PM800 Series

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation.

CE Mark

The device is in accordance with 89/336 ECC-ENC Directive.

120410087M1N

You have to know !!!

- 💣 The images and pictures in this manual are for reference only and may vary slightly from actual product installation depending on specific hardware models, third party components and software versions.
- 💣 Unplug your computer when installing components and configuring switches and pins.
- 💣 This mainboard contains very delicate IC chips. Use a grounded wrist strap when working with the system.
- 💣 Do not touch the IC chips, leads, connectors or other components.
- 💣 Unplug the AC power when you install or remove any device on the mainboard.

Package Contents

- ◆ PM800 PRO-1394, PM800 PRO or PM800 mainboard
- ◆ IDE ATA 100 Cable
- ◆ FDC Cable
- ◆ USB Bracket (optional)
- ◆ 1394 Bracket (only for PM800 PRO-1394)
- ◆ COM Port & Game Port Bracket (optional)
- ◆ SPDIF & FRONT AUDIO Port Bracket (optional)
- ◆ SATA Power cord (optional)
- ◆ SATA Cable (optional)
- ◆ Installation and Setup Driver CD
- ◆ PM800 Series User Manual

Symbols

Attention …

Following the procedures …

Troubleshooting …

Please refer to …

PM800

Series

VIA® PM800 & VT8237

Supports Socket 478 Intel® Pentium® 4
(Willamette/ Northwood/ Prescott) Processor

User Manual

Enabling Hyper-Threading for your computer system requires ALL of the following components

- **CPU:** An Intel® Pentium® 4 Processor with HT Technology
- **Chipset:** An Intel® Chipset that supports HT Technology
- **BIOS:** A BIOS that supports HT Technology must be enabled
- **OS:** An operating system that supports HT Technology

For more information on Hyper-Threading Technology, go to:
http://www.intel.com/info/hyperthreading

Dimensions (Micro-ATX form-factor):

- 244mm x 244mm (WxL)

Operating System:

- Supports most popular operating systems: Windows® 9X/ME/2000/XP etc.

Contents

Chapter 1. Getting Started

Introduction

Congratulations on choosing the PM800 series mainboard! The PM800 series includes the PM800 PRO-1394/ PM800 PRO/ PM800. These are based on the VIA® PM800 Northbridge chipset and the VIA® VT8237 Southbridge chipset. It supports Intel® Pentium® 4 (Willamette/ Northwood/ Prescott) Processors with a FSB (Front Side Bus) frequency of 400/ 533/ 800 MHz.

The PM800 series provide 2 DIMM sockets using 184 pin DDR SDRAM with a total capacity of up to 2GB. You can install unbuffered & non-ECC DDR400/ 333/ 266 (PC3200/ 2700/ 2100) DDR SDRAM.

The PM800 series provide one 8X/ 4X (AGP 3.0/ 1.5V or 0.8V) AGP slot.

The PM800 series include built in IDE facilities that support Ultra DMA ATA 66/100/133 and PIO Modes. It also includes built in Serial ATA facilities that support SATA RAID 0 or RAID 1 and transfer rate to 150 MB/s per channel.

The PM800 series also come with a AC'97 Sound Codec which supports high quality 6 channel audio (Super 5.1 Channel Audio Effect). It also supports Sony/ Philips Digital Interface (output only).

The PM800 series support eight USB 2.0 ports and the PM800 PRO-1394 comes with two IEEE 1394 ports. The PM800 series also include an infrared header.

The PM800 PRO-1394/ PM800 PRO also comes with a LAN PHY chip (VIA VT6103) and provides a back panel LAN port capable of 1/ 10/ 100 Mbit/s transmission speeds.

The company's 3 Year Limited Warranty for this product covers both labor costs and replacement parts during the 1st year. Only labor costs are covered during the 2nd and 3rd years (replacement parts will be charged during the 2nd and 3rd years).

All of the information in this manual only for reference. This specification is subject to change without notice.

Specification

CPU:
- Supports Socket 478 Pentium® 4 processor
- Supports Hyper-Threading Technology

Speed:
- 400/ 533/ 800 MHz Front Side Bus frequencies
- 33 MHz, 32 bit PCI interface (PCI 2.2 compliant)
- 66 MHz AGP 3.0 compliant interface that supports 8X/ 4X data transfer modes (only supports 0.8V/ 1.5V)

Chipset:
- Northbridge Chipset – VIA® PM800
- Southbridge Chipset – VIA® VT8237
- I/O Controller – Winbond W83697HF
- AC'97 Codec – VIA® VT1616
- LAN Controller – VIA® VT6103 (Only for PM800 PRO-1394 & PM800 PRO)
- 1394 Controller – VIA® VT6307 (Only for PM800 PRO-1394)

DRAM Memory:
- Supports DDR400 (PC3200)/ DDR333 (PC2700)/ DDR266 (PC2100) SDRAM
- Supports 64 MB/ 128 MB/ 256 MB/ 512 MB/ 1 GB unbuffered & non-ECC DIMM
- Supports memory modules with a total capacity of 2 GB (see memory installation section for more details)

Green Functionality:
- Supports Phoenix-Award BIOS ™ power management functionality
- Wakes from power saving sleep mode with any keyboard or mouse activity

Shadow RAM:
- This mainboard is equipped with a memory controller providing shadow RAM and support for ROM BIOS

BUS Slots:
- AGP slot (8X/ 4X, 1.5V or 0.8v) x 1
- PCI bus slot x 3

Flash Memory:
- Supports flash memory functionality
- Supports ESCD functionality

Hardware Monitor Function:
- Monitors CPUFAN/ CHASFAN Speeds
- Monitors system Voltage

Infrared:
- Supports IrDA Version 1.0 SIR Protocol with a maximum baud rate of up to 115.2 Kbps
- Supports SHARP ASK-IR Protocol with maximum baud rate of up to 57600 bps

AC'97 Sound Codec Onboard:
- AC-LINK protocol compliance
- Compliant with AC'97 2.1 specification
- 6-channel playback capability (super 5.1 Channel Audio Effect)
- Supports Sony/ Philips Digital Interface (S/PDIF) for output only

VIA VT6103 LAN Controller on board (for PM800 PRO-1394 & PM800 PRO)
- 1/10/100 MHz full and half duplex operation
- Independent 2K byte FIFOs for receive and transmit
- Magic packet and wake-on-address filtering
- Software controllable power down

Universal Serial Bus:
- Supports up to eight USB ports for USB interface devices
- Supports USB 2.0 Enhanced Host Controller Interface (EHCI) and USB 1.1 Universal Host Controller Interface (UHCI)

IEEE 1394 Serial Bus: (only for PM800 PRO-1394)
- Supports two IEEE 1394 ports for 1394 interface devices
- Supports 400/ 200/ 100 Mbps serial date rates

Onboard Video Graphic Acceleration:
- Supports 2D Acceleration
- Supports 3D Acceleration
- Supports Video Acceleration
- Micorsoft® DirectX compatible
- OpenGL dreiver available

I/O facilities:
- One multi-mode Parallel Port capable of supporting the following specifications:

  1. Standard & Bi-direction Parallel Port

  2. Enhanced Parallel Port (EPP)

  3. Extended Capabilities Port (ECP)
- Supports two serial ports, 16550 UART (one on back panel and one on front panel)
- Supports one VGA port
- Supports Infrared Data Transmission using IrDA
- Supports PS/2 mouse and PS/2 keyboard
- Supports 360 KB, 720 KB, 1.2 MB, 1.44 MB, and 2.88 MB floppy disk drives
- MIDI compatible
- Game port compatible

IDE Facilities:
- Supports Ultra ATA 66/ 100/ 133, DMA and PIO modes
- Supports IDE interface with CD-ROM
- Supports high capacity hard disk drives
- Supports installation of up to 4 drives, with separate IDE connections for Primary and Secondary connectors

Serial ATA Controller:
- Compatible with SATA Spec 1.0

- Supports Serial ATA 150 MB/sec transfers
- Supports RAID 0 or RAID 1 software with this controller

BIOS:
- Phoenix-Award™ BIOS
- Supports APM1.2
- Supports ACPI2.0 power management

Watch Dog Timer:
- This mainboard contains a special feature called the "Watch Dog Timer" which is used to detect when the system is unable to handle over-clocking configurations during the POST stage. Once a problem is detected the system will reset the configurations and reboot the system after five seconds.

Quick Content Table

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Configuration
Layout of PM800 PRO-1394
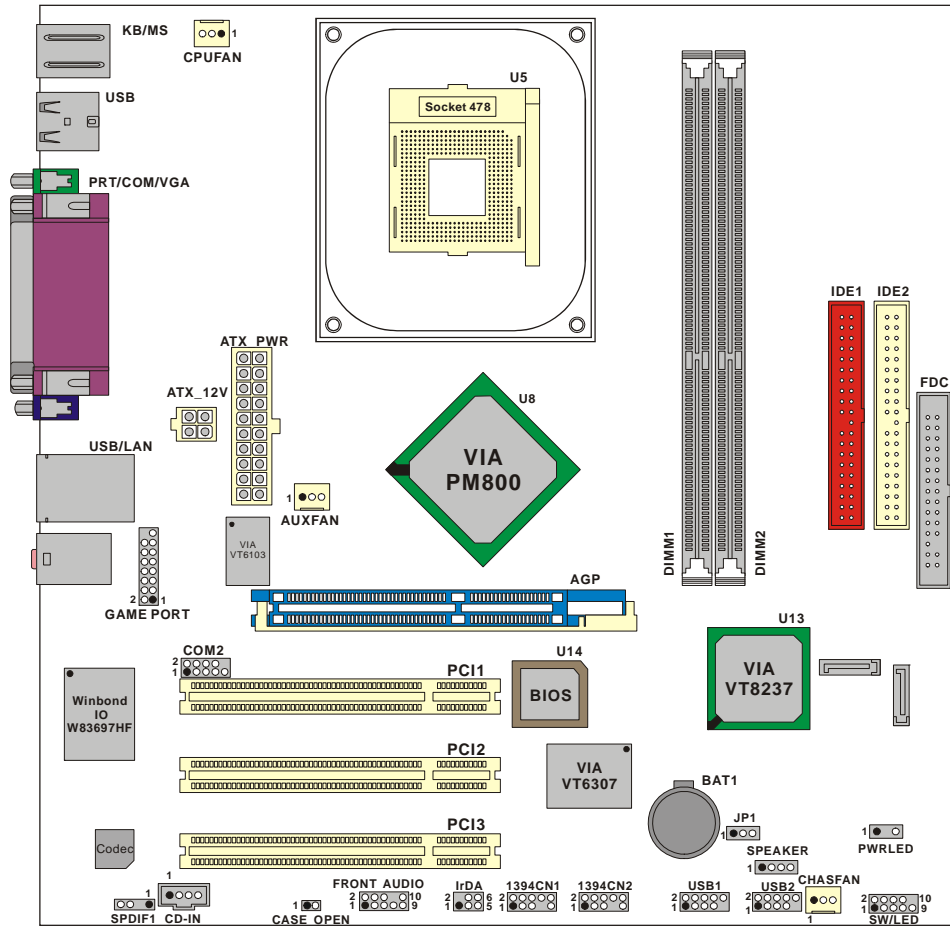
Layout of PM800 PRO
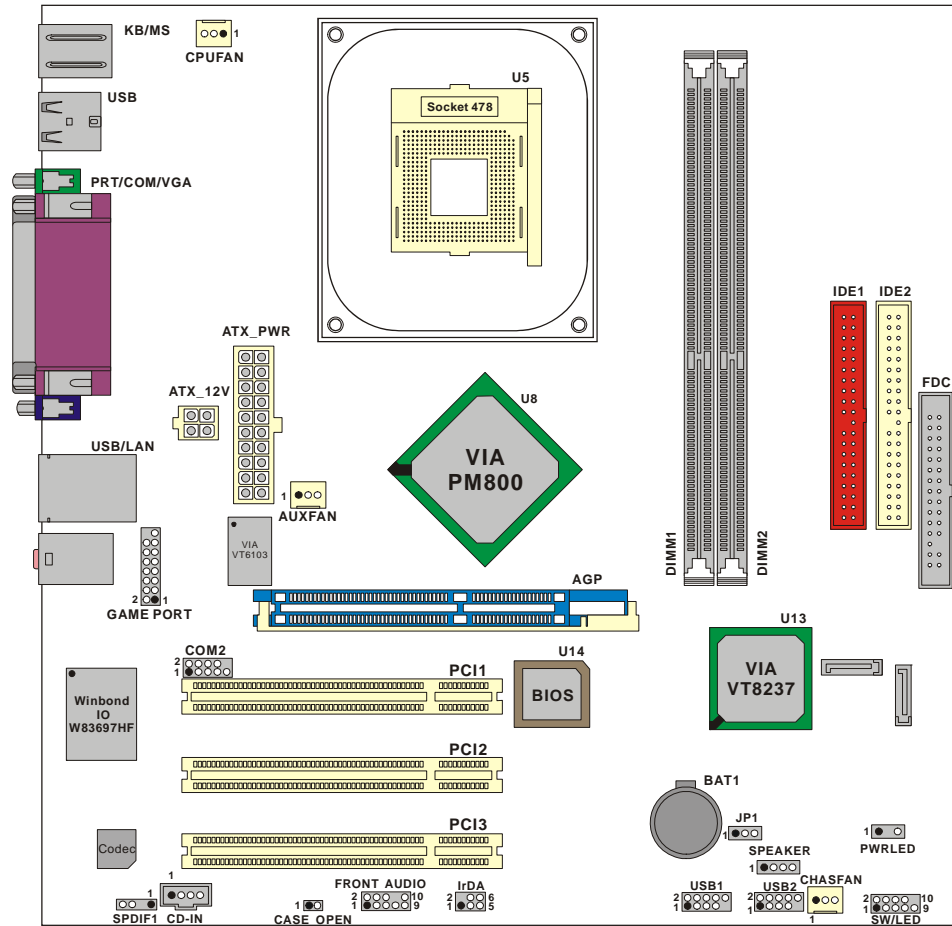
Layout of PM800

Hardware Installation

This section will assist you in quickly installing your system hardware. Wear a wrist ground strap before handling components. Electrostatic discharge may damage your system components.

CPU Processor Installation
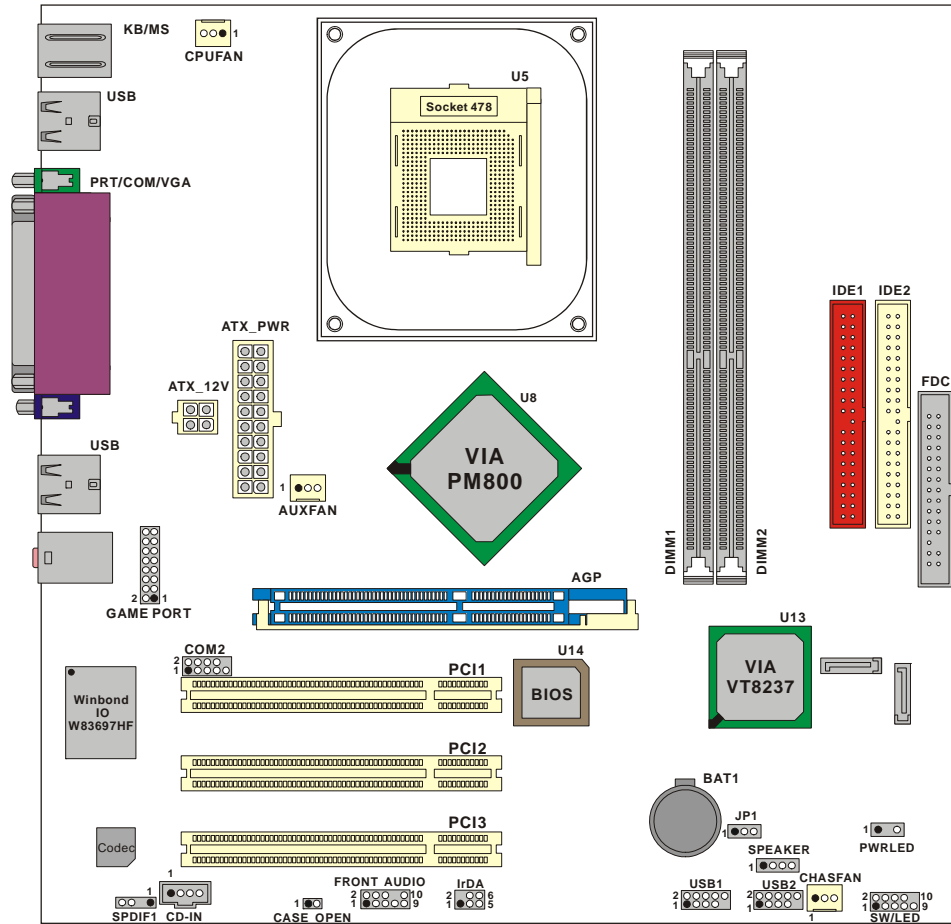
This mainboard supports Intel® Pentium® 4 processors using a Socket 478. Before building your system, we suggest you visit the Intel website http://www.intel.com and review the processor installation procedures.

CPU Socket 478 Configuration Steps:

1. Locate the CPU socket on your mainboard and nudge the lever away from the socket. Then lift the lever to a 90-degree angle.

2. On the socket, locate the corner that has the pin-1 receptor. This corner will be near to the end of the lever. Match the dot on the CPU with the pin-1 receptor on the socket and lower the CPU onto the socket. The bottom of the CPU should be flush with the face of the socket.

Pin1 Receptor   **Dot**

3. Lower the lever until it snaps back into position. This will lock down the CPU.
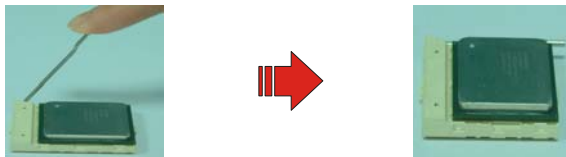
4. Smear thermal grease on top of the CPU. Lower the CPU fan onto the CPU and use the clasps on the fan to attach it to the socket. Finally, extend the power cable from the fan and insert it onto the CPUFAN adapter.

F
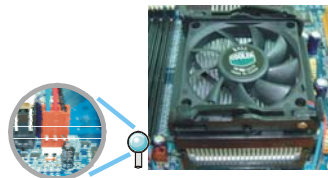
Attention: Before starting the system
Please recheck the installation procedures completely before starting the system. Verify that the heatsink is properly installed and make sure the CPU fan is working. Overheating can damage the CPU and other sensitive components.

AN Headers

Three power headers are available for cooling fans, which play an important role in maintaining the ambient temperature in your system.
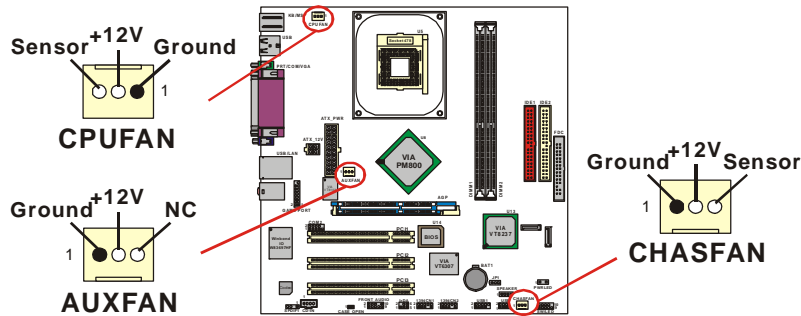
Attention

We strongly recommend that you use a CPU fan sink with your CPU. You can attach the CPU fan sink to the CPUFAN Header.

Memory Installation

This mainboard contains 2 memory slots which use 184 pin DDR SDRAM with a total memory capacity of up to 2 GB. You can install unbuffered & non-ECC DDR DIMMs. It supports DDR400/ DDR333/ DDR266 mode.

DIMM1

DIMM2
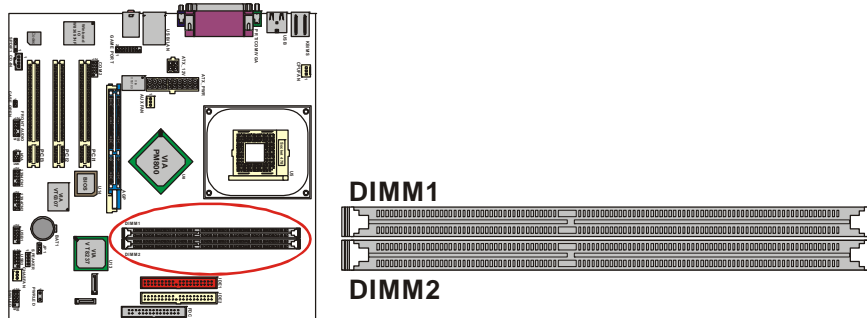
RAM Module Installation:

1. Pull the white plastic tabs on each side of the slot away from the slot.

2. Match the notch on the button of the RAM module with the corresponding pattern in the DIMM slot. This ensures that the module is inserted properly.
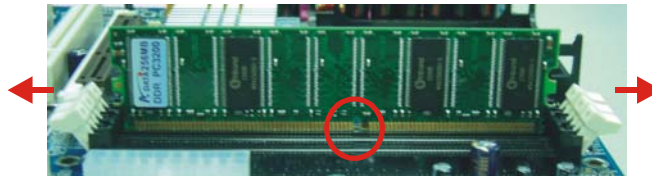
3. Lower the RAM module into the DIMM Slot and press firmly using both thumbs until the module snaps into place.

4. Repeat steps 1-3 for the remaining RAM modules.

* The pictures above are for reference only and may vary slightly for your mainboard.

Back Panel Configuration
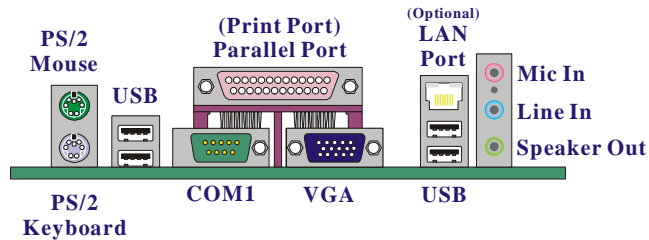
PS/2 Mouse & PS/2 Keyboard Connectors: KB/MS

This mainboard provides a standard PS/2 mouse connector and PS/2 Keyboard connector. The pin assignments are described below:

PS/2 Mouse

PS/2 Keyboard
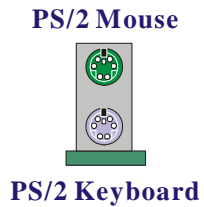
Pin	Assignment	Pin	Assignment
1	Data	**4**	+5 V (fused)
2	No connect	**5**	Clock
3	Ground	**6**	No connect

USB & LAN Connectors: USB/ (LAN for PM800 PRO-1394 & PM800 PRO)

There are four USB connectors on the back panel. These USB connectors are used to attach to USB devices such as: keyboards, mice and other USB devices. You can plug the USB devices directly into these connectors. The PM800 PRO-1394 & PM800 PRO also provide a LAN port. You can plug LAN devices directly into this connector.

(Optional)
LAN

USB

Pin	Assignment	Pin	Assignment
1	TX+	**5**	NC
2	TX-	**6**	RX-
3	RX+	**7**	NC
4	NC	**8**	NC

Pin	Assignment	Pin	Assignment
1/5	+5 V (fused)	**3/7**	USBP0+/P1+
2/6	USBP0-/P1-	**4/8**	Ground

Serial and Parallel Interface Ports

The mainboard comes equipped with one serial port , one VGA port and one parallel port on the back panel. These interface ports will be explained below.

Print Port

COM   **VGA**
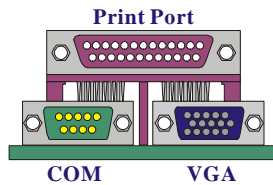
Parallel Interface Port: PRT

The parallel port on your system has a 25-pin, DB25 connector and is used to interface with parallel printers and other devices using a parallel interface.

The Serial Interface: COM

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, modems and other peripheral devices can be connected to a serial port.

Video Graphics Array Conn.: VGA

The PM800 series has built in video facilities. Your monitor attaches directly to the VGA connector on this mainboard.

Audio Port Connectors

Mic-in
(Subwoofer/Center out)

Line-in
(Rear Speaker out)

Speaker-out
(Front Speaker out)
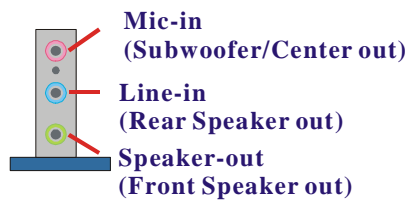
Speaker Out is used to connect to speakers or headphones. If the Super 5.1 driver is installed the Speaker Out becomes the Front Speaker.

Line In can be connected to an external CD player, Tape player or other audio devices for audio input. If the Super 5.1 driver is installed Line In becomes the Rear Speaker.

Mic In is used to connect to a microphone. If the Super 5.1 driver is installed the Mic In becomes the Subwoofer/ Center out.

This mainboard supports Super 5.1 Channel Audio effects which turns your standard Speaker Out Line In and Mic In connectors into a 6 chan audio system. See Appendix I for more information.

Front

PC_BEEP
NC
Ground
+5V

SPEAKER

+   1
-    3

PWRLED

14

1 2

Hard Driver LED — HDLED(+)   Power LED (+) — Power LED
HDLED(-)   Power LED (-)
Reset Button — Reset Control (-)   Power Button (+) — Power-on Button
Reset Control (+)   Power Button (-)
NC   NC
910

SW/LED

Panel Indicator: SW/LED、PWRLED、SPEAKER

HD LED (Hard Drive LED Header)

This connector can be attached to an LED on the front panel of a computer case. The LED will flicker during disk activity. This disk activity only applies to those IDE drives directly attached to the system board.

RST (Reset Button Header)

This connector can be attached to a momentary SPST switch. This switch is normally left open. When closed it will cause the mainboard to reset and run the POST (Power On Self Test).

PWR-LED (2-pin Power LED Header)

The mainboard provides two power LED connector.If there is a 2-pin power LED cable on the front panel of a computer case. You can attach it to the 2-pin power LED connector. The LED will illuminate while the computer is powered on.

PWR ON (Power Button Header)

This connector can be attached to a front panel power switch. The switch must pull the Power Button pin to ground for at least 50 ms to signal the power supply to switch on or off (the time required is due to internal debounce circuitry on the system board). At least two seconds must pass before the power supply will recognize another on/off signal.

PWRLED (3-Pin Power LED Header)

The mainboard provides two power LED connector. If there is a 3-pin power LED cable on the front panel of a computer case. You can attach it to the 3-pin power LED connector.

SPEAKER (Speaker Header)

A front panel speaker can be connected to this connector. When you boot your computer, the speaker sounds a short "beep". If there is something wrong during the Power On Self-Test, the speaker sounds "irregular beep" to warning you.

Connectors
Floppy Disk Connector: FDC

This mainboard provides a standard floppy disk connector (FDC) that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy diskettes. This connector supports the floppy drive ribbon cables provided in the packaging.

Hard Disk Connectors: IDE1-2、SATA1-2

This mainboard has a 32-bit Enhanced PCI IDE Controller that supports PIO Mode 4, DMA mode, Ultra ATA 66/ 100/ 133. This mainboard provides two IDE connectors, IDE1 (primary) and IDE2 (secondary). This mainboard also provides two serial ATA connectors.

IDE1 (Primary IDE Connector)

You can connect up to two hard drives to IDE1. If you attach two drives, you must use a ribbon cable with three connectors. You must also configure one drive as the master and one drive as the slave, using the jumpers located on each drive.

IDE2 (Secondary IDE Connector)

The IDE2 connector can also support a Master and a Slave drive. The configuration is similar to IDE1. The second drive on this controller must be set to slave mode.

SATA1/ SATA2

The SATA connectors support transfer rate to 150 MB/s and SATA RAID 0 or 1 mode. The connectors only can connect one serial ATA hard disk device each.
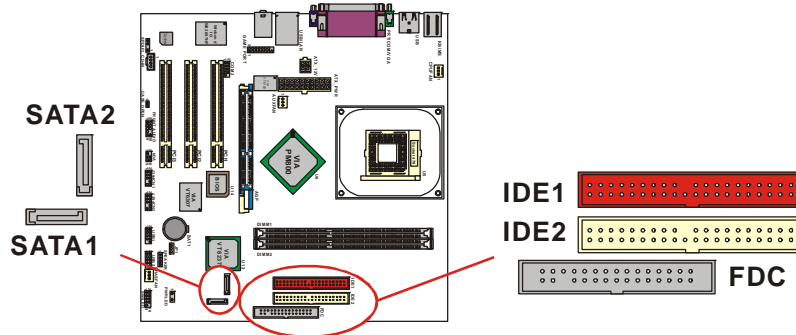
> This mainboard supports SATA RAID 0 or 1. See appendix II for more information.

Headers & Jumpers
Front USB Headers: USB1/ USB2

You can connect the USB Bracket to the USB1/ USB2 header. The mainboard supports up to eight USB devices including four on the back panel.


```
          1 2
5VSB     ●○  5VSB
DATA_A-  ○○  DATA_B-
DATA_A+  ○○  DATA_B+
Ground   ○○  Ground
NC       ○○  NC
          9 10
```
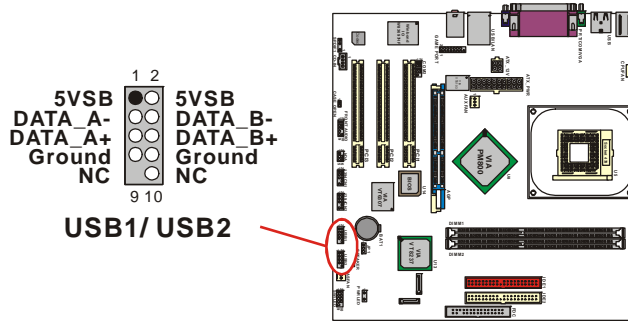
USB1/ USB2

USB Bracket (optional)

You can connect the USB bracket to the USB1/ USB2 headers.

* If you are using USB 2.0 devices with Windows® 2000/ XP, you will need to install the USB 2.0 driver from the Microsoft® website.

IEEE 1394 Headers: 1394 CN1/ 1394 CN2
(for PM800 PRO-1394 only)

The IEEE 1394 high-speed serial bus provides enhanced PC connectivity for consumer electronics audio/video (A/V) appliances, storage peripherals, other PCs, and portable devices. This mainboard supports up to two IEEE 1394 devices. You can connect the IEEE 1394 bracket (optional) to the 1394 CN1 and 1394 CN2 headers.


```
           1 2
TPAP      ●○  TPAM
Ground    ○○  Ground
TPBP      ○○  TPBM
NC        ○○  Chasis Ground
PWR       ○○  PWR
           9 10
```

1394 CN1/CN2
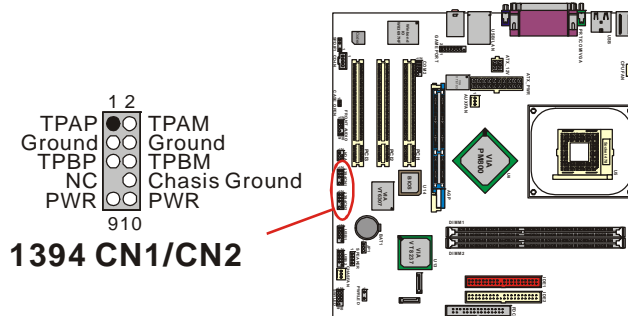
Infrared Header: IrDA

This IrDA connector can be configured to support wireless infrared and is used to attach to an infrared sensing device. After the IrDA interface is configured, you can use this connector for connectionless data transfer to and from portable devices such as laptops and PDAs.

```
        1  2
NC    [● ○]  NC
+5V   [○ ○]  Ground
IR_TX [○ ○]  IR_RX
        5  6
       IrDA
```
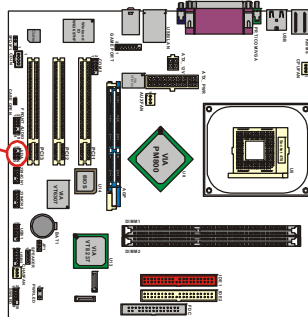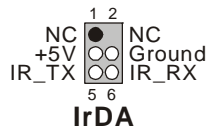
Game   Port
Header: CN3

This mainboard supports a game port header. To use this header you can install a COM port & Game port bracket (optional) with a Game port wire extending to this header. You can then attach gaming devices to the game port on the bracket.

```
    PWR JBB1 JBCX MIDITX JBCY JBB2 MIDIRX NC
  2 [○ ○ ○ ○ ○ ○ ○ ○]
  1 [● ○ ○ ○ ○ ○ ○ ○]
    PWR JAB1 JACX Ground JACY JAB2 PWR
            CN3
```
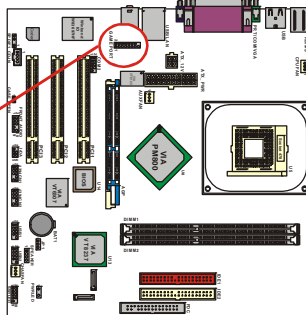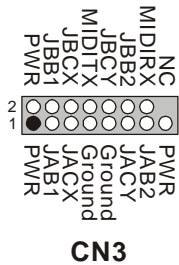
Serial Port Header: COM2

This mainboard supports a serial port header. To use this header, you can install a COM port bracket (optional) with a COM port wire extending to this header. You can then attach your serial device to the serial port on the bracket.

```
           1  2
DCD-   [● ○]  SIN-
SOUT   [○ ○]  DTR-
Ground [○ ○]  DSR-
RTS-   [○ ○]  CTS-
RINGW  [○ ○]  NC
           9 10
         COM2
```

18
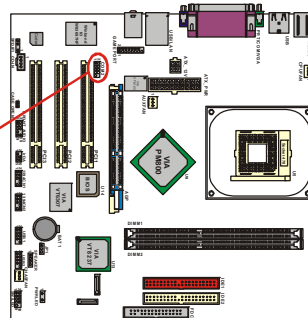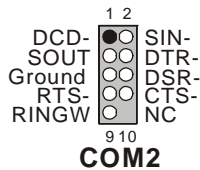
Case Open Warning Header: CASE OPEN

This connector is used to notify the user when the computer case has been previously opened. To configure this functionality, your computer case must be equipped with a " case open" cable which you need to attach to the CASE OPEN header. Also, you must enable the CASE OPEN warning functionality in the BIOS Setup Utility. When your computer case is opened, your system will display alert messages upon boot up.

Caseop-　①1
Ground　②2

CASE OPEN
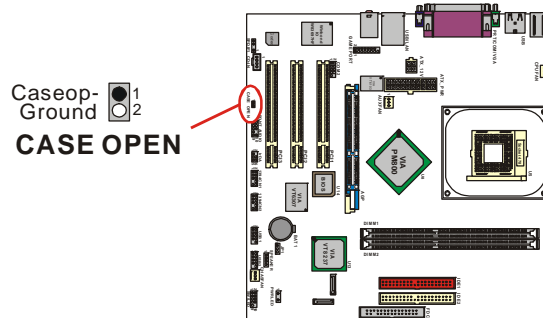
Clear CMOS Jumper: JP1

The "Clear CMOS" jumper is used when you cannot boot your system due to some CMOS configuration problem such as a forgotten password. This jumper allows you to reset the CMOS configurations, and then reconfigure.

Pin1-2 short

Normal (default)　**JP1**

Pin2-3 short

Clear CMOS data　**JP1**

(Short means to cover two pins on a jumper using a jumper cap.)
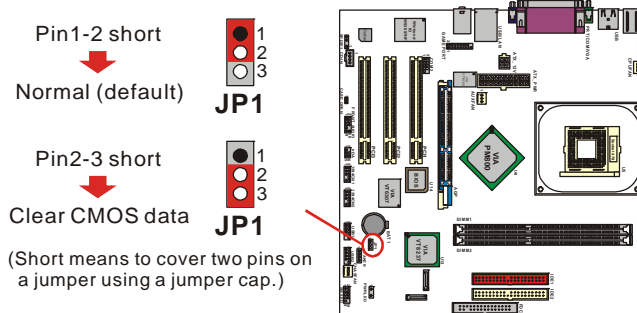
> The following procedures are for resetting the BIOS password. It is important to follow these instructions closely.

1.　Turn off your system and disconnect the AC power cable.
2.　Set JP1 to OFF (2-3 Closed).
3.　Wait several seconds.
4.　Set JP1 to ON (1-2 closed).
5.　Connect the AC power cable and turn on your system.
6.　Reset your desired password.

Audio Connectors

This mainboard provides three connectors as part of its audio Subsystem.

```
4  ◯ Ground
3  ◯ SPD_OUT
2  ◯ NC
1  ● PWR
```
SPDIF

```
Left In   ●  1
Ground    ◯  2
Ground    ◯  3
Right In   ◯  4
```
CD-IN

```
         1  2
MIC      ●◯  Ground
MIC_VREF ◯◯  +5V
Front out_R ◯◯  Rear out_R
NC       ◯◯  NC
Front out_L ◯◯  Rear out_L
         9  10
```
FRONT AUDIO
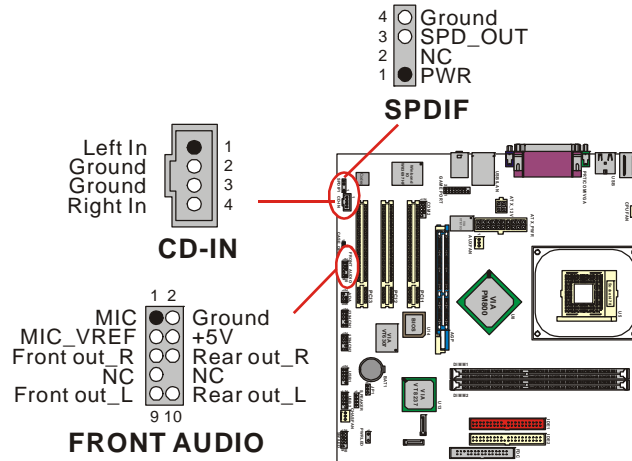
CD-ROM Audio-In Header: CD-IN

This header is used to connect to a CD-ROM / DVD audio cable.

Front Panel Audio Header: FRONT AUDIO

If your computer case has been designed with embedded audio equipment. First remove the jumper caps covering the FRONT AUDIO pins. Use pins 1, 3 to connect to the case microphone. Use pins 9,5 to connect to the earphone. If you do not intend to use the FRONT_AUDIO panel, do not remove the jumper caps.

> **Attention**
> If the jumper caps are in place, jumper cap 1 is on pin 5, pin 6 and jumper cap2 is on pin 9, pin 10.

S/P DIF

Header: SPDIF

S/PDIF (Sony/Philips Digital Interface) is an audio transfer file format, which provides high quality audio using optical fiber and digital signal. This mainboard is capable of delivering audio output through the SPDIF header. The SPDIF devices that are sending information from this header must be compliant for optimal effect.

Slots

The slots in this mainboard are designed for expansion cards used to complement and enhance the functionality of the mainboard.

PCI Slots AGP Slot
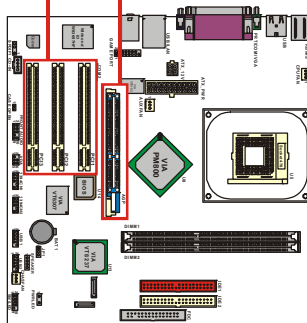
AGP Slot: AGP

This mainboard is equipped with an Accelerated Graphics Port (AGP) that supports AGP 3.0 (8X/ 4X, 1.5v or 0.8V) AGP cards.

PCI Slots: PCI1-3

This mainboard is equipped with 3 standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards. This PCI slot is designated as 32 bit.

Power Supply Attachments

ATX Power Connector: ATX_PWR & ATX_12V

This mainboard has two ATX power connections; a 20-pin connector and a 4-pin connector. You can connect power supply to the ATX_PWR connector only or connect to both of the ATX_PWR and ATX_12V connectors. Make sure the connectors are secure before applying power.

+12V   Ground
+12V   Ground

ATX_12V

+12V		+5.0V
5.0V_SB		+5.0V
PW_OK		+5.0V
Ground		Ground
+5.0V		Ground
Ground		Ground
+5.0V		PS_ON
Gruond		Ground
+3.3V		-12V
+3.3V		+3.3V

ATX_PWR
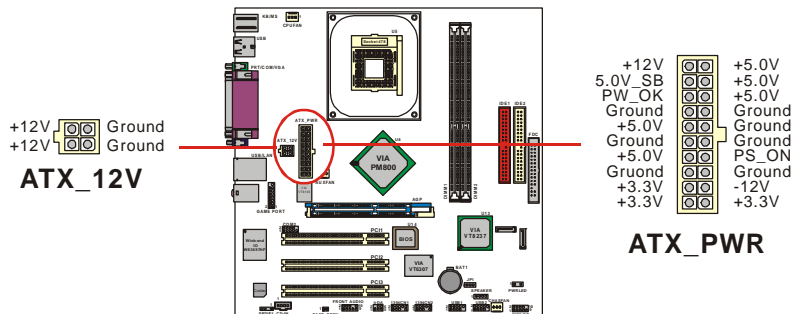
Chapter 2. BIOS Setup

Introduction

This section describes PHOENIX-AWARD™ BIOS Setup program which resides in the BIOS firmware. The Setup program allows users to modify the basic system configuration. The configuration information is then saved to CMOS RAM where the data is sustained by battery after power-down.

The BIOS provides critical low-level support for standard devices such as disk drives, serial ports and parallel ports. As well, the BIOS controls the first stage of the boot process, loading and executing the operating system.

The PHOENIX-AWARD™ BIOS installed in your computer system's ROM is a custom version of an industry standard BIOS. This means that it supports the BIOS of Intel® based processors.

This version of the PHOENIX-AWARD™ BIOS includes additional features such as virus and password protection as well as special configurations for fine-tuning the system chipset. The defaults for the BIOS values contained in this document may vary slightly with the version installed in your system. (Note: When you boot up the computer, the BIOS version will appear at upper-left portion of the POST screen.)

Plug and Play Support

This PHOENIX-AWARD™ BIOS supports the Plug and Play Version 1.0A specification as well as ESCD (Extended System Configuration Data) write.

EPA Green PC Support

This PHOENIX-AWARD™ BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

This PHOENIX-AWARD™ BIOS supports Version 1.1 & 1.2 of the Advanced Power Management (APM) specification. These features include system sleep and suspend modes in addition to hard disk and monitor sleep modes. Power management features are implemented using the System Management Interrupt (SMI).

PCI Bus Support

This PHOENIX-AWARD™ BIOS also supports Version 2.2 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support
DDR (Double Data Rate) SDRAM (Synchronous DRAM) is supported.

Supported CPUs
This PHOENIX-AWARD™ BIOS supports the Intel® Pentium® 4 CPUs.

Key Function
In general, you can use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate within the BIOS Setup program.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desire
PgUp key	Increase the numeric value or enter changes
PgDn key	Decrease the numeric value or enter changes
+ Key	Increase the numeric value or enter changes
- Key	Decrease the numeric value or enter changes
Esc key	Main Menu – Quit and do not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the defaults from BIOS default table
F7 key	Load the turbo defaults
F10 key	Save all the CMOS changes and exit

Main Menu

When you enter the PHOENIX-AWARD™ BIOS Utility, the Main Menu will appear on the screen. The Main menu allows you to select from several configuration options. Use the left/right arrow keys to select a particular configuration screen from the top menu bar or use the down arrow key to access and configure the information below.

```
OS Setup Utility
   Main   Advanced   Peripherals   Power   HW Monitor   Defaults   Exit

     Date (mm:dd:yy)           Thu, Sep 19 2002              Item Help
     Time (hh:mm:ss)              9 : 30 : 25
                                                      Menu Level    ►
   ► IDE Primary Master       [ None]
   ► IDE Primary Slave        [ None]              <Tab> :
   ► IDE Secondary Master     [ None]              <Enter> :
   ► IDE Secondary Slave      [ None]                 to select field

     Drive A                  [1.44M, 3.5 in.]     <-> :
     Drive B                  [None]               <+> :
                                                   <PgUp> :
     Video                    [EGA/VGA]            <PgDn> :
     Halt On                  [All Errors]         <0-9> :
   ► Security                                         to set date

     Base Memory                     640K
     Extended Memory               65472K
     Total Memory                   1024K

  ↑↓→←:Move   Enter:Select   +/-/PU/PD:Value  F10:Save   ESC:Exit  F1:General Help
  F5:Previous Values         F6:Default Settings          F7:Turbo Settings
```

Main Menu Setup Configuration Options

Item	Options	Description
Date	mm dd yyyy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	Hh: mm: ss	Set the current time of the system.
IDE Primary Master	Options contained in sub menu.	Press <Enter> to enter the sub menu.
IDE Primary Slave	Options contained in sub menu.	Press <Enter> to enter the sub menu.
IDE Secondary Master	Options contained in sub menu.	Press <Enter> to enter the sub menu.
IDE Secondary Slave	Options contained in sub menu.	Press <Enter> to enter the sub menu.
Drive A **Drive B**	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Security	Options contained in sub menu.	Press <Enter> to enter the sub menu.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

Advanced BIOS Features

```
          Phoenix - AwardBIOS CMOS Setup Utility
  Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit

     Date (mm:dd:yy)          Thu, Apr  8 2004         Item Help
     Time (hh:mm:ss)          11 :  3 : 35
                                                  Menu Level    ▶
   ▶ IDE Channel 0 Master     [ None]
   ▶ IDE Channel 0 Slave      [ None]             <Tab> :
   ▶ IDE Channel 1 Master     [ None]             <Enter> :
   ▶ IDE Channel 1 Slave      [ None]               to select field

     Drive A                  [1.44M, 3.5 in.]    <-> :
     Drive B                  [None]              <+> :
                                                  <PgUp> :
     Video                    [EGA/VGA]           <PgDn> :
     Halt On                  [All Errors]        <0-9> :
   ▶ Security                                       to set date

     Base Memory                     640K
     Extended Memory               65472K
     Total Memory                   1024K

  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
  F5:Previous Values          F6:Default Settings     F7:Turbo Settings
```

Removable Device Priority
Select removable device priority. Just like floppy, LS120, ZIP-100, USB-FDD and USB-ZIP.

Hard Disk Boot Priority
Select hard disk boot priority.

CD-ROM Boot Priority
Select CD-ROM boot priority.

First /Second/Third Boot Device
Select the order in which devices will be searched in order to find a boot device.

Options: Floppy (default for first boot device)、LS120、HDD-0 (default for third boot device)、SCSI、CDROM (default for second boot device)、HDD-1、HDD-2、HDD-3、ZIP100、USB-FDD、USB-ZIP、USB-CDROM、USB-HDD、LAN、Disabled

Boot Other Device
Setting to "Enabled" allows the system to try to boot from other devices if the system fails to boot from the 1st/ 2nd/ 3rd boot devices. Options: Enabled (default)、Disabled

Boot Up Floppy Seek

When Enabled, the BIOS tests (seeks) floppy drives to determine whether they have 40 or 80 tracks. Only 360-KB floppy drives have 40 tracks. Drives with 720KB, 1.2MB, and 1.44MB capacity all have 80 tracks. Because very few modern PCs have 40-track floppy drives, we recommend that you set this field to "Disabled". Options: Enabled、Disabled (default)

Advanced BIOS Features

Thermal Management

This item will monitor the CPU thermal to prevent the CPU damage with high temperature.

Virus Warning

This item allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will display a warning message on the screen and sound an audio alarm (beep).
Options: Disabled、Enabled (default)

CPU L1 & L2 Cache

Make CPU internal cache active or inactive. System performance may degrade if you disable this item.
Options: Enabled (default)、Disable

CPU L3 Cache

Make CPU internal cache active or inactive. System performance may degrade if you disable this item. This item can only display with the CPU that has L3 cache.
Options: Enabled (default)、Disable

Hyper-Threading Technology

This option allows you to enable/disable Hyper-Threading functionality. This item only applies when the CPU installed supports Hyper-Threading Technology. Options: Enabled、Disabled (default)

CPU L2 Cache ECC Checking

Make CPU L2 cache ECC function active or inactive. Options: Disabled、Enabled (default)

Quick Power On Self Test

Allow the system to skip certain tests while booting. This will speed up the boot process.
Options: Enabled (default)、Disabled.

Swap Floppy Drive

If the system has two floppy drives, choose "Enabled" to assign physical drive B to logical drive A and vice-versa. Options: Disabled (default)、Enabled.

Boot Up NumLock Status

Selects the power on state for NumLock.

Options: On (default) Numpad keys are number keys.

                         Off   Numpad keys are arrow keys.

Typematic Rate Setting

When "Enabled", the "typematic rate" and "typematic delay" can be configured. Typematic Rate determines the keystroke repeat rate used by the keyboard controller..

Options: Disabled (default)、Enabled

Typematic Rate (Chars/Sec)

The rate at which a character repeats when you hold down a key.

Options: 6 (default)、8、10、12、15、20、24、30

Typematic Delay (Msec)

The delay before keystrokes begin to repeat. Options: 250 (default)、500、750、1000

APIC Mode

By enabling this option, "MPS version control for OS" can be configured.

Options: Disabled、Enabled (default)

MPS Version Control For OS

The 1.1 version is the older version that supports 8 more IRQs in the Windows NT environment. Choose the new 1.4 version for Windows 2000 and Windows XP.

Options: 1.4 (default)、1.1

OS Select For DRAM > 64MB

Select "OS2" only if you are running the OS/2 operating system with greater than 64 MB of RAM. Options: Non-OS2 (default)、OS2

HDD S.M.A.R.T. Capability

Self Monitoring Analysis and Reporting Technology is a technology that enables a PC to attempt to predict the possible failure of storage drives. Options: Disabled (default)、Enabled

Small LOGO (EPA) Show

This item allows you to show or hide the small LOGO EPA.

Options: Disabled (default)、Enabled

Advanced Chipset Features
DRAM Clock/ Drive Control

Press <Enter> to enter next page for DRAM Clock/ Drive Control settings.

DRAM Timing
This item determines DRAM clock/ timing using the manual configuration.

Options: Manual、By SPD (default)

DRAM CAS Latency

This item determines CAS Latency. When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from default value specified by the system designer. This field is adjustable only when "DRAM Timing" set to "Manual". This field is locked when "DRAM Timing" is set to "By SPD" and automatically determined by the system. Options:1.5、2、2.5、3

Precharge to Active (Trp)

You can set the time to precharge. This field is adjustable only when "DRAM Timing" set to "Manual". This field is locked when "DRAM Timing" is set to "By SPD" and automatically determined by the system. Options: 2T、3T、4T、5T

Active to Precharge (Tras)

This item allows you to select DRAM Active to Precharge Delay. This field is adjustable only when "DRAM Timing" set to "Manual". This field is locked when "DRAM Timing" is set to "By SPD" and automatically determined by the system. Options: 6T、7T、8T、9T

Active to CMD (Trcd)

Select the DRAM delay time when being read. This field is adjustable only when "DRAM Timing" set to "Manual". This field is locked when "DRAM Timing" is set to "By SPD" and automatically determined by the system. Options:2T、3T、4T、5T

DRAM Command Rate

This item determines DRAM Command Rate.

Options: 2T Command (default)、1T Command

AGP & P2P Bridge Control

Press <Enter> to enter next page for AGP & P2P Bridge Control.

AGP Aperture Size

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

Options: 256M、128M、64M (default)、32M

AGP 2.0 Mode

This item allows you to select the AGP Mode when you install an external VGA card.

Options: 1X、2X、4X

AGP Driving Control

By choosing "Auto" the system BIOS will automatically set the AGP output buffer drive strength. By choosing "Manual", it allows user to set the AGP output buffer driver strength.

AGP Driving Value

While the AGP Driving Control option is set to "Manual", it allows the user to set AGP Driving Value. Options: DA (default)、00~FF

AGP Fast Write

The AGP Fast Write technology allows the CPU to write directly to the graphics card bypassing the system AGP 4X speed. Choose "Enable" only when you used with AGP card support. Options: Disabled、Enabled (default)

AGP Master 1 WS Write

When enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait state. Options: Disabled (default)、Enabled

AGP Master 1 WS Read

When enabled, reads from AGP (Accelerated Graphics Port) are executed with one wait state. Options: Disabled (default)、Enabled

VGA Share Memory Size

Select the size of the onboard VGA port. Options: Disabled、64M (default)

CPU & PCI Bus Control

Press <Enter> to enter the next page for CPU & PCI Bus Control

PCI Master 0 WS Write

When enabled, writes to the PCI bus are executed with zero-wait states.

Options: Enabled (default)、Disabled

PCI Delay Transaction

The chipset has an embedded 32-bit post write buffer to support delay transactions cycles. Select Enabled to comply with PCI specifications. Options: Disabled (default)、Enabled

Memory Hole

When enabled, you can reserve an area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. Refer to the user documentation of the peripheral you are installing for more information. Options: Disabled (default)、15M-16M

System BIOS Cacheable

When enabled, accesses to system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled. Options: Enabled、Disabled (default)

PnP/PCI Configurations
PNP OS Installed

When set to "YES", BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows® 95. When set to

"NO", BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware), this option must be set to "NO".

Options: No (default)、Yes

Reset Configuration Data

Select "Enabled" to reset the Extended System Configuration Data (ESCD) if you have installed a new add-on card and the system reconfiguration has caused such a serious conflict that the OS cannot boot. Options: Disabled (default)、Enabled

Resources Controlled By

BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you will not be able to manually assign IRQ DMA and memory base address fields, since BIOS automatically assigns them. Options: Auto <ESCD> (default)、Manual

IRQ Resources

When resources are controlled manually, you can assign each system interrupt a type, depending on the type of device using the interrupt. This is only configurable when "Resources Controlled By" is set to "Manual".

IRQ-3/4/5/7/9/10/11/12/14/15   assigned to: PCI device

PCI / VGA Palette Snoop

Some graphic controllers that are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility. Options: Disabled (default)、Enabled

PCI Latency Timer (CLK)

This item allows you to set up the PCI Latency Time (0-255). If you select the "32" it will optimize PCI speeds. Options: 0-255、32 (default)

PCI1-3 IRQ Assignment

This item allows you to select an IRQ address for your PCI slot 1-3.

Options: Auto (default)、3、4、5、7、9、10、11、12、14、15

Frequency/Voltage Control
CPU Clock Ratio

This field will only display if the CPU has not been set to a locked state by the CPU manufactory. If your CPU is locked, you will not be able to adjust the "CPU Clock Ratio". Options: depends on CPU.

Spread Spectrum

The Spread Spectrum function can reduce the EMI (Electromagnetic Interference) generated.

Options: Enabled (default)、Disabled
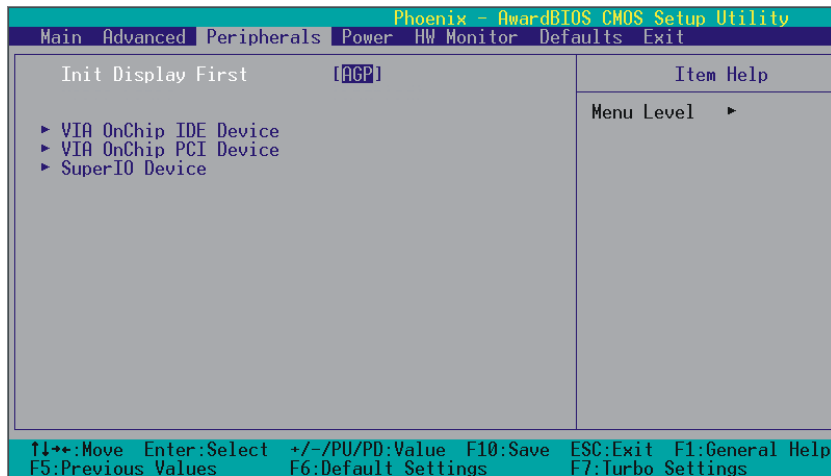
CPU Host Frequency (MHz)

This item displays the CPU Host Clock. You can set it from 100 to 233. The default depends on your CPU frequency. Default: By CPU speed

DRAM Clock

This item will automatic detect the DRAM Clock or allows you to select the DDR frequency. (DRAM speed = DRAM Clock * 2)
Options: By SPD (default)、100 MHz、133 MHz、166 MHz、200 MHz

Integrated Peripherals

```
                         Phoenix - AwardBIOS CMOS Setup Utility
    Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit

       Init Display First          [AGP]                    Item Help

                                                      Menu Level    ▶
    ▶ VIA OnChip IDE Device
    ▶ VIA OnChip PCI Device
    ▶ SuperIO Device

    ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5:Previous Values          F6:Default Settings       F7:Turbo Settings
```

Init Display First

With systems that have multiple video cards, this option determines whether the primary display uses a PCI slot or an AGP slot. Options: AGP (default)、PIC Slot

OnChip IDE Device

If you highlight the "OnChip IDE Device" label and then press the enter key, it will take you to a submenu with the following options:

OnChip SATA

This item allows you to enabled/ disabled onchip SATA function.

Options: Enabled (default)、Disabled

SATA Mode

This item allows you to select the SATA mode. Options: RAID (default)、IDE

IDE Channel 0/1

The mainboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface. Options: Enabled (default)、Disabled

IDE Prefetch Mode

The "onboard" IDE drive interfaces supports IDE prefetching for faster drive access. If you install a primary and/or secondary add-in IDE interface, set this option to "Disabled" if the interface does not support prefetching. Options: Enabled (default)、Disabled

Primary/Secondary/Master/Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance incrementally. In Auto mode, the system automatically determines the best mode for each device.
Options: Auto (default)、Mode0、Mode1、Mode2、Mode3、Mode4.

Primary / Secondary /Master / Slave UDMA

Ultra DMA/133 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/133, select "Auto" to enable BIOS support.

Options: Auto (default)、Disabled

IDE HDD Block Mode

Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do).   The system will automatically determine the optimal number of blocks to read and write per sector. Options: Enabled (default)、Disabled

Onboard PCI Device

If you highlight the "Onboard PCI Device" label and then press the enter key, it will take you a submenu with the following options:

AC'97 Audio

This item allows you to control the onboard AC'97 audio.

Options: Auto (default)、Disabled

Onboard 1394 Device

This item allows you to enable/ disable the onboard 13941 device.
Options: Enabled (default)、Disabled

Onboard LAN Device

This item allows you to control the onboard LAN device.

Options: Enabled (default)、Disabled

Onboard Lan Boot ROM

Decide whether to invoke the boot ROM of the onboard LAN chip.

Options: Enabled、Disabled (default)

USB Controller

This option should be enabled if your system has a USB port installed on the system board. You will need to disable this feature if you add a higher performance controller.

Options: All Enabled (default)、All Disabled

USB 2.0 Support

This option should be enabled if your system has a USB 2.0 device installed on the system board. You will need to disable this feature if you install a USB 1.1 device.

Options: Enabled (default)、Disabled

USB Keyboard Support

Enables support for USB attached keyboard. Options: Disabled (default)、Enabled

Super IO Device

If you highlight the literal "Press Enter" next to the "Super IO Device" label and then press the enter key, it will take you a submenu with the following options:

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select "Disabled" in this field. Options: Enabled (default)、Disabled

Onboard Serial Port 1

Select an address and corresponding interrupt for the first serial port.

Options: Disabled、 3F8/IRQ4 (default)、 2F8/IRQ3、 3E8/IRQ4、 2E8/IRQ3、 Auto

Onboard Serial Port 2

Select an address and corresponding interrupt for the second serial port.

Options: Disabled、2F8/IRQ3 (default)、3F8/IRQ4、3E8/IRQ4、2E8/IRQ3、Auto.

UART Mode Select

This item allows you to select the Infra Red (IR) standard to be used.

Option: Normal (default)、IrDA、ASKIR。

RxD, TxD Active

This item determines the RxD and TxD frequencies. This field only configurable if "UART Mode Select" is set to "ASKIR" or "IrDA". Options: Hi/ Lo (default)、Hi/ Hi、Lo/ Hi、Lo/ Lo

IR Transmission Delay

This item allows you to enable/ disable IR transmission delay. This field only configurable if "UART Mode Select" is set to "ASKIR" or "IrDA". Options: Enabled (default)、Disabled

UR2 Duplex Mode

Select the transmission mode used by the IR interface. Full-duplex mode permits simultaneous bi-directional transmission. Half-duplex mode permits transmission in only one direction at a time. This field only configurable if "UART Mode Select" is set to "ASKIR" or "IrDA".

Onboard Parallel Port

This item allows you to determine the parallel port interrupt and address.

Options: 378/IRQ7 (default)、278/IRQ5、3BC/IRQ7、Disabled

Parallel Port Mode

This option allows you to select an operating mode for the on board parallel port.

Options: ECP(default)   Extended Capabilities Port.

             EPP   Enhanced Parallel Port.

             SPP   Standard Printer Port.

             ECP+EPP   ECP & EPP mode.

             Normal

EPP Mode Select

Select EPP port type 1.7 or 1.9. Options: EPP 1.7、EPP1.9 (default)

ECP Mode Use DMA

Select a DMA Channel for the port. Options: 3 (default)、1

Game Port Address
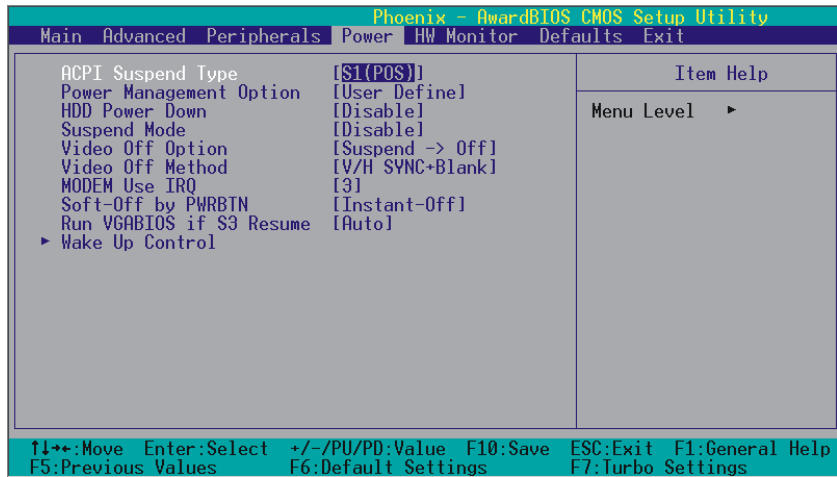
Game Port I/O Address. Options: 201 (default)、209、Disabled

Midi Port Address

Midi Port Base I/O Address. Options: 330 (default)、300、290、Disabled

Midi Port IRQ

This determines the IRQ that Midi Port will use. Options: 5 (default)、7

Power Management

```
                      Phoenix - AwardBIOS CMOS Setup Utility
   Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit
   ACPI Suspend Type          [S1(POS)]                Item Help
   Power Management Option     [User Define]
   HDD Power Down              [Disable]        Menu Level    ▶
   Suspend Mode               [Disable]
   Video Off Option           [Suspend -> Off]
   Video Off Method           [V/H SYNC+Blank]
   MODEM Use IRQ              [3]
   Soft-Off by PWRBTN         [Instant-Off]
   Run VGABIOS if S3 Resume   [Auto]
  ▶ Wake Up Control




   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
   F5:Previous Values       F6:Default Settings        F7:Turbo Settings
```

The Power Management Setup Menu allows you to configure your system to utilize energy conservation features as well as power-up/ power-down options.

ACPI Suspend Type

The item allows you to select the suspend type using the ACPI operating system.

Options: S1 (POS) (default)   Power on Suspend

S3 (STR)   Suspend to RAM

S1 & S3   POS and STR

Power Management Option

There are three options of Power Management:

1. Min. Saving

Minimum power management

Suspend Mode = 1hour

HDD Power Down = 30 minutes

2. Max. Saving

Maximum power management (only available for sI CPUs).

Suspend Mode = 1 min.

HDD Power Down = 6 min.

3. User Defined (default)

Allows you to set each mode individually.

When this option is enabled, the "suspend mode" time is configurable from 1 minute to 1 hour. The HDD Power Down, which ranges from 1 min. to 15 min. and includes a "disable" option.

Note: If you select Min. or Max. Power Saving modes, the "HDD Power Down" value and the "Suspend Mode" value are both fixed.

HDD Power Down

When enabled, the hard disk drive will power down after a certain configurable period of system inactivity. All other devices remain active.

Options: Disabled (default) 、 1 Min 、 2 Min 、 3 Min 、 4 Min 、 5 Min 、 6 Min 、 7 Min 、 8 Min 、 9 Min 、 10 Min 、 11 Min 、 12 Min 、 13 Min 、 14 Min 、 15Min

Suspend Mode

This item allows you to select the period of inactivity before the system is suspended or put into suspend mode. Options: Disabled(default) 、 1Min 、 2Min 、 4Min 、 6Min 、 8Min 、 10Min 、 20Min 、 30Min 、 40Min 、 1Hour

Video Off Option

This field determines when to activate the video off feature for monitor power management. Options: Suspend→Off (default), Always On.

Video Off Method

This option determines the manner in which the monitor goes blank.

Options:

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen (default)	This option only writes blanks to the video buffer.
DPMS Support	Initial display power management signaling.

Modem Use IRQ

This determines the modem's IRQ. Options: 3 (default) 、 4 、 5 、 7 、 9 、 10 、 11 、 NA.

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the

Soft-Off state when the system has "hung." Options: Delay 4 Sec, Instant-Off (default).

Run VGABIOS if S3 Resume

Select whether you want to run VGABIOS when the system wakes up from the S3 resume function. Options: Auto (default) 、 Yes 、 No

Wake Up Control

If you highlight the "Wake Up Control" label and then press the enter key, it will display a submenu with the following options:

PWRON After PWR-Fail

This option determines whether you want to restart the system after a power failure. Select "On", to boot the system whether or not the system was on before power failure. Choose Former-Sts, to restore the system to the status before the power failure.

Options: Off (default)、On

PS2KB Wakeup Select

Use this option to configure the PS2 keyboard Wake Up feature.

"Password"   Use this selection to force the user to enter a password after the system awakens from PS2 keyboard activity.

"Hot Key"   Use PS2KB key to awake the system. See "PS2KB Wake Up from S3-S5" to configure the hotkey.

PS2KB Wake Up from S3/S4/S5

This option is used when "PS2KB Wake Up Select" is configured as "HOT KEY".

Options: Disable (default), Ctrl+F1(to F12), Power, Wake, Anykey.

USB Wake Up from S3

This item allows you to awaken the system from suspend mode using a USB keyboard. Options: Enabled、Disabled (default)

VGA

When set to "On", any event occurring at a VGA Port will awaken a system which had been previously powered down. Options: OFF (default)、On.

LPT & COM

When this option is set to On, any event occurring at a COM(serial)/LPT (printer) port will awaken a system which has been suspended. Options: LPT/COM (default)、COM、LPT、NONE

HDD & FDD

When set to "On", any event occurring on a hard drive activity or a floppy drive activity will awaken the system which had been previously suspended. Options: ON (default)、OFF

PCI Master

When set to "On", you need a LAN add-on card which supports the power on function. It should also support the wake-up on LAN jumper. Options: OFF (default)、ON

PCI PME Wake Up

When you select "Enabled", a PME signal from any PCI card will awaken the system from suspend mode. Options: Disabled (default) 、 Enabled.

Ring Wake Up

This option allows you to awaken the system upon receiving an incoming call a modem device. Options: Disabled (default) 、 Enabled

RTC Wake Up

When "Enabled", you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode. Options: Enabled 、 Disabled (default)

Date (of Month)

You can choose which month the system will boot up. This field is only configurable when "RTC Wake Up" is set to "Enabled"

Resume Time (hh: mm: ss)

You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Wake Up" is set to "Enabled"

IRQs Activity Monitoring

Press Enter to access a sub menu used to configure the different wake up events (i.e. wake on LPT & COMM activity).

Primary INTR	On	IRQ9 (IRQ2 Redir)	Disabled
IRQ3 (COM2)	Disabled	IRQ10 (Reserved)	Disabled
IRQ4 (COM1)	Enabled	IRQ11 (Reserved)	Disabled
IRQ5 (LPT2)	Enabled	IRQ12 (PS/2 Mouse)	Enabled
IRQ6 (Floppy Disk)	Enabled	IRQ13 (Coprocessor)	Enabled
IRQ7 (LPT1)	Enabled	IRQ14 (Hard Disk)	Enabled
IRQ8 (RTC Alarm)	Disabled	IRQ15 (Reserved)	Disabled

Hardware Monitor

```
                    Phoenix - AwardBIOS CMOS Setup Utility
  Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit
                                                    Item Help

  Case Open Warning          [Disabled]
  CPU Warning Temperature    [Disabled]     Menu Level    ►
  System Temperature
  CPU Temperature                           This item is used to
  CPU Fan Speed(CPUFAN)                     monitor CPU FAN status
  Chassis Fan Speed(CHASFAN)                or not. If you use
  Vcore(V)                                  other method to cool
  + 3.3 V                                   your CPU instead of
  + 5 V                                     using on board's
  +12 V                                     CPUFAN header, you
  -12 V                 -                   should disable this
  VBAT(V)                                   function.
  5VSB(V)


  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
  F5:Previous Values       F6:Default Settings       F7:Turbo Settings
```

Case Open Warning

If this function is set to "Enabled" and the case had been previously opened, the system will automatically display alert messages on the screen when you power on your computer. If this function is set to "Disabled", the system will not show alert messages when you power on your computer even if the case is opened by others.
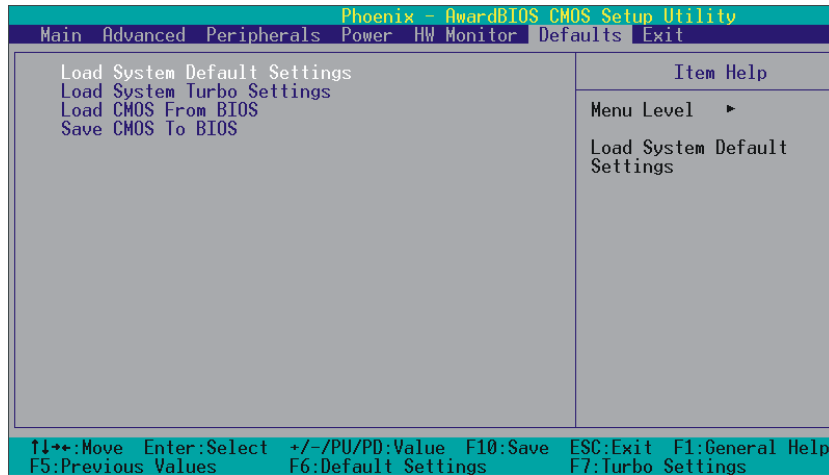
Options: Disabled (default) 、Enabled

CPU Warning Temperature

When the CPU temperature is higher than this setting, the warning mechanism will be activated. Options: Disabled (default) 、50℃/120℉、53℃/127℉、56℃/133℉、60℃/140℉、63℃/145℉、66℃/151℉、70℃/158℉。

Load Defaults

```
                    Phoenix - AwardBIOS CMOS Setup Utility
   Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit
   Load System Default Settings                        Item Help
   Load System Turbo Settings
   Load CMOS From BIOS                        Menu Level    ►
   Save CMOS To BIOS
                                             Load System Default
                                             Settings




   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
   F5:Previous Values       F6:Default Settings        F7:Turbo Settings
```

Load System Default Settings
Load System Default Settings.

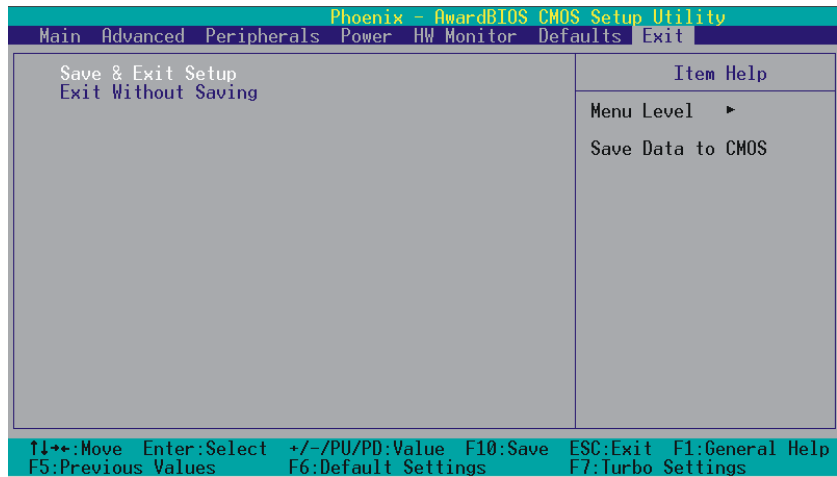## Load System turbo Settings
Load System Turbo Settings.

Load CMOS From BIOS
Load defaults from flash ROM for systems without batteries.

Save CMOS To BIOS
Save defaults to flash ROM for systems without batteries.

Exit Menu

Save & Exit Setup

Save all configuration changes to CMOS (memory) and exit setup. A confirmation message will be displayed before proceeding.

Exit Without Saving

Abandon all changes made during the current session and exit setup. A confirmation message will be displayed before proceeding.

# Chapter 3: Software Setup

Software List

Category	Platform
VIA 4 IN 1 Driver	Windows® 9X /ME /2000 /XP
VIA LAN Driver	Windows® 9X /ME /2000 /XP
VIA Audio Driver	Windows® 9X /ME /2000 /XP
VIA VGA Driver	Windows® 9X /ME /2000 /XP
VIA Serial ATA Driver	Windows® 9X /ME /2000 /XP
VIA USB 2.0 Driver	Windows® 9X /ME
Trend PC-Cillin	Windows® 9X /ME /2000 /XP
Microsoft DirectX	Windows® 9X /ME /2000 /XP
Adobe Acrobat Reader	Windows® 9X /ME /2000 /XP

Software Installation

Place the Driver CD into the CD-ROM drive and the Installation Utility will auto-run. You can also launch the Driver CD Installation Utility manually by executing the VIA.exe program located on the Driver CD. (For more details, please refer to the Readme.txt files that in each folder of the Driver.)

◎ The screen and images are only for general reference. The version of the screens you received with your software may vary slightly.

1. The first screen (Main Screen) will display several buttons. Choose by your mainboard model.
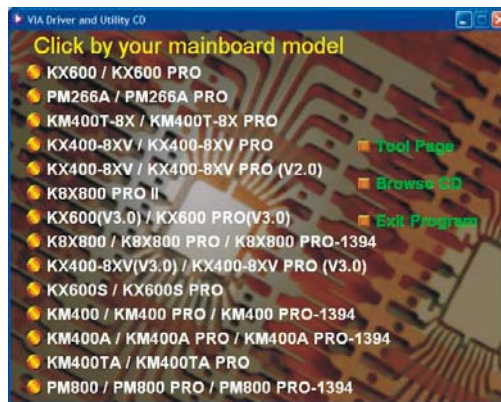
2. On the next screen, click the drivers that you want to install.

3. If you click the "VIA USB 2.0 Driver" from the screen in step 2, it will display the screen as left. (Please follow the description to complete the installation.)

4. Back to the first page, click the "Tool page" button and you can choose the software to install.

Note：If you click the "Browse CD" button from the screen in step 1, you can browse all the files in the Driver CD.

New installation of Windows® 2000/XP using a Serial ATA drive as the

boot device.

Follow the instructions in this section if you are performing a new installation of Windows® 2000/XP and you wish to boot from a drive attached to the SATA connector.

1. Copy the "VIA Serial ATA Driver" from the bundle CD Driver to a floppy disk. 【CD File Location Path => D: \ Driver \ SATA\ 2.20D\DriverDisk】

2. Power off the system. Connect the SATA hard disk to one of the SATA connectors. Power up the system.

3. Place your Windows® 2000/XP CD into the CD-ROM/DVD drive. When the "Windows Setup" screen displays, press "F6".

4. Press 's' when setup asks if you want to specify an additional device. Insert the floppy disk which includes the "VIA Serial ATA Driver" into the floppy drive.
   Press 'Enter' and select the appropriate OS device driver.

5. Press 'Enter' again to continue the setup process.

6. Follow the setup instructions and select your choice for partition and file system.

7. After setup examines your disks, it will copy files to the Windows® 2000/ XP installation folders and restart the system. After the system is rebooted the setup program will continue with the installation all the way to completion.

8. Wait until Windows® 2000/ XP finishes installing devices, regional settings, networking settings, components, and the final set of tasks. Reboot the system if you are asked to do so.

Chapter 4: Troubleshooting

Problem 1:

No power to the system. Power light does not illuminate. Fan inside power supply does not turn on. Indicator lights on keyboard are not lit.

Causes:

1. Power cable is unplugged.

2. Defective power cable.

3. Power supply failure.

4. Faulty wall outlet; circuit breaker or fuse blown.

Solutions:

1. Make sure power cable is securely plugged in.

2. Replace cable.

3. Contact technical support.

4. Use different socket, repair outlet, reset circuit breaker or replace fuse.

Problem 2:

System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is active but system seems "hung"

Causes: Memory DIMM is partially dislodged from the slot on the mainboard.

Solutions:

1. Power Down

2. Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

Problem 3:

System does not boot from the hard disk drive but can be booted from the CD-ROM drive.

Causes:

1. Connector between hard drive and system board unplugged.

2. Damaged hard disk or disk controller.

3. Hard disk directory or FAT is corrupted.

Solutions:

1. Check the cable running from the disk to the disk controller board. Make sure both ends are securely attached. Check the drive type in the standard CMOS setup.

2. Contact technical support.

3. Backing up the hard drive is extremely important. Make sure you periodically perform backups to avoid untimely disk crashes.

Problem 4:

System only boots from the CD-ROM. The hard disk can be read and applications can be used but booting from the hard disk is impossible.

Causes: Hard Disk boot sector has been corrupted.

Solutions: Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

Problem 5:

Error message reading "SECTOR NOT FOUND" displays and the system does not allow certain data to be accessed.

Causes: There are many reasons for this such as virus intrusion or disk failure.

Solutions: Back up any salvageable data. Then performs low level format, partition, and then a high level format the hard drive. Re-install all saved data when completed.

Problem 6:

Screen message says "Invalid Configuration" or "CMOS Failure."

Causes: Incorrect information entered into the BIOS setup program.

Solutions: Review system's equipment. Reconfigure the system.

Problem 7:

The Screen is blank.

Causes: No power to monitor.

Solutions: Check the power connectors to the monitor and to the system.

Problem 8:

Blank screen.

Causes:

1. Memory problem.

2. Computer virus.

Solutions:

1. Reboot computer. Reinstall memory. Make sure that all memory modules are securely installed.

2. Use anti-virus programs to detect and clean viruses.

Problem 9:

Screen goes blank periodically.

Causes: Screen saver is enabled.

Solutions: Disable screen saver.

Problem 10:

Keyboard failure.

Causes: Keyboard is disconnected.

Solutions: Reconnect keyboard. Replace keyboard if you continue to experience problems.

Problem 11:

No color on screen.

Causes:

1. Faulty Monitor.

2. CMOS incorrectly set up.

Solutions:

1. If possible, connect monitor to another system. If no color appears, replace monitor.

2. Call technical support.

Problem 12:

The screen displays "C: drive failure."

Causes: Hard drive cable not connected properly.

Solutions: Check hard drive cable.

Problem 13:

Cannot boot the system after installing a second hard drive.

Causes:

1. Master/slave jumpers not set correctly.

2. Hard drives are not compatible / different manufacturers.

Solutions:

1. Set master/slave jumpers correctly.

2.Run SETUP program and select the correct drive types. Call drive manufacturers for possible compatibility problems with other drives.

Problem 14:

Missing operating system on hard drive.

Causes: CMOS setup has been changed.

Solutions: Run setup and select the correct drive type.

Problem 15:

Certain keys do not function.

Causes: Keys jammed or defective.

Solutions: Replace keyboard.

Appendix I: Super 5.1 Channel Setup

This appendix describes the installation procedures for 5.1 Channel Setup. Note that if your operating system is Windows 98/ ME/ 2000, go directly to step 3.

1. Beginning with the **"Start" button, select Setting → Control Panel → Sounds, Speech, and Audio Devices → Sounds and Audio Devices**. The screen below will display. First check the "Place volume icon in the taskbar" in the Device volume block. Then press the "Advanced…" button to configure the speaker settings.
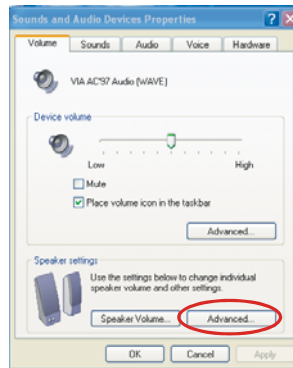
2. At the "Advanced Audio Properties" screen use the drop-down box to select the "5.1 surround sound speakers". Click "Apply" to enable the 5.1 channel audio effect.
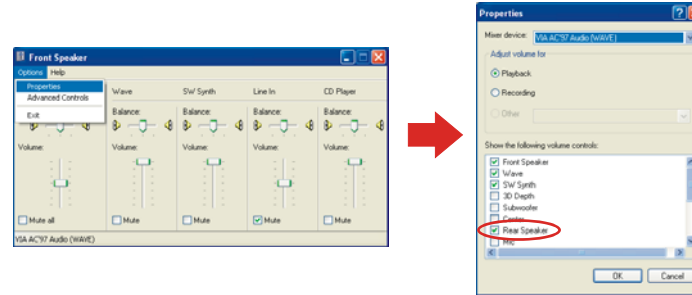

3. On your desktop, double click the volume icon that is on the desk bar.
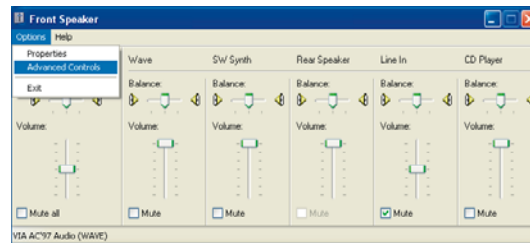   (Note: As described earlier, begin with this step if your system has Windows® 98/ ME/ 2000)

4. On the "Front Speaker" screen, select

"Options → Properties", then check "Rear Speaker" item and click OK.

5. Also on the "Front Speaker" screen, select "Options → Advanced Controls".

6. Next, click the "Advanced" button of the Front Speaker, then check the "Smart5.1 Enable".
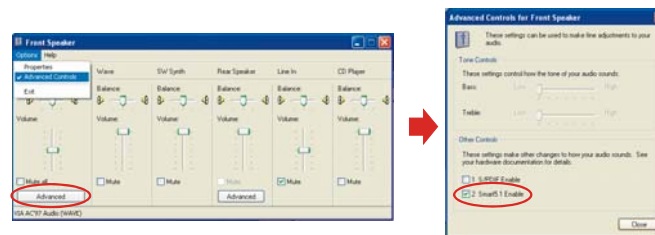
7. Finally, click the "Advanced" button of the Rear Speaker, then check the "Magic5.1 Enable". This is the final step in configuring "Super 5.1 Channel Audio Effect".
    (If you broadcast a DVD with a DVD-ROM, please skip this step.)

Appendix II: SATA RAID 0/1 Setup

Introduction to RAID
(Redundant Array of Independent Disks)

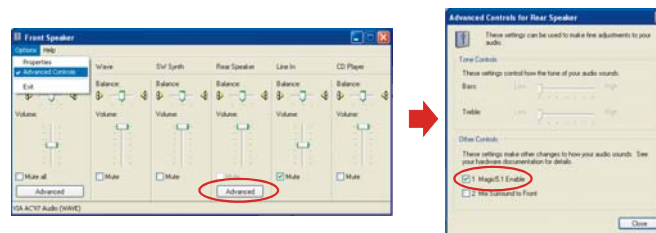RAID technology is a sophisticated disk management system that manages multiple disk drives, enhancing I/O performance and providing redundancy in order to prevent the loss of data in case any of the individual disks fail. The SATA RAID facility on this board provides RAID 0 (striped), RAID 1 (mirrored) and RAID SPAN.

Disk Striping (RAID 0)

Striping is a performance-oriented, non-redundant disk storage technology. With RAID striping, multiple disks are used to form a larger virtual disk. Data is then striped or mapped across all the physical disks. In this way modern SATA and ATA bus mastering technology can be used to perform multiple I/O operations in parallel, enhancing performance. While Striping is discussed as a RAID Set type, it actually does not provide fault tolerance.

Disk Mirroring (RAID 1)

With Disk Mirroring there is a redundant disk that mirrors the main disk. Data that is written to the main disk is also written to the redundant disk. This redundancy provides fault tolerant protection from a single disk failure. If a read/write failure occurs on one drive, the system can still read and write data using the other drive.

RAID SPAN

RAID SPAN is not one of the standard RAID levels. It is however considered a JBOD (Just Bundle Of Disks) configuration which simply uses multiple disks to form a larger virtual disk without any other specialized disk management functionality.

RAID BIOS Configuration

When the system boots up during the POST (Power-On Self Test), the user will be given an opportunity to enter the "VIA RAID BIOS Configuration" utility. Wait for the following prompt:

Press <Tab> Key into User Window

Then press the "Tab" key to enter the VIA RAID BIOS Configuration utility. The VIA RAID BIOS screen will display as shown below.
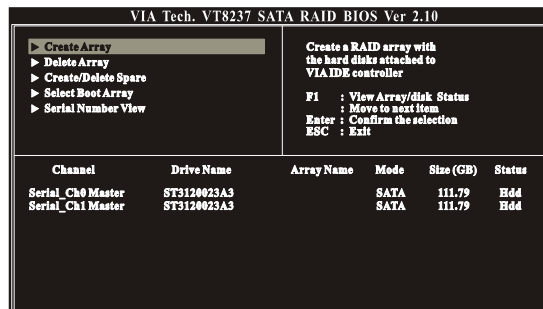
Create   Array

---

1. The "Create Array" option will allow you to initialize a RAID array. Choose the "Create Array" on the main screen and press <Enter>. The screen below will display. According to your needs, select "RAID 0 for performance" (striping), "RAID 1 for data protection" (mirroring) or "RAID SPAN for capacity" (JBOD). Then press <Enter>.

```
                    VIA Tech. VT8237 SATA RAID BIOS Ver 2.10

   ▶    RAID 0 for performance          Create a RAID array with
   ▷    RAID 1 for data protection      the hard disks attached to
   ▶    RAID 0 / 1                      VIA IDE controller
   ▶    RAID SPAN for capacity
                                        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     ST3120023A3                   SATA    111.79      Hdd
   Serial_Ch1 Master     ST3120023A3                   SATA    111.79      Hdd
```
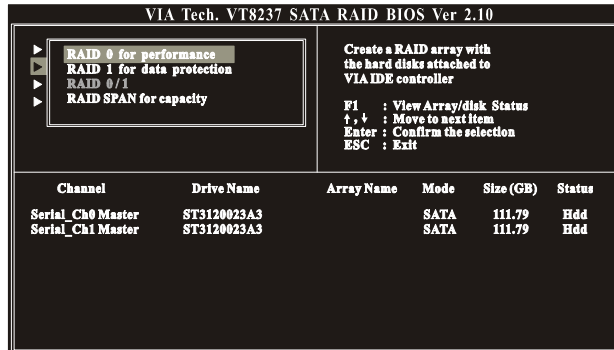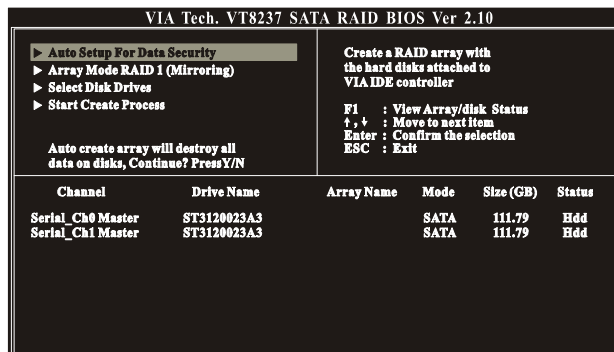
Attention
The "Channel" 、 "Drive Name" 、 "Mode" 、 "Size (GB)", located at the bottom portion of the screen above, reflect the devices that are currently installed on the SATA connectors. The example information above may therefore differ with the information that displays on your screen.

2. Next, choose the "Auto Setup for Data Security" option and press <Enter>. The screen will display a confirmation message as shown below. Press <Y> to continue with the creation of the new array.

```
                    VIA Tech. VT8237 SATA RAID BIOS Ver 2.10

   ▶ Auto Setup For Data Security         Create a RAID array with
   ▶ Array Mode RAID 1 (Mirroring)        the hard disks attached to
   ▶ Select Disk Drives                   VIA IDE controller
   ▶ Start Create Process
                                          F1     : View Array/disk Status
                                          ↑ , ↓  : Move to next item
                                          Enter : Confirm the selection
        Auto create array will destroy all  ESC   : Exit
        data on disks, Continue? PressY/N

        Channel          Drive Name      Array Name    Mode    Size (GB)   Status

   Serial_Ch0 Master     ST3120023A3                   SATA    111.79      Hdd
   Serial_Ch1 Master     ST3120023A3                   SATA    111.79      Hdd
```

Attention
For RAID 1 (Mirrored Arrays), you can manually select the "source device" instead of having the system determine it for you. After step 1, select the "Select Disk Drives" to manually select the "source device". Then choose the "Start Create Process" and press <Enter> to complete the RAID 1 array creation.

3. After the array has been successfully created, one of the screens will display as shown below according to the type of array you created.

RAID 1 mode

VIA Tech. VT8237 SATA RAID BIOS Ver 2.10

▶ 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 IDE 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	ST3120023A3	ARRAY 0	SATA	111.79	Source
Serial_Ch1 Master	ST3120023A3	ARRAY 0	SATA	111.79	Mirror

RAID 0 mode

VIA Tech. VT8237 SATA RAID BIOS Ver 2.10

▶ Auto Setup For Data Security
▶ Array Mode RAID 0 (Striping)
▶ Select Disk Drives
▶ Block Size 64K
▶ Start Create Process

Create a RAID array with
the hard disks attached to
VIA IDE 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	ST3120023A3	ARRAY 0	SATA	111.79	Stripe 0
Serial_Ch1 Master	ST3120023A3	ARRAY 0	SATA	111.79	Stripe 1

RAID SPAN mode

VIA Tech. VT8237 SATA RAID BIOS Ver 2.10

▶ Auto Setup For Data Security
▶ Array Mode SPAN (JBOD)
▶ Select Disk Drives
▶ Start Create Process
▶ Expend Span (JBOD) Array

Create a RAID array with
the hard disks attached to
VIA IDE 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	ST3120023A3	ARRAY 0	SATA	111.79	Span 0
Serial_Ch1 Master	ST3120023A3	ARRAY 0	SATA	111.79	Span 1

The RAID 0 screen (above) contains the option, "Block Size 64K". With this option you can manually select the block size for your array. However, we recommend that you to select the "64K" for optimal performance.
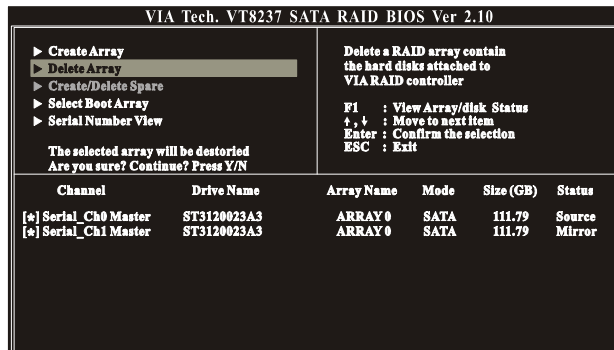
Delete

---

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Array

1. You can delete an existing array with the "Delete Array" option on the main screen. Choose the "Delete Array" option and press <Enter>. Then press the <Enter> key once again and the system will mark all the existing SATA devices with an asterisk (as shown below in the bottom section). (Note that the example information below may differ slightly depending on the RAID type you are configuring.)
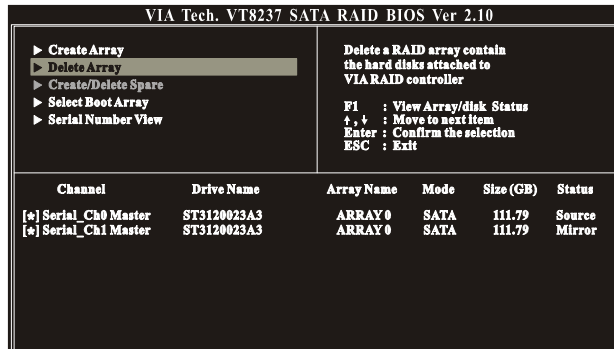
2. Press <Enter>. A warning/confirmation message will display (as shown below). Press <Y> to confirm.
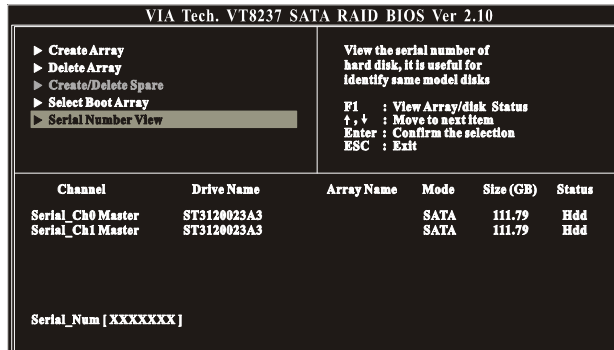

3. After the array is successfully deleted, the screen will display as shown below.
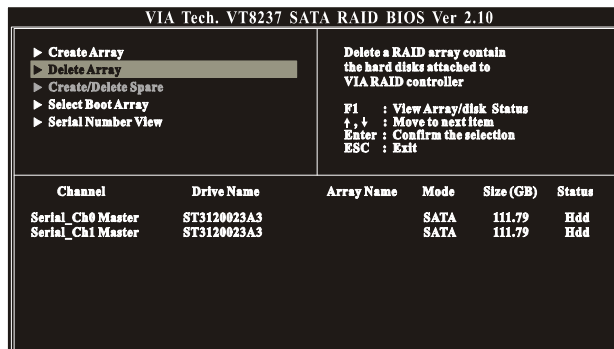
Serial Number View

You can choose the "Serial Number View" to view the serial number of the serial ATA device. The serial number is assigned to the device by the manufacturer.

```
                VIA Tech. VT8237 SATA RAID BIOS Ver 2.10

    ▶ Create Array                      View the serial number of
    ▶ Delete Array                      hard disk, it is useful for
    ▶ Create/Delete Spare               identify same model disks
    ▶ Select Boot Array
    ▶ Serial Number View                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    ST3120023A3                   SATA    111.79      Hdd
    Serial_Ch1 Master    ST3120023A3                   SATA    111.79      Hdd




    Serial_Num [ XXXXXXX ]
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VIA RAID Tool (VIA Raid Tool icon

The VIA RAID Tool allows the user to configure and monitor RAID arrays from the Windows environment. After booting your operating system, click the "VIA RAID Tool" icon from the Windows desktop. The Screen below will display. You can simply click on one of the toolbar buttons on the menu bar to execute their respective functions.
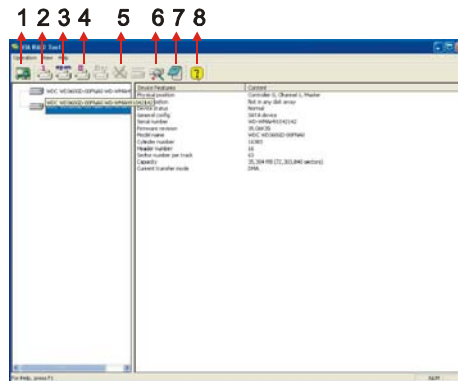
Toolbar Button 1: View the controller status.

Toolbar Button 2: Create a array with RAID 1.

Toolbar Button 3: Create a array with SPAN.

Toolbar Button 4: Create a array with RAID 0.

Toolbar Button 5: Delete the array that you created before.

Toolbar Button 6: View the devices status.

Toolbar Button 7: View the event log.

Toolbar Button 8: Help topics.