TÜV CERT

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

RWTÜV

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
ISO14001:1996
The Environmental Management System

applies in the following area:
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

Copyright

This publication, including all photographs, illustrations and software, is protected under international copyright laws, with all rights reserved. Neither this manual, nor any of the material contained herein, may be reproduced without written consent of the author.

Version 1.0

Disclaimer

The information in this document is subject to change without notice. The manufacturer makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. The manufacturer reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of the manufacturer to notify any person of such revision or changes.

Trademark Recognition

Microsoft, MS-DOS and Windows are registered trademarks of Microsoft Corp.

MMX, Pentium, Pentium-II, Pentium-III, Pentium-4, Celeron are registered trademarks of Intel Corporation.

Other product names used in this manual are the properties of their respective owners and are acknowledged.

Federal Communications Commission (FCC)

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 27

Chapter 4

Using the Motherboard Software

Describes the motherboard software

Go to ➪ page 39

Chapter 5

VIA VT8237 SATA RAID

Setup Guide

Describes the information about SATA RAID Setup

Go to ➪ page 43

TABLE OF CONTENTS

Multi-Language Translation

Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the P4M800PRO-M478 motherboard. This motherboard is a high performance, enhanced function motherboard that supports an mPGA 478-pin socket for Pentium 4/Celeron/Northwood/Prescott 478-pin CPU (compliant with Intel VRM 10.0 spec. 0.8375V~1.6V) for high-end business or personal desktop markets.

The motherboard incorporates the P4M800PRO Northbridge (NB) and VT8237 Southbridge (SB) chipsets. The Northbridge supports a Front Side Bus (FSB) frequency of 800/533/400 MHz FSB and Hyper-Threading technology. The memory controller supports DDR memory DIMM frequencies of 400/333/266 MHz or DDR2 memory DIMM frequencies of 533/400 MHz. It supports four DDR Sockets with up to maximum memory of 2 GB. Aside from the integrated UniChrome Pro 3D/2D Graphics & Video Controller, one AGP 8X/4X slot provides users with high-performance along with superior image and video quality.

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, supporting up to eight functional ports, and OnNow/ACPI compliant advanced configuration and power management interface. The VT8237 integrated networking MAC controller with standard MII interface to an external PHY for 100/10/1Mb Base-T Ethernet.

This motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM1, LPT1, one VGA port, four USB ports, one optional LAN port, and audio jacks for microphone, line-in and line out.

Feature

Processor

This motherboard uses an mPGA 478-pin socket that carries the following features:

- Accommodates Intel Pentium 4/Celeron/Northwood/Prescott 478-pin CPU (compliant with Intel VRM 10.0 spec. 0.8375V~1.6V)
- Supports a system bus (FSB) of 800/533/400 MHz
- Supports "Hyper-Threading" technology CPU

"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 P4M800PRO Northbridge (NB) and VT8237 Southbridge (SB) chipset is based on an innovative and scalable architecture with proven reliability and performance.

P4M800PRO (NB)
- High performance Northbridge with 800/533/400 MHz FSB for Pentium 4/Celeron/Northwood/Prescott 478-pin CPU(compliant with Intel VRM 10.0 spec. 0.8375V~1.6V)
- V-Link 533 MB/s high bandwidth North/South Bridge inter-connect
- Integrated UniChrome Pro 3D/2D Graphics & Video Controller, Microsoft DirectX 9.0 compatible, OpenGL supported
- Supports for AGP 8X/4X, AGP v3.0 compliant with 1.5V
- Advanced 64-bit DDR2 and DDR SDRAM controller

P4M800PRO chipset can only support mixed 1024/512/256/128/64Mb x8/16 DDR2 SDRAMs or mixed 1024/512/256/128/64Mb x8/16 DDR SDRAMs.

VT8237(SB)
- Supports 16-bit 66 MHz 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 up to 8 USB 2.0 ports
- Integrated keyboard Controller with PS2 mouse support

Memory

- Supports DDR 400/333/266 MHz or DDR2 533/400 DDR SDRAM DIMMs
- Accommodates four unbuffered DIMMs
- Up to 1 GB per DIMM with maximum memory size up to 2 GB

Users please note that DDR & DDR2 can't both be applied at the same time on this motherboard. Users can use either DDR or DDR2 memory modules only!

Audio
- Compliant with AC'97 2.3 specification
- 16-bit Stereo full-duplex CODEC with 48KHz sampling rate
- Supports double sampling rate (96KHz) of DVD audio playback
- Direct Sound 3D™ compatible

Onboard LAN (Optional)

The onboard LAN controller provides either of the following features:

- Supports 10 Mb/s and 100 Mb/s N-way Auto-negotiation operation
- Supports Wake-on-LAN function and remote wake-up
- Half/Full Duplex capability

- Integrated 10/100/1000 transceiver
- Supports PCI rev.2.3,32-bit,33/66 MHz
- Crossover Detection & Auto-Correction
- Wake-on-LAN and remote wake-up support

Expansion Options

The motherboard comes with the following expansion options:

- One AGP slot
- Three 32-bit PCI v2.2 compliant slots
- Two 40-pin IDE connectors supporting up to 4 IDE devices
- One floppy disk drive interface
- Two 7-pin SATA connectors

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

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 parallel port
- One VGA port
- Four USB ports
- One LAN port (optional)
- Audio jacks for microphone, line-in and line-out

BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure 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.

Introducing the Motherboard

Motherboard Components
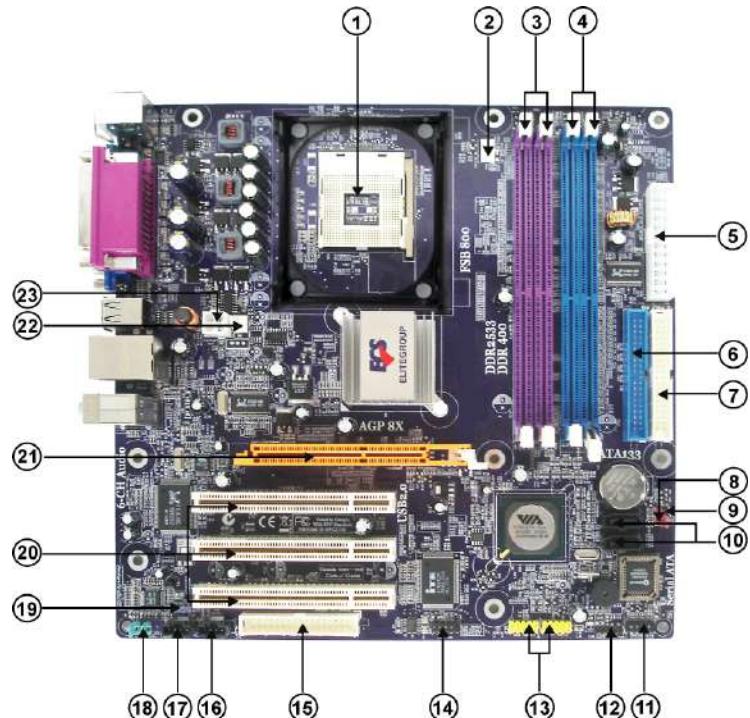
Table of Motherboard Components

LABEL	COMPONENT
1 CPU Socket	mPGA 478-pin socket for Pentium 4/Celeron CPUs
2 CPU_FAN	CPU cooling fan connector
3 DDRII1~2	240-pin DDR2 SDRAM slots
4 DDR1~2	184-pin DDR SDRAM slots
5 ATX1	Standard 24-pin ATX power connector
6 IDE1	Primary IDE channel
7 IDE2	Secondary IDE channel
8 CLR_CMOS	Clear CMOS jumper
9 BIOS_WP	BIOS protect jumper
10 SATA1~2	Serial ATA connectors
11 PANEL1	Front Panel switch/LED header
12 IrDA	Infrared header
13 USB 3~4	Front Panel USB headers
14 COM2 *	Onboard serial port header
15 FDD	Floppy diskette drive connector
16 AUX_IN	Auxiliary audio input header
17 CD_IN1	Analog audio input connector
18 AUDIO1	Front panel audio header
19 SPDIFO1	SPDIF out header
20 PCI1~3	32-bit add-on card slots
21 AGP1	Accelerated Graphics Port slot
22 SYS_FAN	System cooling fan connector
23 ATX_12V	Auxiliary 4-pin power connector

 * Stands for optional component

Users please note that DDR & DDR2 can't both be applied at the same time on this motherboard. Users can use either DDR or DDR2 memory modules only!

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

6

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, this motherboard 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 244 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.
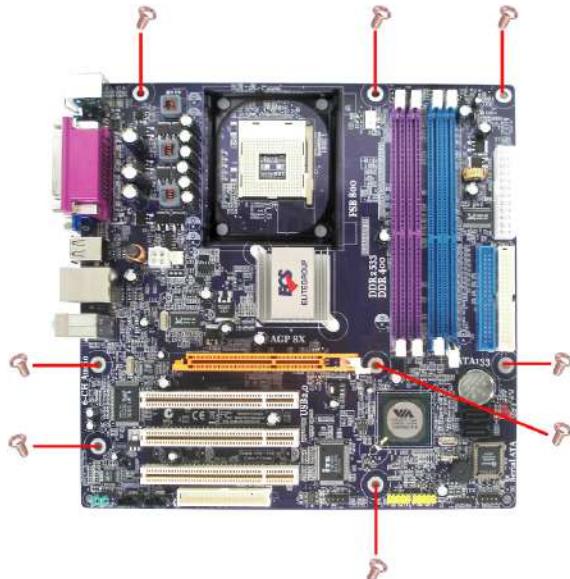
Do not over-tighten the screws as this can stress the motherboard.

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.
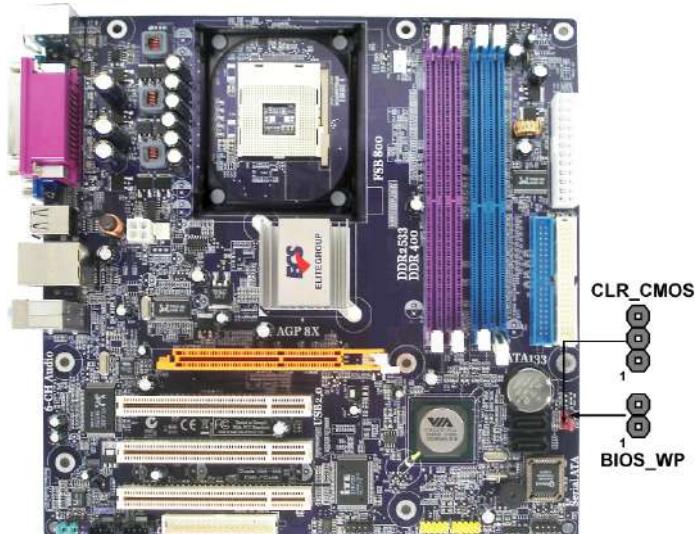
Jumper Settings

Jumper	Type	Description	Setting (default)	
CLR_CMOS	3-pin	Clear CMOS	1-2: NORMAL 2-3: CMOS CLEAR Before clearing the CMOS, make sure to turn off the system.	CLR_CMOS
BIOS_WP	2-pin	BIOS_WP	OPEN: FLASH WRITE UNPROTECTED SHORT: FLASH WRITE PROTECTED	BIOS_WP

To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimal Defaults" and then "Save Changes and Exit".

Installing the Motherboard

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 switches and indicator LEDs to the **PANEL1**.
4   Connect the standard power supply connector to **ATX1**.
5   Connect the auxiliary case power supply connector to **ATX_12V**.
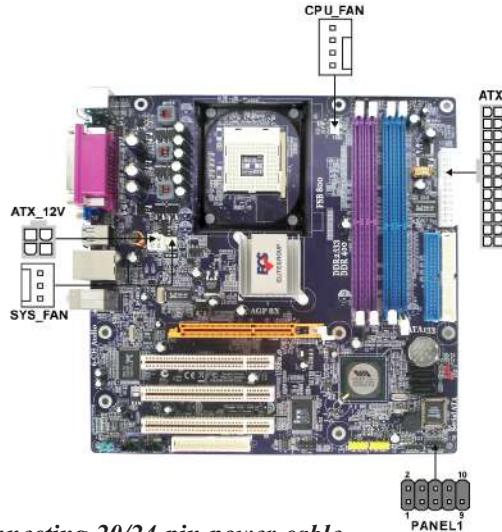
Connecting 20/24-pin power cable

Users please note that the 20-pin and 24-pin power cables can both be connected to the ATX1 connector. With the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the ATX1 connector. However, using 20-pin power cable may cause the system to become unbootable or unstable because of insufficient electricity. A minimum power of 300W is recommended for a fully-configured system.
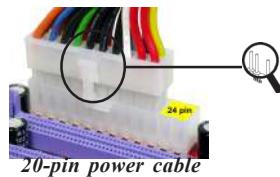
20-pin power cable

With ATX v1.x power supply, users please note that when installing 20-pin power cable, the latche of power cable clings to the left side of the ATX1 connector latch, just as the picture shows.
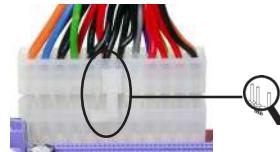
With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable clings to the right side of the ATX1 connector latch.

24-pin power cable

Installing the Motherboard

CPU_FAN: CPU FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	CPU FAN control

Users please note that the fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.

SYS_FAN: System cooling FAN Power Connector

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

ATX_12V: ATX 12V Power Connector

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

ATX1: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	Ground
4	+5V	16	PS_ON
5	Ground	17	Ground
6	+5V	18	Ground
7	Ground	19	Ground
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Ground

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:

PANEL1
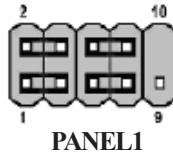
Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

* 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 debounce 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 an mPGA 478-pin 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.
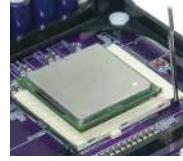
To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 4800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

Installing Memory Modules

This motherboard accomodates four memory modules. It can support two 184-pin unbuffered DIMM, DDR 400/333/266 or two 240-pin DDR2 533/400. The total memory support capacity is 2 GB.

Users please note that DDR & DDR2 can't both be applied at the same time on this motherboard. Users can use either DDR or DDR2 memory modules only!

DDR SDRAM memory module table

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

DDR2 SDRAM memory module table

Memory module	Memory Bus
DDR2 400	200MHz
DDR2 533	266MHz

You must install at least one module in any of the four slots. Each module can be installed with 256 MB to 1 GB of memory; total support memory capacity is 2 GB.

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 and DDR2 SDRAM .
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.

Installing the Motherboard

Table A: DDR 400 QVL (Qualified Vendor List)

Size	Vendor	Module Name
256 MB	APACER	AM3A568ACT-5A
	CORSAIR PLATNUM	CMX256 3200C2PT
	GEIL	G208L364D1TG5NKT3C
	GEIL	GE08L3264D1WL5NKT3H71
	Hynix	HY5DU56822BT-D43
	Kingston	D3208DL2T-5 0323PT01
	Kingston Winbond	W942508BH-5
	Kingston Samsung	K4H560838D-TCC4
	Ramaxel	MIC-R46V32M8TG-5BC
	Samsung	K4H560838D-TCCC
512 MB	CORSAIR PLATNUM	CMX512-3200C2PT
	GEIL	GE16L6464D2WL5NKT3H66
	Hynix	HY5DU56822BT-D43
	Kingston Samsung	K4H560838D-TCC4
	Kingmax	KDL388P4EA-50
	Samsung	K4H560838E-TCCC

Table B: Supported DDR2 QVL (Qualified Vendor List)

Type	Size	Vendor	Module Name
DDR2 400	**256 MB**	Samsung	K4T51163QB-GCCC
		TwinMOS Samsung	K4T51163QB-ZKCC
	512 MB	Samsung	K4T51083QB-GCCC
DDR2 533	**256 MB**	Corsair	4PB11D9CHM
		Eipida	B04180WB00
		Kingston Infineon	HYB18T512260AF-3.7
	512 MB	Corsair	4PB11D9CHM
		Eipida	04180WB01
		Kingston	HY5PS56821
		TwinMOS Elpida	8D22JB-ED
		TwinMOS Hynix	8D22JB-HX
		Samsung	K4T56083QF
	1 GB	Apacer ELPIDA	E5108AB-5C-E

Installing the Motherboard

Installing a Hard Dish 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 two IDE channels interface. 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: IDE Connector

This motherboard supports two high data transfer SATA ports with each runs up to 150 MB/s. To get better system performance, we recommend users connect the CD-ROM to the IDE channel, and set up the hard dives on the SATA ports.

IDE2: Secondary IDE Connector
The second drive on this controller must be set to slave mode. The cinfiguration is the same as IDE1.
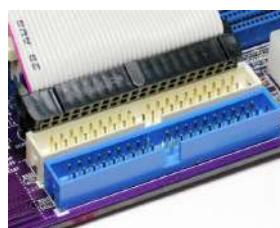
IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

Installing the Motherboard

About SATA Connectors

Your motherboard features two SATA connectors supporting a total of two drives. SATA , or 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 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 the Motherboard

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.
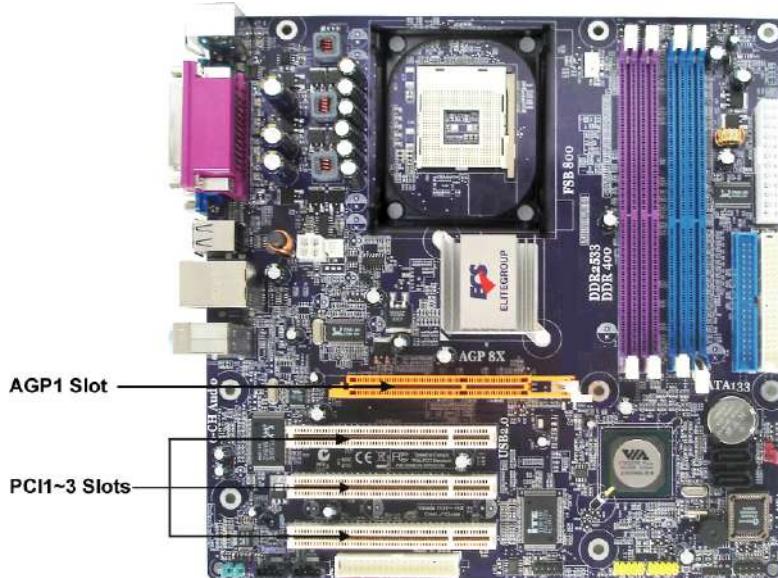
AGP1 Slot	The AGP slot is used to install a graphics adapter that supports the 8X/4X AGP specification. It is AGP 3.0 compliant.
PCI 1~3 Slots	This motherboard is equipped with three standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.2 compliant.

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:
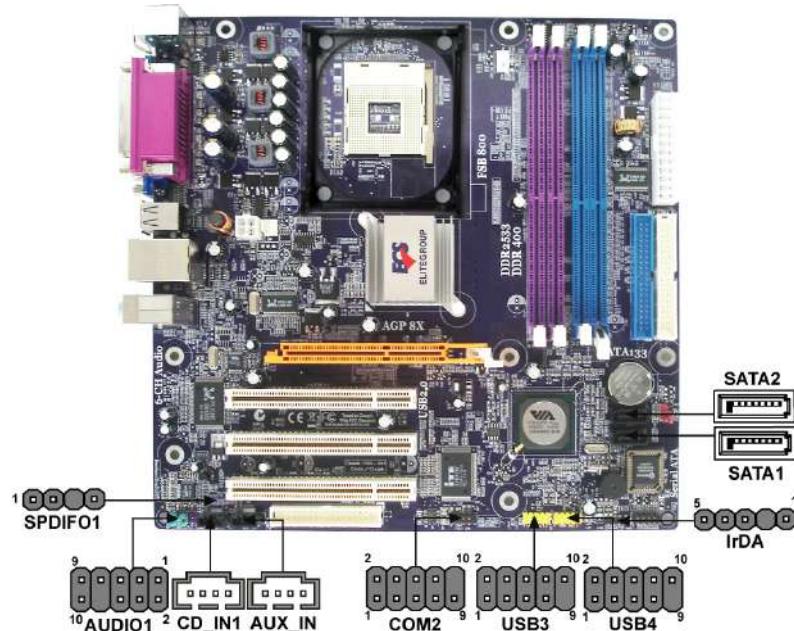
USB3/4: Front Panel USB headers

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

Installing the Motherboard

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

If your front panel cable is seperated, please connect it to pin1 and pin3 or pin5 and pin7 to activate the MIC function.

CD_IN1: Analog Audio Input connector

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

SPDIFO1: SPDIF out header

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coxial connector.

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	+5VA	5V analog power
3	Key	No pin
4	GND	Ground

AUX_IN: Auxiliary-in connector

This connector is an additional line-in audio connector. It allows you to attach a line-in cable when your rear line-in jack is set as line out port for 4-channel function.

Pin	Signal Name	Function
1	AUXIN_L	AUX In left channel
2	AGND	Ground
3	AGND	Ground
4	AUXIN_R	AUX In right channel

IrDA: Infrared header (Optional)

The motherboard supports an Infrared (IRDA) 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
1	VCC
2	No Pin
3	IRRX
4	Ground
5	IRTX

COM2: Onboard serial port header (Optional)

Connect a serial port extension bracket to this header to add a second serial port to your system.

Pin	Signal Name	Function
1	NDCDB	Data carry detect
2	NSINB	Serial Data In
3	NSOUTB	Serial Date Out
4	NDTRB	Data terminal ready
5	GND	Ground
6	NDSRB	Date set ready
7	NRTSB	Request to send
8	NCTSB	Clear to send
9	NRIB	Ring Indicator
10	Key	No pin

SATA1~2: 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	-	-

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:
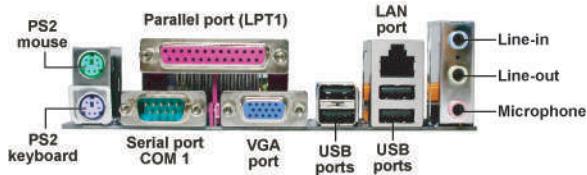
PS2 Mouse   Use the upper PS/2 port to connect a PS/2 pointing device.

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   Use the COM port to connect serial devices such as mice or
(COM1)   fax/modems.

LAN Port   Connect an RJ-45 jack to the LAN port to connect your computer
(optional)   to the Network.

VGA Port   Connect the monitor cable to the VGA port.

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.

Chapter 3
Using BIOS

About the Setup Utility

The computer uses the latest American Megatrends 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/F1 to enter SETUP

Press the delete key or F1 to access the BIOS Setup Utility.

```
              CMOS Setup Utility -- Copyright (C) 1985-2005, American Megatrends, Inc.
┌─────────────────────────────────────────────────────────────────────────┐
│                                         │                                 │
│  ▶ Standard CMOS Setup                  │  ▶ CPU PnP Setup                │
│  ▶ Advanced Setup                       │  ▶ Hardware Monitor             │
│  ▶ Features Setup                       │     Load Optimal Defaults       │
│  ▶ Power Management Features            │     Save Changes and Exit       │
│  ▶ PCI / Plug and Play Setup            │     Discard Changes and Exit    │
│  ▶ BIOS Security Features               │                                 │
│                                                                           │
│    ↑↓ ←→·   :Move    Enter : Select   +/-/: Value    F10: Save   ESC: Exit │
│    F1:General Help                  F9: Optimized Defaults                 │
│    Standard CMOS setup for changing time, date, hard disk type, etc.      │
│                                                                           │
│         v02.59 (C)Copyright  1985-2005, American Mega trends, Inc.         │
└─────────────────────────────────────────────────────────────────────────┘
```

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
F1	Displays a screen that describes all key functions
F9	Loads an optimized setting for better performance
F10	Saves the current configuration and exits setup
ESC	Exits the current menu

Using BIOS

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 the filename of the new bios and then press <Enter>. Example: AMINF340.EXE 040706.ROM

7   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. The computer will restart automatically.

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 Setup

This option displays basic information about your system.

```
              CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                                    Standard CMOS Setup
┌──────────────────────────────────────────────────────┬────────────────────┐
│  System Time              00: 01: 16                   │                    │
│  System Date             Fri  09/02/2005              │    Help Item       │
│                                                        │                    │
│  ▶  Primary IDE Master       Not Detected              ├────────────────────┤
│  ▶  Primary IDE Slave        Not Detected              │                    │
│  ▶  Secondary IDE Master     Not Detected              │ Use [ENTER], [TAB] │
│  ▶  Secondary IDE Slave      Not Detected              │ or [SHIFT-TAB] to  │
│  ▶  SATA-1                   Not Detected              │ select a field.    │
│  ▶  SATA-2                   Not Detected              │                    │
│                                                        │ Use [+] or [-] to  │
│     Floppy A                 1.44 MB 3$^{1}/_{2}$"     │ configure system Time. │
│     Floppy B                 Disabled                  │                    │
│                                                        │                    │
│                                                        │                    │
└──────────────────────────────────────────────────────┴────────────────────┘
      ↑↓←→ :Move        Enter : Select      +/-/: Value    F10: Save      ESC: Exit
              F1:General Help                     F9: Optimized Defaults
```

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.

▶ **Primary/Secondary IDE Master/Slave, SATA-1~2**

Your computer has one IDE channel and each channel can be installed with one or two devices (Master and Slave). In addition, this motherboard supports two SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.

Floppy A/Floppy B

These items set up size and capacity of the floppy diskette drive(s) installed in the system.

Press <Esc> to return to the main menu setting page.

Advanced Setup

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.

```
              CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                                    Advanced Setup
┌──────────────────────────────────────────────────────┬────────────────────┐
│  Quick Boot                   Enabled                  │                    │
│  1st Boot Device              Disabled                 │    Help Item       │
│  2nd Boot Device              1st FLOPPY DRIVE         │                    │
│  Try Other Boot Device        Yes                      ├────────────────────┤
│  Bootup Num-Lock              On                       │ Allows BIOS to skip│
│   Aperture Size Select        64MB                     │ certain tests while│
│  DRAM timing                  Auto                     │ booting. This will │
│  Auto Detect DIMM/PCI Clk     Enabled                  │ decrease the time  │
│  Spread Spectrum              Enabled                  │ needed to boot the │
│  Max CPUID Value Limit        Disabled                 │ system.            │
│  CPU TM function              Disabled                 │                    │
│  BIOS Protect                 Disabled                 │                    │
│                                                        │                    │
│                                                        │                    │
│                                                        │                    │
└──────────────────────────────────────────────────────┴────────────────────┘
      ↑↓ ←→ :Move        Enter : Select      +/-/: Value    F10: Save      ESC: Exit
              F1:General Help                     F9: Optimized Defaults
```

Using BIOS

Quick Boot (Enabled)

If you enable this item, the system starts up more quickly because of the elimination of some of the power on test rutines.

1st/2nd Boot Device

Use this item to determine the device order the computer used to look for an operating system to load at start-up time. The devices showed here will be different depending on the exact devices installed on your motherboard.

Try Other Boot Device (Yes)

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first boot device.

Bootup Num-Lock (On)

This item determines if the Num Lock key is active or inactive at system start-up time.

Aperture Size Select (64MB)

This item defines the size of aperture if you use a graphic adapter.

DRAM Timing (Auto)

This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical. Users please note that if setting this item to auto, the following two items are not available.

Auto Detect DIMM/PCI Clk (Enabled)

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

Spread Spectrum (Enabled)

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

Max CPUID Value Limit (Disabled)

This item enables or disables the Max CPU ID value limit. When Prescott with mPGA 478 CPU is installed, enable this item to prevent the system from "rebooting" when trying to install Windows NT4.0.

CPU TM function (Disabled)

This item displays CPU's temperature and enables you to set a safe temperature to Prescott CPU.

BIOS Protect (Disabled)

This item enables or disables the BIOS protection function.

Press <Esc> to return to the main menu setting page.

Using BIOS

Features Setup

This page sets up some parameters for peripheral devices connected to the system.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
Features Setup

		Help Item
OnBoard Floppy Controller	Enabled	
Serial Port1 Address	3F8/IRQ4	
Serial Port2 Address	2F8/IRQ3	Allow BIOS to Enable or
Serial Port2 Mode	Standard	Disable Floppy Controller.
Parallel Port Address	378	
Parallel Port Mode	ECP	
ECP Mode DMA Channel	DMA3	
Parallel Port IRQ	IRQ7	
OnBoard PCI IDE Controller	Both	
OnBoard SATA-IDE	IDE	
Audio Device	Enabled	
Modem Device	Auto	
Onboard LAN	Enabled	
Onboard LAN Boot ROM	Disabled	
Onboard USB Function	Enabled	
USB Function For DOS	Enabled	

↑↓ ←→ :Move   Enter : Select   +/-/: Value   F10: Save   ESC: Exit
F1:General Help   F9: Optimized Defaults

OnBoard Floppy Controller (Enabled)

Use this item to enable or disable the onboard floppy disk drive interface.

Serial Port1/2 Address (3F8/IRQ4/2F8/IRQ3)

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

Serial Port2 Mode (Standard)

If Serial Port 2 Address is not disabled, it allows you to set the Serial Port 2 Mode.

Parallel Port Address (378)

Use this item to enable or disable the onboard Parallel port, and to assign a port address.

Parallel Port Mode (ECP)

Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or BPP (Bi-Directional Parallel Port).

ECP Mode DMA Channel (DMA3)

Use this item to assign the DMA Channel under ECP Mode function.

Parallel Port IRQ (IRQ7)

Use this item to assign IRQ to the parallel port.

OnBoard PCI IDE Controller (Both)

Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.

OnBoard SATA-IDE (IDE)

Use this item to set the onboard SATA-IDE channel to be disabled, IDE, or RAID.

Audio Device (Enabled)

Use this item to enable or disalbe the onboard audio device.

Modem Device (Auto)

Use this item to enable or disalbe the onboard MC'97 modem device.

Onboard LAN (Enabled)

Use this item to enable or disable the onboard LAN.

Onboard LAN Boot ROM (Disabled)

Use this item to enable or disable the boot function using the onboard LAN boot rom.

Onboard USB Function (Enabled)

Enable this item if you plan to use the USB ports on this motherboard.

USB Function For DOS (Enabled)

Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.

Press <Esc> to return to the main menu setting page.

Power Mangement Setup

This page sets up some parameters for system power management operation.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
Power Management Features

		Help Item
ACPI Aware O/S	Yes	
Power Management	Enabled	Enable/Disable
Suspend mode	S1	ACPI support for
Suspend Time Out	Disabled	Operating System.
Resume on RTC Alarm	Disabled	
Resume on Ring	Disabled	ENABLE: If OS
Resume on PME#	Disabled	supports ACPI.
Resume on PS/2 Mouse	Disabled	
Restore on AC/Power Loss	Power Off	DISABLE: If OS
USB resume from S3	Disabled	does not support
PS2 KB resume from S3	Disabled	ACPI.
Wake-Up Key	Any Key	

↑↓ ⇔ : Move   Enter : Select   +/-/: Value   F10: Save
F1: General Help   F9: Optimized Defaults   ESC: Exit

ACPI Aware O/S (Yes)

This itme supports ACPI (Advanced Configuraion and Power Management Interface). Use this item to enable or disable the ACPI feature.

Power Management (Enabled)

Use this item to enable or disable a power management scheme. If you enable power management, you can use this item below to set the power management operation. Both APM and ACPI are supported.

Suspend Mode(S1)

After the selected period of system inactivity, all devices except the CPU shut off.

Suspend Time Out (Disabled)

This item sets up the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

Using BIOS

Resume on RTC Alarm (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

Resume On Ring (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

Resume On PME# (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI Modem or PCI LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI card.

Resume On PS/2 Mouse (Disabled)

This item enable or disable you to allow mouse activity to awaken the system from power saving mode.

Restore on AC/Power Loss (Power 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.

USB resume from S3 (Disabled)

This item allows you to enable or disable the USB device Wakeup function from S3 mode.

PS2 KB resume from S3 (Disabled)

This item enable or disable you to allow keyboard activity to awaken the system from S3 mode.

Wake-Up Key (Any Key)

When Keyboard Power On is set to Enable, this item is available and users can enter any key, or hot key on the keyboard or type in the password.

Press <Esc> to return to the main menu setting page.

PCI / Plug and Play Setup

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
PCI / Plug and Play Setup

CMOS SETUP UTILITY – Copyright (C) 1985-2005, American Megatrends, Inc. PCI / Plug and Play Setup		
Primary Graphics Adapter	PCI	Help Item
Share Memory Size	32 MB	Options
Allocate IRQ to PCI VGA	Yes	PCI
PCI IDE BusMaster	Enabled	AGP

↑↓ ←→ :Move   Enter : Select   +/-/: Value   F10: Save   ESC: Exit
F1:General Help   F9: Optimized Defaults

Using BIOS

Primary Graphics Adapter (PCI)

This itme indicates if the primary graphics adapter uses the PCI-E Lite VGA, PCI VGA, or AGP.

Share Memory Size (32MB)

This itme lets you allocate a portion of the main memory for the onboard VGA display.

Allocate IRQ to PCI VGA (Yes)

If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

PCI IDE BusMaster (Enabled)

This item enables or disabled the DMA under DOS mode. We recommend you to leave this

Press <Esc> to return to the main menu setting page.

BIOS Security Features

This page helps you install or change a password.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
BIOS Security Features

Security Settings	Help item
Supervisor Password : Not Installed	Install or Change the password.
Change Supervisor Password Press Enter	

↑↓ ←→ : Move   Enter : Select   +/-/: Value   F10: Save   ESC: Exit
F1:General Help   F9: Optimized Defaults

Supervisor Password (Not Installed)

This item indicates whether a supervisor password has been set. If the password has benn installed, *Installed* displays. If not, *Not Installed* displays.

Change Supervisor Password (Press Enter)

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

Press <Esc> to return to the main menu setting page.

Using BIOS

CPU PnP Setup

This page helps you manually configure the CPU of this motherborad. The system will automatically detect the type of installed CPU and make the appropriate adjustments to these items on this page.

```
            CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                                    CPU PnP Setup

    Manufacturer: Intel                                    Help Item
    CPU Over-clocking Func.   :        Disabled
    CPU Frequency             :         133MHz
    DRAM Frequency                     Auto                    Options
    Memory Voltage                     Normal
    CPU Voltage                        Normal              Disabled
    AGP Voltage                        +0.05V              Enabled




        ↑↓ ←→ :Move    Enter : Select    +/-/: Value    F10: Save    ESC: Exit
                  F1:General Help        F9: Optimized Defaults
```
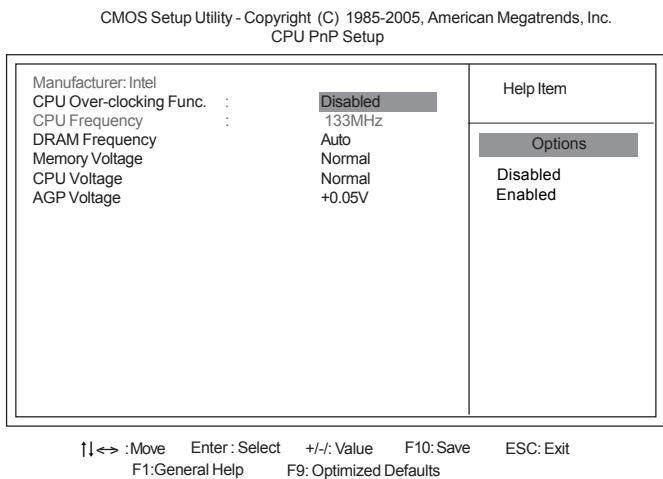
Manufacturer (Intel)

These items indicate the brand of the CPU installed in your system.

CPU Over-clocking Func. (Disabled)

This item decides the CPU over-clocking function/frequencyinstalled in your system. If the over-clocking fails, please turn offthe system power. And then, hold the PageUp key (similar to theClear CMOS function) and turn on the power, the BIOS willrecover the safe default.

CPU Frequency

This item indicates the current CPU frequency. Users can not make any change to this item. Please noted that the frequency will be varied with different CPU.

DRAM Frequency (Auto)

This item enables users to adjust the DRAM frequency. The default setting is auto and we recommend users leave the setting unchanged. Modify it at will may cause the system to be unstable.

Memory Voltage (Normal)

This item determines the DDR voltage adjustment.

CPU Voltage (Normal)

This item enables users to adjust the CPU voltage.

AGP Voltage (+0.05V)

This item determinese the AGP voltage adjustment.

Press <Esc> to return to the main menu setting page.

Using BIOS

Hardware Monitor

This page helps you set up some parameters for the hardware monitoring function of this motherboard.

```
              CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                                    Hardware Monitor

     -=- System Hardware Monitor -=-
   SYSTEM Temperature              : 32°C/89°F          Help Item
   CPU Temperature                 : 36°C/96°F
   SYSTEM FAN Speed                : N/A
   CPU FAN Speed                   : 2678 RPM
   Vcore                           : 1.488 V              Options
   Vdimm                           : 1.770 V
   Vcc3V                           : 3.376 V           Disabled
   Vcc5V                           : 5.107V            Enabled
   SB3V                            : 3.280 V
   VBAT                            : 3.216V
   Smart Fan Control               Disabled
   Shutdown Temp.                  Disabled


   ↑↓ ↔ :Move       Enter : Select    +/-/: Value    F10: Save       ESC: Exit
            F1:General Help           F9: Optimized Defaults
```

System Hardware Monitor

These items display the monitoring of the overall inboard hardware health events, such as system&CPU temperature, CPU & DIMM voltage, CPU & system fan speed,...etc.

Smart Fan Control (Disabled)

This item enables users to enable or disable smart fan function.

Shutdown Temperature(Disabled)

This item enables users to set the maximum temperature the system can reach before powering down.

Press <Esc> to return to the main menu setting page.

Using BIOS

Load Optimal Defaults

This option opens a dialog box that lets you install stability-oriendted defaults for all appropriate items in the Setup Utility. Select [OK] and then press <Enter> to install the defaults. Select [Cancel] and then press <Enter> to not install the defaults.

Save Changes and Exit

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, select [OK] to save and exit, or select [Cancel] to return to the main menu.

Discard Changes and Exit

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, select [OK] to discard changes and exit, or select [Cancel] to return to the main menu.

> *If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select [OK] to discard any changes you have made.*

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.*

Using the Motherboard Software

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 Windows 98/ME/2000/XP. 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:
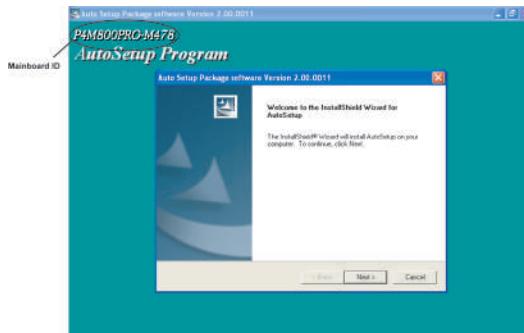
> *The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.*

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

Using the Motherboard Software

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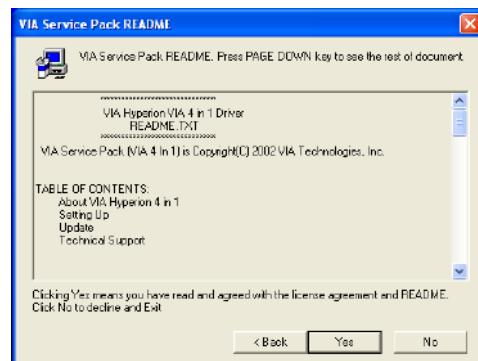
5. *Follow the instructions on the screen to install the items.*

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.

Using the Motherboard Software

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 WinFlash utility is a Windows version of the DOS 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\2000. To install the WinFlash utility, run AFUWIN.EXE (AMI) or WINFLASH.EXE(Award) from the following directory: \UTILITY\WINFLASH AMI or Award.

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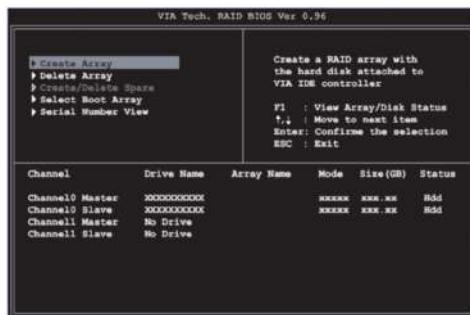
On the upper-right side of the screen is the message and legend box. The keys on the legend box allow you to navigate through the setup menu options. The message describes the function of each menu item. The following lists the keys found in the legend box with their corresponding functions.

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.

```
                    VIA Tech. RAID BIOS Ver 0.96

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

  Channel          Drive Name     Array Name    Mode   Size(GB)  Status

  Channel0 Master  XXXXXXXXXX                   XXXXX  XXX.XX    Hdd
  Channel0 Slave   XXXXXXXXXX                   XXXXX  XXX.XX    Hdd
  Channel1 Master  No Drive
  Channel1 Slave   No Drive
```

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.

```
  RAID 0 for performance
  RAID 1 for data protection
  RAID SPAN for capacity
```
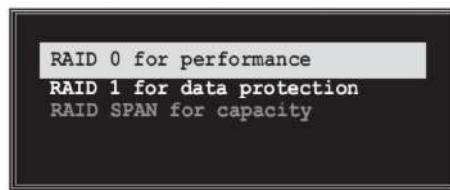
2 Select **RAID 0 for performance** from the menu and press <Enter>. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Performance or manually configure the RAID array for stripped sets. If you want to manually configure the RAID array continue with next step, 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.

```
  4K
  8K
  16K
  32K
  64K
```

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.**


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

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.

```
RAID 0 for performance
RAID 1 for data protection
RAID SPAN for capacity
```
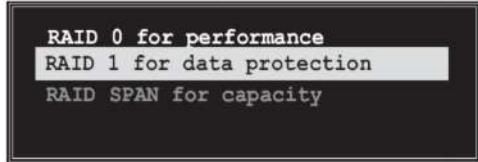
2   Select RAID 1 for data protection from the menu and press <Enter>. Select next task from pop-up menu. The task Create only creates the mirrored set without creating a backup. Create and duplicate creates both mirrored set and backup.

```
Create only
Create and duplicate
```

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.**

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

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.

```
The selected array will be destroyed.
Are you sure? Continue? Press Y/N
```
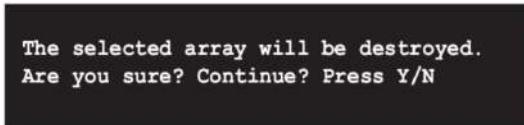
Press "Y" to confirm or "N" to return to the configuration options.

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.

VIA VT8237 SATA RAID Setup Guide

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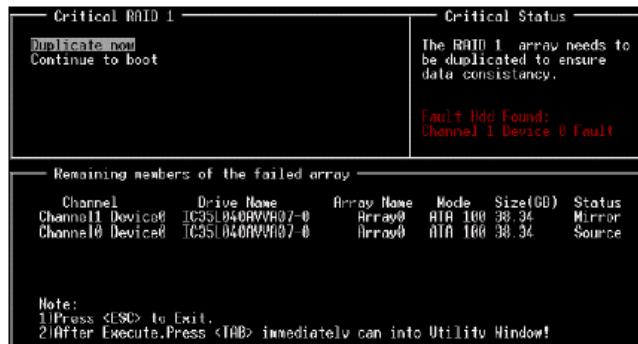
If user selects **Continue to boot**, it will enable duplicating the array after booting into OS.

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.

VIA VT8237 SATA RAID Setup Guide

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.
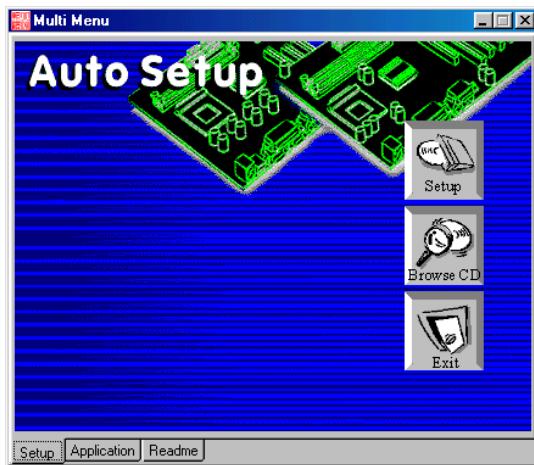
The **InstallShield Wizard** will begin automatically for installation. Click on the **Next** button to proceed the installation in the welcoming window.
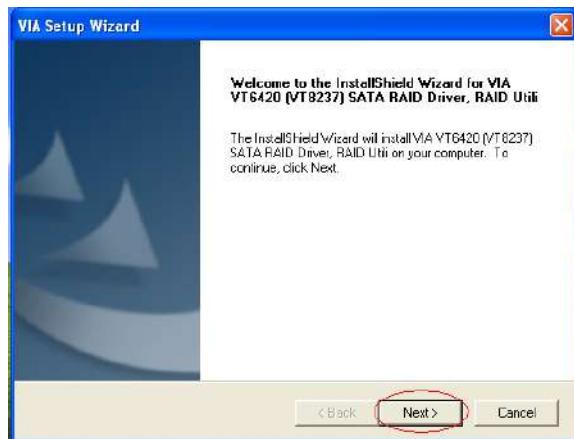
VIA VT8237 SATA RAID Setup Guide

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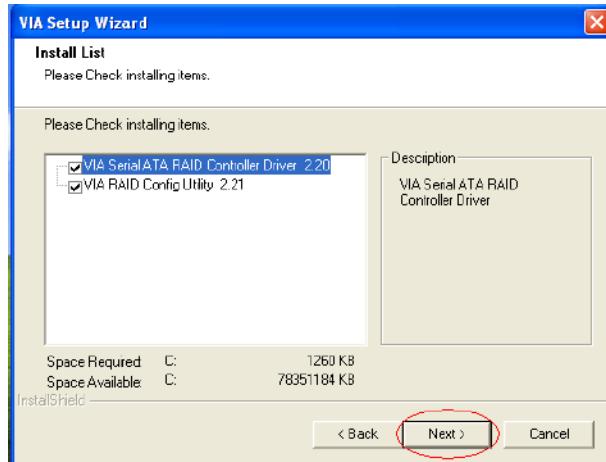
Using VIA RAID Tool

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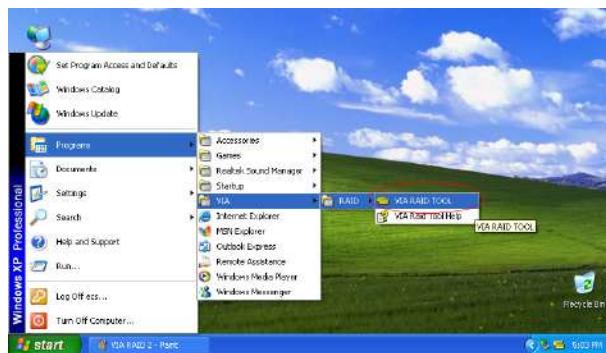
After the software is finished installation, it will automatically started every time Windows is initiated. You may double-click on the icon shown in the system tray of the tool bar to launch the **VIA RAID Tool** utility.

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.
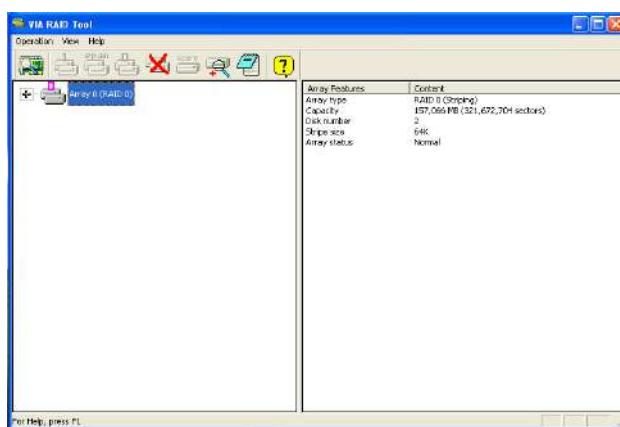
VIA VT8237 SATA RAID Setup Guide

Click on the plus (+) symbol next to Array 0--RAID 0 to see the details of each disk.
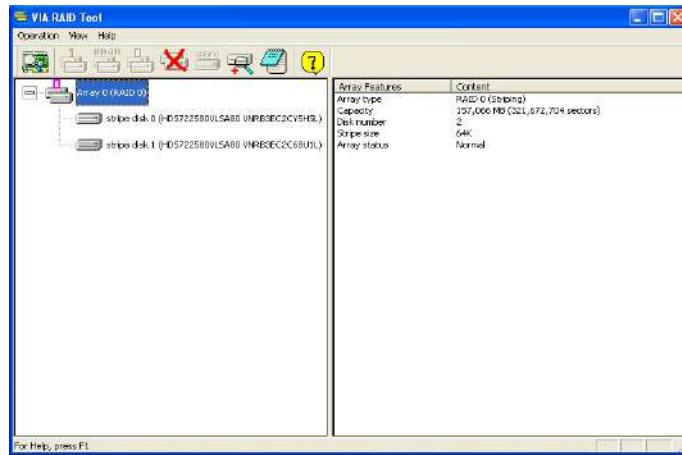
You may also use the same or button to view the statuses of Array 0--RAID 1.
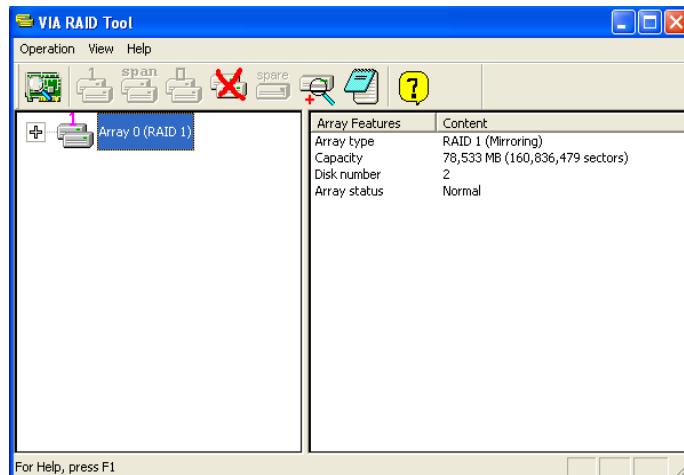
Click on the plus (+) symbol next to Array 0; RAID 1 to see the details of each disk.
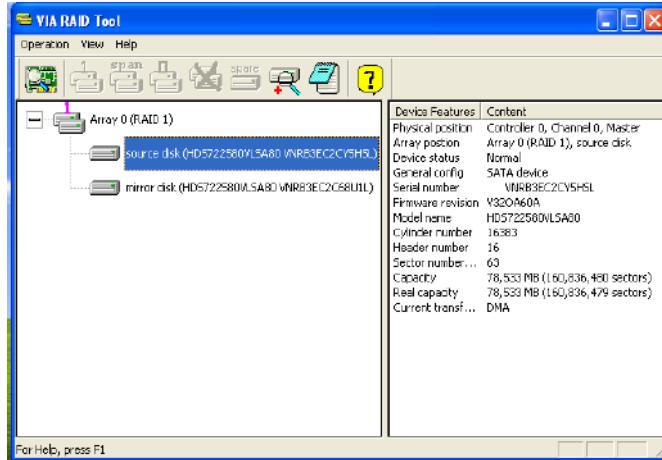
Caractéristiques
Processeur

Cette carte mère utilise un Socket mPGA de 478 broches ayant les caractéristiques suivantes :

- Intègre le CPU Intel Pentium 4/Celeron/Northwood/Prescott 478 broches (conforme aux spéc. Intel VRM 10.0. 0.8375V ~ 1.6V)
- Prend en charge un bus système (FSB) de 800/533/400 MHz
- Prend en charge le CPU de 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 P4M800PRO Northbridge (NB) et VT8237 Southbridge (SB) sont basés sur une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées.

P4M800PRO (NB)
- Northbridge de hautes performances avec FSB de 800/533/400 MHz pour processeurs Pentium 4/Celeron/Northwood/Prescott 478 broches (conforme aux spéc. Intel VRM 10.0. 0.8375V ~ 1.6V)
- North/South Bridge interconnecté à bande passante élevé V-link 533 Mo/s
- Contrôleur Graphique et Vidéo 3D/2D UniChrome Pro intégré, compatible Microsoft DirectX 9.0, OpenGL pris en charge
- Prend en charge AGP 8X/4X, conforme AGP v3.0 avec 1,5V
- Contrôleur SDRAM DDR2 64 bits avancés et DDR

Le chipset P4M800PRO peut seulement supporter des SDRAM DDR2 1024/512/256/128/64Mb x8/16 ou des SDRAM DDR 1024/512/256/128/64Mb x8/16

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 clavier intégré avec support de souris PS2

Mémoire

- Prend en charge les DIMM SDRAM DDR 400/333/266 MHz ou DDR2 533/400
- Reçoit quatre DIMM sans tampon
- Jusqu'à 1 Go par DIMM avec une taille de mémoire maximum de 2 Go

Les utilisateurs doivent noter que les DDR & DDR2 ne peuvent pas être appliquées toutes les deux simultanément sur cette carte mère. Les utilisateurs peuvent utiliser le module mémoire DDR ou le module DDR2 seulement!

Multi-Language Translation

Audio

- Conforme aux spécifications AC'97 2.3
- CODEC full-duplex 16 bits avec vitesse d'échantillonnage de 48MHz
- Prend en charge la vitesse d'échantillonnage double (96KHz) de la lecture audio DVD
- Compatible Direct Sound 3D™

LAN interne (optionnel)

Cette carte mère prend en charge les chipsets LAN suivants :

• Supporte le fonctionnement en Auto-négociation N-Way et 10Mb/s et100Mb/s   • Prend en charge la fonction Wake-On-LAN (réveil par appel réseau) et le réveil à distance   • Prend en charge la capacite half/full duplex
• Emetteur-récepteur 10/100/1000 intégré   • Prend en charge PCI v2.3, 32 bits, 33/66-MHz   • Détection de croisement & Correction auto   • Prise en charge de Réveil par LAN et réveil distant

Options d'extension

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

- Un logement AGP
- Trois logement conforme PCI v2.2 32 bits
- Deux connecteurs IDE de 40 broches prenant en charge jusqu'à quatre périphériques IDE
- Une interface de lecteur de disquette
- Deux connecteurs SATA à 7 broches

Cette carte mère prenant en charge la maîtrise de bus UltraDMA avec vitesses de transfert de 133/100/66 Mo/s.

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 parallèle
- Un port VGA
- Quatre ports USB
- Un port LAN (optionnel)
- Prises audio pour microphone, ligne d'entrée et ligne de sortie

Microprogramme BIOS

La carte mère utilise AMI 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.

Multi-Language Translation

Feature

Prozessor

Dieses Motherboard ist mit einem mPGA 478-Pin Sockel ausgestattet, das folgende Eigenschaften aufweist:

- Nimmt Intel Pentium 4/Celeron/Northwood/Prescott 478-Pin CPU auf (kompatibel mit Intel VRM 10.0 Spezifikaiton 0.8375 Volt ~ 1.6 Volt)
- Unterstützt einen Systembus (FSB) mit 800/533/400 MHz
- Unterstützt eine CPU mit „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 P4M800PRO Northbridge (NB) und VT8237 Southbridge (SB) Chipsätze basieren auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung.

P4M800PRO (NB)
- Hochleistungsfähiger Northbridge mit 800/533/400 MHz FSB für Pentium 4/CeleronNimmt Intel Pentium 4/Northwood/Prescott 478-Pin CPU auf (kompatibel mit Intel VRM 10.0 Spezifikaiton 0.8375 Volt ~ 1.6 Volt)
- V-Link 533 MB/s hohe Bandbreite, North/South Bridge Durchschaltung
- Integrierter UniChrome Pro 3D/2D Grafik- & Videocontroller, Microsoft DirectX 9.0 kompatibel, Unterstützung für OpenGL
- Unterstützung für AGP 8X/4X, AGP v3.0 Entsprechung mit 1.5V
- Fortschrittlicher 64-Bit DDR2 und DDR SDRAM-Controller

Der Chipsatz P4M800PRO unterstützt nur gemischte 1024/512/256/128/64Mb x8/16 DDR2 SDRAMs oder gemischte1024/512/256/128/64Mb x8/16 DDR SDRAMs.

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
- Eingebauter Tastatur-Controller mit einer PS2-Maus-Unterstützung

Speicher

- Unterstützt DDR 400/333/266 MHz oder DDR2 533/400 DDR SDRAM DIMMs
- Es können vier ungepufferte DIMMs aufgenommen werden.
- Bis zu 1 GB pro DIMM mit maximaler Speicherkapazität von bis zu 2 GB.

Zur Beachtung des Benutzers: DDR & DDR2 können nicht zusammen oder zur gleichen Zeit mit dieser Motherboard benutzt werden!

Multi-Language Translation

Audio

- Entspricht AC'97 2.3 Spezifikationen
- 16-Bit Stereo-Vollduplex CODEC mit einer Samplingrate von 48MHz
- Unterstützt bei der DVD-Audiowiedergabe die doppelte Samplingrate (96KHz)
- Kompatibel mit Direct Sound 3D™

Integriertes LAN (optional)

Dieses Motherboard kann einen der folgenden LAN-Chipsätze unterstützen:

• Unterstützt den Betrieb bei 10Mb/s und 100Mb/s N-Way Auto-Negotiation • Unterstützt Wake-On-LAN-Funktion und Remote-Wake-up • Unterstützt Halb-/Vollduplex
• Enthält 10/100/1000 Transceiver • Unterstützung von PCI v2.3, 32-Bit, 33/66-MHz • Crossover Detection & Auto-Correction • Unterstützung für Wake-on-LAN und Remote Wake-up

Erweiterungsoptionen

Das Motherboard bietet die folgenden Erweiterungsoptionen:

- Ein AGP-Slot
- Drei 32-bit PCI v2.2-Steckplätze
- Zwei 40-Pin IDE Stecker, vier IDE-Kanäle unterstützen
- Ein Steckplatz für ein Diskettenlaufwerk
- Zwei 7-Pin SATA-Stecker

Dieses Motherboard unterstützt UltraDMA Bus Mastering mit einer Übertragungsrate von 133/100/66 MB/Sek.

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
- Eine VGA-Schnittstelle
- Vier USB - Schnittstellen
- Eine LAN-Schnittstelle (optional)
- Audiobuchsen für Mikrofon, Line-In und Line-Out

BIOS Firmware

Dieses Motherboard setzt das AMI 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

La scheda madre utilizza una presa a 478 pin mPGA che offre le seguenti caratteristiche:

- Possibilità di alloggiare la CPU Intel Pentium 4/Celeron/Northwood/ Prescott a 478 pin (conforme alle specifiche Intel VRM 10.0 0.8375V ~ 1.6V)
- Supporto di un bus di sistema (FSB) da 800/533/400 MHz
- Supporto di CPU con 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 P4M800PRO Northbridge (NB) e VT8237 Southbridge (SB) sono basati su un'innovativa architettura scalabile e offrono collaudata affidabilità e prestazioni comprovate.

P4M800PRO (NB)
- Northbridge a elevate prestazione con FSB da 800/533/400 MHz per processori Pentium 4/Celeron/Northwood/Prescott a 478 pin (conforme alle specifiche Intel VRM 10.0 0.8375V ~ 1.6V)
- Interconnessione North/South Bridge Ultra V-link con banda larga a 533 MB/sec
- Controller grafica 3D/2D e video UniChrome Pro 3D/2D integrato, compatibile con Microsoft DirectX 9.0 e con supporto di OpenGL
- Supporto di AGP 8X/4X, conforme a AGP v3.0 a 1,5 V
- Controller SDRAM DDR2 e DDR a 64 bit avanzato

Il chipset P4M800PRO supporta esclusivamente combinazioni di SDRAM DDR2 da 1024/512/256/128/64 Mb x8/16 o combinazioni di SDRAM DDR da 1024/512/256/128/64 Mb x8/16.

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 integrato per la Tastiera e supporto mouse PS2

Memoria

- Supporto di DIMM SDRAM DDR 400/333/266 MHz o DDR2 533/400
- Alloggia 4 DIMM unbuffered
- Dimensione massima della DIMM pari ad 1 GB per un ammontare massimo di 2 GB di memoria

Gli utenti sono pregati di notare che sia la DDR sia la DDR2 non possono entrambe essere applicate a questa scheda madre. Gli utenti possono utilizzare solo i moduli di memoria DDR o DDR2!

Multi-Language Translation

Audio

- Conforme alle specifiche AC'97 2.3
- CODEC full-duplex stereo a 16 bit con velocità di campionamento di 48 KHz
- Supporto di velocità di campionamento doppia (96 KHz) per la riproduzione audio di DVD
- Compatibile con Direct Sound 3D™

LAN integrata (opzionale)

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

- Supporto di NWay Auto-negotiation a 10Mb/s e 100 Mb/s
- Supporto di funzionalità Wake-On-LAN e riattivazione remota del sistema
- Supporto di funzionalità half/full duplex

- Transceiver 10/100/1000 integrato
- Supporta PCI v2.3, 32-bit, 33/66-MHz
- Rilevazione e crossover e autocorrezione
- Supporto di funzionalità Wake-on-LAN e riattivazione remota

Opzioni di espansione

La scheda madre è dotata delle seguenti opzioni di espansione:

- Uno slot AGP
- Tre slot PCI v2.2 a 32 bit
- Due connettori 40pin IDE per il supporto di fino a quattro dispositivi IDE
- Un'interfaccia per unità disco floppy
- Due connettori SATA a 7 pin

Questa scheda madre supporta bus master UltraDMA con tasso di trasferimento di 133/100/66 MB/s.

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 parallela
- Una porta VGA
- 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 AMI 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

Esta placa principal usa un receptáculo mPGA 478-pin que tiene las sigtes. características:

- Acomoda el CPU Intel Pentium 4/Celeron/Northwood/Prescott 478 pines (conforme con Intel VRM 10.0 espec. 0.8375V – 1.6V)
- Soporta un bus de sistema (FSB) de 800/533/400MHz
- Soporta la CPU con 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 P4M800PRO Northbridge (NB) y VT8237 Southbridge (SB) se basan de una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

P4M800PRO (NB)
- Northbridge de Alto Rendimiento con 800/533/400 MHz FSB para CPU Pentium 4/Celeron/Northwood/Prescott 478 pines (conforme con Intel VRM 10.0 espec. 0.8375V – 1.6V)
- Interconexión de North/South Bridge con la banda ancha alta de Ultra V-link 533 MB/seg
- Controlador de Gráficas & Vídeo 3D/2D UniChrome Pro Integrado, compatible con Microsoft DirectX 9.0, soporta OpenGL
- Soporta AGP 8X/4X, AGP v3.0 con conformidad de 1.5V
- Controlador 64-bit DDR2 y DDR SDRAM avanzado

El chipset P4M800PRO solamente puede soportar DDR2 SDRAMs mixtos de 1024/512/256/128/64Mb x8/16, o DDR2 SDRAMs mixtos de 1024/512/256/128/64Mb x8/16.

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 teclado integrado con soporte de ratón PS2

Memoria

- Soporta SDRAM DIMMs de DDR 400/333/266 MHz o DDR2 533/400 DDR
- Acomoda cuatro DIMMS sin buffer
- Hasta 1 GB por DIMM con el tamaño de memoria máximo hasta 2 GB

Usuarios favor observen que los DDR & DDR2 no se pueden aplicar al mismo tiempo en esta placa principal. ¡Deben usar los módulos de memoria DDR o DDR2 solamente!

Audio

- Conformidad con las especificaciones AC'97 2.3
- CODEC de full-duplex estéreo de 16-bit con índice de muestreo de 48KHz
- Soporta doble índice de muestreo (96KHz) de reproducción de audio DVD
- Compatible con Direct Sound 3D™

LAN Abordo (optativo)

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

• Soporta operación de Autonegociación N-Way de 10Mb/s y 100Mb/s • Soporte de Despertar-en-LAN y Despertar remoto • Soporta capacidad duplex medio/completo
• Transceptor 10/100/1000 integrado • Soporta PCI v2.3, 32-bit, 33/66-MHz • Detección Cruzada & Autocorrección • Soporte de Despertar-en-LAN y Despertar remoto

Opciones de Expansión

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

- Una ranura AGP
- Tres ranuras conforme con 32-bit PCI v2.2
- Dos conectores 40-pin IDE que soporta hasta cuatro dispositivos
- Una interfaz de la unidad de disco floppy
- Dos conectores SATA de 7-pin

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

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 paralelo
- Un puerto VGA
- Cuatro puertos USB
- Un puerto LAN (optativo)
- Clavijas de audio para micrófono, entrada y salida de línea

BIOS Firmware

La placa principal usa AMI 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.

Multi-Language Translation

Características

Processador

Esta motherboard usa a tomada de parede de cavilha mPGA 478 que possui as seguintes características:

- Acomoda CPU Intel Pentium 4/Celeron/Northwood/Prescott com 478 pinos (cumpre com a especificação Intel VRM 10.0 0.8375V ~ 1.6V)
- Suporta um bus de sistema (FSB) de 800/533/400 MHz
- Suporta CPU de 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 P4M800PRO Northbridge (NB) e VT8237 Southbridge (SB) é baseado numa arquitectura inovadora e escalável com fiabilidade e performance provadas.

P4M800PRO (NB)
- Northbridge de elevada performance com FSB de 800/533/400 MHz para CPU Pentium 4/Celeron/Northwood/Prescott com 478 pinos (cumpre com a especificação Intel VRM 10.0 0.8375V ~ 1.6V)
- Interconexão North/South de largura de banda elevada de 533 MB/seg. V-link
- Gráficos UniChrome Pro 3D/2D Integrados & Controlador de Vídeo, compatível com Microsoft DirectX 9.0, suportado por OpenGL
- Suportes para AGP 8X/4X, AGP v3.0 compatível com 1.5V
- Controlador DDR SDRAM e DDR2 Avançado de 64 bits

O conjunto de chips só pode suportar 1024/512/256/128/64Mb x8/16 DDR2 SDRAMs misturados ou 1024/512/256/128/64Mb x8/16 DDR SDRAMs misturados.

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 teclado integrado com suporte para mouse PS2

Memória

- Suporta DDR 400/333/266 MHz ou DDR2 667/533/400 DDR SDRAM DIMMs
- Acomoda quatro DIMMs sem buffers
- Até 1 GB por DIMM com tamanho de memória máxima de até 2 GB

Os utilizadores deverão ter em atenção que o DDR & DDR2 não pode ser aplicado ao mesmo tempo nesta motherboard. Os utilizadores poderão usar somente módulos de memória DDR ou DDR!

Multi-Language Translation

Áudio

- Cumpre com as especificações AC'97 2.3
- CODEC duplex total Estéreo de 16 bits com taxa de amostragem de 48KHz
- Suporta taxa de amostragem dupla (96KHz) de reprodução áudio DVD
- Compatível com Direct Sound 3D™

Onboard LAN (opcional)

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

- Suporta operação de Auto-negociação N-Way 10Mb/s e100Mb/s
- Suporta função LAN de Despertar e despertar remoto
- Suporta capacidade de duplex pela metade/ou na totalidade

- Transreceptor integrado 10/100/1000
- Suporta PCI v2.3, 32-bit, 33/66-MHz
- Detecção Crossover & Auto Correcção
- Suporte Wake-on-LAN e wake-up remoto

Opções de Expansão

A motherboard é fornecida com as seguintes opções de expansão:

- Uma ranhura AGP
- Três ranhuras compatíveis com PCI v2.2 de 32 bits
- Dois conectores IDE 40 pinos, que suportam até quatro dispositivos IDE
- Um interface com drive de disco flexível
- Dois conectores SATA de 7 pin

Esta motherboard suporta um domínio bus UltraDMA bus com taxas de Transferência de 133/100/66 MB/s.

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 paralela
- Uma porta VGA
- Quatro portas USB
- Uma porta LAN (opcional)
- Fichas áudio para microfone, entrada de linha e saída de linha

Microprogramação BIOS

Esta motherboard usa AMI 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.

Multi-Language Translation

機能

プロセッサ

このマザーボードには、次の機能を持ったmPGA 478ピンソケットが一つあります：

- Intel Pentium 4/Celeron/Northwood/Prescott 478ピンCPUに対応 (Intel VRM 10.0の0.8375V～1.6Vに互換性)
- 800/533/400 MHzのシステムバス(FSB)をサポート
- "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

P4M800PRO Northbridge (NB)と 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。

P4M800PRO (NB)	• 高性能のノースブリッジチップセットを搭載、Pentium 4/Celeron/Northwood/Prescott 478ピンCPUに対応（Intel VRM 10.0の0.8375V～1.6Vに互換性）プロセッサおいての 800/533/400 MHz FSB をサポート • V-link技術でNorthbridgeとSouthbridge 間の帯域幅が533 MB/秒の接続を実現 • 統合型UniChrome Pro 3D/2D Graphics & Video コントローラを搭載、Microsoft DirectX 9.0に対応し、OpenGL をサポート • AGP 8X/4Xをサポートし、AGP v3.0に準拠(1.5V専用) • 新型の64ビットDDR2 およびDDR SDRAM コントローラ

> *P4M800PRO チップセットでは、2048/1024/512/256/128/64Mb x8/16 DDR2 SDRAMのと、1024/512/256/128/64Mb x8/16 DDR SDRAMの混用のみ対応です。*

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） • PS2マウス対応のキーボードコントローラを内蔵

メモリ

- DDR 400/333/266 MHz または DDR2 533/400 DDR SDRAM DIMMをサポート
- 4つの非バッファーDIMMを搭載
- 各DIMMスロットに1 GBまで装着可能で、合計2GBまでをサポート

> *DDRとDDR2との組み合わせ混在の構成は対応されてませんのでご注意。必ずDDRか DDR2かのいずれかのみのメモリ構成にして下さい。*

Audio

- AC'97 2.3 規格に準拠
- 48MHzサンプリングレートの16ビットステレオ全二重CODEC
- 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：

- 10Mb/s と 100Mb/s N-way自動ネゴシエーション操作をサポート
- Wake-On-LANと遠隔wake-up機能をサポート
- 半/全二重の機能をサポート

- 10/100/1000トランシーバーを搭載済み
- PCI v2.3, 32-bit, 33/66-MHzへの対応
- クロスオーバー検出機能と自動修正機能を搭載
- Wake-on-LANと遠隔 wake-upとの機能をサポート

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3つ
- 40ピンIDEロープロフィルヘッダー(4つのIDEチャネルをサポート)が2つ)
- 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

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
- パラレルポート が1つ
- VGA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AMI 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

본 마더보드는 다음과 같은 특성을 지닌 mPGA 478 핀 소켓을 사용한다:
- Intel Pentium 4/Celeron/Northwood/Prescott 478- 핀 CPU 사용 (Intel VRM 10.0 사양. 0.8375V ~ 1.6V 호환)
- 800/533/400MHz 의 시스템 버스 (FSB) 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

P4M800PRO Northbridge (NB) 및 VT8237 Southbridge (SB) 칩셋은 혁신적이고 범위성을 지닌 아키텍쳐를 기반으로 인정된 신뢰성과 성능을 지닌다.

P4M800PRO (NB)
- Intel Pentium 4/Celeron/Northwood/Prescott 478- 핀 CPU 사용 (Intel VRM 10.0 사양. 0.8375V ~ 1.6V 호환) 프로세서에 FSB 800/533/400 MHz 를 제공하는 고 성능의 Northbridge
- V-링크 고 대역폭 533 MB/sec 의 North/South Bridge 인터커넥트
- 통합 UniChrome Pro 3D/2D 그래픽 및 비디오 컨트롤러, 마이크로소프트DirectX 9.0 호환, OpenGL 지원
- AGP 8X/4X, 1.5V AGP v3.0 호환 지원
- 고급 64 비트 DDR2 및 DDR SDRAM 컨트롤러

> *P4M800PRO 칩셋은 mixed 1024/512/256/128/64Mb x8/16 DDR2 SDRAM 또는 mixed 1024/512/256/128/64Mb x8/16 DDR SDRAM만을 지원한다.*

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
- PS2 마우스 지원 통합 키보드 컨트롤러

메모리

- DDR 400/333/266 MHz 또는 DDR2 533/400 DDR SDRAM DIMM 지원
- 4 개의 unbuffered DIMM 사용
- DIMM 당 최대 1 GB, 최대 메모리 2 GB

> *본 마더보드에 DDR 과 DDR2 를 동시에 사용할 수 없으므로, DDR 또는 DDR2 메모리 모듈 중 하나만 사용하십시오!*

오디오 코덱

- AC'97 2.3 사양 부합
- 48KHz 샘플링 속도를 지닌 16 비트 스테레오 풀-듀플렉스 코덱
- DVD 오디오 재생 시 더블 샘플링 속도 (96KHz) 지원.
- Direct Sound 3D™ 호환

보드 내장 LAN (선택 사항)

본 마더보드는 다음과 같은 LAN 칩셋을 지원합니다:

• 10Mb/s 및 100Mb/s N-Way Auto-negotiation 작업 지원 • Wake-On-LAN 기능 및 원격 wake-up 지원 • Half/full 듀플렉스 지원
• 통합 10/100/1000 트랜시버 • PCI v2.3, 32-bit, 33/66-MHz 지원 • Crossover Detection 및 Auto-Correction • Wake-on-LAN 및 원격 wake-up 지원

확장 옵션

본 마더보드의 확장 옵션은 다음과 같다:
- AGP 슬롯 1 개
- 32 비트 PCI v2.2 호환 슬롯3 개
- 최대 4개의 IDE 장치를 지원하는 40핀IDE 커넥터 2 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 2 개

본 마더보드는 마더보드는 전송 속도 133/100/66 MB/s의 UltraDMA 버스 마스터링을 지원한다.

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
- 패러럴 포트 1 개
- VGA 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 AMI BIOS 를 사용한다:
- 전원 관리
- Wake-up 알람
- CPU 파라미터
- CPU 및 메모리 타이밍

펌웨어로 다른 프로세서 클럭 속도의 파라미터를 설정할 수도 있다.

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

한국어

功能

處理器

本主機板配備具有如下功能的mPGA 478針插槽:

- 支援 Intel Pentium 4/Celeron/Northwood/Prescott 478針CPU(相容於Intel VRM 0.8375V~1.6V規格)
- 支援高達 800/533/400 MHz之系統匯流排(FSB)
- 支援使用超執行緒(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

P4M800PRO 北橋(NB)及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。

P4M800PRO (NB)
- 具高性能北橋晶片，支援Pentium 4/Celeron/Northwood/Prescott 478針CPU(相容於Intel VRM 0.8375V~1.6V規格)之800/533/400 MHz FSB
- 藉 V-link模組在北/南橋晶片間提領533 MB/秒的超高頻寬
- 整合型UniChrome Pro 3D/2D繪圖暨音訊控制器，相容於Micro-soft DirectX 9.0，支援 OpenGL
- 支援AGP 8X/4X，相容於 AGP v3.0 (適用於1.5V)
- 先進之64位元 DDR2 及 DDR SDRAM 控制器

P4M800PRO 晶片僅支援1024/512/256/128/64Mb x8/16 DDR2 SDRAM的混合使用 或 1024/512/256/128/64Mb x8/16 DDR SDRAM的混合使用

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)
- 內建有支援PS2滑鼠之鍵盤控制器

記憶體

- 支援 DDR 400/333/266 MHz 或 DDR2 533/400 DDR SDRAM DIMM
- 可安裝4個非緩衝式DIMM
- 各DIMM可安裝1GB記憶體，共可支援高達2GB的記憶體容量

請注意：本主機板並不支援同時安裝 DDR及DDR2之模組，僅能選擇安裝 DDR或 DDR2之其中一種記憶模組！

音訊

- 相容於AC'97 2.3 規格
- 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

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：

· 支援 10Mb/s 及100Mb/s N-way 自動協調作業 · 支援區域網路喚醒(Wake-On-LAN)及遠端喚醒功能 · 支援半/全雙工功能
· 整合有10/100/1000 收發器 · 支援PCI v2.3, 32位元, 33/66-MHz · 具有跳接線偵測及自動修正功能 · 支援區域網路喚醒功能及遠距喚醒功能

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PCIv2.2插槽
- 2個40針 IDE 接頭，支援 4個 IDE 裝置
- 1個軟碟機介面
- 2個7針SATA插頭

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。

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個平行埠
- 1個VGA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AMI 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

主板使用一个 mPGA 478-pin 插座，此插座具有以下特点：

- 支持 Intel Pentium 4/Celeron/Northwood/Prescott 478-pin CPU（兼容 Intel VRM 10.0 规格）0.8375V ~ 1.6V)
- 支持 800/533/400 MHz 系统总线 (FSB)
- 支持"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

P4M800PRO 北桥 (NB) 和 VT8237 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。

P4M800PRO (NB)
- 800/533/400 MHz FSB，用于 Pentium 4/Celeron/Northwood/Prescott 478-pin CPU（兼容 Intel VRM 10.0 规格）0.8375V ~ 1.6V) 的高性能北桥
- V-link 533 MB/s 高带宽北桥/南桥互连
- 集成 UniChrome Pro 3D/2D 图形 & 视频控制器，兼容 Microsoft DirectX 9.0，支持 OpenGL
- 符合 AGP 8X/4X、1.5V AGP v3.0 规格
- 增强 64 位 DDR2 和 DDR SDRAM 控制器

P4M800PRO 芯片组只支持混用 1024/512/256/128/64Mb x8/16 DDR2 SDRAM 或混用 1024/512/256/128/64Mb x8/16 DDR SDRAM。

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
- 集成支持 PS2 鼠标的键盘控制器

内存

- 支持 DDR 400/333/266 MHz 或 DDR2 533/400 DDR SDRAM DIMM
- 支持 4 个非缓冲 DIMM
- 每个插槽支持 1 GB，总共最大可支持 2 GB

用户需注意 DDR 和 DDR2 不能同时在此主板上使用，只能使用 DDR 或 DDR2内存中的任何一种！

音频

- 兼容 AC'97 v2.3 规格
- 具有 48KHz 采样速率的 16 位全双工 CODEC（编解码器）
- 支持 DVD 音频播放的双采样速率 (96KHz)
- 符合 Direct Sound 3D™ 规格

简体中文

Onboard LAN（可选）

此主板支持以下任何一种 LAN 芯片组：

• 支持 10Mb/s 和 100Mb/s N 路自协商工作 • 支持 LAN 唤醒 功能和远程唤醒功能 • 支持半双工/全双工工作
• 集成 10/100/1000 收发器 • 支持 PCI v2.3，32-位，33/66-MHz • 跨接检测和自动校正 • 支持 LAN 和远程唤醒

扩展选项

此主板提供如下扩展选项：
- 1 个AGP 槽
- 3 个 32 位 PCI v2.2 扩展插槽
- 2 个 40-pin IDE 接口，支持 4 个 IDE 设备
- 1 个软驱接口
- 2 个 7-pin SATA 接口

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

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 个并口
- 1 个 VGA 端口
- 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 AMI 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

Материнская плата использует 478-штырьковый сокет mPGA и характеризуется следующими свойствами:

- Плата использует 478-штырьковые процессоры Intel Pentium 4/Celeron/ Northwood/Prescott (совместимые с Intel VRM 10.0 spec. 0.8375V ~ 1.6V)
- Поддерживает системные шины (FSB) с частотой 800/533/400 MHz
- Поддерживает 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 P4M800PRO «Северный мост» (Northbridge, NB) и VT8237 «Южный мост» (Southbridge, SB) построены с использованием инновационной масштабируемой архитектуры, обеспечивающей высокую надежность и производительность.

P4M800PRO (NB)
- Скоростной северный мостик с 800/533/400 MHz FSB для 478-штырьковые процессоров Pentium 4/Celeron/ Northwood/Prescott (совместимые с Intel VRM 10.0 spec. 0.8375V ~ 1.6V)
- Скоростное соединение северного и южного мостиков V-link 533 МБ/с
- Встроенный контроллер графики и видео UniChrome Pro 3D/2D, совместимость с Microsoft DirectX 9.0, поддержка OpenGL
- Поддержка AGP 8X/4X, AGP вер. 3.0, совместимость с 1.5V
- Усовершенствованный контроллер 64-бит DDR2 и DDR SDRAM

Чипсет P4M800PRO поддерживает только смешанные модули памяти 1024/512/256/128/64 Мб x8/16 DDR2 SDRAM или смешанные модули 1024/512/256/128/64 Мб x8/16 DDR SDRAM.

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
- Интегрированный контроллер клавиатуры с поддержкой мыши PS2

Память

- Поддерживает память DDR 400/333/266 МГц или DDR2 533/400 DDR SDRAM DIMM
- Обслуживает 4 модуля небуферизованной памяти DIMM
- Обслуживает до 1 ГБ на модуль DIMM (максимально до 2 ГБ памяти)

Внимание! Модули DDR и DDR2 не моугт использоваться одновременно. Можно использовать только модули DDR или только модули DDR2!

Аудио
- Совместимость со спецификацией AC'97 2.3
- 16-битный стерео CODEC (полный дуплекс) с частотой сэмплирования 48 кГц
- Поддержка двойной скорости сэмплирования аудиовыхода DVD (96 кГц)
- Совместимость с Direct Sound 3D™

Встроенный сетевой адаптер LAN (опционально)
Встроенный сетевой адаптер LAN обладает следующими характеристиками:

- Поддерживает автоматическое определение скорости и режима соединения 10Mb/s и 100Mb/s
- Поддерживает функции Wake-On-LAN и remote wake-up
- Поддержка режимов Half и Full Duplex

- Интегрированный трансивер 10/100/1000
- Поддержжа PCI v2.3, 32-бит, 33/66-МГц
- Детекция и автокоррекция Crossover
- Функция Wake-on-LAN и удаленного пробуждения

Возможности расширения
Существуют следующие опции расширения данной материнской платы:
- Один слот AGP
- Три 32-битных слота PCI v2.2
- Два разъема 40-штырьковый IDE с поддержкой до четырех устройств IDE
- Один разъем для накопителя на гибких дисках
- Два разъема 7-pin SATA

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

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 параллельный порт
- Один порт VGA
- Четыре порта USB
- Один порт LAN (опционально)
- Гнездо для подключения микрофона, гнезда аудио-входа и выхода

BIOS
Плата работает под AMI 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.

Multi-Language Translation

Cechy

Procesor

Ta płyta główna wyposażona jest w podstawkę mPGA 478-nóżkową charakteryzującą się następującymi właściwościami:

- Akceptuje CPU 478-nóżkowe Intel Pentium 4/Celeron/Northwood/Prescott (zgodne ze specyfikacją Intel VRM 10.0 i zasilane 0.8375V ~ 1.6V)
- Obsługuje szynę systemowa (FSB) 800/533/400MHz
- Zabezpiecza 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) P4M800PRO i mostek południowy (SB) VT8237 chipsetu oparty jest na nowatorskiej i skalowalnej architekturze o sprawdzonej niezawodności i funkcjonalnoœci.

P4M800PRO (NB)
- Wysokowydajny mostek północny 800/533/400 MHz FSB dla CPU Pentium 4/Celeron/Northwood/Prescott (zgodne ze specyfikacją Intel VRM 10.0 i zasilane 0.8375V ~ 1.6V)
- Szybkie V-link 533 MB/s połączenie mostków pólnocnego/południowego
- Zintegrowany kontroler grafiki i video UniChrome Pro 3D/2D, zgodność z Microsoft DirectX 9.0, zgodność z OpenGL
- Obsługuje AGP 8X/4X, AGP wer. 3.0, zgodne z 1.5V
- Zaawansowany kontroler 64-bitowy DDR2 i DDR SDRAM

Chipset P4M800PRO może obsługiwać tylko mieszane pamięci 1024/512/256/128/64Mb x8/16 DDR2 SDRAMs lub mieszane 1024/512/256/128/64Mb x8/16 DDR SDRAM.

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
- Zintegrowany kontroler klawiatury z obsługą myszy PS2

Pamięć

- Obsługuje pamięci DDR 400/333/266 MHz lub DDR2 533/400 DDR SDRAM DIMM
- Zaopatrzony w cztery gniazda niebuforowanej pamięci typu DIMM
- Obsługuje pamięć DIMM do pojemności 1 GB każda; maksymalna możliwa pojemność pamięci do 2 GB

Użytkowników uczulamy na fakt, że na tej płycie głównej nie mogą być używane jednocześnie pamięci typu DDR i DDR2.Można używać tylko pamięć typu DDR lub tylko pamięć typu DDR2!

Multi-Language Translation

Audio

- Zgodne ze specyfikacją AC'97 w wersji 2.3
- 16 bitowe full-duplex CODEC z częstotliwością próbkowania 48KHz.
- DVD audio playback obsługuje z podwójną częstotliwością próbkowania (96KHz)
- Zgodny z Direct Sound 3D™

Zintegrowana obsługa sieci LAN (opcjonalnie)

Zintegrowana obsługa sieci LAN posiada następujące właściwości:

• Obsluguje N-drożne automatycznie ustalane operacje z szybkościami 10Mb/s i 100Mb/s • Obsługuje funkcję Wake-On-LAN i zdalnie sterowane wake-up (uruchamianie komputera) • Zdolność Half/Full duplex
• Zintegrowany terminal nadawczo-odbiórczy 10/100/1000 • Obsluguje 32 bitowe PCI w wersji 2.3 o częstotliwościach 33/66-MHz • Detekcja Crossover i autokorekcja • Obsługuje Wake-on-LAN i zdalne wake-up

Możliwości rozbudowy

Płyta głwna wyposażona jest w następujące gniazda:

- Jedno gniazdo AGP
- Trzy 32-bitowych gniazda zgodnych z PCI w wersji 2.2
- Dwa 40-nóżkowe złącza IDE mogące obsłużyć do czterech urządzeń IDE
- Jedno złącze obsługujące stacje dyskietek
- Dwa 7-nóżkowe złącza SATA

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

Zintegrowane We/Wy

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

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

Firmowy BIOS

Płyta głwna wyposażona jest w BIOS firmy AMI, 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.

Polski

Vlastnosti

Procesor

Tato základní deska využívá 478kolíkovou patici mPGA nabízející následující vlastnosti:

- Pro připojení procesorů Intel Pentium 4/Celeron/Northwood/Prescott se 478 kolíky CPU (dle standardu Intel VRM 10.0, 0,8375 V až 1,6 V)
- Podporuje taktování systémové sběrnice (FSB) na frekvenci 800/533/400 MHz
- Podporuje 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) P4M800PRO a southbridge (SB) VT8237 jsou založeny na inovativní a škálovatelné architektuře s ověřenou spolehlivostí a výkonností.

P4M800PRO (NB)
- Vysoce výkonný čip Northbridge se taktem 800/533/400 MHz FSB pro procesory Pentium 4/Celeron/Northwood/Prescott se 478 kolíky CPU (dle standardu Intel VRM 10.0, 0,8375 V až 1,6 V)
- Velmi vysoká šířka pásma V-link 533 MB/s propojení čipů North-bridge/Southbridge
- Integrovaný řadič grafiky a videa UniChrome Pro 3D/2D, kompatibilní s Microsoft DirectX 9.0 a podpora OpenGL
- Podpora pro AGP 8X/4X, podle standardu AGP v3.0, 1,5 V
- Moderní 64bitový řadič pamětí DDR2 a DDR SDRAM

Čipová sada P4M800PRO může podporovat pouze smíšené páry pamětí DDR2 SDRAM 1024/512/256/128/64Mb x8/16 nebo smíšené páry pamětí DDR SDRAM 1024/512/256/128/64Mb x8/16.

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
- Integrovaný řadič klávesnice s podporou myši PS2

Pamět'

- Podporuje paměťové moduly DDR 400/333/266 MHz nebo DDR2 533/400 DDR SDRAM DIMM
- Instalovat je možné až čtyři DIMM moduly bez vyrovnávací paměti
- Až 1 GB paměti na jeden modul DIMM s maximální velikostí paměti do 2 GB

Povšimněte si prosím, že paměti DDR a DDR2 nelze použít na této základní desce současně. Použít je možné buď DDR nebo DDR2 paměťové moduly!

Multi-Language Translation

Zvukový

- Splňuje požadavky standardu AC'97 v2.3
- 16bitový stereo plně duplexní kodek se vzorkovací frekvencí 48 kHz
- Podpora dvojnásobné vzorkovací frekvence (96 kHz) pro přehrávání DVD audio
- Kompatibilita s Direct Sound 3D™

Vestavění síťové rozhraní LAN (volitelně)

Vestavěné síťové rozhraní LAN nabízí následující možnosti:

• Podpora 10Mb/s a 100Mb/s N–cestného automatického přepínání provozu • Podpora funkce Wake–On–LAN a aktivace na dálku • Poloviční a plný duplex
• Integrovaný transceiver 10/100/1000 • Podpora rozhraní PCI v2.3, 32bitové, 33/66 MHz • Detekce přeslechu a automatická korekce • Podpora funkce Wake–on–LAN (WOL) a vzdálené aktivace

Možnosti rozšíření

Základní deska je dodávána s následujícími možnostmi rozšíření

- Jedna patice AGP
- Tři 32bitové patice PCI v2.2
- Dva 40kolíkový konektor IDE podporující až čtyři zařízení IDE
- Jedno rozraní pro disketovou mechaniku
- Dva 7kolíkové konektor SATA

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

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 paralelní port
- Jeden port VGA
- Čtyři porty USB
- Jeden port LAN (volitelně)
- Zvukové konektory pro mikrofon, zvukový vstup a výstup

Firmware BIOS

Základní deska využívá BIOS formy AMI, 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.

Multi-Language Translation

Caracteristici

Procesorul

Această placă de bază utilizează un soclu mPGA cu 478 ace, având următoarele proprietăți:

- Funcționează cu unități centrale Intel Pentium 4/Celeron/Northwood/ Prescott, cu 478 ace (compatibile cu specificația VRM 10.0 de 0,8375 V~1,6 V)
- Funcționează cu bus sistem (FSB) de 800/533/400 MHz
- Este compatibilă cu unități centrale dotate cu 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 P4M800PRO Northbridge (NB) și VT8237 Southbridge (SB) se bazează pe o arhitectură inovatoare și scalabilă, care s-a impus deja prin fiabilitate și performanță.

P4M800PRO (NB)
- Northbridge de înaltă performanță cu 800/533/400 MHz FSB pentru procesoare Pentium 4/Celeron/Northwood/Prescott, cu 478 ace (compatibile cu specificația VRM 10.0 de 0,8375 V~1,6 V)
- V-link cu 533 MB/s cu interconectare North/South Bridge cu lățime de bandă mare
- controller grafică & video UniChrome Pro 3D/2D integrat, compatibil cu Microsoft DirectX 9.0, suport OpenGL
- Suport pentru AGP 8X/4X, AGP v3.0 compatibil cu 1.5V
- controller 64-bit DDR2 și DDR SDRAM avansat

Setul de cipuri P4M800PRO poate utiliza doar module mixte SDRAM de 1024/512/256/128/64Mb x8/16 DDR2 sau module mixte SDRAM de 1024/512/256/128/64Mb x8/16 DDR.

VT8237 (SB)
- Suportă interfață V-Link Host de 16 biți și 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 tastatură cu suport pentru mouse PS/2

Memoria

- Suport pentru module DIMM SDRAM DDR 400/333/266 MHz sau DDR2 533/400 DDR
- Poate funcționa cu patru module DIMM fără zonă tampon
- Poate funcționa cu module DIMM de cel mult 1 GB, iar cantitatea maximă de memorie este de 2 GB

În atenția utilizatorilor: Această placă de bază nu suportă simultan module DDR și DDR2. Utilizați fie unități DDR, fie module DDR2!

Audio

- Compatibil cu specificația AC'97 2.3
- CODEC de 16 biți stereo cu duplex complet și viteză de eșantionare de 48 kHz
- Suport pentru viteză dublă de eșantionare (96 kHz) pentru redare audio de pe DVD
- Compatibil cu Direct Sound 3D™

Onboard LAN (opțional)

Onboard LAN are următoarele caracteristici:

• Suportă operații de autonegociere N-way de 10Mb/s și 100 Mb/s
• Suportă funcția Wake-On-LAN și trezirea de la distanță
• Posibilitate semi-duplex și duplex complet

• Unitate de emisie/recepție 10/100/1000 integrat
• Suportă PCI, versiunea 2.3, de 32 biți, la 33/66 MHz
• Detectare tranziție și corectare automată
• Suport pentru funcțiile Wake-on-LAN și trezire la distanță

Opțiuni de extindere

Placa de bază este dotată următoarele posibilități de extindere:

- Un slot AGP
- Teri sloturi de 32 biți compatibile PCI, versiunea 2.2
- Două conectoare IDE 40 cu care suport cel mult 4 instrumente IDE
- O interfață pentru unitate floppy
- Două conectoare SATA 7

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

I/O integrată

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

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

Firmware BIOS

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

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

Acest firmware poate fi utilizat și pentru a seta parametrii diferitelor frecvențe de comandă ale procesorului.

> *Anumite specificații hardware și elemente de software pot fi modificate fără înștiințare prealabilă.*

Спецификация

Процесор

Тази дънна платка използва чипсет mPGA 478-pin със следните спецификации:

- Поддръжка на 478-pin процесори Intel Pentium 4/Celeron/Northwood/ Prescott (съвместимост със спецификацията Intel VRM 10.0 /0.8375V ~ 1.6V/)
- поддръжка на системна шина със скорост 800/533/400 MHz
- поддръжка на процесори с 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 P4M800PRO (NB) и южен мост VT8237 (SB) е изграден на базата на оригинална архитектура с възможност за надстройка с доказана надеждност и производителност.

P4M800PRO (NB)
- Високопроизводителен Северен мост с процесорна шина 800/533/400 MHz FSB за 478-pin процесори Pentium 4/Celeron/Northwood/Prescott (съвместимост със спецификацията Intel VRM 10.0 /0.8375V ~ 1.6V/)
- Интерфейс V-link с честотна лента 533 MB/sec за връзка между северния и южния мост
- Интегриран графичен и видео контролер UniChrome Pro 3D/2D, съвместим с Microsoft DirectX 9.0, с поддръжка на OpenGL
- Поддръжка на AGP 8X/4X, AGP v3.0, 1.5V
- Усъвършенстван 64-битов DDR2 и DDR SDRAM контролер

Чипсетът P4M800PRO поддържа само смесени модули за памет 1024/512/256/128/64Mb x8/16 DDR2 SDRAM или 1024/512/256/128/64Mb x8/16 DDR SDRAM

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
- Интегриран контролер за клавиатура с поддръжка на PS2 за мишка

Памет

- Поддръжка на DDR 400/333/266 MHz или DDR2 533/400 DDR SDRAM DIMM
- поддръжка на до четири небуферирани DIMM слота
- до 1 GB памет на 1 DIMM канал с максимален капацитет 2 GB

Моля отбележете, че НЕ могат едновременно да се използват модули DDR и DDR2. Използвайте модули или само DDR или само DDR2!

Audio

- Съвместимост със спецификацията AC'97 2.3
- 16-bit Stereo full-duplex CODEC с честота 48KHz
- Поддръжка на двойна честота (96KHz) при възпроизвеждане на DVD audio
- съвместимост с Direct Sound 3D™

Интегриран мрежов контролер (опция)

Спецификация на интегрирания мрежов контролер:

• поддръжка на 10Mb/s и 100Mb/s, N-Way Auto-negotiation operation • поддръжка на функция за "събуждане" Wake-On-LAN и дистанционен wake-up • поддръжка на Half/Full duplex
• Интегриран 10/100/1000 контролер • поддръжка на PCI v2.3, 32-bit, 33/66-MHz • Автоматично разпознаване и конфигурация • Поддръжка на функции Wake-on-LAN и remote wake-up

Възможности за разширяване

Дънната платка има следните разширителни възможности:

- Един слот AGP
- три слота 32-bit PCI v2.2
- Два колектора 40-pin IDE с поддръжка на четири IDE устройства
- един конектор за флопидисково устройство
- Два 7-щифтови SATA конектораs

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

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 паралелен порт
- един VGA порт
- четири USB порта
- един LAN порт (опция)
- Аудио жакове за микрофон, линеен вход и линеен изход

BIOS Firmware

Дънната платка използва AMI 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.*

Multi-Language Translation

Jellemző

Processzor

Ez az alaplap 478 tűs mPGA foglalattal rendelkezik, ennek jellemzői pedig a következők:

- 478 tűs Intel Pentium 4/Celeron/Northwood/Prescott központi egységgel működik (az Intel VRM 10.0 specifikációval kompatibilis, 0,8375 V – 1,6 V)
- 800/533/400 MHz sebességű rendszerbuszt (FSB) támogat
- Támogatja a „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 P4M800PRO Northbridge (NB) és VT8237 Southbridge (SB) lapkakészletek egy új és méretezhető, nagy megbízhatóságú és teljesítőképességű architektúrára épülnek.

P4M800PRO (NB)
- magas teljesítményű Northbridge 800/533/400 MHz FSB-vel 478 tűs Pentium 4/Celeron/Northwood/Prescott központi egységgel működik (az Intel VRM 10.0 specifikcióval kompatibilis, 0,8375 V – 1,6 V)
- V-link 533 MB/s nagy sávszélességű North/South Bridge csat-lakoztatás
- integrált UniChrome Pro 3D/2D grafikai & video vezérlő, kompatibilis Microsoft DirectX 9.0 -szel, megfelel OpenGL-nek
- Megfelel 1.5V kompatibilitású AGP 8X/4X, AGP v3.0-nak
- fejlett 64-bites DDR2 és DDR SDRAM vezérlő

A P4M800PRO lapkakészlet csak kevert 1024/512/256/128/64Mb x8/16 DDR2 SDRAM modulokkal vagy kevert 1024/512/256/128/64Mb x8/16 DDR SDRAM modulokkal működik.

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 vezérlő, akár 1,5 GB/s átviteli sebességet támogatva
- Beépített duál csatornás UltraDMA 133/100/66 Master módú EIDE vezérlő
- USB 2.0 vezérlő, 8 USB 2.0 portot támogat
- Beépített billentyűzet-vezérlő, PS/2 egér támogatása

Memória

- 400/333/266 MHz-es DDR vagy DDR2 533/400 MHZ-es DDR SDRAM DIMM egységekkel működik
- Négy puffermentes DIMM egységgel működik
- Maximum 1 GB-os DIMM egységeket támogat, maximális memória 2 GB

A felhasználók figyelmébe: Ezen az alaplapon nem használhatók egyszerre DDR és DDR2 egységek, ezért vagy csak DDR, vagy csak DDR2 memóriaegységeket használjanak!

Magyar

Multi-Language Translation

Audio

- Megfelel az AC'97 2.3-as specifikációnak
- 16 bites sztereo teljes duplex CODEC 48 MHz-es mintavételezési sebsséggel
- Dupla mintavételezési arányú (96 kHz) DVD audio lejátszást teszt lehetővé
- Kompatibilis a Direct Sound 3D™ technológiával

Alaplapon levő LAN (választható)

Az alaplapon levő LAN jellemzői:

• 10Mb/s és 100Mb/s N-Way automatikus beállítással • Támogatja a Wake-On-LAN funkciót és a távoli ébresztést • Fél-/teljes duplex
• Integrált 10/100/1000 adó-vevő • Támogatja a 32 bites, 33/66 MHz-es PCI 2.3-as változatát • Rendszerváltás érzékelés és automatikus javítás • A Wake-on-LAN és a távoli ébresztés funkciók támogatása

Bővítési lehetőségek

Az alaplap a következő bővítési lehetőségekkel rendelkezik:
- Egy AGP foglalat
- Három 32 bites, a PCI 2.2-as változatával kompatibilis foglalat
- Két 40 tűs IDE csatlakozó négy IDE eszköz támogatására
- Egy hajlékonylemez meghajtó interfész
- Két 7 tűs SATA csatlakozó

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

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 párhuzamos port
- Egy VGA port
- Négy USB port
- Egy LAN port (választható)
- Audio csatlakozók mikrofon, bemenet és kimenet számára

BIOS Firmware

Az alaplapon levő AMI 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.