable or disable IDE DMA transfer access (default:Enabled)
- **OnChip IDE Channel 0**
  Allows the user to enable or disable the first onboard IDE channel (default:Enabled)
- **OnChip IDE Channel 1**
  Allows the user to enable or disable the second onboard IDE channel (default:Enabled)

- OnChip Serial ATA

  Allows the user to enable or disable the onboard SATA channel (default:Enabled)

- S ATA Mode

  Allows the user to set the SATA mode for the onboard SATA channel
  Options: RAID, IDE (default:RAID)

- AC97 Audio

  Allows the user to use the onboard AC97 audio (default:Auto)

- VIA onboard LAN

  Allows the user to enable or disable the onboard LAN (default:Enabled)

- USB 1.1 Controller

  Allows the user to enable or disable the onboard USB 1.1 (default:Enabled)

- USB 2.0 Controller

  Allows the user to enable or disable the onboard USB2.0 (default:Enabled)

- USB Keyboard Support

  Allows user to use a USB-based keyboard (Enable if you are using a USB keyboard, otherwise Disable) (default:Disabled)

- USB Mouse Support

  Allows user to use a USB-based mouse (Enable if you are using a USB mouse, otherwise Disable) (default:Disabled)

- OnBoard LAN Boot ROM

  Allows user to enable or disable booting from a network drive (default:Disabled)

- OnBoard FDC Controller

  Allows user to enable or disable onboard FDC Controller (default:Enabled)

- Onboard Serial Port 1

  Allows the user to enable or disable the first onboard serial port
  Options: Auto, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled (default:3F8/IRQ4)

- Onboard Serial Port 2

  Allows the user to enable or disable the Second onboard serial port
  Options: Auto, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled (default:2F8/IRQ3)

- UART Mode Select

  Allows the user to determine which Infra Red(IR) function of Onboard I/O chip.
  Options: Normal, IrDA, ASKIR (default:Normal)

- UR2 Duplex Mode

  This function is available only when UART Mode Select is not set to Normal.
  Options: Half, Full (default:Half)

- Onboard Parallel Port

  Allows the user to enable or disable the onboard parallel port.
  Options: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled (default:378/IRQ7)

■ Parallel Port Mode

Use this to select the operation mode for the parallel port.

Options: SPP (normal) (default:SPP)
EPP (Enhanced Parallel Port)
ECP (Extended Capabilities Port)
ECP+EPP (both ECP and EPP)

■ Midi Port Address

Allows the user to select the Midi Port Address

Options: 300, 330, Disabled (default:Disabled)

■ Midi Port IRQ

Allows the user to select the Midi Port IRQ

Options: 5, 10 (default:10)

3.5. Power Management Setup

※ This is used to control the various power saving features of the PC.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
Power Management Setup

			Item Help
	ACPI Suspend Type	[S1(POS)]	Menu Level▸
x	USB Device Wake-Up From S3	Disabled	[S1]
	Soft-Off by PWRBTN	[Instant-Off]	Set suspend type to
	AC Back Function	[Soft-Off]	Power On Suspend under
	Keyboard Power On	[Disabled]	ACPI OS
	Mouse Power On	[Disabled]	
	PME Event Wake Up	[Enabled]	[S3]
	Modem Ring Resume	[Enabled]	Set suspend type to
	Resume by Alarm	[Disabled]	Suspend to RAM under
x	Date (of Month) Alarm	Everyday	ACPI OS
x	Time (hh:mm:ss) Alarm	0 : 0 : 0	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

■ ACPI Suspend Type

Allows user to select the Advanced Configuration and Power Interface(ACPI) as S1/POS (Power On Suspend) or S3/STR(Suspend To RAM) (default:S1/POS)

■ USB Device Wakeup From S3

Allows user to use a USB device to wakeup system from S3.(default:Disabled)

■ Soft-off by PWRBTN

Controls whether the PC shuts off immediately after hitting the power button or delaying a few seconds. (default:Instant-off)

Options: Instant-off (PC shuts off immediately)
Delay 4 Sec. (PC shuts off after a 4sec. delay)

- AC Back Function

  Allows user to select system status when power is removed and returned.

  Options: Memory (return prior to power removal)
  Full-On (return to full system power)
  Soft-Off (use of Soft PWR button to power on system) (default:Soft-Off)

- Keyboard Power On

  Allows user to turn on system using the keyboard.

  Options: Password (input an 8 character long password)
  Keyboard 98 (the power button on Windows 98 keyboard)
  Disabled (default:Disabled)

- Mouse Power On

  Allows user to turn on system using the mouse. (default:Disabled)

- PME Event Wake Up

  Allows user to select the Power Management Event (PME) wake up function which requires the system to have a +5VSB power supply using a rate of 1A or less. (default:Enabled)

- ModemRingOn/WakeOnLan

  To use this feature, an Ethernet card supporting the PCI2.2 or newer standard must be used. (default:Enabled)

- Resume by Alarm

  If set to Enabled, the user can set the date and time for automatic system power-on. (default:Disabled)

  Settings:

  Date (of Month) Alarm : Everyday, 1~31

  Time (hh: mm: ss) Alarm : (0~23) : (0~59) : (0~59)

3.6. PnP/PCI Configurations

※ This menu allows you to configure your PCI slots. You can assign IRQ's for various PCI slots.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
PnP/PCI Configurations

PCI 1 IRQ Assignment	[Auto]	Item Help
PCI 2 IRQ Assignment	[Auto]	Menu Level▸
PCI 3 IRQ Assignment	[Auto]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- **PCI 1 IRQ Assignment**
  Allows you to assign an IRQ for the first PCI slot. Options: Auto,3,4,5,7,9,10,11,12,14, 15 (default:Auto)
- **PCI 2 IRQ Assignment**
  Allows you to assign an IRQ for the second PCI slot. Options: Auto,3,4,5,7,9,10,11,12, 14,15 (default:Auto)
- **PCI 3 IRQ Assignment**
  Allows you to assign an IRQ for the third PCI slot. Options: Auto,3,4,5,7,9,10,11,12,14, 15 (default:Auto)

3.7. PC Health Status

※ This menu displays the current CPU temperature, the fan speeds, voltages etc.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
PC Health Status

		Item Help
Vcore	1.54V	Menu Level▸
DDR25V	2.544V	
+3.3V	3.360V	
+12V	11.92V	
Current CPU Temperature	45°C	
Current CPU FAN Speed	4440 RPM	
Current SYSTEM FAN Speed	0 RPM	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- **Current Voltage(V) Vcore / DDR25V / +3.3V / +12V**
  Automatically checks system voltage
- **Current CPU Temperature**
  Automatically checks CPU temperature
- **Current CPU /SYSTEM FAN Speed (RPM)**
  Automatically checks CPU/SYSTEM fan speed
- **CPU FAN Fail Warning**
  Allows system warning of CPU fan failure (default:Disabled)
- **SYSTEM FAN Fail Warning**
  Allows system warning of SYSTEM fan failure (default:Disabled)

3.8. Frequency/Voltage Control

※ This allows user to configure CPU frequency and voltage settings.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
Frequency/Voltage Control

K8 CPU Clock Ratio	[Default]	Item Help
Auto Detect PCI Clk	[Enabled]	Menu Level▸
CPU Clock	[200MHz]	
CPU OverVoltage Control	[Auto]	
DIMM OverVoltage Control	[Auto]	
VCC18 OverVoltage Control	[Auto]	
VCC12 OverVoltage Control	[Auto]	
AGP OverVoltage Control	[Auto]	

higf: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

※ This section is very dangerous for inexperienced users, and therefore it is not recommended that these settings be altered. An incorrect setting can result in system instability, corrupt data, or permanent hardware damage.

- **K8 CPU Clock Ratio**

  Allows user to set the CPU Clock Ratio.
  If the CPU used locks this feature, then it will not be displayed or will not function. (based on CPU type)

- **Auto Detect PCI Clk**

  Allows user to autodetect PCI clock (default:Enabled)

- **CPU Clock**

  Allows user to set CPU clock. The CPU Clock can be input between 200MHz to 232MHz.

- **CPU OverVoltage Control**

  Allows user to set the CPU voltage. (default:Auto)
  Please note that by overclocking your system through the increase of the CPU voltage, system instability or damage to the CPU may occur
  Options: Auto
  +5%, +7.5%, +10% (CPU voltage range)

- **DIMM OverVoltage Control**

  Allows user to set the DIMM voltage. (default:Auto)
  Please note that by overclocking your system through the increase of the DIMM voltage, damage to the memory may occur.
  Options: Auto (automatic setting of DIMM voltage at 2.5V)
  +0.1V ~ +0.2V (DIMM voltage range)

- VCC18 OverVoltage Control

  Allows user to set the VCC18 voltage. (default:Auto)

  Please note that by overclocking your system through the increase of the VCC18 voltage, system instability may occur.

  Options: Auto

  +5%, +7.5%, +10% (VCC18 voltage range)

- VCC12 OverVoltage Control

  Allows user to set the CPU voltage. (default:Auto)

  Please note that by overclocking your system through the increase of the VCC12 voltage, system instability may occur.

  Options: Auto

  +5%, +7.5%, +10% (VCC12 voltage range)

- AGP OverVoltage Control

  Allows user to set the AGP voltage. (default:Auto)

  Please note that by overclocking your system through the increase of the AGP voltage, system instability or damage to the AGP card may occur.

  Options: Auto

  +5%, +7.5%, +10% (AGP voltage range)

3.9. Load Fail-Safe Defaults

※ Use this option to reset your BIOS settings to the system defaults. You should only use this if you are encountering serious problems.
Please select <Y> and <Enter> to load Fail-Safe defaults. Once this is loaded, your system may be slowed since this uses a minimal performance setting to allow stable system running.

3.10. Load Optimized Defaults

※ Like the Fail-Safe mode above, this option loads the BIOS default settings, but runs the system at optimal performance.
Please select <Y> and <Enter> to load optimized defaults.

3.11. Set Supervisor/User Password

※ Use this to set the password that is needed to either enter into the BIOS or to boot the system. Entering in a blank field will disable the password.
Please input an 8 character long password and then select Enter. You will be required to re-enter the password for confirmation. If you wish to remove the need for password entry, leave the entry blank and then select Enter. BIOS will then display "PASSWORD DISABLED". Once you have completed the password setting, you will need to go to "Advanced BIOS Features" and select "Password Check" for setup of password check.

3.12. Save & Exit Setup

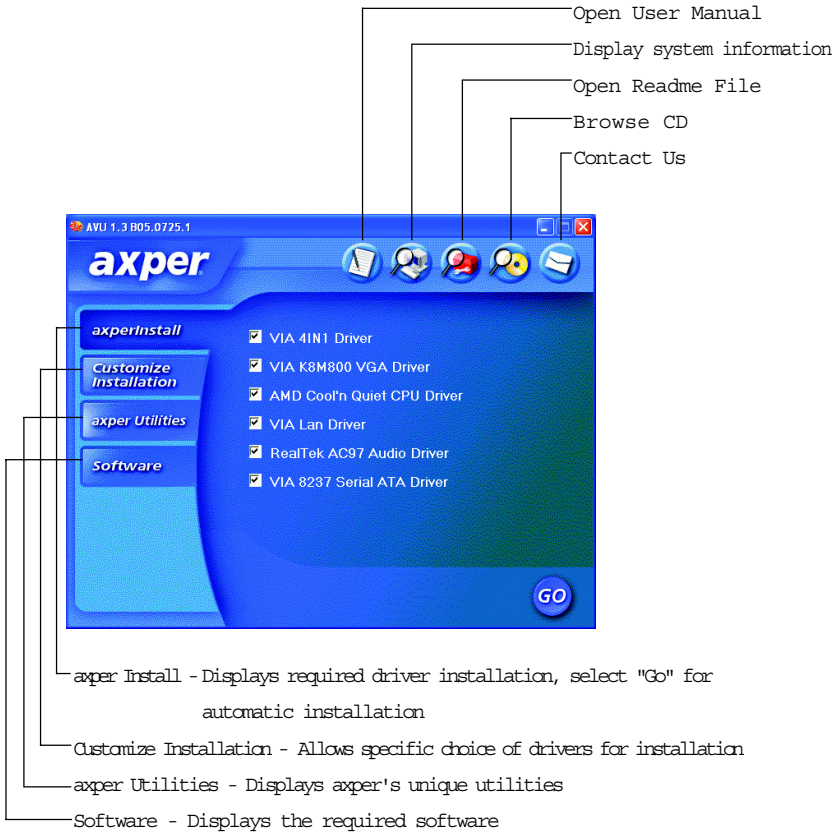
※ To save any changes you made to the BIOS you must choose this option. The system will automatically exit setup and perform a system restart. Pushing <F10> will have the same effect.
Push <Y> and <Enter> to save and exit setup. If you do not wish to save, select <N> or <Esc> to return to the main menu.

3.13. Exit Without Saving

※ Use this option instead of the one above if you wish to exit the BIOS without saving the changes you have made. Pushing <ESC> will have the same effect.
Push <Y> and <Enter> to exit setup. You can return to the main menu by pushing <N>or <Esc>.

4. Driver Installation

Driver installation for the Windows 2000/XP operating systems is simple. Once you insert the provided driver disks into your optical drive, the AUTORUN screen will appear. If this screen does not appear, you can use "D:\setup.exe" (with "D" being the specified drive) to bring up the screen shown below. Just follow the screen instructions to easily complete driver installation.



5. Installation of SATA RAID Disks

The Serial ATA channel controlled by the VIA VT8237R southbridge chip supports RAID 0 and RAID 1. This section explains the steps required to configure RAID disks.

RAID (Redundant Array of Independent Disks) is a method of combining two hard disk drives into one logical unit. The advantage of an Array is to provide better performance or data fault tolerance. Hard disk drives can be combined together through a few different methods. The different methods are referred to as different RAID levels. Different RAID levels represent different performance levels, security levels and implementation costs.

RAID 0 (Striping)
RAID 0 reads and writes sectors of data interleaved between multiple drives. If any disk member fails, it affects the entire array. The disk array data capacity is equal to the number of drive members times the capacity of the smallest member. RAID 0 does not provide fault tolerance funtionality.

RAID 1 (Mirroring)
RAID 1 writes duplicate data onto a pair of drives and reads both sets of data in parallel. If one of the mirrored drives suffers a mechanical failure or does not respond, the remaining drive will continue to function. Due to redundancy, the drive capacity of the array is the capacity of the smallest drive. Due to the fault tolerance, if any RAID 1 drive fails, data access will not be affected as long as there are other working drives in the array.

5.1. Configuring the System BIOS for the SATA Channel

1. Connect two SATA hard disks to the SATA ports on the motherboard.
2. Reboot your system and press the <Delete> key to enter the BIOS setup screen after POST begins.
3. Under Integrated Peripherals, locate the SATA controller and SATA mode setup options. Ensure the SATA controller and SATA RAID mode are enabled. (Figure 1)
4. Go to Hard Disk Boot Priority under Advanced BIOS Features, move the disk onto which you want to install operating system to the first place by using arrows keys and <+>/<-> key. (Figure 2)
5. Save changes and exit the BIOS Setup.

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Integrated Peripherals

IDE DMA transfer access	[Enabled]	Item Help
On-Chip IDE Channel 0	[Enabled]	Menu Level▸
On-Chip IDE Channel 1	[Enabled]	
OnChip Serial ATA	[Enabled]	
SATA Mode	[RAID]	
AC97 Audio	[Auto]	
VIA Onboard LAN	[Enabled]	
USB 1.1 Controller	[Enabled]	
USB 2.0 Controller	[Enabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
On-Chip LAN Boot ROM	[Disabled]	
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[Normal]	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 1

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
Hard Disk Boot Priority

1. SCSI-0 : ST3120026AS	Item Help
2. SCSI-1 : ST3120026AS	Menu Level ▸▸
3. Bootable Add-in Cards	Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.

↑↓: Move PU/PD/+/-: Change Priority F10: Save ESC: Exit

Figure 2

5.2. Creating RAID 0

1. Upon re-boot, you will see the RAID software prompting you to press the <Tab> key to enter the VIA VT8237 SATA RAID BIOS User Window (Figure 3). Press the <Tab> key.


```
VIA Technologies, Inc. VIA VT8237 Serial ATA RAID BIOS Setting Utility V2.31
Copyright (C) VIA Technologies, Inc. All Right reserved.

Scan Devices, Please wait...
Press <Tab> key into User Window!
Serial_Ch0 Master : ST3120026AS
Serial_Ch1 Master : ST3120026AS
```

Figure 3

2. In the VIA VT8237 SATA RAID BIOS User Window (Figure 4), use arrow keys to select Create Array and press <Enter> to enter the RAID configuration screen where you may choose the RAID array type and which hard drives you want to make part of the array.

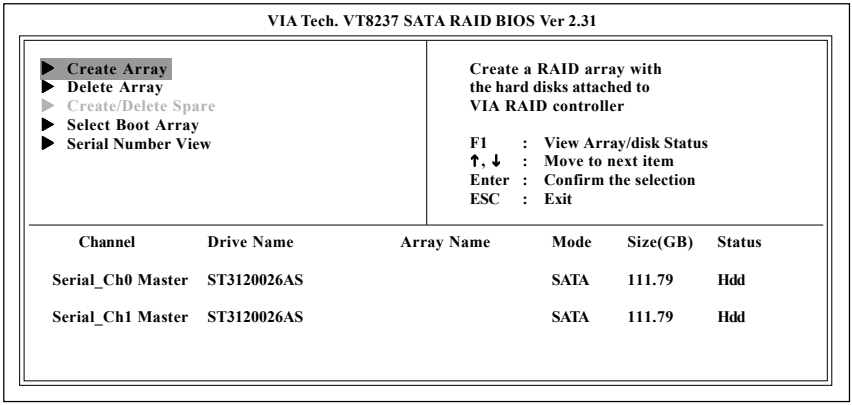

Figure 4

3. Select the second option "Array Mode RAID....." (Figure 5) and press <Enter>.

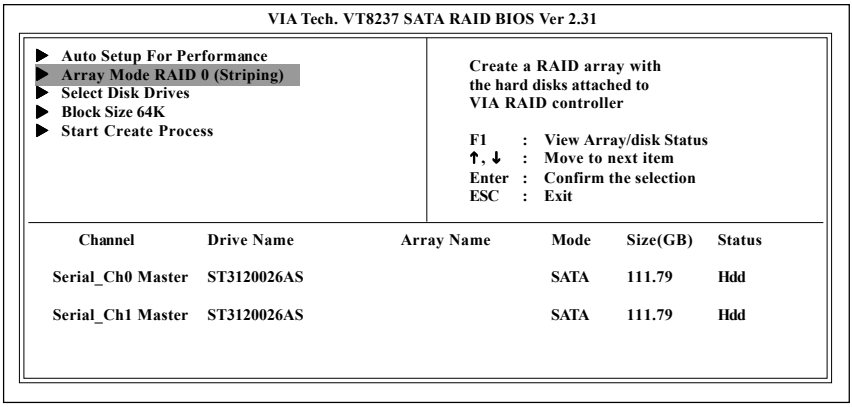

Figure 5

4. Then you will see a menu for you to select the RAID type (Figure 6). Use arrow keys to select RAID 0 for performance and press <Enter>.

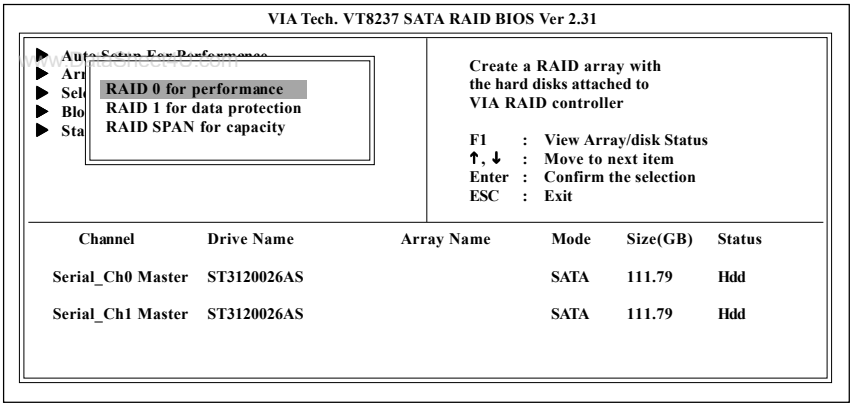

Figure 6

4-1 Auto Setup: After selecting the RAID type, you have to decide whether you want the RAID array to be created manually or automatically. The steps below introduce how to autocreate the RAID 0 array. Auto Setup selects the disks drives and creates array automatically.To manually setup RAID 0, please proceed to Step 4-2 on Page 31.

4-1-1. Select Auto Setup For Performance and press <Enter>.

4-1-2. When the Auto create array will destroy all data on disks, Continue? <Y/N> message (Figure 7) appears, press <Y> to confirm or <N> to quit.

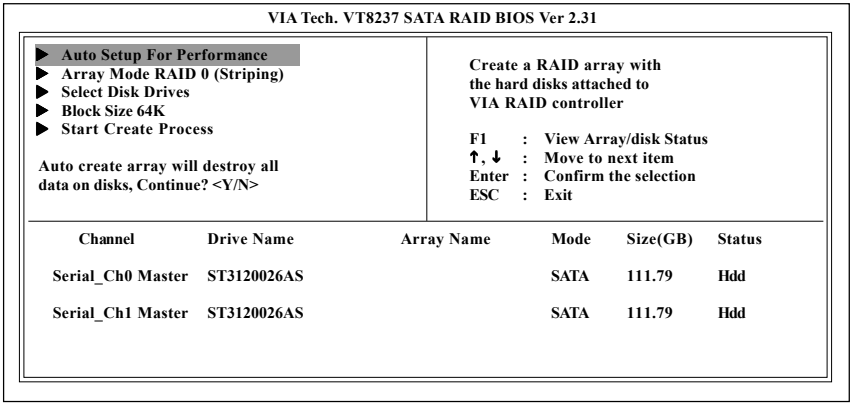

Figure 7

4-2 Manual Setup: If you want to configure RAID 0 manually, please follow the steps below.

4-2-1. Do not select the Auto Setup for Performance option. Select the Select Disk Drives option and press <Enter>. The selection bar will move to the Serial_Ch0 Master item. You may use the arrow keys and <Enter> key to set which of the Serial_Ch0/1 Master item to be Stripe0/Stripe1. Then both of the two channels will be marked with an asterisk (Figure 8).

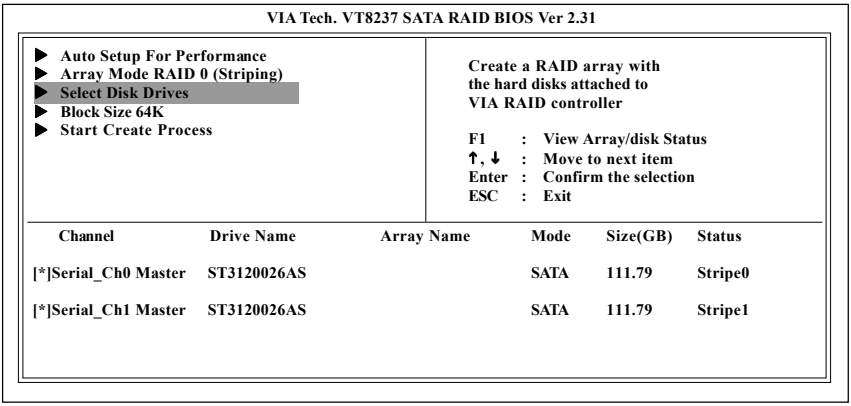

Figure 8

4-2-2. After setting RAID disk drives, use arrow keys to select Block Size and press <Enter>. Then a small menu listing block size options (4K~64K) will appear (Figure 9). Please use arrow keys to select the block size according to your requirements and press <Enter> to return to the configuration screen. (Default: 64K)

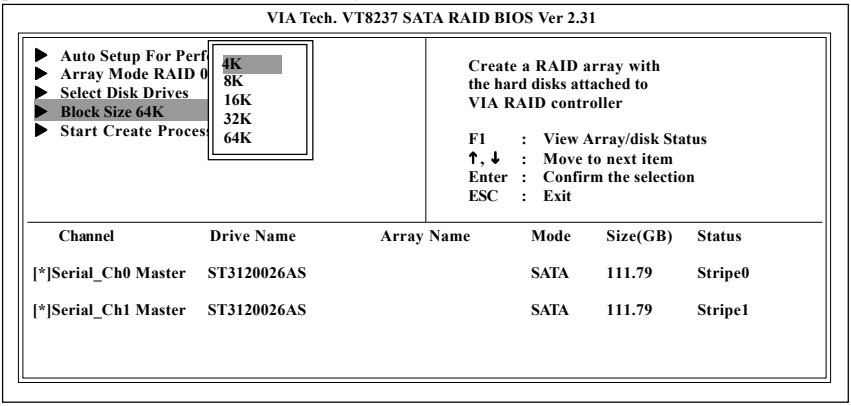

Figure 9

5. When the configuration is completed, you may check the RAID information by pressing the <F1> key (Figure 10).

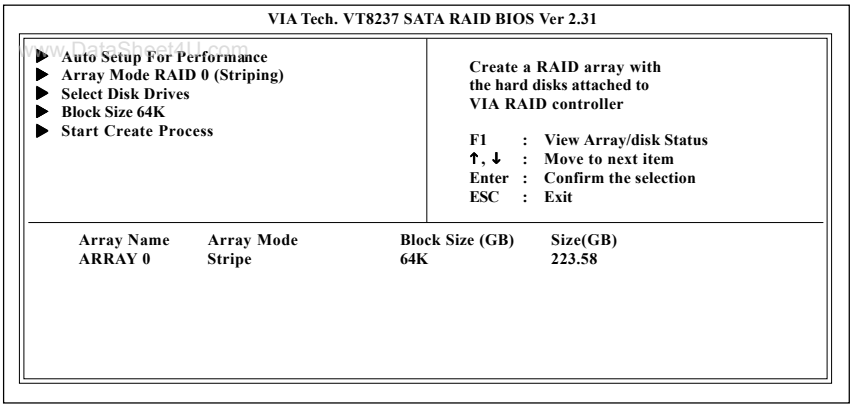

Figure 10

5.3. Creating RAID 1

1. Upon re-boot, you will see the RAID software prompting you to press the <Tab> key to enter the VIA VT8237 SATA RAID BIOS User Window (Figure 11). Press the <Tab> key.


```
VIA Technologies, Inc. VIA VT8237 Serial ATA RAID BIOS Setting Utility V2.31
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Scan Devices, Please wait...
Press <Tab> key into User Window!
Serial_Ch0 Master : ST3120026AS
Serial_Ch1 Master : ST3120026AS
```

Figure 11

2. In the VIA VT8237 SATA RAID User Window, use arrow keys to select Create Array (Figure 12) and press <Enter> to enter the RAID configuration screen where you may choose the RAID array type and which hard drives you want to make part of the array.

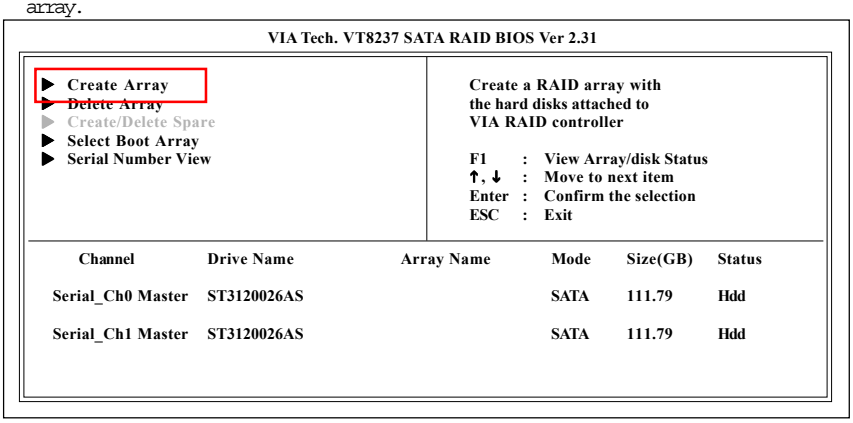

Figure 12

3. Select the second option "Array Mode RAID....." (Figure 13) and press <Enter>.

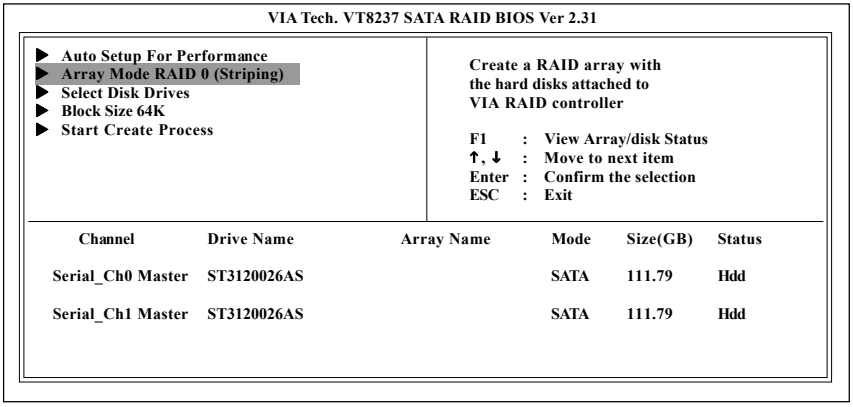

Figure 13

4. Then you will see a menu for you to select the RAID type (Figure 14) . Use arrow keys to select RAID 1 for data protection and press <Enter>.

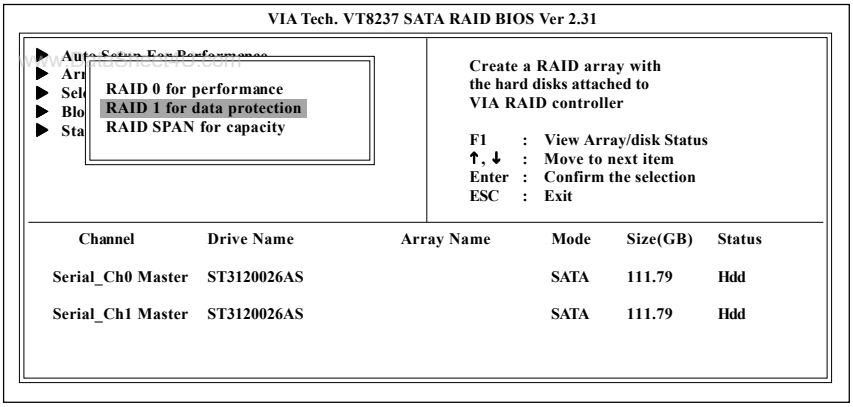

Figure 14

4-1 Auto Setup: After selecting the RAID type, you have to decide whether you want the RAID array to be created manually or automatically. The steps below introduces how to auto-create the RAID 1 array. To manually setup RAID 1, please proceed to Step 4-2 on Page 35.

4-1-1. Select Auto Setup For Data Security and press <Enter>.

4-1-2. When the Auto create array will destroy all data on disks, Continue? <Y/N> message appears (Figure 15), press <Y> to confirm or <N> to quit.

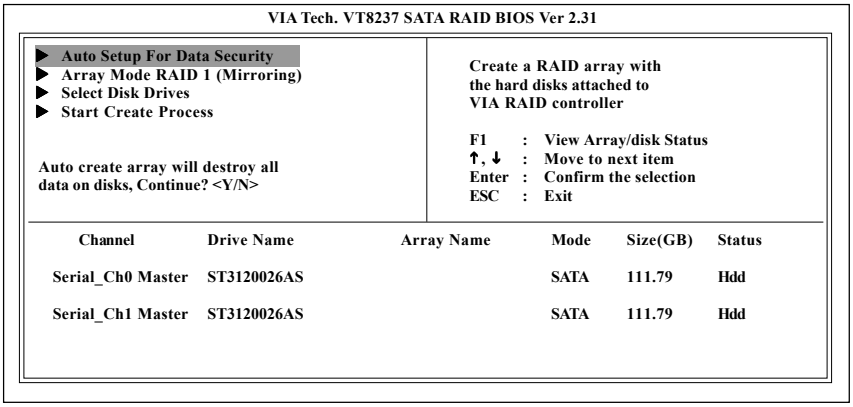

Figure 15

Note: Auto Setup For Data Security selects the disks drives and creates array automatically. However, it does not duplicate the data on the source disk to the mirror disk. We recommend that you use new disks when you want to create an array.

4-2 Manual Setup: If you want to configure RAID 1 manually, please follow the steps below.

4-2-1. Do not select the Auto Setup for Data Security option. Select the Select Disk Drives option and press <Enter>. The selection bar will move to the Serial_Ch0 Master item. You may use the arrow keys and <Enter> key to set which of the Serial_Ch0/1 Master item to be the Source/Mirror disk. Then both of the two channels will be marked with an asterisk (Figure 16).

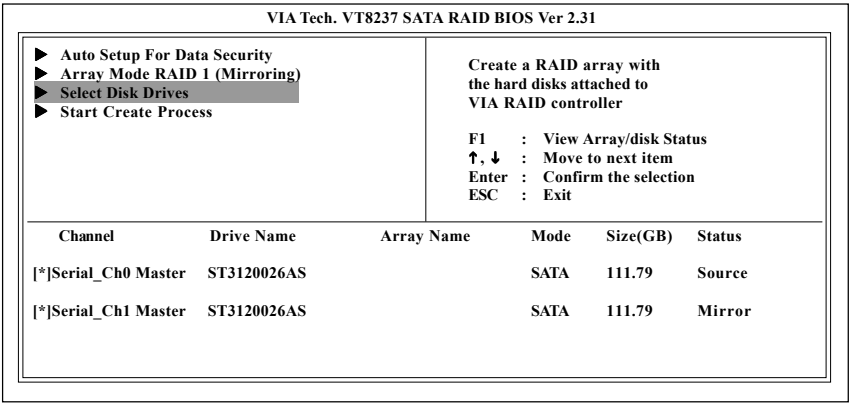

Figure 16

4-2-2. Finally, select the Start Create Process option and press <Enter> to start creating the RAID array. When the Save the data on source disk to mirror after creation? <Y/N> message appears, press <Y> or <N> according to your requirements. If you press <Y>, the data duplication process will begin. If you press <N>, the The data on the selected disks will be destroied, Continue? (Y/N) message will appear. Press <Y> to confirm or <N> to quit.

5. When the configuration is completed, you may check the RAID array information by pressing the <F1> key (Figure 17).

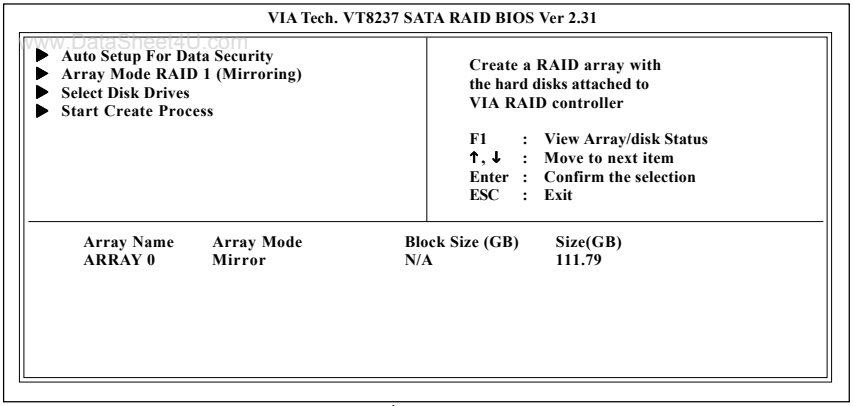

Figure 17

5.4. Deleting RAID Array

1. To delete the current RAID array, select the Delete Array option from the main screen (Figure 18) and press <Enter>.
2. Select the target RAID Array to be deleted with arrow keys and press <Enter> and the message The selected array will be destroied, Are you sure? Continue? Press Y/N will appear.
3. Press <Y> to confirm or <N> to quit.

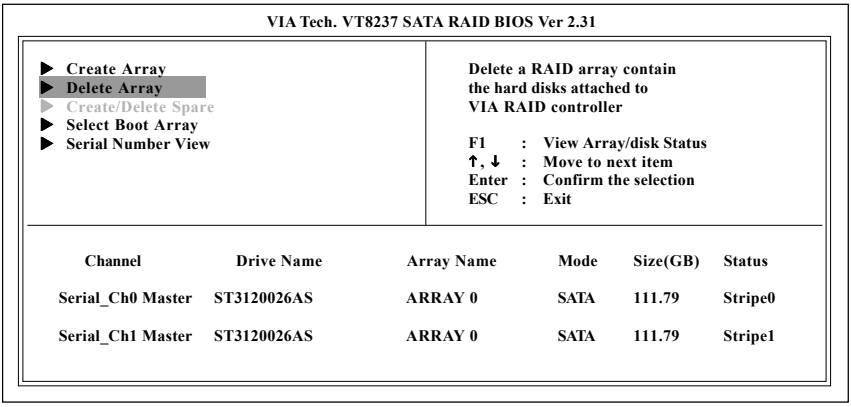

Figure 18

Except for RAID 1 array, all the data on the disk array will be destroyed after a disk array is deleted. When RAID 1 array is deleted, the data on the two RAID disks will be reserved and the two hard disks will become normal disk drives.

5.5. Selecting Boot Array

You can select a disk array as the boot device if you want to boot operating system from an array.

1. Select the Select Boot Array option from the main screen and press <Enter>.
2. The selection bar will move to the Serial_CH0 Master option. Press <Enter> and you'll see the RAID disks marked with asterisks and the Status area will show "Boot." (Figure 19)
3. If you want to cancel the selection, press <Enter> on the array again to eliminate the asterisk marks.

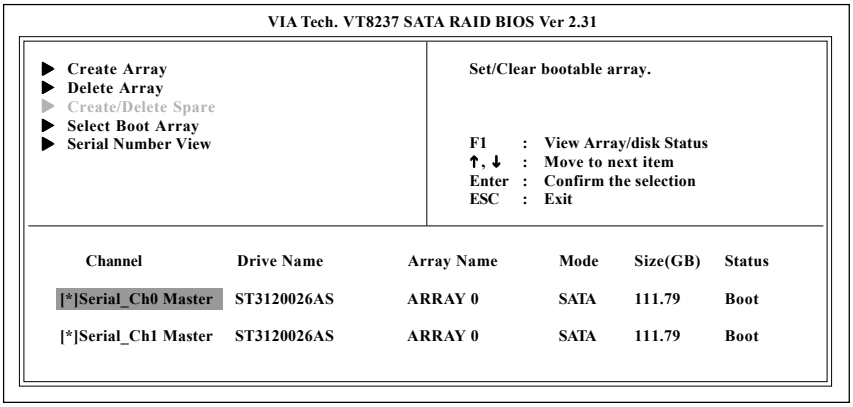

Figure 19

5.6. Viewing Serial Number

To view the serial number of RAID disks, you may select Serial Number View from the main screen and press <Enter>. Use arrow keys select the target RAID disk. The Serial Number provided by the hard drive manufacturer will be displayed at the bottom of the screen (Figure 20).

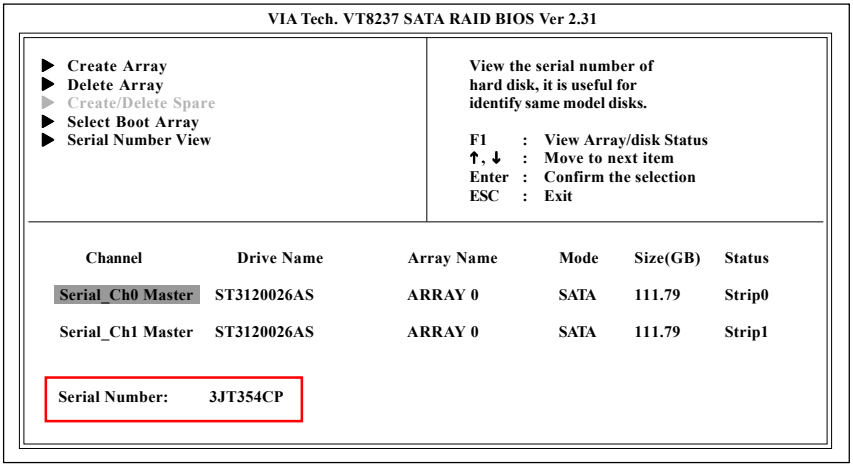

Figure 20

5.7. Making the SATA RAID Driver Disk

For the RAID disks to be recognized correctly during Windows 2000/XP Setup process, you need to install the SATA RAID driver at the beginning of Windows Setup. The RAID driver needs to be copied from the motherboard driver CD to a floppy disk. The procedure below introduces how to make a floppy disk containing the RAID driver.

1. Find an available system and insert a blank formatted floppy disk in the floppy disk drive and insert the axper motherboard driver CD in the CD-ROM drive. The AUTORUN utility will appear on the screen automatically. Exit the utility first and then Go to My omputer and right-click the CD-ROM icon to select Open.
2. In the BootDrv folder, double-click the MENU.exe file (Figure 21). Then a MS-DOS prompt screen will appear (Figure 22).
3. Select the RAID driver for your motherboard using number or letter keys (Example: select VIA 8237 Series ATA for the XP-K7V600 motherboard.) Then the driver file will be automatically copied and transferred to the floppy disk. Wait until it's done, then you can proceed to load the SATA driver and install Windows operating system to the RAID disks.

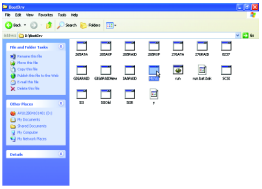

Figure 21

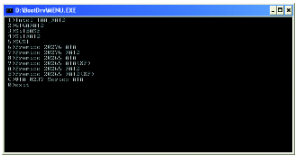

Figure 22

5.8. Loading the VIA 8237 Serial ATA Driver

1. Boot from the Windows 2000/XP Installation CD. Press <F6> as soon as you see the Press F6 if you need to install a third party SCSI or RAID driver message (Figure 23.)

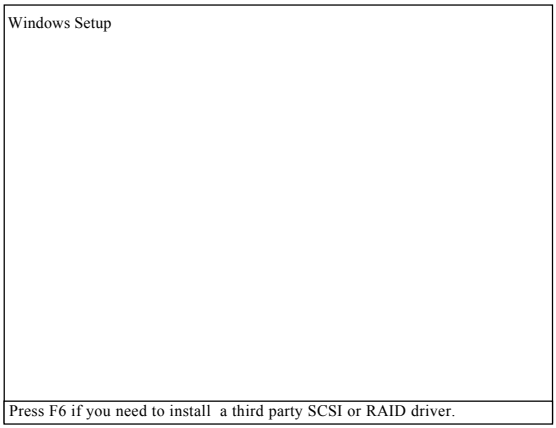

Figure 23

2. After pressing <F6>, wait until the screen as shown in Figure 24 appears. Insert the driver disk in your floppy disk drive and press <S> key. If the screen doesn't appear, it's possible that you did not press <F6> in time. Please repeat Step 1.

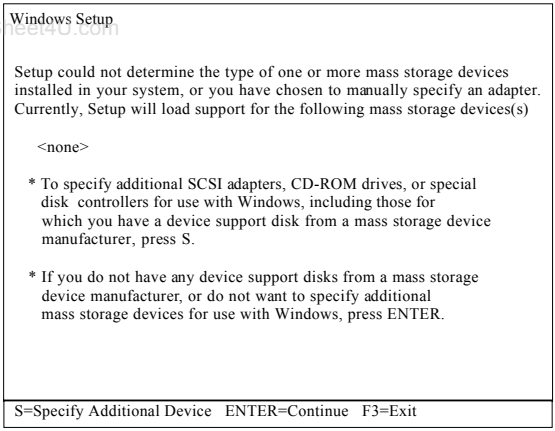

Figure 24

3. When the screen as shown in Figure 25 appears, select the correct driver for your system by using the arrow keys and press <Enter>

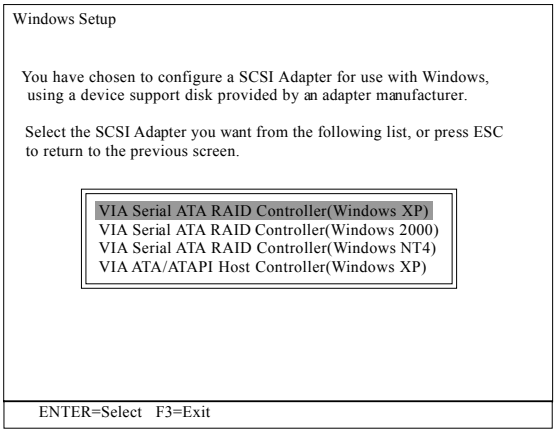

Figure 25

4. Press <Enter> (Figure 26) and system will begin to load the Serial ATA driver.

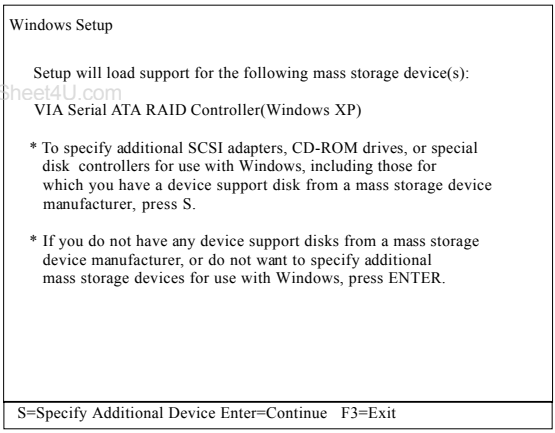

Figure 26

5. Follow the on-screen instructions to complete Windows installation and installation of all required drivers.