CERTIFICATE

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT procedure that

ELITEGROUP COMPUTER SYSTEMS CO., LTD.
ECS MANUFACTURING (SHENZHEN) CO., LTD.
ELITE TECHNOLOGY (SHENZHEN) CO., LTD.

2F, No. 240, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
No. 20 & No. 26, Free Trade Zone, Shatoujiao, Shenzhen City, GuangDong Province, China

has established and applies a quality system for

Design, Manufacturing and Sales of Mainboards, Personal Computers, Notebooks and Peripheral Cards

An audit was performed, Report No. **2.5-1585/2000**

Proof has been furnished that the requirements according to

ISO 9001 : 2000 / EN ISO 9001 : 2000 / JIS Q 9001 : 2000 / ANSI/ASQC Q9001 : 2000

are fulfilled. The certificate is valid until **27 January 2007**

Certificate Registration No. **04100 2000 1325**

The company has been certified since **2000**

TGA-ZM-30-96-00

Essen, 04.03.2004

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

ISO14001 CERTIFICATE

Certificate No.: 061-04-E1-0065-R1-L

We hereby certify that

ECS MANUFACTURING (SHANZHEN) CO., LTD.

by reason of its

Environmental Management System

has been awarded this certificate for compliance with the standard

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ECS MANUFACTURING (SHANZHEN) CO., LTD. located at No. 20 & 26 (except 1F, 2F), Free Trade Zone, Shatuojiao, Shenzhen City, Guangdong Province, P. R. China. is engaged in manufacturing of Mother Board and Peripheral Card, and interrelated managerial activities.

Date of issue: 28th Sept. 2004

Date of expiry: 27th Sept. 2007

Signed by:

SHENZHEN SOUTHERN CERTIFICATION CO., LTD.

Preface

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Version 1.0

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This equipment has been tested and found to comply with the limits for 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

About the Manual

The manual consists of the following:

Chapter 1
Introducing the Motherboard
Describes features of the motherboard.
Go to ⇨ page 1

Chapter 2
Installing the Motherboard
Describes installation of motherboard components.
Go to ⇨ page 7

Chapter 3
Using BIOS
Provides information on using the BIOS Setup Utility.
Go to ⇨ page 23

Chapter 4
Using the Motherboard Software
Describes the motherboard software
Go to ⇨ page 47

Chapter 5
VIA VT8237 SATA RAID Setup Guide
Provides information about SATA RAID Setup
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Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing P4M800-M motherboard of great performance and with enhanced function. This motherboard is designed to fit the advanced Intel Pentium 4 processors in the 478-pin package. Based on Micro ATX form factor, this motherboard incorporates the following chipsets: VIA P4M800 Northbridge and VT8237 Southbridge chipsets. This motherboard provides the 800/533/400 MHz front side bus with extra capability.

The P4M800 Northbridge provides a high performance, cost-effective and energy efficient chipset north bridge used for the implementation of desktop personal computer systems. The P4M800 provides superior performance between the CPU, DRAM, V-Link interface and AGP 8X bus with pipelined, burst, and concurrent operation. The memory controller supports DDR SDRAM interface of DDR400/333/266. It supports two DDR sockets with maximum size of 2 GB. In addition to the integrated UniChrome 3D/2D graphics & video controller, the AGP controller is AGP 3.0 8x/4x compliant with pipelined split-transaction long-burst transfers up to 2.1 GB/s.

The VT8237 Southbridge is a highly integrated peripheral controller, it includes an integrated keyboard controller with PS2 mouse support, two-channel Serial ATA/RAID hard disk controller, master mode enhanced Parallel IDE controller with full scatter/gather capability and extension to UltraDMA-133/100/66 for 133/100/66 MB/sec transfer rate, integrated USB 2.0 interface and ACPI & APM compliant power management. The concurrent PCI bus controller is PCI 2.2 compliant and supports up to 3 PCI masters. The VT8237 integrated fast Ethernet controller with standard MII interface to an external PHY for 10/100 MHz operation. One communication and networking rise (CNR) slot provides expandability for add-on peripheral card.

There is an advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM1, VGA1, LPT1, and four USB ports, one optional LAN port, and audio jacks for microphone, line-in, and line-out. This motherboard is designed in a Micro ATX form factor using a four-layer printed circuit board and measures 244 mm x 220 mm.

Feature

Processor

P4M800-M uses a 478-pin socket type of Pentium 4 that carries the following features:

- Supports Intel 800/533/400 MHz FSB Pentium 4/Celeron CPUs
- Supports Intel Hyper-Threading technology

"Hyper-Threading" technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate "logical" processors within the same physical processor.

Chipset

The P4M800 Northbridge (NB) and VIA VT8237 Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

P4M800(NB)

- 64-bit advanced memory controller, supporting DDR400/333/266 DDR SDRAM
- AGP 3.0 compliant 8X/4X transfer modes with Fast Write support
- Supports 66 MHz, 4X and 8X transfer modes, V-Link Host interface with 533 MB/s total bandwidth
- Integrated Graphics with 3D/2D video controllers

VT8237(SB)

- Supports 16-bit 66 MHz Ultra V-Link Host interface with total bandwidth of 1066 MB/s
- Compliant with PCI 2.2 specification at 33 MHz, supporting up to 6 PCI masters
- Integrated Serial ATA Host Controllers, supporting data transfer rates up to 1.5Gb/s
- Integrated Dual channel UltraDMA 133/100/66 Master Mode EIDE Controller
- USB 2.0 Controller, supporting for 8 USB 2.0 ports
- Network Controller, supporting enterprise class 10/100 Mb Fast Ethernet MAC
- Integrated keyboard Controller with PS2 mouse support

Memory

- Supports DDR400/333/266 memory types
- Accommodates two unbuffered 2.5V 184-pin DIMM sockets
- A total maximum capacity 2 GB

Audio CODEC

- Compliant with the AC'97 v2.3 CODEC
- Supports 6-channel audio CODEC designed for PC multimedia systems
- Provides three analog line-level inputs with 5-bit volume control: Line-in, CD, AUX
- Supports double sampling rate (96KHz) of DVD audio playback
- Direct Sound 3D™ compatible

Expansion Options

The motherboard comes with the following expansion options:

- Three 32-bit PCI slots
- One AGP slot
- Two IDE connectors which support four IDE devices
- One floppy disk drive interface
- Two 7-pin SATA connectors
- A Communications Networking Riser (CNR) slot

This motherboard supports Ultra DMA bus mastering with transfer rates of 133/100/66 MB/s.

Onboard LAN (optional)

The onboard LAN provides the following features:

- Single chip 100base-TX / 10Base-T physical layer solution
- Half and Full Duplex
- MII interface to Ethernet controller
- Meet all applicable IEEE 802.3, 10Base-T and 100Base-Tx standards

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- Two PS/2 ports for mouse and keyboard
- One serial port
- One VGA port
- One parallel port
- Four USB ports
- One LAN port (optional)
- Audio jacks for microphone, line-in and line-out

BIOS Firmware

The motherboard uses Award BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

Some hardware specifications and software items are subject to change without prior notice.

Motherboard Components

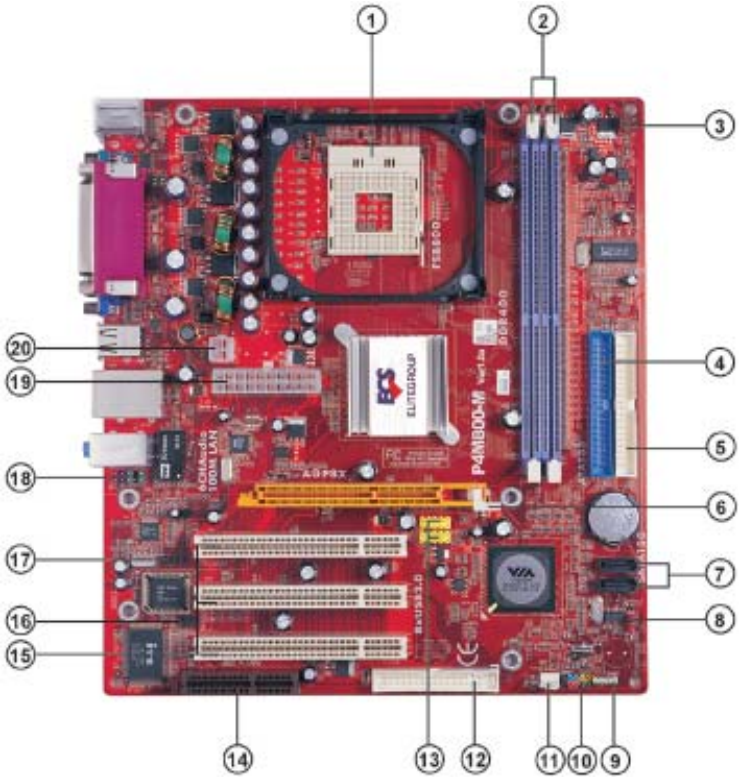


Table of Motherboard Components

LABEL	COMPONENT
1 CPU Socket	mPGA478 socket for Intel P4 CPUs
2 DIMM1~2	184-pin DDR SDRAM slots
3 CPU_FAN	CPU cooling fan connector
4 IDE1	Primary IDE connector
5 IDE2	Secondary IDE connector
6 AGP	Accelerated Graphics Port slot
7 SATA1~2	Serial ATA connectors
8 CLR_CMOS	Clear CMOS jumper
9 SPK1	Speaker header
10 PANEL1	Front panel switch/LED header
11 SYS_FAN	System cooling fan connector
12 FDD	Floppy disk drive connector
13 USB2 ~ 3	Front Panel USB headers
14 CNR1	Communications Networking Riser slot
15 PCI1~3	32-bit add-on card slots
16 IR1	Infrared header
17 CD1	Analog audio input header
18 AUDIO1	Front panel audio header
19 ATX1	Standard 20-pin ATX power connector
20 PJ1	4-pin +12V power connector

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Memo

Chapter 2
Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the Micro ATX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, P4M800-M supports one or two floppy diskette drives and four enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard carries a Micro ATX form factor of 244 X 220 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.

Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

SHORT

OPEN

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT

Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.

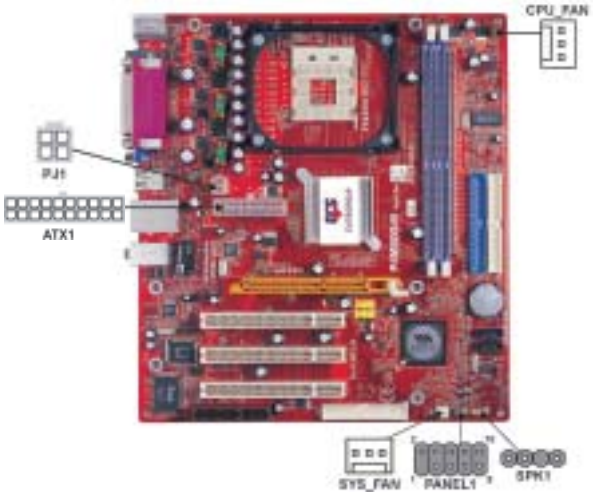
Jumper Settings

Jumper	Type	Description	Setting (default)	
CLR_CMOS	3-pin	CLEAR CMOS	1-2: NORMAL 2-3: CLEAR CMOS Before clearing the CMOS, make sure to turn the system off.	CLR_CMOS  1

Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1 Connect the CPU cooling fan cable to **CPU_FAN.**
2 Connect the system cooling fan connector to **SYS_FAN**.
3 Connect the case speaker cable to **SPK1.**
4 Connect the case switches and indicator LEDs to the **PANEL1.**
5 Connect the standard power supply connector to **ATX1.**
6 Connect the auxiliary case power supply connector to **PJ1.**



CPU_FAN/SYS_FAN: Cooling FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

ATX1: ATX 20-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS ON#
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

SPK1: Internal speaker header

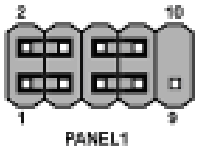
Pin	Signal Name
1	Signal
2	Key
3	Ground
4	VCC

PJ1: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Front Panel Connector

The front panel connector (PANEL1) provides a standard set of switch and LED connectors commonly found on ATX or micro-ATX cases. Refer to the table below for information:



Pin	Signal Name	Function	Pin	Signal Name	Function
1	HD_LED_P	Hard disk LED(+)	2	FPPWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

***** *MSG LED (dual color or single color)*

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing Hardware

Installing the Processor

Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

This motherboard has a Socket 478 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

The following illustration shows CPU installation components.

1 Install your CPU. Pull up the lever away from the socket and lift up to 90-degree angle.
2 Locate the CPU cut edge (the corner with the pin hold noticeably missing). Align and insert the CPU correctly.
3 Press the lever down and apply thermal grease on top of the CPU.
4 Put the CPU Fan down on the retention module and snap the four retention legs of the cooling fan into place.
5 Flip the levers over to lock the heat sink in place and connect the CPU cooling Fan power cable to the CPUFAN connector. This completes the installation.

To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 4800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V unbuffered Double Data Rate (DDR) SDRAM (Synchronous Dynamic Random Access Memory) memory modules. It can support DDR400/333/266 memory types. The total maximum memory size is 2 GB.

DDR SDRAM memory module table

Memory module	Memory Bus
DDR 266	***133MHz***
DDR 333	***166MHz***
DDR 400	***200MHz***

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

1 This motherboard supports unbuffered DDR SDRAM only.
2 Push the latches on each side of the DIMM slot down.
3 Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4 Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.

5 Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6 Install any remaining DIMM modules.

Table A: DDR QVL (Qualified Vender List)

The following DDR400 memory modules have been tested and qualified for use with this motherboard.

Size	Vendor	Model Name
256MB	A-DATA	ADD8608A8A-5B
	A-DATA	ADD8608A8A-4.5B
	Apacer	AM3A568ACT-5A
	GEIL	G208L364D1TG5NKT3C
	GEIL	GE08L3264D1WL5NKT3H71
	KingMax	KDL684T4AA-50
	Kingston	9905192-012.A01
	Kingston	D3208DL2T-5 0323PT01
	Hynix	HY5DU5656822BT-D43
	Hynix	HY5DU56822BT-D43
	Ramaxel	MT-46V32M8 TG-5BC
	SAMSUNG	K4H560838D-TCCC
	SAMSUNG	K4H560838D-TCC4
	TwinMOS	TMD7608F8E50D
	Winbond	W942508BH-5
512MB	CORSAIR	CMX512-3200C2PT
	CORSAIR	CMX512-3500C2PT
	CORSAIR	CMX512-4400PT
	Infineon	HYB25D256800BT-5
	Kingston	D3208DL1T-5
	Kingston	KHX3500AK2
	Mushkin	PC3500 level ONE
	PSC	A2S56D30BTP
	SAMSUNG	K4H560838D-TCC4
	SAMSUNG	K4H560838E-TCCC
	Transcend	V58C2256804SAT5B
	UNIFOSA	USI 64M8B8-WB200-0431
	ValueSelect	VS32MB-5 2B0402
1GB	CORSAIR	CMX1024-3200PT

Installing a Hard Disk Drive/CD-ROM/SATA Hard Drive

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

About IDE Devices

Your motherboard has a primary and secondary IDE channel interface (IDE1 and IDE2). An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

You must orient the cable connector so that the pin1 (color) edge of the cable correspoinds to the pin 1 of the I/O port connector.

IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.

IDE2: Secondary IDE Connector

The second drive on this controller must be set to slave mode. The cinfiguration is the same as IDE1.

IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

About UltraDMA

This motherboard supports UltraDMA 133/100/66. UDMA is a technology that accelerates the performance of devices in the IDE channel. To maximize performance, install IDE devices that support UDMA and use 80-pin IDE cables that support UDMA 133/100/66.

About SATA Connectors

Your motherboard features two SATA connectors supporting a total of two drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard (see page 20) and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with an SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

SATA cable (optional)

SATA power cable (optional)

Refer to the illustration below for proper installation:

1. Attach either cable end to the connector on the motherboard.
2. Attach the other cable end to the SATA hard drive.
3. Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.

This motherboard does not support the "Hot-Plug" function.

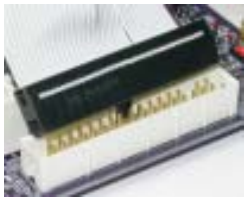
Installing a Floppy Diskette Drive

The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.

You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

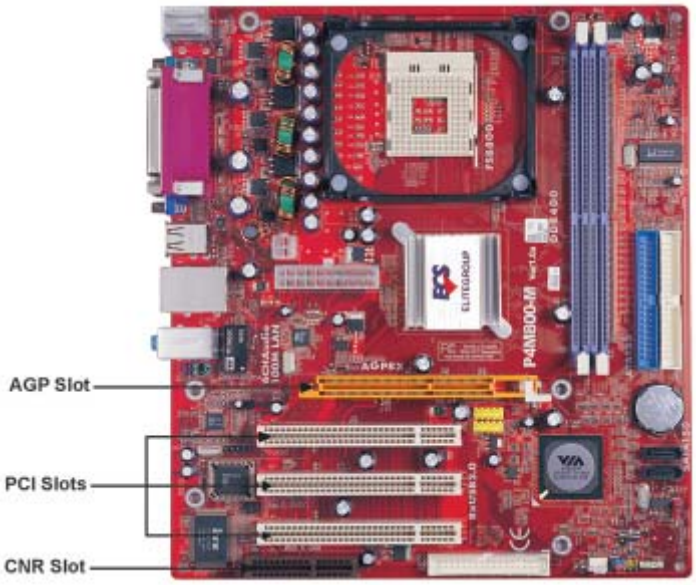
FDD: Floppy Disk Connector

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.



Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



AGP Slot The AGP slot is used to install a graphics adapter that supports the 8X/4X AGP specification. It is AGP 3.0 compliant.

PCI Slots This motherboard is equipped with three standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.2 compliant.

CNR Slot This slot is used to insert CNR card with Modem and Audio functionality.

Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

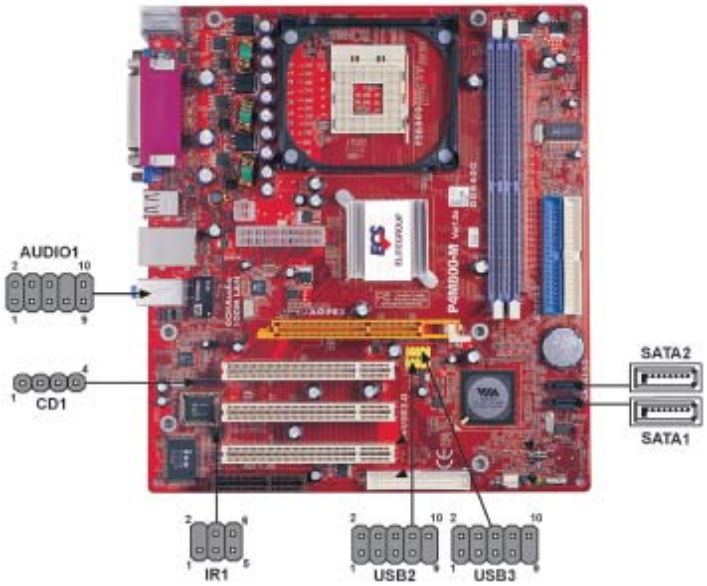
Follow these instructions to install an add-on card:

1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3 Secure the metal bracket of the card to the system case with a screw.

For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



AUDIO1: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Function
1	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	AUD_MIC_BIAS	Microphone Power
4	AUD_VCC	Filtered +5V used by Analog Audio Circuits
5	AUD_F_R	Right Channel audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	REVD	Reserved
8	Key	No Pin
9	AUD_F_L	Left Channel Audio signal to Front Panel
10	AUD_RET_L	Left Channel Audio signal to Return from Front Panel

CD1: Analog Audio Input header

Pin	Signal Name	Function
1	CD in_L	CD In left channel
2	GND	Ground
3	GND	Ground
4	CD in_R	CD In right channel

SATA1/SATA2: Serial ATA connectors

These connectors are use to support the new Serial ATA devices for the highest date transfer rates (150 MB/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

USB2/USB3: Front Panel USB headers

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	USB_FP_OC0	Overcurrent signal

Please make sure that the USB cable has the same pin assignment as indicatged above. A different pin assignment may cause damage or system hang-up.

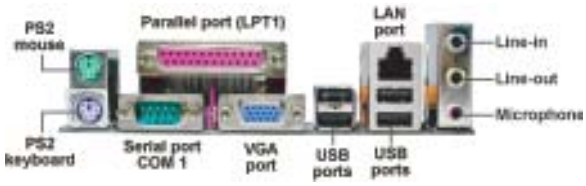
IR1: Infrared header

The motherboard supports an Infrared data port. Infrared ports allow the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal Name	Function
1	RSVD	Not Assigned
2	KEY	No pin
3	+5V	IR power
4	GND	Ground
5	IR_TX	IrDA serial output
6	IR_RX	IrDA serial input

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:



PS2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (LPT1)	Use LPT1 to connect printers or other parallel communications devices.
Serial Port (COM1)	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
VGA Port (VGA1)	Connect the monitor cable to the VGA port.
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your com puter to the Network.
USB Ports	Use the USB ports to connect USB devices.
Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.

This concludes Chapter 2. The next chapter covers the BIOS.

Memo

Chapter 3
Using BIOS

About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

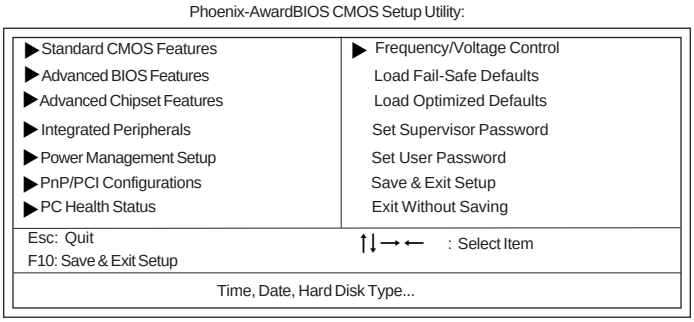
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Pressing the delete key accesses the BIOS Setup Utility:



BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
←↑↓→	Scrolls through the items on a menu
+/-/PU/PD	Modifies the selected field's values
F10	Saves the current configuration and exits setup
F1	Displays a screen that describes all key functions
F5	Loads previously saved values to CMOS
F6	Loads a minimum configuration for troubleshooting
F7	Loads an optimum set of values for peak performance

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.
3. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
5. Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
6. At the A:\ prompt, type the Flash Utility program name and press <Enter>.
7. Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
8. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

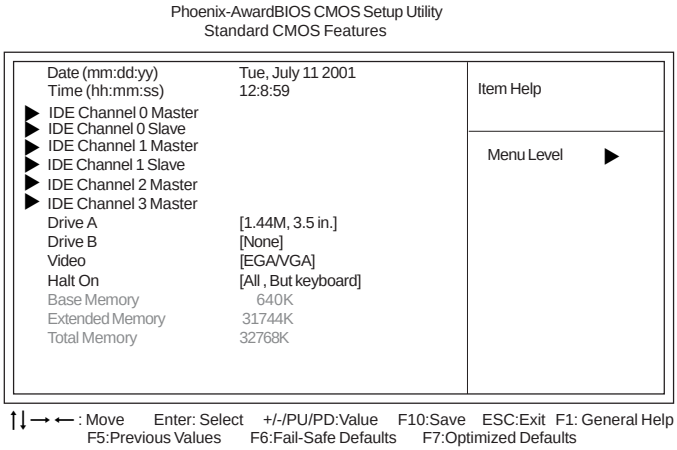
Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

Standard CMOS Features

This option displays basic information about your system.



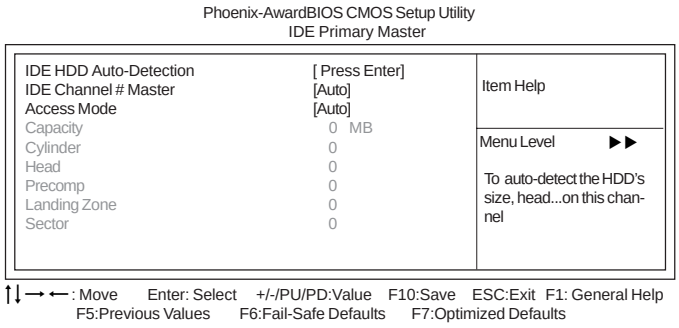
Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

►IDE Devices (None)

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel.

Press <Enter> to display the IDE submenu:



IDE HDD Auto-Detection

Press <Enter> while this item is highlighted to prompt the Setup Utility to automatically detect and configure an IDE device on the IDE channel.

If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.

IDE Channel 0/1 Master/Slave (Auto)

Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below.

Refer to your drive's documentation or look on the drive casing if you need to obtain this information. If no device is installed, change the value to None.

Before attempting to configure a hard disk drive, ensure that you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.

Access Mode (Auto)

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive.

Press <Esc> to return to the Standard CMOS Features page.

Drive A/Drive B (1.44M, 3.5 in./None)

These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Video (EGA/VGA)

This item defines the video mode of the system. This motherboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On (All, But keyboard)

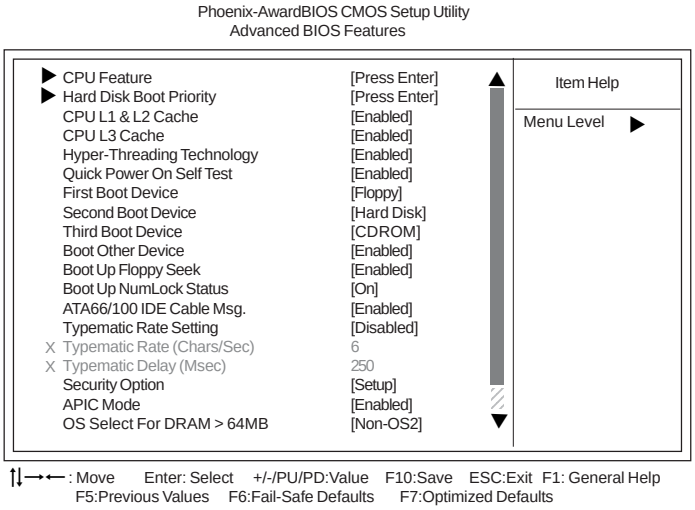
This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

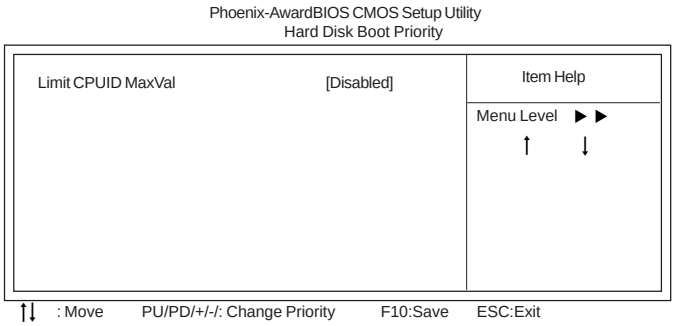
Advanced BIOS Features

This option defines advanced information about your system.



▸CPU Features (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

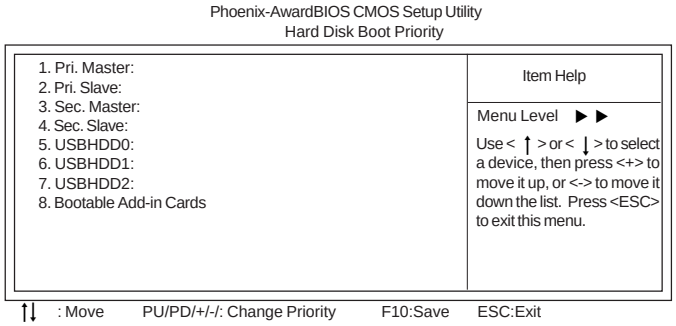


Limit CPUID MaxVal (Disabled)

This item can support Prescott cPUs for old OS. Users please note that under NT 4.0, it must be set to “Enabled”, while under WinXP, it must be set to “Disabled”.

▶Hard Disk Boot Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



CPU L1 & L2 Cache (Enabled)

All precessors that can be installed in this motherboard use internal level 1 (L1) and external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

CPU L3 Cache (Enabled)

Some high-end processors support L3. If the CPU do support L3, you may set this item to enable or disable. Leave this item at the default value for better performance.

Hyper-Threading Technology (Enabled)

This item is only available when the chipset supports Hyper-Threading and you are using a Hyper-Threading CPU.

Quick Power On Self Test (Enabled)

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device (Floppy/Hard Disk/CDROM)

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device (Enabled)

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Boot Up Floppy Seek (Enabled)

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Boot Up NumLock Status (On)

This item defines if the keyboard Num Lock key is active when your system is started.

ATA 66/100 IDE Cable Msg (Enabled)

Enables or disables the ATA 66/100 IDE Cable Msg. This message will appear during reboot when you use 40-pin cable on your 66/100 hard disks.

Typematic Rate Setting (Disabled)

If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

- **Typematic Rate (Chars/Sec)**: Use this item to define how many characters per second are generated by a held-down key.
- **Typematic Delay (Msec):** Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

Security Option (Setup)

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

APIC Mode (Enabled)

This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

OS Select For DRAM > 64 MB (Non-OS2)

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.

Video BIOS Shadow (Enabled)

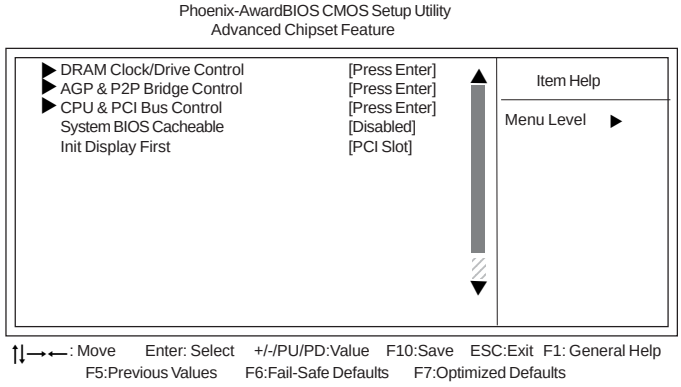
This item determines whether the BIOS will be copied to RAM for faster execution.

Small Logo (EPA) Show (Disabled)

This item determines whether or not the EPA logo appears during boot up.

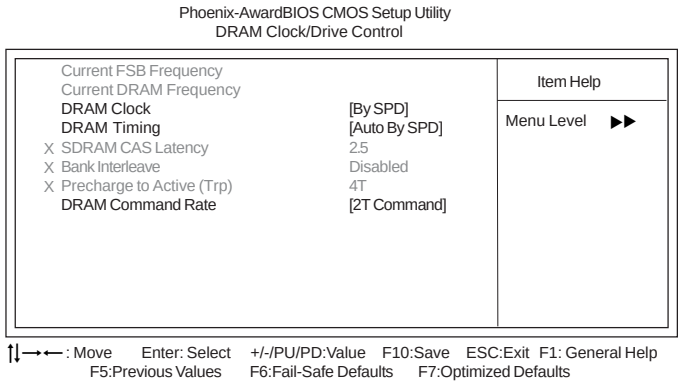
Advanced Chipset Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.



▶DRAM Clock/Drive Control (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Current FSB Frequency

This item displays the frontside bus (FSB) frequency. This is a display-only item. You cannot make changes to this field.

Current DRAM Frequency

This item displays the memory (DRAM) frequency. This is a display-only item. You cannot make changes to this field.

DRAM Clock (By SPD)

This item enables you to manually set the DRAM Clock. We recommend that you leave this item at the default value.

DRAM Timing (Auto By SPD)

Set this to the default value to enable the system to automatically set the SDRAM timing by SPD (Serial Presence Detect). SPD is an EEPROM chip on the DIMM module that stores information about the memory chips it contains, including size, speed, voltage, row and column addresses, and manufacturer. If you disable this item, you can use the following three items to manually set the timing parameters for the system memory.

- **SDRAM CAS Latency 2.5:** Enables you to select the CAS latency time in HCLKs of 2/2 or 3/3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
- **Bank Interleave (Disabled):** Enable this item to increase memory speed. When enabled, separate memory banks are set for odd and even addresses and the next byte of memory can be accessed while the current byte is being refreshed.
- **Precharge to Active (Trp) (4T):** This item is used to designate the minimum Row Precharge time of the SDRAM devices on the module.

  DRAM must continually be refreshed or it will lose its data. Normally, DRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe (RAS) to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

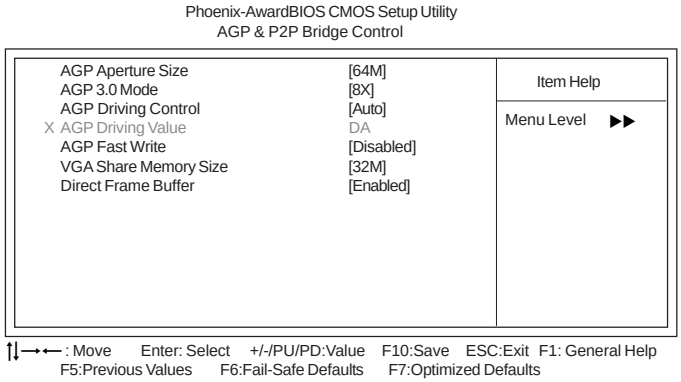
DRAM Command Rate (2T Command)

This item enables you to specify the waiting time for the CPU to issue the next command after issuing the command to the DDR memory. We recommend that you leave this item at the default value.

Press <Esc> to return to the Advanced Chipset Features page.

▶AGP & P2P Bridge Control (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



AGP Aperture Size (64M)

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

AGP 3.0 Mode (8X)

This item allows you to enable or disable the caching of display data for the processor video memory. Enabling AGP-8X Mode can greatly improve the display speed. Disable this item if your graphics display card does not support this feature.

AGP Driving Control (Auto)

This item is used to signal driving current on AGP cards to auto or manual. Some AGP cards need stronger than normal driving current in order to operate. We recommend that you set this item to the default.

- **AGP Driving Value:** When AGP Driving Control is set to Manual, use this item to set the AGP current driving value.

AGP Fast Write (Disabled)

This item lets you enable or disable the caching of display data for the video memory of the processor. Enabling this item can greatly improve the display speed. Disable this item if your graphics display card does not support this feature.

VGA Share Memory Size (32M)

This item allows you to select the shared memory size for VGA usage.

Direct Frame Buffer (Enabled)

This item optimizes UMA (Unified Memory Architecture) performance and provides acceleration of all color depths.

Press <Esc> to return to the Advanced Chipset Features page.

▶CPU & PCI Bus Control (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

Phoenix-AwardBIOS CMOS Setup Utility
CPU & PCI Bus Control

PCI Delay Transaction	[Disabled]	Item Help
		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

PCI Delay Transaction(Disabled)

The mainboard's chipset has an embedded 32-bit post write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

Press <Esc> to return to the Advanced Chipset Features page.

System BIOS Cacheable (Disabled)

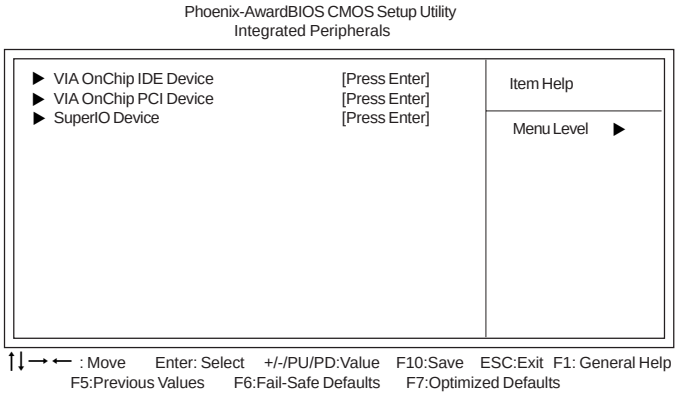
This item allow the system to be cached in memory for faster execution. Leave the item at the default value for better performance.

Init Display First (PCI Slot)

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the motherboard.

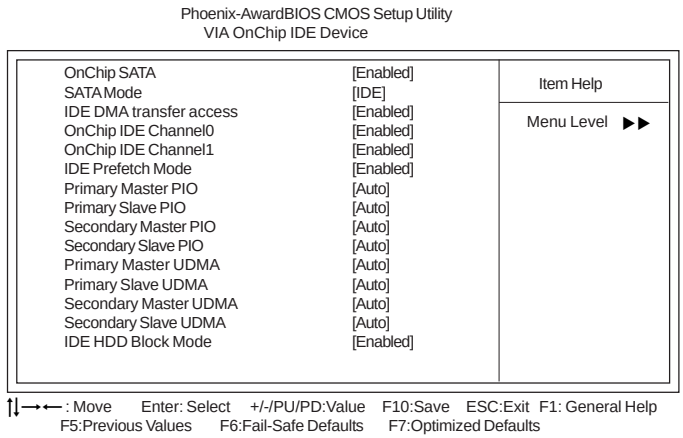
Integrated Peripherals

These options display items that define the operation of peripheral components on the system's input/output ports.



▶VIA OnChip IDE Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



OnChip SATA (Enabled)
This option allows you enable or disable the onboard Serial ATA device.

SATA Mode (IDE)
Use this item to select the mode of the Serial ATA.

IDE DMA transfer access (Enabled)
This item allows you to enable the transfer access of the IDE DMA then burst onto the PCI bus and nonburstable transactions do not.

OnChip IDE Channel0/1(Enabled)
Use these items to enable or disable the PCI IDE channels that are integrated on the mainboard.

IDE Prefetch Mode (Enabled)
The onboard IDE drive interfaces supports IDE prefetching, for faster drive access. If you install a primary and secondary add-on IDE interface, set this field to Disabled if the interface does not support prefetching.

IDE Primary/Secondary Master/Slave PIO (Auto)
Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

IDE Primary/Secondary Master/Slave UDMA (Auto)
Each IDE channel supports a master device and a slave device. This mainboard supports UltraDMA technology, which provides faster access to IDE devices.

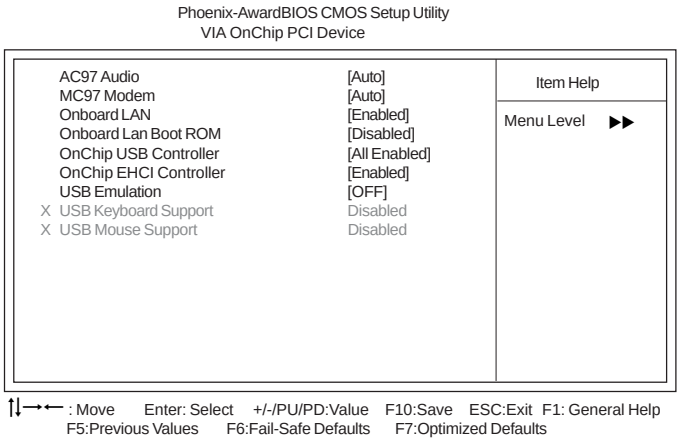
If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this mainboard in order to use an UltraDMA device.

IDE HDD Block Mode (Enabled)
Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

Press <Esc> to return to the Integrated Peripherals page.

▶VIA OnChip PCI Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



AC97 Audio(Auto)

Enables and disables the onboard audio chip. Disable this item if you are going to install a PCI audio add-in card.

MC97 Modem (Auto)

Enables and disables the onboard modem. Disable this item if you are going to install an external modem.

Onboard LAN (Enabled)

Enables and disables the onboard LAN.

Onboard Lan Boot ROM (Disabled)

This item allows you to enable or disable the onboard LAN boot ROM function.

OnChip USB Controller (All Enabled)

Enable this item if you plan to use the Universal Serial Bus ports on this motherboard.

OnChip EHCI Controller (Enable)

This item allows users to enable or disable the onchip EHCI controller.

USB Emulation (OFF)

This item provides three options, OFF-- Doesn't support any USB device on DOS, KB/MS -- Support USB legacy keyboard and mouse, NO support USB storage, and ON -- Support USB legacy keyboard, mouse and storage.

USB Keyboard Support (Enable)

This item allows the BIOS to interact with a USB keyboard or mouse to work with MS-DOS based utilities and non-Windows modes.

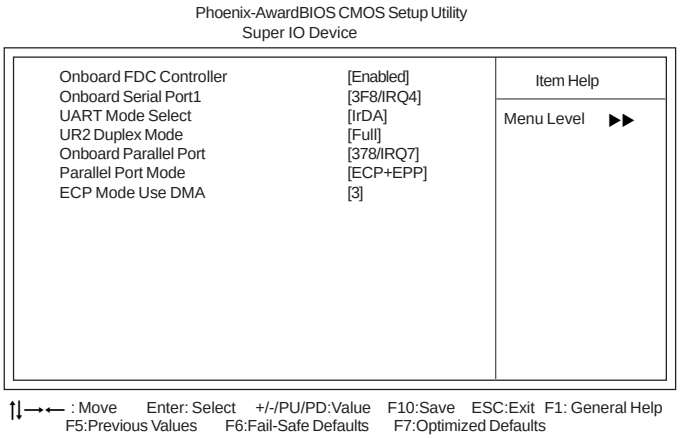
USB Mouse Support (Enabled)

Enables this item if you plan to use a mouse connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

Press <Esc> to return to the Integrated Peripherals page.

▶SuperIO Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Onboard FDC Controller (Enabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port1 (3F8/IRQ4)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1 (COM1).

UART Mode Select (IrDA)

This item enables users to select the infrared communication protocol-Normal (default), IrDA, or ASKIR.

UR2 Duplex Mode (Full)

This field is available when UART Mode is set to either ASKIR or IrDA. This item enables you to determine the infrared function of the onboard infrared chip.

Onboard Parallel Port (378/IRQ7)

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.

Parallel Port Mode (ECP)

Enables you to set the data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP.

SPP allows data output only. Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) are bi-directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP- and ECP-aware peripherals.

ECP Mode Use DMA (3)

When the onboard parallel port is set to ECP mode, the parallel port can use DMA 3 or DMA 1.

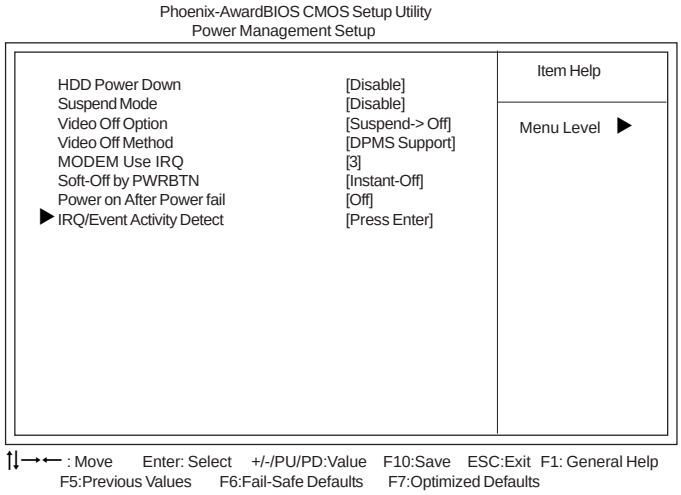
Press <Esc> to return to the Integrated Peripherals page.

Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power-saving mode. If any item in the list of Reload Global Timer Events is Enabled, then any activity on that item will reset the timeout counters to zero.

If the system is suspended or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock.



HDD Power Down (Disable)
The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from 1 Min to 15 Min and Disable.

Suspend Mode (Disable)
After the selected period of system inactivity, all devices except the CPU shut off.

Video Off Option (Suspend-> Off)
This option defines if the video is powered down when the system is put into suspend mode.

Video Off Method (DPMS Support)
This item defines how the video is powered down to save power.

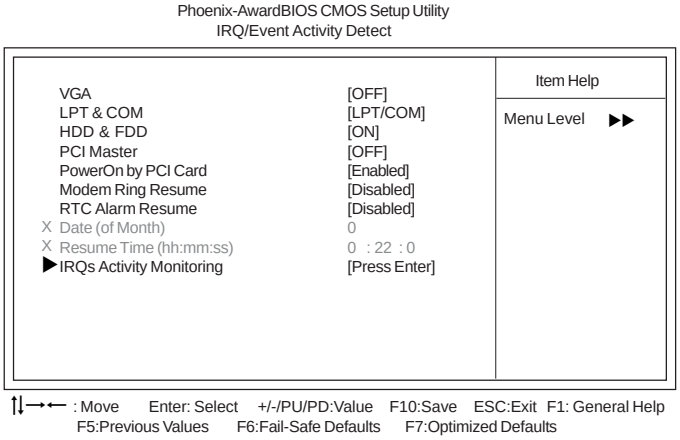
MODEM Use IRQ (3)
If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

Soft-Off by PWRBTN (Instant-Off)
Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

Power on After Power fail (Off)
This item defines how the system will act after AC power loss during system operation. When you set to Off, it will keep the system in Off state until the power button is pressed.

►IRQ/Event Activity Detect (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



VGA (OFF)
When set to On, the system power will resume the system from a power saving mode if there is any VGA activity.

LPT & COM (LPT/COM)
When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the serial ports, or the parallel port.

HDD & FDD (ON)
When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the hard disk drive or the floppy diskette drive.

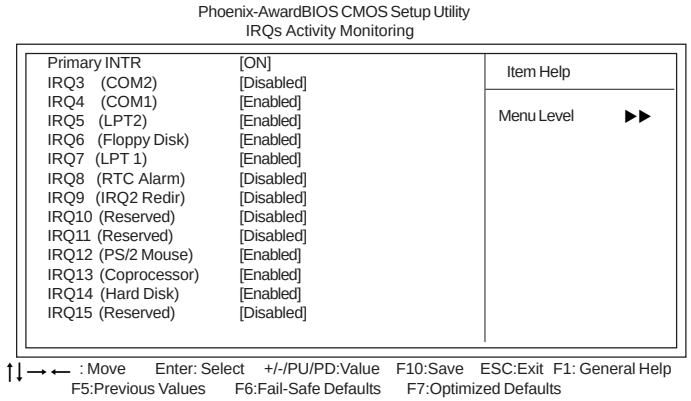
PCI Master (OFF)
When set to Off, any PCI device set as the Master will not power on the system.

PowerOn by PCI Card (Enabled)
Use this item to enable PCI activity to wakeup the system from a power saving mode.

Modem Ring Resume (Disabled)
Use this item to enable modem activity to wakeup the system from a power saving mode

RTC Alarm Resume (Disabled)
When set to Enabled, additional fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

►IRQs Activity Monitoring (Press Enter)
This screen enables you to set IRQs that will resume the system from a power saving mode.

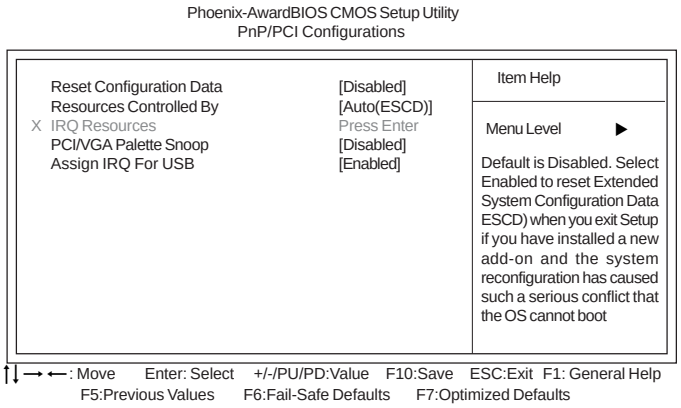


Set any IRQ to Enabled to allow activity at the IRQ to wake up the system from a power saving mode.

Press <Esc> to return to the Integrated Peripherals page.

PNP/PCI Configurations

These options configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the ISA and PCI buses on the motherboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility for the motherboard to work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:



Reset Configuration Data (Disabled)

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS Setup is cleared from memory.

Resources Controlled By (Auto(ESCD))

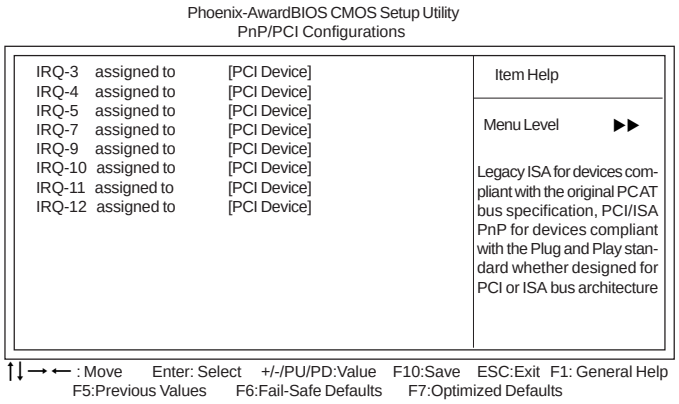
You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to Plug and Play devices as they are required.

If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources submenu.

In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.

►IRQ Resources

The submenu allows you to individually assign an interrupt type for interrupts IRQ-3 to IRQ-15.



In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.

In the Memory Resources submenu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA expansion card. Use the section item Reserved Memory Length to set the amount of reserved memory. Press <Esc> to close the Memory Resources submenu.

PCI/VGA Palette Snoop (Disabled)

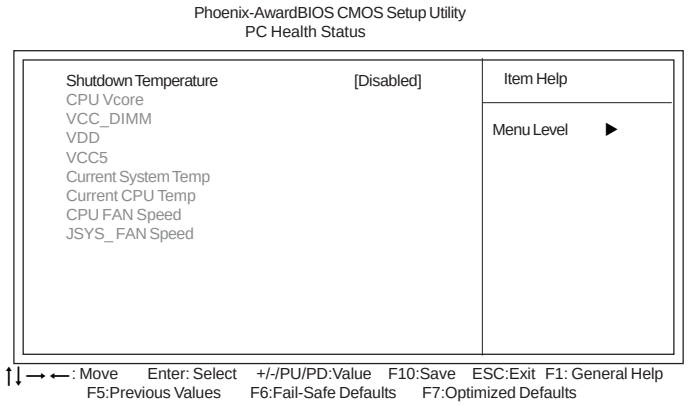
This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

Assign IRQ For USB (Enabled)

Names the interrupt request (IRQ) line assigned to the USB (if any) on your system. Activity of the selected IRQ always awakens the system.

PC Health Status

On motherboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds.



Shutdown Temperature (Disabled)

Enables you to set the maximum temperature the system can reach before powering down.

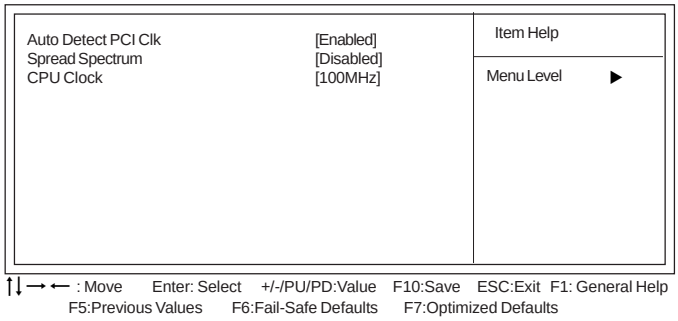
System Component Characteristics

These items allow end users and technicians to monitor data provided by the BIOS on this motherboard. You cannot make changes to these fields.

- CPU Vcore
- Current System Temp
- Current CPU Temp
- CPU FAN Speed
- JSYS_FAN Speed

Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.



Auto Detect PCI Clk (Enabled)

When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.

Spread Spectrum (Disabled)

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

CPU Clock (100MHz)

Use the CPU Host Clock to set the frontside bus frequency for the installed processor (usually 200MHz, 133 MHz or 100MHz).

Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:

Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

PASSWORD DISABLED

If you have selected “System” in “Security Option” of “BIOS Features Setup” menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected “Setup” at “Security Option” from “BIOS Features Setup” menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Save & Exit Setup Option

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu:

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Chapter 4
Using the Motherboard Software

About the Software CD-ROM

The support software CD-ROM that is included in the motherboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your motherboard version. More information on some programs is available in a README file, located in the same directory as the software.

Never try to install all software from folfer that is not specified for use with your motherboard.

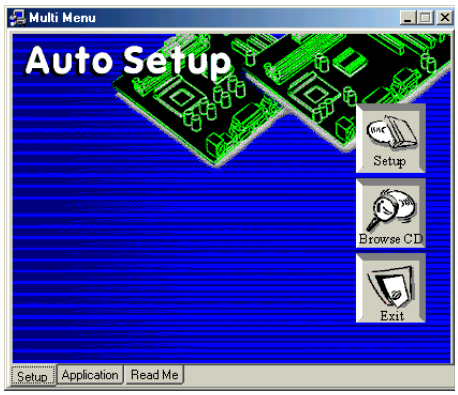
Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

Auto-installing under Windows 98/ME/2000/XP

The Auto-install CD-ROM makes it easy for you to install the drivers and software for your motherboard.

If the Auto-install CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to the Utility Folder Installation Notes later in this chapter.

The support software CD-ROM disc loads automatically under Windows 98/ME/2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.



If the opening screen does not appear; double-click the file "setup.exe" in the root directory.

Setup Tab

Setup	Click the **Setup** button to run the software installation program. Select from the menu which software you want to install.
Browse CD	The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD. Before installing the software from Windows Explorer, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly. Some software is installed in separate folders for different operating systems, such as DOS, WIN NT, or WIN98/95. Always go to the correct folder for the kind of OS you are using. In install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.
Exit	The **EXIT** button closes the Auto Setup window.

Application Tab

Lists the software utilities that are available on the CD.

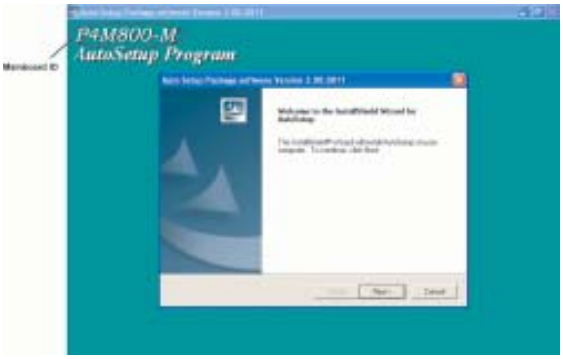
Read Me Tab

Displays the path for all software and drivers available on the CD.

Running Setup

Follow these instructions to install device drivers and software for the motherboard:

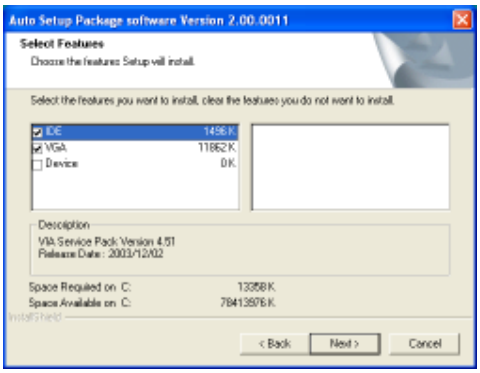
1. *Click **Setup**. The installation program begins:*



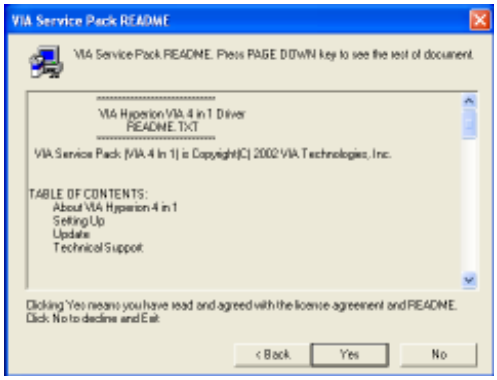
The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

The motherboard identification is located in the upper left-hand corner.

2. *Click **Next.** The following screen appears:*



3. *Check the box next to the items you want to install. The default options are recommended.*
4. *Click **Next** run the Installation Wizard. An item installation screen appears:*



5. *Follow the instructions on the screen to install the items.*

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Manual Installation

Insert the CD in the CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

These software(s) are subject to change at anytime without prior notice. Please refer to the support CD for available software.

AMI/AWARD Flash Utility

This utility lets you erase the system BIOS stored on a Flash Memory chip on the motherboard, and lets you copy an updated version of the BIOS to the chip. Proceed with caution when using this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction. Refer to Chapter 3, Using BIOS *for more information.*

WinFlash Utility

The Award WinFlash utility is a Windows version of the DOS Award BIOS flash writer utility. The utility enables you to flash the system BIOS stored on a Flash Memory chip on the motherboard while in a Windows environment. This utility is currently available for WINXP\ME\2000\98SE. To install the WinFlash utility, run WINFLASH.EXE from the following directory: \UTILITY\WINFLASH 1.51

This concludes Chapter 4.

Chapter 5
VIA VT8237 SATA RAID Setup Guide

VIA RAID Configurations

The motherboard includes a high performance Serial ATA RAID controller integrated in the VIA VT8237 Southbridge chipset. It supports RAID 0, RAID 1 and JBOD with two independent Serial ATA channels.

RAID: (Redundant Array of Independent Disk Drives) use jointly several hard drives to increase data transfer rates and data security. It depends on the number of drives present and RAID function you select to fulfill the seurity or performance pruposes or both.

RAID 0 (called data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. Two hard disks perform the same work as a single drive but at a sustained data transfer rate, double that of a single disk alone, thus improving data access and storage.

RAID 1 (called data mirroring) copies and maintains an identical image of data from one drive to a second drive. If one drive fails, the disk array management software directs all applications to the surviving drive as it contains a complete copy of the data in the other drive. This RAID configuration provides data protection and increases fault tolerance to the entire system.

JBOD: (Just a Bunch of Drives) Also known as "Spanning". Two or more hard drives are required. Several hard disk types configured as a single hard disk. The hard drives are simply hooked up in series. This expands the capacity of your drive and results in a useable total capacity. However, JBOD will not increase any performance or data security.

Install the Serial ATA (SATA) hard disks

The VIA VT8237 Southbridge chipset supports Serial ATA hard disk drives. For optimal performance, install identical drives of the same model and capacity when creating a RAID set.

- If you are creating a RAID 0 (striping) array of performance, use two new drives.
- If you are creating a RAID 1 (mirroring) array for protection, you can use two new drives or use an existing drive and a new drive (the new drive must be of the same size or larger than the existing drive). If you use two drives of different sizes, the smaller capacity hard disk will be the base storage size. For example, one hard disk has an 80GB storage capacity and the other hard disk has 60GB storage capacity, the maximum storage capacity for the RAID 1 set is 60GB.

Follow these steps to install the SATA hard disks for RAID configuration.

i Before setting up your new RAID array, verify the status of your hard disks. Make sure the Master/Slave jumpers are configured properly.

ii Both the data and power SATA cables are new cables. You cannot use older 40-pin 80-conductor IDE or regular IDE power cables with Serial ATA drives. Installing Serial ATA (SATA) hard disks require the use of new Serial ATA cable (4-conductor) which supports the Serial ATA protocol and a Serial ATA power cable.

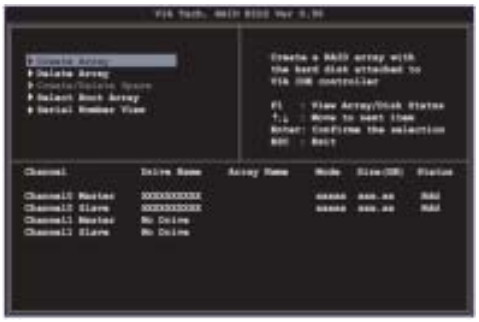
iii Either end of the Serial ATA data cable can be connected to the SATA hard disk or the SATA connector on the motherboard.

1 Install the Serial ATA hard disks into the drive bays.
2 Connect one end of the Serial ATA cable to the motherboard's primary Serial ATA connector (SATA1).
3 Connect the other end of Serial ATA cable to the master Serial ATA hard disk.
4 Connect one end of the second Serial ATA cable to the motherboard's secondary Serial ATA connector (SATA2).
5 Connect the other end of Serial ATA cable to the secondary Serial ATA hard disk.
6 Connect the Serial ATA power cable to the power connector on each drive.
7 Proceed to section "Entering VIA Tech RAID BIOS Utility" for the next procedure.

Entering VIA Tech RAID BIOS Utility

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

The RAID BIOS information on the setup screen shown is for reference only. What you see on your screen may not by exactly the same as shown.

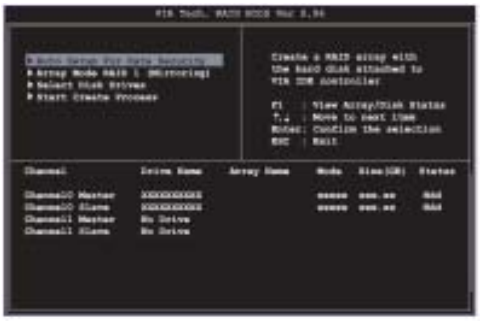


On the upper-right side of the screen is the message and legend box. The keys on the legend box allow you to navigate through the setup menu options. The message describes the function of each menu item. The following lists the keys found in the legend box with their corresponding functions.

F1	View Array
↑↓	Move to the next item
Enter	Confirm the selection
ESC	Exit

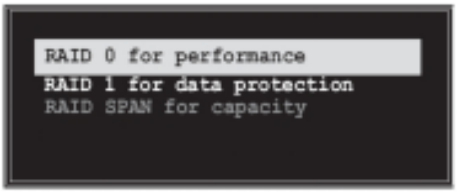
Create Array

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



RAID 0 for performance

1 Select the second option item **Array Mode**, then press the <Enter> key. The RAID system setting pop-up menu appears.



2 Select **RAID 0 for performance** from the menu and press <Enter>. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Performance or manually configure the RAID array for stripped sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.

3 Select **Select Disk Drives**, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. An asterisk is placed before the selected drive.

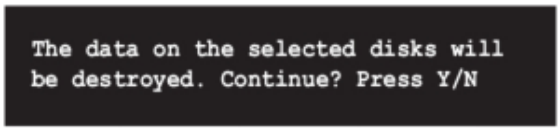
4 Select **Block Size**, then press <Enter> to set array block size. Lists of valid array block sizes are displayed on a pop-up menu.

Tip *For server systems, it is recommended to use a lower array block size. For multimedia computer systems used mainly for audio and video editing, a higher array block size is recommended for optimum performance.*

Use arrow keys to move selection bar on items and press <Enter> to select.

5 Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation appears:

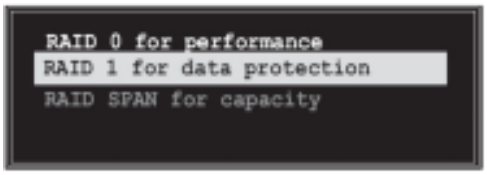
The same confirmation message appears when the *Auto Setup for Performance* option is selected.



Press "Y" to confirm or "N" to return to the configuration options.

RAID 1 for data protection

1 Select the second option item Array Mode, then press the <Enter> key. The RAID system setting pop-up menu appears.



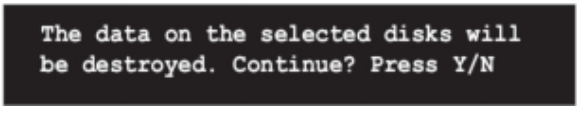
2 Select RAID 1 for data protection from the menu and press <Enter>. Select next task from pop-up menu. The task Create only creates the mirrored set without creating a backup. Create and duplicate creates both mirrored set and backup.

3 Select task and press <Enter>. The screen returns to Create Array menu items. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Data Security or manually configure the RAID array for mirrored sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.

4 Select Select Disk Drives, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. (An asterisk is placed before a selected drve.)

5 Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation message appears:

The same confirmation message appears when the *Auto Setup for Performance* option is selected.

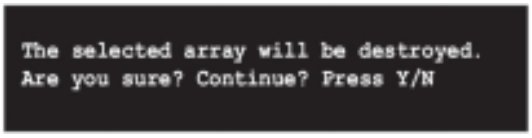


Press "Y" to confirm or "N" to return to the configuration options.

Delete Array

1 In the VIA RAID BIOS utility main menu, select **Delete Array** then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.

2 Press the <Enter> key to select a RAID array to delete. The following confirmation message appears.



Press “Y” to confirm or “N” to return to the configuration options.

Select Boot Array

1 In the VIA RAID BIOS utility main menu, select Select Boot Array then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.

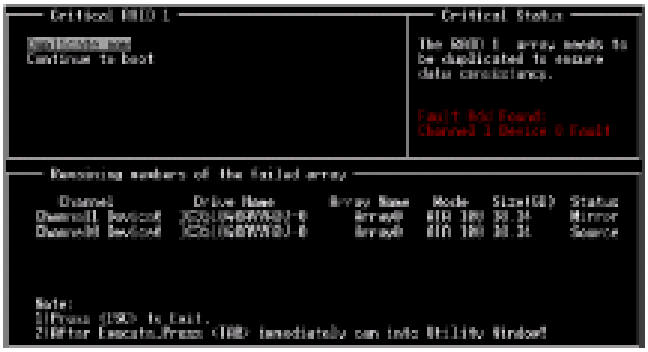
2 Press the <Enter> key to select a RAID array for boot. The Status of the selected array will change to Boot. Press <ESC> key to go return to menu items. Follow the same procedure to deselect the boot array.

Serial Number View

1 In the VIA RAID BIOS utility main menu, select Serial Number View then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays. Move the selection bar on each item and the serial number is displayed at the bottom of the screen. This option is useful for identifying same model disks.

Duplicate Critical RAID 1 Array

When booting up the system, BIOS will detect if the RAID 1 array has any inconsistencies between user data and backup data. If BIOS detects any inconsistencies, the status of the disk array will be marked as critical, and BIOS will prompt the user to duplicate the RAID 1 in order to ensure the backup data consistency with the user data.



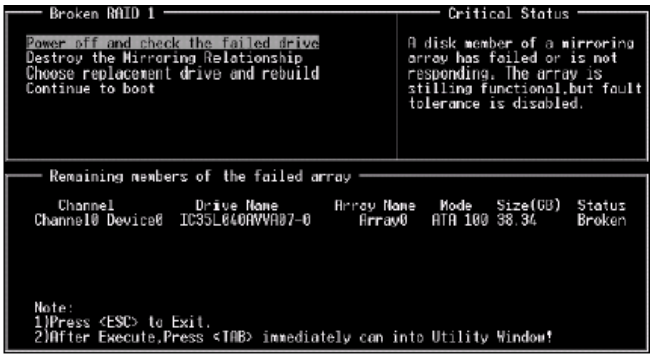
If user selects **Continue to boot**, it will enable duplicating the array after booting into OS.

Rebuild Broken RAID 1 Array

When booting up the system, BIOS will detect if any member disk drives of RAID has failed or is absent. If BIOS detects any disk drive failures or missing disk drives, the status of the array will be marked as broken.

If BIOS detects a broken RAID 1 array but there is a spare hard drive available for rebuilding the broken array, the spare hard drive will automatically become the mirroring drive. BIOS will show a main interface just like a duplicated RAID 1. Selecting **Continue to boot** enables the user to duplicate the array after booting into operating system.

If BIOS detects a broken RAID 1 array but there is no spare hard drive available for rebuilding the array, BIOS will provide several operations to solve such problems.



1. Power off and Check the Failed Drive:

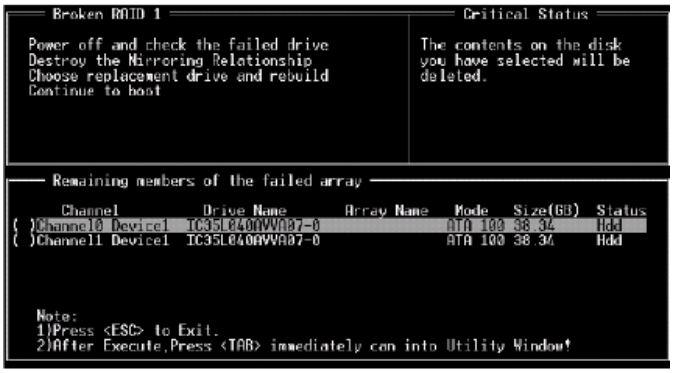
This item turns off the computer and replaces the failed hard drive with a good one. If your computer does not support APM, you must turn off your computer manually. After replacing the hard drive, boot into BIOS and select **Choose replacement drive and rebuild** to rebuild the broken array.

2. Destroy the Mirroring Relationship:

This item cancels the data mirroring relationship of the broken array. For broken RAID 1 arrays, the data on the surviving disk will remain after the destroy operation. However, **Destroy the Mirroring Relationship** is not recommended because the data on the remaining disk will be lost when the hard drive is used to create another RAID 1 array.

3. Choose Replacement Drive and Rebuild:

This item enables users to select an already-connected hard drive to rebuild the broken array. After choosing a hard drive, the channel column will be activated.



Highlight the target hard drive and press <Enter>, a warning message will appear. Press **Y** to use that hard drive to rebuild, or press **N** to cancel. Please note selecting option **Y** will destroy all the data on the selected hard drive.

4. Continue to boot:

This item enables BIOS to skip the problem and continue booting into OS.

Installing RAID Software & Drivers

Install Driver in Windows OS

New Windows OS (2000/XP/NT4) Installation

The following details the installation of the drivers while installing Windows XP.

1 Start the installation:
Boot from the CD-ROM. Press **F6** when the message "Press F6 if you need to install third party SCSI or RAID driver' appears.
2 When the Windows Setup window is generated, press **S** to specify an Additional Device(s).
3 Insert the driver diskette ***VIA VT8237 Disk Driver*** into drive A: and press <Enter>.
4 Depending on your operation system, choose **VIA Serial ATA RAID Controller (Windows XP), VIA Serial ATA RAID Controller (Windows 2000) or VIA Serial ATA RAID Controller (Windows NT4)** from the list that appears on Windows XP Setup screen, press the <Enter> key.
5 Press <Enter> to continue with installation or if you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, press <Enter> to continue with installation.
6 From the Windows XP Setup screen press the <Enter> key. Setup will now load all device files and the continue the Windows XP installation.

Existing Windows XP Driver Installation

1 Insert the ECS CD into the CD-ROM drive.
2 The CD will auto-run and the setup screen will appear.
3 Under the Driver tab, click on **VIA SATA RAID Utility.**
4 The drivers will be automatically installed.

Confirming Windows XP Driver Installation

1 From Windows XP, open the **Control Panel** from **My Computer** followed by the System icon.
2 Choose the **Hardware** tab, then click the **Device manager** tab.
3 Click the "+" in front of the **SCSI and RAID Controllers** hardware type. The driver **VIA IDE RAID Host Controller** should appear.

Installation of VIA SATA RAID Utility

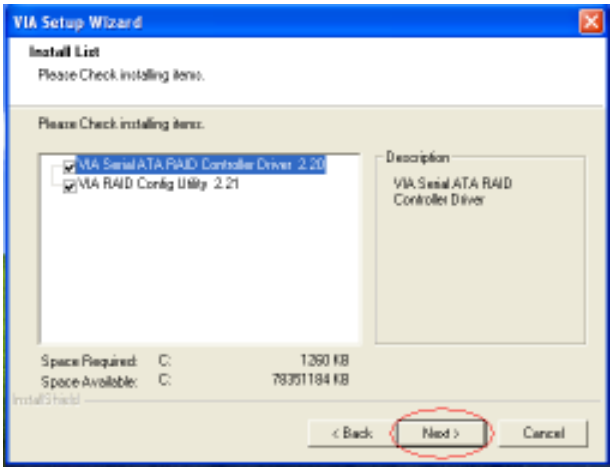
The VIA SATA RAID Utility is the software package that enables high-performance RAID 0 arrays in the Windows*XP operating system. This version of VIA SATA RAID Utility contains the following key features:

- Serial ATA RAID driver for Windows XP
- VIA SATA RAID utility
- RAID0 and RAID1 functions

Insert the ECS CD and click on the **Setup** to install the software.

The **InstallShield Wizard** will begin automatically for installation. Click on the **Next** button to proceed the installation in the welcoming window.

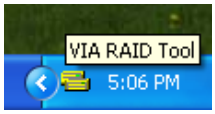
Put a check mark in the check box to install the feature you want. Then click **Next** button to proceed the installation.



Using VIA RAID Tool

Once the installation is complete, go to Start---> Programs---> VIA---> raid_tool.exe to enable VIA RAID Tool.

After the software is finished installation, it will automatically started every time Windows is initiated. You may double-click on the icon shown in the system tray of the tool bar to launch the **VIA RAID Tool** utility.



The main interface is divided into two windows and the toolbar above contain the main functions. Click on these toolbar buttons to execute their specific functions. The left windowpane displays the controller and disk drives and the right windowpane displays the details of the controller or disk drives. The available features are as following:

View by Controller

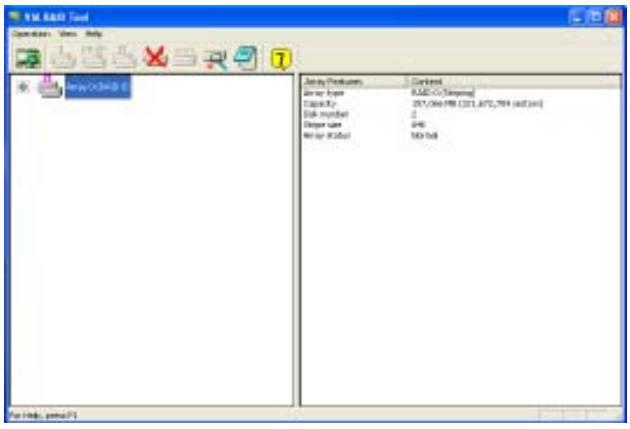
View by Devices

View Event log

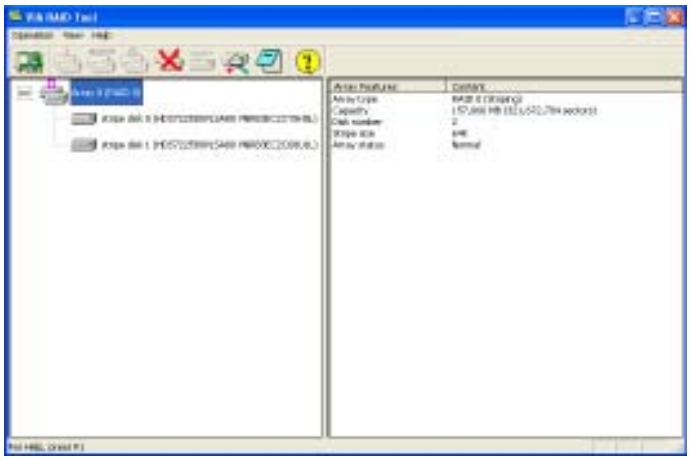
Help Topics

It means that VT8237 SATA RAID only has the feature of monitoring the statuses of RAID 0 and RAID 1.

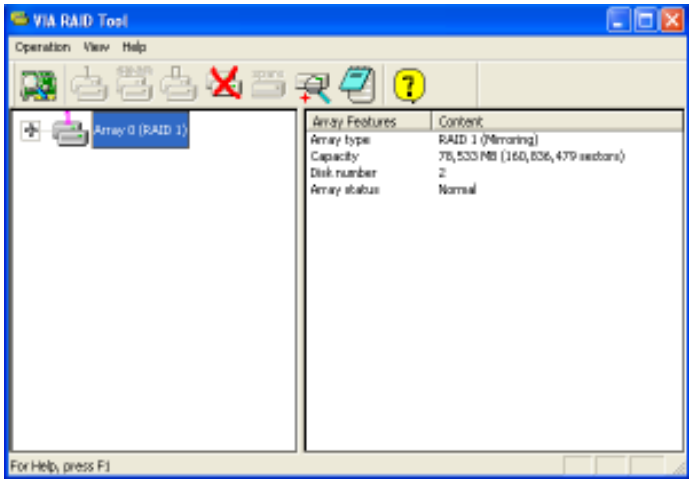
Click on  or  button to determine the viewing type of left windowpane. There are two viewing types: By controllers and by device. Click on the object in the left windowpane to display the status of the object in the right windowpane. The following screen shows the status of Array 0-RAID 0.



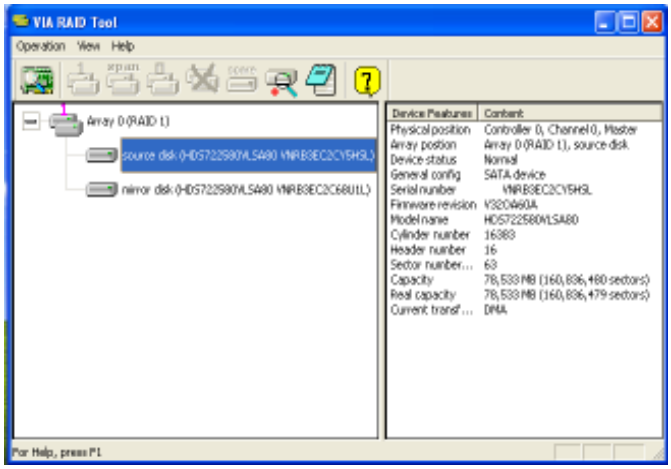
Click on the plus (+) symbol next to Array 0--RAID 0 to see the details of each disk.



You may also use the same  or  button to view the statuses of Array 0--RAID 1.



Click on the plus (+) symbol next to Array 0; RAID 1 to see the details of each disk.



Caractéristiques

Processeur

P4M800-M utilise un type de socket 478 broches de Pentium 4 présentant les caractéristiques suivantes :

- Supporte les CPU Pentium 4/Celeron FSB Intel 800/533/400 MHz
- Prend en charge le CPU de Intel technologie " Hyper-Threading"

La technologie “Hyper-Threading” permet au système d’exploitation de penser qu’il est connecté à deux processeurs, permettant d’exécuter deux threads en parallèle, à la fois sur des processeurs «logiques» séparés dans le même processeur physique.

Chipset

Les chipsets P4M800 Northbridge (NB) et VIA VT8237 Southbridge (SB) sont basés sur une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées.

P4M800 (NB)

- Contrôleur de mémoire 64 bits avancé supportant la SDRAM DDR 400/333/ 266
- Modes de transfert en 8X/4X conforme AGP 3.0 avec prise en charge de Fast Write
- Prend en charge les modes de transfert 66 MHz, 4X et 8X, interface d’hôte V-Link avec bande passante totale de 533 Mo/s
- Graphiques intégrés avec contrôleurs vidéo 3D/2D.

VT8237 (SB)

- Supporte une interface Hôte V-Link 66 MHz 16 bits avec une bande passante totale de 1066 Mo/sec.
- Conforme aux spécifications PCI 2.2 en 33 MHz, supportant jusqu’à 6 maîtres PCI
- Contrôleurs d’Hôte ATA Série Intégrés, supportant des vitesses de transfert allant jusqu’à 1.5Gb/s
- Contrôleur EIDE de Mode Maître UltraDMA 133/100/66 à Canal double intégré
- Contrôleur USB 2.0, supportant 8 ports USB 2.0
- Contrôleur Réseau, supportant Fast Ethernet MAC 100/10 Mb de classe entreprise
- Contrôleur clavier intégré avec support de souris PS2

Mémoire

- Prend en charge les types de mémoire DDR400/333/266
- Peut recevoir dexu sockets DIMM sans mémoire tampon en 2.5V de 184 broches
- Capacité maximum totale de 2 Go

Audio

- Conforme au CODEC AC’97 V2.3
- Prend en charge le CODEC audio 6 canaux destiné aux systèmes multimédia PC
- Offre trois entrées stéréo de niveau de ligne analogique avec contrôle de volume 5 bits: Ligne d’entrée, CD, AUX
- Prend en charge la vitesse d’échantillonnage double (96KHz) de la lecture audio DVD
- Compatible Direct Sound 3D™

Options d'extension

La carte mère est livrée avec les options d'extensions suivantes:

- Trois logements PCI 32 bits
- Une logement AGP
- Deux barrettes IDE avec prise en charge de quatre périphériques IDE
- Une interface de lecteur de disquette
- Deux connecteurs SATA à 7 broches
- Un logement Communications Networking Riser (CNR)

La carte mère prend en charge la maîtrise de bus Ultra DMA avec des débits de 133/100/66Mo/s.

LAN interne (optionnel)

Cette carte mère prend en charge les chipsets LAN suivants :

- Solution à couche physique 100Base-TX/10Base-T à simple puce.
- Semi-duplex et Duplex intégral
- Interface MII vers Contrôleur Ethernet
- Conforme à tous les Standards IEEE802.3, 10Base-T et 100Base-TX Applicables

E/S intégrées

La carte mère possède un jeu complet de ports d'E/S et de connecteurs:

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port VGA
- Un port parallèle
- Quatre ports USB
- Un port LAN (optionnel)
- Prises audio pour microphone, ligne d'entrée et ligne de sortie

Microprogramme BIOS

La carte mère utilise Award BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les suivantes:

- Gestion de l'alimentation
- Alarmes de réveil
- Paramètres de CPU
- Synchronisation du CPU et de la mémoire

Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.

Certaines spécifications matérielles et éléments de logiciels peuvent être modifiés sans avertissement.

Feature

Prozessor

Das P4M800-M verwendet einen 478-Pin Sockel vom Typ Pentium 4 mit den folgenden Merkmalen:

- Unterstützt Intel 800/533/400 MHz FSB Pentium 4/Celeron CPUs
- Unterstützt eine CPU mit Intel „Hyper-Threading“ Technologie

Bei der „Hyper-Threading” Technologie „denkt” das Betriebssystem, dass es an zwei Prozessoren angeschlossen ist. Dadurch können im selben physikalischen Prozessor zwei Threads parallel auf separaten „logischen“ Prozessoren laufen.

Chipsatz

Die P4M800 Northbridge (NB) und VIA VT8237 Southbridge (SB) Chipsätze basieren auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung.

P4M800 (NB)

- 64-Bit-Advanced Memory Controller mit Unterstützung für DDR400/333/266/200 DDR SDRAM
- Entspricht AGP 3.0, 8X/4X Transfermodi mit Unterstützung für Fast Write
- Unterstützt 66 MHz 4X und 8X Transfermodi, V-Link Host-Interface mit einer Gesamtbandbreite von 533 MB/s
- Integrierte Grafik mit 3D/2D-Videocontrollern

VT8237 (SB)

- Unterstützt 16-bit 66 MHz V-Link Host-Interface mit einer totalen Bandbreite von 1066 MB/Sek..
- Entspricht den Richtlinien der PCI 2.2- spezifikationen von 33 MHz, mit einer Unterstützung von bis zu 6 PCI Master
- Eingebauter serienmäßiger ATA-Host-Controller, welcher Datenübertragungsraten von bis zu 1.5Gb/Sek. unterstützt.
- Eingebauter Doppel-Kanal UltraDMA 133/100/66 Master Modus EIDE-Controller
- USB 2.0 Controller, mit einer Unterstützung für 8 USB 2.0 Steckvorrichtungen
- Network Controller (Netz-Controller), mit einer Unterstützung eines 100/10 Mb Fast Ethernet MAC der Betriebsklasse
- Eingebauter Tastatur-Controller mit einer PS2-Maus-Unterstützung

Speicher

- Unterstützt DDR400/333/266-Speicherausführungen
- Besitzt zwei ungepufferte 2.5V 184-pol. Steckplätze
- Unterstützt eine Gesamtkapazität von bis zu 2 GB

Audio

- Entspricht AC' 97 V2.3 CODEC
- Unterstützt 6-Kanal Audio CODEC, entwickelt für Multimedia PC-Systeme
- Stellt drei analoge Line-Level Stereoeingänge mit 5-bit Lautstärkeregelung zur Verfügung: Line-in, CD, AUX
- Unterstützt bei der DVD-Audiowiedergabe die doppelte Samplingrate (96KHz)
- Kompatibel mit Direct Sound 3D™

Erweiterungsoptionen

Das Motherboard bietet die folgenden Erweiterungsoptionen:

- Drei 32-bit PCI-Steckplätze
- Ein AGP-Slot
- Zwei IDE-Stecker, die vier IDE-Kanäle unterstützen
- Ein Steckplatz für ein Diskettenlaufwerk
- Zwei 7-Pin SATA-Stecker
- Ein Communications Networking Riser (CNR) Slot

Das Motherboard unterstützt Ultra DMA-Busmaster mit Transferraten von 133/100/66 MB/s.

Integriertes LAN (optional)

Dieses Mainboard kann einen der folgenden LAN-Chipsätze unterstützen:

- Single-Chip 100Base-TX/10Base-T Bitübertragunsschicht-Lösung
- Halb- und Vollduplex
- MII Interface-zu-Ethernet Controller
- Entspricht allen anwendbaren Standards: IEEE802.3, 10Base-T und 100Base-TX

Integrierte I/O-Schnittstellen

Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:

- Zwei PS/2-Schnittstellen für Tastatur und Maus
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Vier USB - Schnittstellen
- Eine LAN-Schnittstelle (optional)
- Audiobuchsen für Mikrofon, Line-In und Line-Out

BIOS Firmware

Dieses Motherboard setzt das AWARD BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden:

- Energieverwaltung
- Wake-up Alarm
- CPU-Parameter
- CPU- und Speichertiming

Mit der Firmware können auch Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.

Einige Hardware- und Software-Spezifikationen können jederzeit und ohne vorherige Ankündigung geändert werden.

Caratteristiche

Processore

P4M800-M si avvale di un tipo di presa a 478 pin di Pentium 4 che offre le seguenti caratteristiche:

- Supporto di CPU Intel Pentium 4/Celeron FSB a 800/533/400 MHz
- Supporto di CPU con Intel tecnologia “Hyper-Threading”

La tecnologia “Hyper-Threading” simula per il sistema operativo una sorta di doppio processore e consente a due processi di essere eseguiti in parallelo, ciascuno su un diverso processore “logico” all’interno del medesimo processore fisico.

Chipset

I chipset P4M800 Northbridge (NB) e VIA VT8237 Southbridge (SB) sono basati su un’innovativa architettura scalabile e offrono collaudata affidabilità e prestazioni comprovate.

P4M800 (NB)

- Controller avanzato per la memoria a 64 bit, che garantisce il supporto a SDRAM DDR400/333/266
- Modalità di trasferimento 8X/4X conforme a AGP 3.0 con supporto di funzionalità Fast Write
- Supporto di interfaccia Host Ultra V-Link a 66 MHz, modalità di trasferimento 4X e 8X, con larghezza di banda totale di 533 MB/sec.
- Grafica integrata con controller video 3D/2D

VT8237 (SB)

- Supporto Dell’interfaccia Host V-Link a 16bit 66 MHz con larghezza di banda totale pari a 1066 MB/sec.
- Conforme alle specifiche PCI 2.2 a 33 MHz, in grado di supportare fino a 6 master PCI.
- Controller Serial ATA Integrato, in grado di garantire trasferimento dati fino a 1.5Gb/s.
- Controller Master integrato UltraDMA a due canali 133/100/66 Master Mode EIDE Controller
- Controller USB 2.0, in grado di supportare sino a 8 porte USB 2.0.
- Controller di Rete, con supporto della modalità Fast Ethernet MAC enterprise classe 100/10 Mb
- Controller integrato per la Tastiera e supporto mouse PS2

Memoria

- Supporta le memorie DDR 400/333/266/200
- Provvisto di due socket DIMM 2.5V a 184 pin non dotati di buffer.
- Una capacità massima totale di 2 GB

Audio

- Conforme alla specifica AC’97 v2.3 CODEC
- Supporto di CODEC audio a 6 canali per sistemi PC multimediali
- Tre ingressi analogici stereo lineari con controllo volume a 5 bit: Line-In, CD, AUX
- Supporto di velocità di campionamento doppia (96 KHz) per la riproduzione audio di DVD
- Compatibile con Direct Sound 3D™

Opzioni di espansione

La scheda madre è dotata delle seguenti opzioni di espansione:

- Uno slot AGP
- Tre slot PCI a 32 bit
- Due connettori IDE che supportano quattro canali IDE
- Un'interfaccia per unità disco floppy
- Due connettori SATA a 7 pin
- Uno slot CNR (Communications Networking Riser)

Questa scheda madre supporta masterizzazione bus Ultra DMA con velocit?di trasferimento di 133/100/66 MB/s.

LAN integrata (opzionale)

La scheda madre offre supporto per uno dei seguenti chipset LAN:

- Soluzione livello fisico 100Base-TX/10Base-T a chip unico
- Half e Full Duplex
- Interfaccia MII su Ethernet Controller
- Supporto di tutti gli standard esistenti IEEE802.3, 10Base-T e 100Base-Tx

I/O integrati

La scheda madre offre una serie completa di porte e connettori I/O:

- Due porte PS/2 per mouse e tastiera
- Una porta seriale
- Una porta VGA
- Una porta parallela
- Quattro porte USB
- Una porta LAN (opzionale)
- Prese jack audio per microfono, line-in e line-out

Firmware BIOS

La scheda madre si avvale del BIOS AWARD che consente la configurazione personalizzata di molte funzionalità del sistema, tra cui:

- Gestione dell'alimentazione
- Allarmi di attivazione
- Parametri CPU
- Sincronizzazione di CPU e memoria

Il firmware consente inoltre di impostare i parametri per diverse velocità di clock del processore.

Alcune specifiche hardware e voci di software possono essere modificate senza preavviso.

Característica

Procesador

P4M800-M usa un tipo de zócalo de 478-pin de Pentium 4 que lleva las sigte. características:

- Soporta las CPUs de Intel 800/533/400 MHz FSB Pentium 4/Celeron
- Soporta la CPU con Intel tecnología "Hyper-Threading"

La tecnología “Hyper-Threading” habilita el sistema operativo en pensar que está conectado a dos procesadores, que permite dos hilos a correr en paralelo, ambos en procesadores "lógicos" separados dentro de un mismo procesador físico.

Chipset

El chipset P4M800 Northbridge (NB) y VIA VT8237 Southbridge (SB) se basan de una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

P4M800 (NB)

- Controlador de memória avanzado de 64-bit, suportando DDR400/333/266/200 DDR SDRAM.
- Modos de transferencia 8X/4X con conformidad AGP 3.0 y soporte Fast Write
- Soporta modos de transferencia 4X y 8X de 66 MHz, interfaz V-Link Host con ancha de banda total de 533 MB/s
- Gráficas integradas con controladores de vídeo 3D/2D

VT8237 (SB)

- Soporta la interfaz 16-bit 66 MHz V-Link Host con ancha de banda total de 1066 MB/seg.
- Conforme con la especificación PCI 2.2 en 33 MHz, que soporta hasta 6 másters de PCI
- Controladores Anfitriones Serial integrados, que soporta los índices de transferencia de datos hasta 1.5Gb/s
- Controlador EIDE del Modo Máster UltraDMA 133/100/66 de Canal Dual integrado
- Controlador USB 2.0, con soporte para 8 puertos USB 2.0
- Controlador de Redes, que soporta Fast Ethernet MAC de 100/10Mb de clase empresarial
- Controlador de teclado integrado con soporte de ratón PS2

Memoria

- Soporta los tipos de memoria DDR400/333/266
- Acomoda dos zócalo DIMM de 2.5V 184-pin sin buffer
- Una capacidad máxima total de 2 GB

Audio

- Conforme con el CODEC AC’97 v2.3
- Soporta CODEC de audio de 6 canales diseñaods para los sistemas multimedia
- Provee tres entradas en estéreo a nivel de línea análogicas con control de volumen de 5-bit: LIne-in, CD, AUX
- Soporta doble índice de muestreo (96KHz) de reproducción de audio DVD
- Compatible con Direct Sound 3D™

Opciones de Expansión

La placa principal viene con las sigtes. opciones de expansión:

- Tres ranuras conforme con 32-bit PCI
- Una ranura AGP
- Dos conectores IDE que soportan cuatro canales IDE
- Una interfaz de la unidad de disco floppy
- Dos conectores SATA de 7-pin
- Una ranura de Communications Networking Riser (CNR)

La placa principal soporta el mastering de bus UltraDMA con índices de transferencia de 133/100/66 MB/s.

LAN Abordo (optativo)

Esta placa principal puede soportar uno de los sigtes. chipset LAN:

- Solución de capa física de 100Base-TX/10Base-T de un solo chip
- Dúplex completo y medio
- Interfaz MII para el Controlador de Ethernet
- Satisface Todas las Normas Aplicables IEEE802.3, 10Base-T y 100Base-TX

I/O Integrado

La placa principal tiene un juego completo de puertos y conectores I/O:

- Dos puertos PS/2 para ratón y teclado
- Un puerto serial
- Un puerto VGA
- Un puerto paralelo
- Cuatro puertos USB
- Un puerto LAN (optativo)
- Clavijas de audio para micrófono, entrada y salida de línea

BIOS Firmware

La placa principal usa AWARD BIOS que habilita usuarios para configurar muchas características de sistema que incluyen las sigtes:

- Administración de Alimentación
- Alarmas para despertar
- Parámetros de CPU
- Cronometraje de CPU y de memoria

También se lo puede usar el firmware para configurar los parámetros para diferentes velocidades de reloj de procesador.

Algunas especificaciones de hardware e ítems de software son sujetos a cambio sin aviso previo.

Características

Processador

P4M800-M usa um tipo de ficha com 478 pinos de Pentium 4 que possui as seguintes características:

- Suporta CPUs Intel 800/533/400 MHz FSB Pentium 4/Celeron
- Suporta CPU de Intel tecnologia "Hyper Threading"

Tecnologia "Hyper Threading" que permite ao sistema funcionar de forma interligada até dois processadores, permitindo que os dois fios possam funcionar em paralelo, ambos em processadores "lógicos" separados dentro do mesmo processador físico.

Conjunto de Chips

O conjunto de chips P4M800 Northbridge (NB) e VIA VT8237 Southbridge (SB) é baseado numa arquitectura inovadora e escalável com fiabilidade e performance provadas.

P4M800 (NB)

- Controlador de memória avançado de 64-bit, suportando DDR400/333/266 DDR SDRAM
- Modos de transferência 8X/4X compatível com AGP 3.0 com suporte de Escrita Rápida
- Suporta modos de transferência 66 MHz, 4X e 8X, interface V-Link Host com largura de banda total de 533 MB/seg.
- Gráficos Integrados com controladores de vídeo 3D/2D

VT8237 (SB)

- Suporta interface Host V-Link de 66 MHz com largura de banda de pico de 1066 MB/s
- Compatível com especificação PCI 2.2 a 33 MHz, suportando mais de 6 PCI mestres
- Controladores Integrados Serial de ATA Host, suportando transferidores de dados com taxa de até 1.5Gb/s
- Canal Duplo Integrado UltraDMA 133/100/66 Modo Mestre EIDE Controlador
- Controlador USB 2.0, suportando portes para 8 USB 2.0
- Controlador de Network, suportando classe enterprise 100/10 Mb Fast Ethernet MAC
- Controlador de teclado integrado com suporte para mouse PS2

Memória

- Suporta tipos de memória DDR400/333/266/200
- Acomoda dois soquetes não registrados de 2.5V 184-pin DIMM
- Capacidade total máxima de 2 GB

Áudio

- Cumpre com o AC'97 v2.3 CODEC
- Suporta CODEC áudio com 6 canais concebido para sistemas multimédia para PC
- Fornece três entradas estéreo nível de linha analógicas com controlo de volume de 5 bits: LIne-in, CD, AUX
- Suporta taxa de amostragem dupla (96KHz) de reprodução áudio DVD
- Compatível com Direct Sound 3D™

Opções de Expansão

A motherboard é fornecida com as seguintes opções de expansão:

- Três ranhura PCI de 32 bits
- Uma ranhura AGP
- Dois conectores IDE que suportam quatro dispositivos
- Um interface com drive de disco flexível
- Dois conectores SATA de 7 pin
- Uma ranhura de Aumento da Rede de Comunicações (CNR)

Esta motherboard suporta o controle de barramento Ultra DMA com taxas de transferência de 133/100/66 MB/s.

Onboard LAN (opcional)

Esta motherboard poderá suportar qualquer um dos seguintes conjuntos de chips LAN:

- Solução de passagem 100Base-TX/10Base-T física com um único chip
- Half /Full Duplex
- Suporta interface MII para controlador Ethernet
- Satisfaz todos os Padrões IEEE802.3, 10Base-T e 100Base-TX Aplicáveis

I/O Integrado

A motherboard possui um conjunto completo de portas I/O e conectores:

- Duas portas PS/2 para rato e teclado
- Uma porta de série
- Uma porta VGA
- Uma porta paralela
- Quatro portas USB
- Uma porta LAN (opcional)
- Fichas áudio para microfone, entrada de linha e saída de linha

Microprogramação BIOS

Esta motherboard usa AWARD BIOS que permitem aos utilizadores configurar muitas características do sistema incluindo as seguintes:

- Gestão de corrente
- Alarmes de despertar
- Parâmetros CPU
- Temporização de memória e CPU

A microprogramação poderá ser também usada para estabelecer parâmetros para diferentes velocidades de relógio do processador.

Algumas especificações de hardware e itens de software poderão ser sujeitos a alteraçõessem aviso prévio.

機能

プロセッサ

P4M800-Mが搭載しているPentium 4用の478ピンソケットには、次の特徴があります

- Intel 800/533/400 MHz FSB Pentium 4/Celeron CPUを取り付け可能
- Intel “ハイパースレッド” 技術をサポート

ハイパースレッド（HT）技術というのは、オペレーションシステムに2つのプロセッサが存在すると認識させることで、実際には2つのスレッドを1つのプロセッサで同時に執行させ、平行利用を可能とする技術です。

チップセット

P4M800 Northbridge（NB）と VIA VT8237 Southbridge（SB）チップセットは、実証された信頼性と性能を持つ革新的で拡張性のあるアーキテクチャに基づいています。

P4M800 (NB)

- 64ビットの先進なメモリコントローラでDDR400/333/266 DDR SDRAMに対応
- AGP 3.0に準拠した、Fast Write 機能付の8X/4X転送モードに対応
- 66 MHz仕様の4X および8X転送モード可能なV-Link ホストインターフェースで、帯域幅が合計最大533 MB/秒まで可能
- 統合型グラフィックチップに、3D/2D ビデオコントローラが内蔵済

VT8237 (SB)

- 16ビットの 66 MHz V-Link クライアントインターフェースをサポートし、トータル帯域幅 1066 MB/秒まで可能
- 33MHzでのPCI2.2規格に準拠することで、最大6つまでのPCIマスター設備の取り付けを可能
- 統合しているシリアルATA ホストコントローラで、最大1.5GB/秒のデータ転送率が実現
- 内臓式のデュアルチャネルUltraDMA133/100/66マスターモードEIDEコントローラ
- USB2.0仕様コントローラ（8つのUSB2.0仕様のポートに対応可能）
- ネットワークコントローラ（エンタープライズ・クラスの100/10Mb高速イーサーネットMACに対応）を内蔵
- PS2マウス対応のキーボードコントローラを内蔵

メモリ

- DDR400/333/266/200 メモリーを搭載可能
- 2つのバッファなし2.5V 184ピンDIMMソケットを搭載
- 合計で最大2GBまでの容量に対応可能

Audio

- AC’97 v2.3仕様に適合
- PCマルチメディアシステムの6チャネルオーディオCODECをサポート
- 5ビット音声コントロール可能のアナログラインレベルのステレオ入力が3つ：ライン イン、CD、およびAUX
- DVD音声再生のダブルサンプリングレート（96KHz）に対応
- Direct Sound 3D™ に対応

オンボードLAN（オプション）

当マザーボードは次のLANチップセットのいずれかを搭載しております：

- シングルチップ100Base-TX/10Base-T 物理層ソリューションを採用
- 半二重および全二重
- イーサーネットコントローラのMII インターフェース対応
- 適用可能のIEEE 802.3、10Base-T、および100Base-Tx 基準にすべて対応済み

拡張オプション

本マザーボードでは、次の拡張機能が利用できます。

- AGP スロットが1つ
- 32ビットPCI v2.2 互換性スロットが4つ
- IDEコネクタ が2つ（計4つのIDEチャネルをサポート）
- フロッピーディスクドライブインターフェイス が1つ
- 7ピンSATAコネクタ が2つ
- CNR（Communications Networking Riser）スロットが1つ

このマザーボードは、133/100/66 MB/秒の転送速度でのUltra DMAバスマスタリングをサポートします。

統合の入出力ポート

マザーボードには、次のI/Oポートやコネクタを揃えています。

- マウスとキーボード用のPS/2ポート が2つ
- シリアルポート が1つ
- VGAポート が1つ
- パラレルポート が1つ
- USBポート が4つ
- LANポート が1つ(オプション)
- マイク、ラインイン、ラインアウト用オーディオジャック

BIOSファームウェア

本マザーボードはAWARD BIOSを採用し、次の機能を含む多様なシステムの構成ををサポートします。

- 電源管理
- ウェークアップアラーム
- CPUパラメータ
- CPUとメモリとのタイミング

さらに、所定のパラメータを設定することによって、プロセッサのクロック速度を変更することもできます。

一部のハードウェア仕様とソフトウェアアイテムは、予告なしに変更することがあります。

특성

프로세서

P4M800-M 는 팬티엄 4의 478 핀 소켓을 사용하여 다음의 특성을 지닌다:

- 인텔 800/533/400 MHz FSB 팬티엄 4/샐러론 CPU 지원
- "Hyper-Threading" 기술의 CPU 지원

"Hyper-Threading" 기술은 운영 체제가 두개의 프로세서에 연결되어 있는 것처럼, 두 트래드가 동일한 물리적 프로세서 안에 있으면서도 각기 다른 "논리적" 프로세서에서 패러럴로 실행되게 한다.

칩셋

P4M800 Northbridge (NB) 및 VIA VT8237 Southbridge (SB) 칩셋은 혁신적이고 범위성을 지닌 아키텍쳐를 기반으로 인정된 신뢰성과 성능을 지닌다.

P4M800 (NB)

- AGP 3.0 부합 8X/4X 전송 모드, Fast Write 지원.
- 66 MHz, 4X 및 8X 전송 모드, 총 대역폭 533 MB/s 의 V-Link 호스트 인터페이스 지원
- 3D/2D 비디오 컨트롤러의 통합 그래픽

VT8237 (SB)

- 총 대역폭 1066 MB/sec의 16 비트 66 MHz V-Link 클라이언트 인터페이스 지원
- 33 MHz에서 PCI 2.2 사양 호환, 최대 6 PCI 마스터 지원
  2 개의 시리얼 ATA 호스트 컨트롤러 지원
- 통합 시리얼 ATA 호스트 컨트롤러, 데이터 전송 속도 최대 1.5Gb/s 지원
- 통합 듀얼 채널 UltraDMA 133/100/66 마스터 모드 EIDE 컨트롤러
- USB 2.0 컨트롤러, 8 USB 2.0 포트 지원
- 네트워크 컨트롤러, 기업 수준 100/10 Mb 패스트 이더넷 MAC 지원
- PS2 마우스 지원 통합 키보드 컨트롤러

메모리

- DDR400/333/266/200 메모리
- 2 개의 unbuffered 2.5V 184 핀 DIMM 소켓 사용
- 최대 용량 2 GB

오디오 코덱

- AC' 97 v2.3 코덱 부합
- PC 멀티미디어 시스템을 위해 디자인 된 6 채널 오디오 코덱 지원
- 5 비트 볼륨 컨트롤의 아날로그 라인 레벨 스테레오 입력 3개 : Line-in, CD, AUX
- DVD 오디오 재생 시 더블 샘플링 속도 (96KHz) 지원.
- Direct Sound 3D™ 호환

확장 옵션

본 마더보드의 확장 옵션은 다음과 같다:

- 32 비트 PCI 슬롯 3 개
- AGP 슬롯 1 개
- 4 개의 IDE 채널을 지원하는 IDE 로우 프로파일 해더 2 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 2 개
- Communications Networking Riser (CNR) 슬롯 1 개

메인보드는 전송 속도133 / 100 / 66 MB/s의 Ultra DMA bus mastering 을 지원한다

보드 내장 LAN (선택 사항)

본 마더보드는 다음과 같은 LAN 칩셋을 지원합니다:

- 싱글 칩 100Base-TX/10Base-T 물리적 계층 솔루션
- 전이중 및 반이중
- 이더넷 컨트롤러를 위한 MII 인터페이스
- IEEE 802.3, 10Base-T 및 100Base-Tx 표준 모두 부합

통합 I/O

본 마더보드는 풀 셋트의 I/O 포트 및 커넥터가 있다:

- 마우스 및 키보드용 PS/2 포트 2 개
- 시리얼 포트 1 개
- VGA 포트 1 개
- 패러럴 포트 1 개
- USB 포트 4 개
- LAN 포트 1 개 (선택 사항)
- 마이크, 라인 입력 및 라인 출력용 오디오 잭

BIOS 펌웨어

본 마더보드는 다음과 같은 시스템 특성을 구성할 수 있는 Award BIOS 를 사용한다:

- 전원 관리
- Wake-up 알람
- CPU 파라미터
- CPU 및 메모리 타이밍

펌웨어로 다른 프로세서 클록 속도의 파라미터를 설정할 수도 있다.

몇 하드웨어 사양 및 소프트웨어 아이템은 사전 통보 없이 변경될 수 있습니다.

功能

處理器

P4M800-M 使用一個Pentium 4 用478針插座，其具有如下特徵：：

- 支援Intel 800/533/400 MHz FSB Pentium 4/Celeron CPU
- 支援使用Intel超執行緒(Hyper-Threading)技術之CPU

利用“超執行緒(HT)”技術，可使作業系統在相當於裝上了兩具處理器的狀態下運作：利用一個”實體”處理器模擬出兩個獨立的”邏輯”處理器，同時執行兩個工作緒。

晶片組

P4M800 北橋(NB)及 VIA VT8237 南橋(SB)晶片組在研發設計上採用了創新且具擴充性之架構，具備優良的可靠性及性能。

P4M800 (NB)

- 採用64位元先進記憶體管理，支援DDR400/333/266/200 DDRS-DRAM
- 提供AGP 3.0相容之8X/4X 傳輸模式，並支援快寫功能
- 支援66 MHz 4X 及8X 傳輸模式V-Link 主控介面，提供533 MB/秒之總頻寬
- 整合式繪圖晶片，整合有3D/2D視訊控制器

VT8237 (SB)

- 支援16-bit 66 MHz V-Link HOST介面，總頻寬高達1066MB/秒
- 相容於33MHz的PCI v2.2規格(支援6個PCI主控器)
- 整合之序列ATA主控器支援高達1.5Gb/秒的資料傳輸率
- 內建有雙通道Ultra 133/100/66主控模式EIDE控制器
- USB2.0控制器(支援8個USB2.0埠)
- 網路控制器(支援企業級100/10Mb高速乙太MAC)
- 內建有支援PS2滑鼠之鍵盤控制器

記憶體

- 具有2.5V SSTL-2 DRAM 介面，可支援 DDR400/333/266/200 記憶體
- 2個無緩衝的 2.5V 184針DIMM插槽
- 最大容量 2 GB

音訊

- 相容於AC’97 2.3版CODEC規格
- 支援為個人電腦多媒體系統設計的6聲道音訊CODEC功能
- 提供具有5位元音量控制功能的3種類比線級立體音效輸入：Lin-in、CD、及AUX
- 16位元立體聲全雙工CODEC，取樣率48KHz
- 支援DVD音訊播放的雙取樣率(96KHz)
- Direct Sound 3D™ 相容

擴充選項

本主機板包括下列擴充選項：

- 1個AGP插槽
- 3個32位元PCI插槽
- 2個IDE連接器，可連接4個IDE裝置
- 1個軟碟機介面
- 2個7針SATA插頭
- 1個CNR (Communications Networking Riser)插槽

本主機板支援傳輸率133/100/66 MB/秒下的Ultra DMA 匯流排主控功能。

內建區域網路 (選購)

本主機板搭載有如下其中一種LAN晶片組：

- 採用單晶片100Base-TX/10Base-T 實體層解決方案
- 半雙工及全雙工
- 乙太網路控制器之MII介面
- 符合所有適用之IEEE 802.3, 10Base-T 及100Base-Tx 規格

整合 I/O

主機板具有一組齊全的 I/O 連接埠及連接頭：

- 2 個 PS/2 埠，供滑鼠與鍵盤使用
- 1 個串列埠
- 1 個VGA埠
- 1 個平行埠
- 4 個USB埠
- 1 個區域網路埠(選購)
- 麥克風音頻插座、線級輸入及線級輸出。

BIOS 韌體

本主機板使用AWARD BIOS，使用者可以組態設定許多系統功能，包括如下：

- 電源管理
- 喚醒警鈴
- CPU參數
- CPU及記憶體的時脈定時

此外，也可藉由參數的設定，調整處理器的時脈速度。

部份硬體規格和軟體內容可能會在未經通知的情況下更動，敬請見諒。

功能

处理器

P4M800-M 使用 478-pin 插座 Pentium 4 CPU，此插座具有以下特点：

- 支持 Intel 800/533/400 MHz FSB Pentium 4/Celeron CPU
- 支持Intel“多线程”技术 CPU

“多线程”技术可以让操作系统认为自己连接了两个处理器，允许两个线程并行运行，每个线程位于同一处理器中的单独“逻辑”处理器中。

芯片组

P4M800 北桥 (NB) 和 VIAVT8237 南桥 (SB) 芯片组是基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。

P4M800 (NB)

- 64位增强存储控制器，支持DDR400/333/266/200 DDR SDRAM
- 符合 AGP 3.0 标准，8X/4X 传输模式，支持快写
- 支持 66 MHz 4X 和 8X 传输模式，支持 V-Link 主控接口，总带宽可达 1GB/s
- 集成 2D/3D 视频加速器

VT8237 (SB)

- 支持总带宽为 1066MB/sec 的 16 位 66MHz V-Link 主机接口
- 符合 33 MHz 下的 PCI 2.2 规格，最大支持 6 个 PCI 主控
- 集成串行 ATA 主控器，数据传输速率最高可支持到 1.5Gb/s
- 集成双通道 UltraDMA 133/100/66 主控模式 EIDE 控制器
- USB 2.0 控制器，支持8 个 USB 2.0 端口网络控制器
- 支持企业级 100/10 Mb 高速以太网 MAC
- 集成支持 PS2 鼠标的键盘控制器

内存

- 支持 DDR400/333/266/200 内存
- 带 2 个非缓冲 2.5V 184 线 DIMM 插槽
- 总共最大可支持 2 GB

音频

- 符合AC'97 v2.3 编解码器规格
- 支持为PC多媒体系统设计的 6 声道音频编解码器
- 提供 3 路带 5 位音量控制的模拟线路电平立体声输入：线入、CD 和 AUX
- 支持 DVD 音频播放的双采样速率 (96KHz)
- 符合 Direct Sound 3D™ 规格

扩展选项

此主板提供如下扩展选项：

- 3 个 32 位 PCI扩展插槽
- 1 个AGP 槽
- 1 个 IDE 接口，可支持 4 个 IDE 设备
- 1 个软驱接口
- 2 个 7-pin SATA 接口
- 一个通信网络转接 (CNR) 插槽

此主板支持 Ultra DMA 总线控制，传输速率可达 133/100/66MB/s。

Onboard LAN（可选）

此主板支持以下任何一种 LAN 芯片组：

- 单芯片 100Base-TX/10Base-T 物理层解决方案
- 半双工和全双工
- 以太网控制器的 MII 接口
- 符合所有相应的 IEEE 802.3、10Base-T 和 100Base-Tx 标准

集成 I/O

此主板具有完整的 I/O 端口和插孔：

- 2 个用于连接鼠标和键盘的 PS/2 端口
- 1 个串口
- 1 个 VGA 端口
- 1 个并口
- 4 个 USB 端口
- 1 个 LAN 端口（可选）
- 麦克风、线入和线出声音插孔

BIOS

此主板使用 AWARD BIOS，可以让用户自己配置以下系统功能：

- 电源管理
- 唤醒报警
- CPU 参数
- CPU 和记忆定时

还可用于设置不同处理器时钟速度的参数。.

某些硬件规格和软件项目若有更改恕不另行通知。

Характеристики

Процессор

P4M800-M поддерживает 478-штырьковый процессор Pentium 4 со следующими характеристиками:

- Поддержка процессоров Intel 800/533/400 МГц FSB Pentium 4/Celeron
- Поддерживает Intel технологию CPU “Hyper-Threading”

Технология “Hyper-Threading” «убеждает» операционную систему в том, что в машине имеется два процессора; это позволяет параллельно обслуживать два процесса, причем каждый из процессов обслуживается отдельным «логическим» процессором в пределах одного физического процессора.

Чипсет

Чипсеты P4M800 «Северный мост» (Northbridge, NB) и VIA VT8237 «Южный мост» (Southbridge, SB) построены с использованием инновационной масштабируемой архитектуры, обеспечивающей высокую надежность и производительность.

P4M800 (NB)

- 64-битный контроллер памяти с поддержкой памяти типа DDR400/333/266 DDR SDRAM
- AGP 3.0 совместимый с режимами передачи данных 8X/4X и поддержка режима быстрой записи Fast Write
- Поддержка режимов передачи данных 66 МГц, 4X и 8X, интерфейс хоста V-Link со скоростью передачи данных 533 МБ/с
- Интегрированный графический и видео контроллер 3D/2D

VT8237 (SB)

- Поддержка 16-битного интерфейса 66 МГц V-Link максимальной скоростью передачи данных1066 МБ/сек.
- Совместима со спецификацией PCI 2.2 33 MHz, поддерживает до 6 PCI устройств типа master
- Встроенные контроллеры хоста Serial ATA, поддержка скорости передачи данных до 1.5 Гб/с
- Встроенный двухканальный контроллер UltraDMA 133/100/66 Master Mode EIDE
- Контроллер USB 2.0, поддержка до портов 8 USB 2.0
- Сетевой контроллер с поддержкой 100/10 Mb Fast Ethernet MAC
- Интегрированный контроллер клавиатуры с поддержкой мыши PS2

Память

- Поддержка памяти типов DDR400/333/266
- Размещение двух 184-штырьковых сокетов небуферируемой памяти 2.5V DIMM
- Общий объем памяти 2 ГБ

Аудио

- Совместимо с AC’97 v2.3 CODEC
- Поддерживает 6-канальный аудио CODEC для мультимедиальных компьютерных систем
- Обеспечивает три аналоговых стереовхода с 5-битной регуляцией громкости: Line-in, CD, AUX
- Поддержка двойной скорости сэмплирования аудиовыхода DVD (96 кГц)
- Совместимость с Direct Sound 3D™

Возможности расширения

Существуют следуюшие опции расширения данной материнской платы:

- Три 32-битных слота PCI
- Один слот AGP
- Два коннектора IDE с поддержкой четырех устройств IDE
- Один разъем для накопителя на гибких дисках
- Два разъема 7-pin SATA
- Один слот CNR (Communications Networking Riser)

Плата поддерживает технологию захвата управления шиной UltraDMA bus mastering со скоростью передачи данных 133/100/66 МБ/сек.

Встроенный сетевой адаптер LAN (опционально)

Встроенный сетевой адаптер LAN обладает следующими характеристиками:

- Одночипное решение физического слоя 100Base-TX/10Base-T
- Половинный и полный дуплекс
- Интерфейс MII для Ethernet-контроллера
- Соответствует всем требованиям стандартов IEEE 802.3, 10Base-T и 100Base-Tx

Интегрированный вход/выход

Плата снабжена полным набором портов входа/выхода и разъемов:

- Два порта PS/2 для подключения мыши и клавиатуры
- Один серийный порт
- Один VGA порт
- Один параллельный порт
- Четыре порта USB
- Один порт LAN (опционально)
- Гнездо для подключения микрофона, гнезда аудио-входа и выхода

BIOS

Плата работает под AWARD BIOS, который позволяет пользователю конфигурировать различные характеристики системы:

- Управление питанием
- Сигналы пробуждения системы
- Параметры CPU
- Время доступа для CPU и памяти

BIOS допускает также установку параметров для различных частот процессора.

Некоторые параметры платы и характеристики ее программного обеспечения могут быть изменены без предварительного уведомления.

Cechy

Procesor

P4M800-M wyposażona jest w 478-nóżkowe złącze procesora Pentium 4 i charakteryzuje się następującymi właściwościami:

- Obsługuje procesory Intel 800/533/400 MHz FSB Pentium 4/Celeron
- Zabezpiecza Intel technologię CPU “Hyper-Threading”

Technologia “Hyper-Threading” powoduje, że system "myśli”, że posiada dwa procesory i wykonuje równolegle dwa procesy; za wykonanie każdego procesu odpowiedzialny jest jeden z dwuch "logicznych" procesorów w ramach jednego fizycznego procesora

Chipset

Mostek północny (NB) P4M800 i mostek południowy (SB) VIA VT8237 chipsetu oparty jest na nowatorskiej i skalowalnej architekturze o sprawdzonej niezawodności i funkcjonalnoœci.

P4M800 (NB)

- 64-bitowy zaawansowany kontroler pamięci obsługujący pamięci DDR400/333/266 DDR SDRAM
- AGP 3.0 zgodne z trybami 8X/4X i obsługą trybu szybkiego zapisu Fast Write
- Obsługa trybów transmisji danych 66 MHz, 4X i 8X, złącze hosta V-Link z szybkością transmisji danych 533 MB/s
- Zintegrowana karta grafiki z kontrolerem video 3D/2D

VT8237 (SB)

- Obsługuje złącze 16-bit 66 MHz V-Link hosta o ogólnej szybkości przesyłu 1066 MB/sek.
- Zgodny ze standardem PCI w wersji 2.2 o częstotliwości 33 MHz, obsługuje do 6 urządzeń PCI typu master.
- Zintegrowany kontroler Serial ATA zapewniający przesyłanie danych z prędkością do 1.5Gb/s
- Zintegrowany dwukanałowy kontroler UltraDMA 133/100/66 w trybie Master EIDE
- Kontroler USB 2.0, obsługujący do 8 gniazd USB 2.0
- Kontroler sieci, obsługujący łącza 100/10 Mb klasy Fast Ethernet MAC
- Zintegrowany kontroler klawiatury z obsługą myszy PS2

Pamięć

- Obsługa pamięci typu DDR400/333/266
- Wyposażona w dwa 184-nóżkowe złącza niebuforowanej pamięci 2.5V DIMM
- Maksymalna pamięć do 2 GB

Audio

- Zgodne z audio CODEC AC’97 w wersji 2.3
- Obsługuje 6 kanałów audio CODEC dla komputerowych systemów multimedialnych
- Zapewnia trzy wejściowe, analogowe linie stereo z 5 bitową regulacją głośności: Line-in, CD, AUX
- DVD audio playback obsługuje z podwójną częstotliwością próbkowania (96KHz)
- Zgodny z Direct Sound 3D™

Możliwości rozbudowy

Płyta główna wyposażona jest w następujące gniazda:

- Trzy 32-bitowych gniazda zgodnych z PCI
- Jedno gniazdo AGP
- Dwa gniazda IDE z obsługą 4 urządzeń IDE
- Jedno złącze obsługujące stacje dyskietek
- Dwa 7-nóżkowe złącza SATA
- Jedno gniazdo CNR (Communications Networking Riser)

Płyta główna obsługuje szynę UltraDMA z szybkością transferu 133/100/66 MB/s.

Zintegrowana obsługa sieci LAN (opcjonalnie)

Zintegrowana obsługa sieci LAN posiada następujące właściwości:

- Jednochipowe rozwiązanie warstwy fizycznej 100Base-TX/10Base-T
- Obsługa trybów Half /Full Duplex
- Interfejs MII w kontrolerze ethernetu
- Zgodność ze wszystkimi standardami IEEE 802.3, 10Base-T i 100Base-Tx

Zintegrowane We/Wy

Płyta główna wyposażona jest w pełny zestaw gniazd i złączy We/Wy:

- Dwa gniazda PS/2 dla myszy i klawiatury
- Jedno gniazdo szeregowe
- Jedno gniazdo VGA
- Jedno gniazdo równoległe
- Cztery gniazda USB
- Jedno gniazdo LAN (opcjonalnie)
- Gniazdo wejściowe mikrofonowe, gniazdo wejściowe i wyjściowe dzwięku (audio)

Firmowy BIOS

Płyta główna wyposażona jest w BIOS firmy AWARD, który pozwala użytkownikowi konfigurować wiele cech systemu włączając w to następujące właściwości:

- Zarządzanie poborem mocy
- Alarmy typu Wake-up
- Parametry pracy procesora
- Ustalenia szybkoœci pracy procesora i pamiêci

BIOS może być używany do ustalania parametrów wpływających na szybkości pracy zegara procesora.

Niektóre parametry dotyczące płyty i jej oprogramowania mogą ulec zmianie bez uprzedniego powiadomienia.

Vlastnosti

Procesor

Základní deska P4M800-M využívá 478kolíkovou patici pro procesory Pentium 4 a vyznačuje se následujícími vlastnostmi:

- Podpora procesorů Intel Pentium 4/Celeron se sběrnicí 800/533/400 MHz FSB
- Podporuje Intel technologii CPU „Hyper-Threading“

Technologie „Hyper-Threading“ umožňuje operačnímu systému pracovat tak, jako by byl připojen ke dvěma procesorům, protože je možné pracovat se dvěma toky programového kódu (vlákny) paralelně najednou, přičemž jsou k dispozici samostatné „logické“ procesory umístěné v rámci jednoho fyzického procesoru.

Čipová sada

Čipy northbridge (NB) P4M800 a southbridge (SB) VIA VT8237 jsou založeny na inovativní a škálovatelné architektuře s ověřenou spolehlivostí a výkonností.

P4M800 (NB)

- 64bitový rozšířený paměťový řadič, s podporou DDR400/333/266 DDR SDRAM
- Sběrnice AGP splňující požadavky standardu AGP 3.0 s přenosovými rychlostmi 8x/4x s podporou rychlého zápisu
- Podpora hostitelského rozhraní 66 MHz, přenosové režimy 8x/4x, V-Link s celkovou šířkou pásma 533 MB/s
- Integrovaná grafika s video řadičem 3D/2D

VT8237(SB)

- Podporuje 16bitové 66 MHz hostitelské rozraní V-Link Host interface s celkovou šířkou pásma 1066 MB/s
- Splňuje specifikace standardu PCI 2.2 s frekvencí 33 MHz, podporující až 6 hlavních kanálů PCI
- Integrované řadiče Serial ATA, podporující datové přenosové rychlosti až do 1,5 Gb/s
- Integrovaný dvoukanálový řadič UltraDMA133/100/66 EIDE v řídícím režimu.
- Řadič USB 2.0, podporujíc 8 portů USB 2.0
- Síťový řadič podporující standard 100/10 Mb Fast Ethernet MAC
- Integrovaný řadič klávesnice s podporou myši PS2

Paměť

- Podpora typů paměti DDR400/333/266
- K dispozici jsou dvě patice 2,5 V, 184 kolíků DIMM bez vyrovnávací paměti
- Celková maximální kapacita paměti 2 GB

Zvukový

- Šplòuje požadavky standardu AC’97 v2.3
- Podporuje 6kanálový zvukový kodek navržený pro PC multimediální systémy
- Nabízí tří analogové linkové stereo vstupy s 5bitovým řízení hlasitosti: Line_IN, CD, AUX.
- Podpora dvojnásobné vzorkovací frekvence (96 kHz) pro přehrávání DVD audio
- Kompatibilita s Direct Sound 3D™

Možnosti rozšíření

Základní deska je dodávána s následujícími možnostmi rozšíření

- Tři 32bitové patice PCI
- Jedna patice AGP
- Dva konektory IDE, podporující připojení až 4 zařízení IDE
- Jedno rozraní pro disketovou mechaniku
- Dva 7kolíkové konektor SATA
- Jeden komunikační síťový slot CNR

Základní deska podporuje sběrnici Ultra DMA s přenosovými rychlostmi 133/100/66 MB/s.

Vestavění síťové rozhraní LAN (volitelně)

Vestavěné síťové rozhraní LAN nabízí následující možnosti:

- Jeden čip fyzické síťové vrstvy 100Base-TX/10Base-T
- Poloviční a plný duplex
- Rozhranní MII s řadičem Ethernet
- Splňuje všechny příslušné standardy IEEE 802.3, 10BASE-T a 100BASE-Tx

Integrovaný vstup/výstup

Základní deska je vybavena kompletní sadou vstupních portů a konektorů I/O:

- Dva porty PS/2 pro myš a klávesnici
- Jeden sériový port
- Jeden VGA port
- Jeden paralelní port
- Čtyři porty USB
- Jeden port LAN (volitelně)
- Zvukové konektory pro mikrofon, zvukový vstup a výstup

Firmware BIOS

Základní deska využívá BIOS formy AWARD, který uživateli umožňuje nakonfigurovat mnoho systémových parametrů, včetně následujících:

- Řízení spotřeby
- Alarmy při spouštění systému
- Parametry CPU
- Časování CPU a paměti

Firmware může být rovněž použit k nastavení parametrů pro různé taktovací frekvence procesoru.

Některé technické parametry hardware a software se mohou měnit bez předchozího upozornění.

Caracteristici

Procesorul

Pentium 4 cu P4M800-M cu 478-pin socket cu următoarele caracteristici:

- compatibil cu procesoare Intel 800/533/400 MHz FSB Pentium 4/Celeron
- Este compatibilă cu unități centrale dotate cu Intel tehnologia „Hyper-Threading”

Tehnologia „Hyper-Threading” permite sistemului de operare să funcționeze ca și cum ar exista două procesoare, putând fi rulate în paralel două fire, fiecare pe câte un procesor „logic” separat, aflate pe același procesor fizic.

Setul de chipuri

Seturile de chipuri P4M800 Northbridge (NB) și VIA VT8237 Southbridge (SB) se bazează pe o arhitectură inovatoare și scalabilă, care s-a impus deja prin fiabilitate și performanță.

P4M800 (NB)

- Controler memorie avansat 64-bit, compatibil cu DDR400/333/266 DDR SDRAM
- Compatibil AGP 3.0 8X/4X mod transfer cu suport Fast Write
- Compatibil cu 66 MHz, 4X si 8X mod transfer, interfață V-Link Host cu lățime totală de bandă 533 MB/s
- Grafică integrată cu regulator video 3D/2D

VT8237 (SB)

- Suportă interfață V-Link Host de 16 biți şi 66 MHz, cu lățime totală de bandă de 1066 MB/s.
- Compatibil cu specificația PCI, versiunea 2.2 33MHz, care suportă cel mult 6 module PCI master
- Controleri ATA gazdă seriali integrați, suportând viteze de transfer de până la 1,5 Gb/s
- Controler EIDE UltraDMA 133/100/66 Master Mode integrat cu canal dual
- Controler USB 2.0 care suportă 8 porturi USB 2.0
- Controler de rețea, suportând Fast Ethernet MAC de 100/10 Mb din clasa enterprise
- Controler de tastatură cu suport pentru mouse PS/2

Memoria

- compatibil cu tipuri de memorie DDR400/333/266
- acomodează două 2.5V 184-pin DIMM socket fără tampon
- capacitate totală 2 GB

Audio

- Compatibil cu CODEC-ul AC’97, versiunea 2.3
- Suportă CODEC cu şase canale audio destinate sistemelor multimedia ale calculatoarelor
- Oferă trei intrări audio analoge stereo, cu un control al volumului sonor de 5 biți: Intrare audio, CD, AUX
- Suport pentru viteză dublă de eşantionare (96 kHz) pentru redare audio de pe DVD
- Compatibil cu Direct Sound 3D™

Opţiuni de extindere

Placa de bază este dotată următoarele posibilităţi de extindere:

- Trei sloturi de 32 biţi compatibile PCI
- Un slot AGP
- Două conectoare IDE cu suport pentru patru dispozitive IDE
- O interfaţă pentru unitate floppy
- Două conectoare SATA 7
- Un slot CNR (Communications Networking Riser)

Placa de bază suportă bus mastering UltraDMA cu viteze de transfer de 133/100/66 MB/s

Onboard LAN (opţional)

Onboard LAN are următoarele caracteristici:

- Soluţie cu start fizic cu un singur cip 100Base-TX/10Base-T physical layer solution
- Half şi Full Duplex
- Interfaţă MII pentru controler ethernet
- Corespunde tuturor standardelor IEEE 802.3, 10Base-T and 100Base-Tx

I/O integrată

Placa de bază este dotată cu un set complet de porturi şi conectoare I/O:

- Două porturi PS/2, pentru mouse şi tastatură
- Un port serial
- Un port VGA
- Un port paralel
- Patru porturi USB
- Un port LAN (opţional)
- Mufe audio pentru microfon, intrare şi ieşire audio

Firmware BIOS

Placa de bază utilizează AWARD BIOS, care permite utilizatorului să configureze mai mulţi parametri ai sistemului, cum ar fi:

- Gestionarea energiei
- Alarme de trezire
- Parametri CPU
- Temporizare CPU şi memorie

Acest firmware poate fi utilizat şi pentru a seta parametrii diferitelor frecvenţe de comandă ale procesorului.

Anumite specificaţii hardware şi elemente de software pot fi modificate fără înştiinţare prealabilă.

Спецификация

Процесор

P4M800-M разполага със сокет 478-pin за процесори Pentium 4 и поддържа следните спецификации:

- Поддръжка на процесорни шини Intel 800/533/400 MHz за процесори Pentium 4/Celeron
- поддръжка на процесори с Intel технология "Hyper-Threading"

Технологията “Hyper-Threading" позволява да се “излъже” операционната система, че работи на два процесора, което дава възможност за паралелното изпълнение на две задачи на два отделни “логически” процесора в един и същ физически процесор.

Чипсет

Чипсетът със северен мост P4M800 (NB) и южен мост VIA VT8237 (SB) е изграден на базата на оригинална архитектура с възможност за надстройка с доказана надеждност и производителност.

P4M800 (NB)

- 64-битов контролер на паметта с поддръжка на DDR400/333/266 DDR SDRAM
- AGP 3.0 с режими на трансфер 8X/4X и поддръжка на режим Fast Write
- Поддръжка на режими на трансфер 66 MHz, 4X и 8X, интерфейс V-Link Host с обща честотна лента 533 MB/s
- Интегрирано 3D/2D графично ядро

VT8237 (SB)

- Поддръжка на Host интерфейс V-Link 16-bit 66 MHz с общ капацитет 1066 MB/sec.
- Съвместимост със спецификацията PCI 2.2 при 33 MHz, с поддръжка на до 6 PCI master устройства
- Интегриран Serial ATA Host контролер с поддръжка на трансфер на данни до 1.5Gb/s
- Интегриран дву-канален EIDE контролер UltraDMA 133/100/66 Master Mode
- Контролер USB 2.0 с поддръжка на 8 порта USB 2.0
- Мрежов контролер с поддръжка на 100/10 Mb Fast Ethernet MAC
- Интегриран контролер за клавиатура с поддръжка на PS2 за мишка

Памет

- Поддръжка на модули памет DDR400/333/266
- Две небуферирани гнезда 2.5V 184-pin DIMM
- Общ максимален капацитет 2 GB

Аудио Кодек

- Аудио Кодек съвместим със спецификацията AC’97 2.3
- Поддържа 6-канален аудио Кодек специално за мултимедийни приложения
- Включва три аналогови линейни стерео входа с 5-битово
- Поддръжка на двойна честота (96KHz) при възпроизвеждане на DVD audio
- съвместимост с Direct Sound 3D™

Възможности за разширяване

Дънната платка има следните разширителни възможности:

- три слота 32-bit PCI
- Един слот AGP
- Два IDE конектора с поддръжка на четири IDE устройства
- един конектор за флопидисково устройство
- Два7-щифтови SATA конекторas
- Един слот CNR (Communications Networking Riser)

Дънната платка поддържа шина UltraDMA 133/100/66 MB/s

Интегриран мрежов контролер (опция)

Спецификация на интегрирания мрежов контролер:

- Интегриран едночипов LAN контролер на физическо ниво за Ethernet 100Base-TX/10Base-T
- режими Half / Full Duplex
- Интерфейс MII към ethernet контролера
- Съвместимост с всички приложими стандарти IEEE 802.3, 10Base-T и 100Base-Tx

Интегриран Вход/Изход контролер

Дънната платка има пълен набор от I/O портове и конектори:

- два PS/2 порта за мишка и клавиатура
- един сериен порт
- един VGA порт
- един паралелен порт
- четири USB порта
- един LAN порт (опция)
- Аудио жакове за микрофон, линеен вход и линеен изход

BIOS Firmware

Дънната платка използва AWARD BIOS с възможност за различни системни настройки, включително

- управление на захранването
- Wake-up аларми
- параметри на процесора
- синхронизиране на процесора и паметта

настройка на скоростта на часовника на процесора

Хардуерните и софтуерни спецификации и параметри могат да бъдат изменени без предупреждение.

Jellemző

Processzor

P4M800-M 478-pin socket foglalatban, Pentium 4 típusú, a következő tulajdonságokkal:

- kompatibilis Intel 800/533/400 MHz FSB Pentium 4/Celeron processzorokkal
- Támogatja a Intel „Hyper-Threading" technológiát használó központi egységeket

A „Hyper-Threading" technológia által az operációs rendszer úgy működik, mintha két processzorral rendelkezne, ami két szál párhuzamos futását teszi lehetővé két független, ugyanazon fizikai processzoron található „logikai" processzoron.

Lapkakészlet

A P4M800 Northbridge (NB) és VIA VT8237 Southbridge (SB) lapkakészletek egy új és méretezhető, nagy megbízhatóságú és teljesítőképességű architektúrára épülnek.

P4M800 (NB)

- 64-bit csúcs memória vezérlővel, kompatibilis DDR400/333/266 DDR SDRAM RAM-mal
- AGP 3.0 kompatibilis 8X/4X transzfer módok, Gyorsíró (Fast Write) biztosítással
- kompatibilis 66 MHz, 4X és 8X transzfer módokkal, V-Link Host interfész 533 MB/s teljes sávszélességgel
- Integrált grafika 3D/2D videó vezérlőkkel

VT8237 (SB)

- 16 bites, 66 MHz-es V-Link Host csatlakozót támogat, melynek maximális össz-sávszélessége 1066 MB/s.
- A PCI 2.2 specifikációval kompatibilis 33 MHz-en, maximum 6 PCI mastert támogat
- Beépített soros ATA Host vezérlõ, akár 1,5 GB/s átviteli sebességet támogatva
- Beépített duál csatornás UltraDMA 133/100/66 Master módú EIDE vezérlõ
- USB 2.0 vezérlő, 8 USB 2.0 portot támogat
- Hálózati vezérlõ, amely vállalati osztályú 100/10 Mb-es Fast Ethernet MAC egységet támogat
- Beépített billentyűzet-vezérlő, PS/2 egér támogatása

Memória

- kompatibilis DDR400/333/266 memória típusokkal (200402-E-5)
- két nem pufferelt 2.5V 184-pin DIMM socket foglalatot alkalmaz
- teljes maximális kapacitás 2 GB

Audio

- Kompatibilis az AC'97 2.3-as CODEC változatával
- A számítógép multimédiás rendszereinek szánt hat csatornás audio CODEC-et támogat
- Három analóg sztereo bemenetet biztosít 5 bites hangerő vezérléssel: bemenet, CD, AUX
- Dupla mintavételezési arányú (96 kHz) DVD audio lejátszást teszt lehetővé
- Kompatibilis a Direct Sound 3D™ technológiával

Bővítési lehetőségek

Az alaplap a következő bővítési lehetőségekkel rendelkezik:

- Három 32 bites PCI foglalat
- Egy AGP foglalat
- két IDE csatlakozó, négy IDE egységgel kompatibilis
- Egy hajlékonylemez meghajtó interfész
- Két 7 tűs SATA csatlakozó
- Egy CNR (Kommunikációs hálózat felszálló - Communications Networking Riser) foglalat

A alaplap támogatja az UltraDMA bus mastering megoldást, 133/100/66/33 MB/s sebességen

Alaplapon levő LAN (választható)

Az alaplapon levő LAN jellemzői:

- Egylapkás 100Base-TX/10Base-T fizikai réteges megoldás
- half és full duplex
- MII interfész ethernet vezérlőnek
- Megfelel az összes vonatkozó IEEE 802.3, 10Base-T és 100Base-Tx szabványnak

Beépített I/O

Az alaplapot az I/O portok és csatlakozók teljes készletével szerelték fel:

- Két PS/2 port az egér és a billentyűzet számára
- Egy soros port
- Egy VGA port
- Egy párhuzamos port
- Négy USB port
- Egy LAN port (választható)
- Audio csatlakozók mikrofon, bemenet és kimenet számára

BIOS Firmware

Az alaplapon levő AWARD BIOS segítségével a felhasználó a rendszer sok paraméterét állíthatja be, például:

- Energiagazdálkodás
- Ébresztési riasztások
- CPU paraméterek
- CPU és memória időzítés

A firmware segítségével a processzor órajel-frekvenciáinak paramétereit is beállíthatják.

Bizonyos hardverjellemzők és szoftverelemek előzetes bejelentés nélkül módosulhatnak.