

4PX266A

User's Manual Version 1.0

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Introduction

System Overview

This manual was written to help you start using this product as quickly and smoothly as possible. Inside, you will find the answers to solve most of the problems. In order for this reference material to be of greatest use, refer to the “expanded table of contents” to find relevant topics.

This board provides a total PC solution by incorporating the System , I/O , and PCI IDE. The mainboard support single Intel P4 processors base PC ATX system, PCI Local Bus, ACR Bus, and AGP Bus to upgrades your system performance.

It is ideal for multi-tasking and fully supports MS-DOS, Windows, Windows NT , Windows ME, Windows 2000, Novell, OS/2, Windows95/98, Windows 98SE, Windows XP, UNIX, SCO UNIX etc.

This manual also explains how to install the mainboard for operation, and how to setup your CMOS configuration with the BIOS setup program.

1. Motherboard Description

1.1 Features

1.1.1 Hardware

CPU

- 400MHz System Interface speed.
- Single Socket 478 for Intel P4™ up to 2GHz or higher(Northwood Processor).
- Support Intel Netburst™ Micro-architecture.

DDR SDRAM Memory

- Supports 64/128/256....MB DDR module socket.
- Supports Synchronous DDR SDRAM(2.5V).
- Supports a maximum memory size of 3GB with DDR SDRAM.

AGP Speed

- Supports 1X/2X/4X AGP Bus.
- Only support AGP 66 MHz/1.5V for 4X device.

Chipset

- VIA VT8753 North Bridge. (P4X266)
- VIA VT8233 South Bridge.

Bus Slots

- Provide one ACR slot for ISA side and AGP slot.
- Five 32-bit PCI bus.

Universal Serial Bus

- Supports two back Universal Serial Bus(USB)Ports and four front Universal serial Bus(USB)Ports.

BIOS

- The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.
- BIOS support CD-ROM, SCSI, LAN BOOT, Temperature sensor, LAN, Modem, Alarm Bus CLK setup with BIOS.

Hardware Monitor Function

- CPU Fan Speed Monitor.
- CPU Temperature Monitor.
- System Voltage Monitor.

Flash Memory

- Support 2MB flash memory.
- Support ESCD Function.

IDE Built-in On Board

- Supports four IDE devices.
- Supports PIO Mode 5, Master Mode, high performance hard disk drives.
- Support Ultra DMA 33/66/100 Bus Master Mode.
- Supports IDE interface with CD-ROM.
- Supports high capacity hard disk drives.
- Support LBA mode.

PCI-Based AC 97 Digital Audio Processor

- AC 97 2.1 interface.
- 16 channels of high-quality sample rate conversion.
- 16x8 channel digital mixer.
- Stereo 10 band graphic equalizer.
- Sound Blaster and Sound Blaster Pro emulation.

Network

- Support 10/100Mb/s operation.
- Support wake on LAN function and remote wake up.

WOL & WOM (Wake On LAN & Wake On Modem)

Supports system power up from LAN & Modem ring up .

Smart Panel

Supports BIOS Port 80H POST Code output to debug LED.

I/O Built-in On Board

- Supports one multi-mode Parallel Port.
 - (1)Standard & Bidirection Parallel Port
 - (2)Enhanced Parallel Port (EPP)
 - (3)Extended Capabilities Port
- Supports two serial ports, 16550 UART.
- Supports one Infrared transmission (IR).
- Supports PS/2 mouse and PS/2 Keyboard.
- Supports ATX 4 pin power connector +12V in.
- Supports AUX 6 pin power connector.
- Supports 360KB, 720KB, 1.2MB, 1.44MB, and 2.88MB floppy disk drivers.

1.1.2 Software

BIOS

- AWARD legal BIOS.
- Supports APM 1.2.
- Supports USB Function.
- Supports ACPI

Operation System

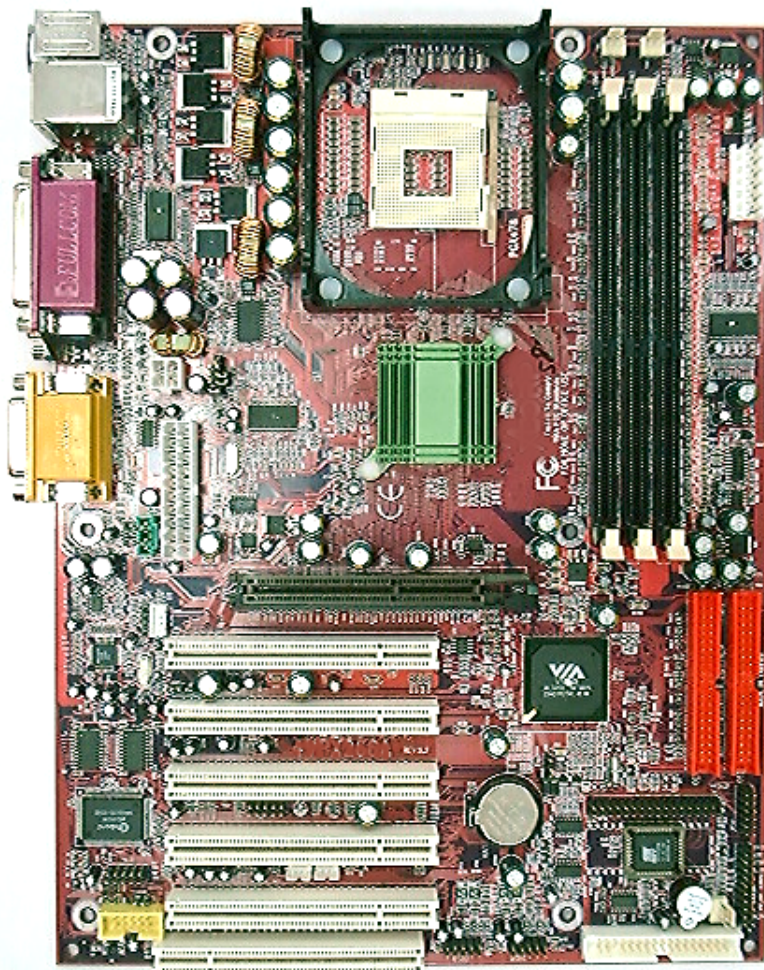
- Supporting the highest performance for MS-DOS, Windows, Windows NT, Windows 2000, Windows ME, Novell, OS/2, Windows 95/98, Windows 98 SE, Windows XP, UNIX, SCO UNIX etc.

1.1.3 Attachments

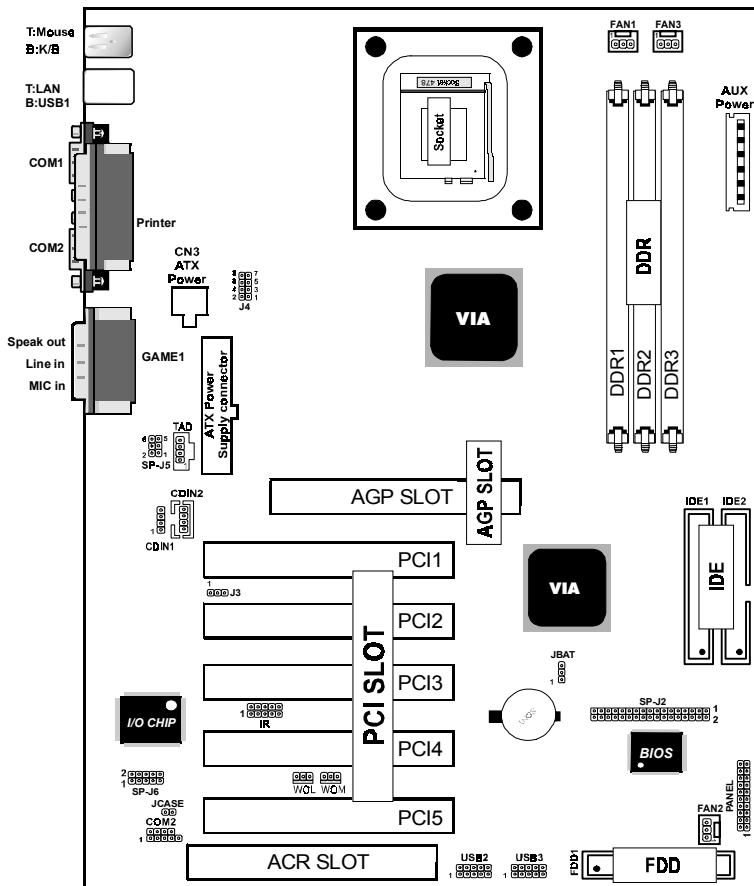
- HDD UDMA66/100 Cable.
- FDD Cable.
- Flash Memory Written for BIOS Update.
- USB2 Cable **(Option)**.
- Fully Setup CD Driver built in Utility(Ghost, Anitivirus, Adobe Acrobat).
- This Manual.

1.2 Motherboard Installation

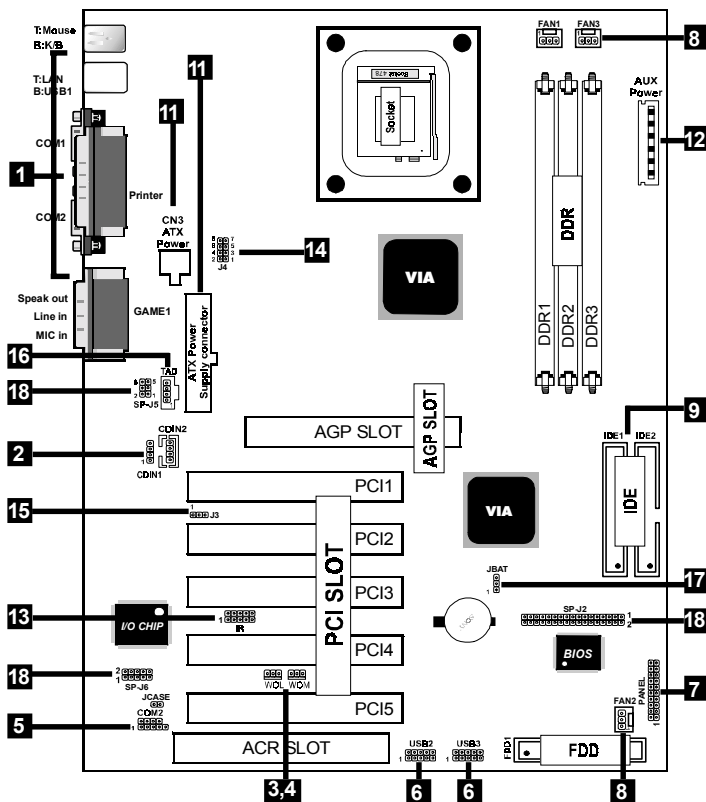
1.2.1 Motherboard Map



1.2.2 Motherboard Layout

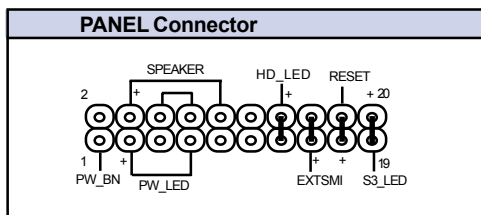


1.3 Motherboard Connectors



- | | |
|------------------------------------|---|
| 1. Back Panel I/O Connectors | 2. CD Audio-In Connector |
| 3. Wake-On-LAN Connector | 4. Wake-On-Modem Connector |
| 5. Front COM2 Connector | 6. Front USB2/USB3 Connector |
| 7. Front Panel Connector | 8. Fan Connectors (Fan1/2/3) |
| 9. IDE Connectors | 10. Floppy Connector |
| 11. ATX Power Connector (ATX/CN3) | 12. AUX Power Connector |
| 13. IR Connector | 14. CPU Clock Freq. Setting (J4) |
| 15. AC'97 CODEC Selection (J3) | 16. Telephone in Connector (TAD) |
| 17. CMOS Function Selection (JBAT) | 18. Smart Panel Function (SP-J2/SP-J6/SP-J5) (option) |

1.3.1 Front Panel Connector (PANEL)



ATX Power Switch (PW_BN)

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON. The system power LED lights when the system's power is on .

Power LED Lead (PW_LED)

The system power LED lights when the system power is on.

Speaker Connector (SPEAKER)

An offboard speaker can be installed onto the motherboard as a manufacturing option. An offboard speaker can be connected to the motherboard at the front pannel connector. The speaker (onboard or offboard) provides error beep code information during the Power Self-Test when the computer cannot use the video interface. The speaker is not connected to the audio subsystem and does not receive output from the audio subsystem.

Hard Drive LED Connector (HD_LED)

This connector supplies power to the cabinet IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

S3_LED Lead (S3_LED)

The system S3_LED lights when the system suspend is on the S3 modle.

Reset Switch Lead (RESET)

The connector can be connected to a momentary SPST type switch that is normally open. When the switch is closed, the motherboard resets and runs the POST.

SMI Suspend Switch Lead (EXTSMI)

This allows the user to manually place the system into a suspend mode of Green mode. System activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. This 2-pin connector (see the figure) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the "Turbo Switch" instead since it does not have a function. SMI is activated when it detects a short. It may require one or two pushes depending on the position of the switch. Wake-up can be controlled by settings in the BIOS but the keyboard will always allow wake-up (the SMI Suspend Switch Lead cannot wake-up the system). If you want to use this connector, the "Suspend Switch" in the Power Management Setup of the BIOS SOFTWARE section should be on the default setting of Enable.

1.3.2 Floppy Disk Connector (FDD)

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

1.3.3 Hard Disk Connectors (IDE1/IDE2)

These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk.

If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE) (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged) .

1.3.4 ATX 4-pin/ATX 20-pin/AUX 6-pin Power Connector (CN3/ATX/AUX)

- This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported on this motherboard . This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board.
- ATX 4-pin power connector only support +12V voltage.

| Pin CN3 Signal | | Pin CN3 Signal | |
|----------------|------|----------------|------|
| 1 | GND | 2 | GND |
| 3 | +12V | 4 | +12V |

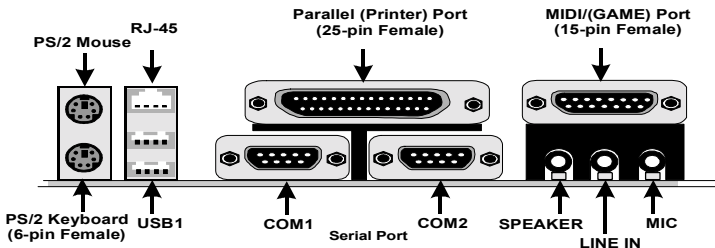
| Pin ATX Signal | | Pin ATX Signal | |
|----------------|-------|----------------|-------|
| 1 | 3.3V | 11 | 3.3V |
| 2 | 3.3V | 12 | -12V |
| 3 | GND | 13 | GND |
| 4 | 5V | 14 | PS-ON |
| 5 | GND | 15 | GND |
| 6 | 5V | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | PW-OK | 18 | NC |
| 9 | 5V_SB | 19 | 5V |
| 10 | 12V | 20 | 5V |

| Pin AUX Signal | | Pin AUX Signal | |
|----------------|-----|----------------|-------|
| 1 | GND | 4 | +3.3V |
| 2 | GND | 5 | +3.3V |
| 3 | GND | 6 | +5V |

1.3.5 Infrared Connector (IR)

After the IrDA interface is configured, files can be transferred from or to portable devices such as laptops, PDAs, and printers using application software.

1.4 Back Panel Connectors



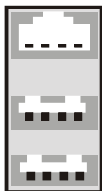
1.4.1 PS/2 Mouse /Keyboard CONN.

The motherboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector.

1.4.2 USB Connectors: USB1+RJ-45 (RJ-45 port option)

The motherboard provides a OHCI(Open Host Controller Interface)Universal Serial Bus Roots for attaching USB devices such as a keyboard, mouse and other USB devices. You can plug the USB devices directly into this connector.

RJ-45



1 2 3 4

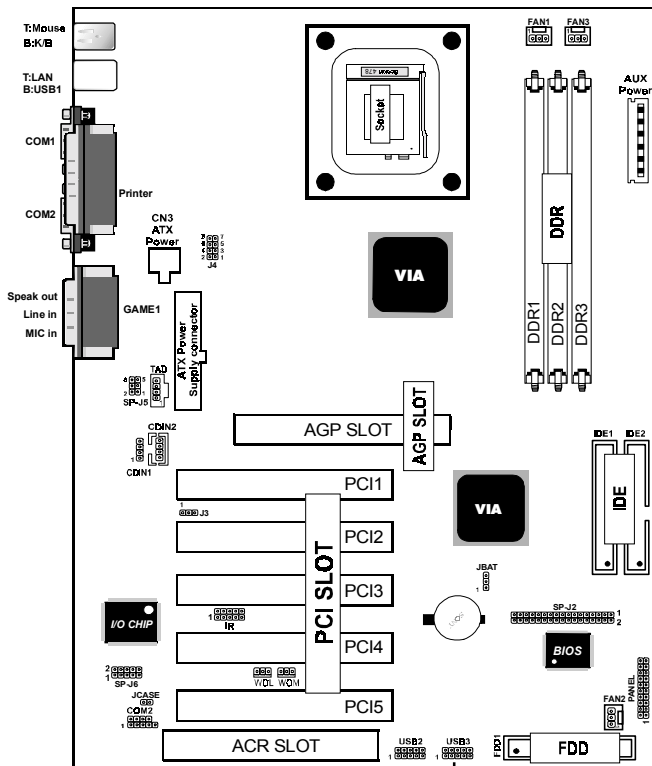
USB1

| RJ-45 | 10/100M LAN Port |
|-------|------------------|
| Pin | Signal |
| 1 | +5V_SB |
| 2 | USBP0-(USBP1-) |
| 3 | USBP0+(USBP1+) |
| 4 | GND |

NOTE:

If the mainboard don't have LAN function, there will be no RJ-45 port on board.

Front Two USB Connectors: USB2 & USB3



USB2

USB3

| | | | |
|-----|---|----|-----|
| VCC | 1 | 2 | GND |
| P2- | 3 | 4 | GND |
| P2+ | 5 | 6 | P3+ |
| GND | 7 | 8 | P3- |
| GND | 9 | 10 | VCC |

| | | | |
|-----|---|----|-----|
| VCC | 1 | 2 | GND |
| P4- | 3 | 4 | GND |
| P4+ | 5 | 6 | P5+ |
| GND | 7 | 8 | P5- |
| GND | 9 | 10 | VCC |

1.4.3 RJ-45 Connector

Onboard 10/100Mb PCI Fast Ethernet Network.

The RJ-45 connector is located on top of the USB connectors. The connector allows the motherboard to connect to a Local Area Network (LAN) through a network hub .

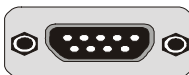
1.5 Serial and Parallel Interface Ports

This system comes equipped with two serial ports and one parallel port. Both types of interface ports will be explained in this chapter.

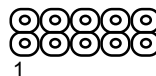
The Serial Interfaces: COM1/COM2

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices can be connected to a serial port. The serial port can also be used to connect your computer system. If you wish to transfer the contents of your hard disk to another system it can be accomplished by using each machine's serial port.

COM1/COM2

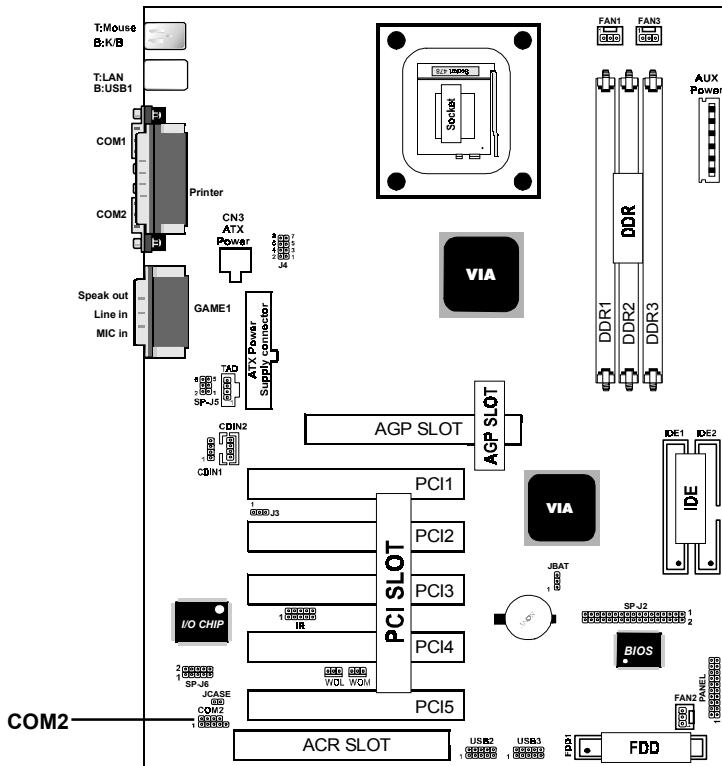


COM2



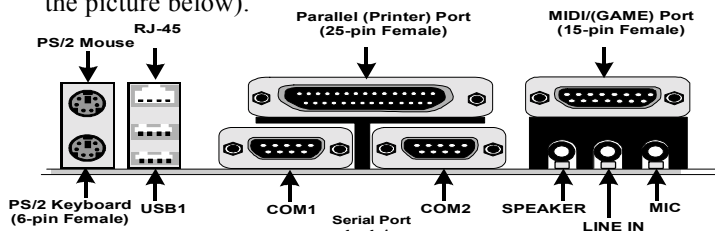
The serial port on this system has one 9-pin connector. Some older computer systems and peripherals used to be equipped with only a 25-pin connector. If you need to connect your 9-pin serial port to an older 25-pin serial port, you can purchase a 9-to-25 pin adapter.

| Signal | DB9 Pin | DB25 Pin |
|--------|---------|----------|
| DCD | 1 | 8 |
| RX | 2 | 3 |
| TX | 3 | 2 |
| DTR | 4 | 20 |
| GND | 5 | 7 |
| DSR | 6 | 6 |
| RTS | 7 | 4 |
| CTS | 8 | 5 |
| RI | 9 | 22 |



Parallel Interface Port

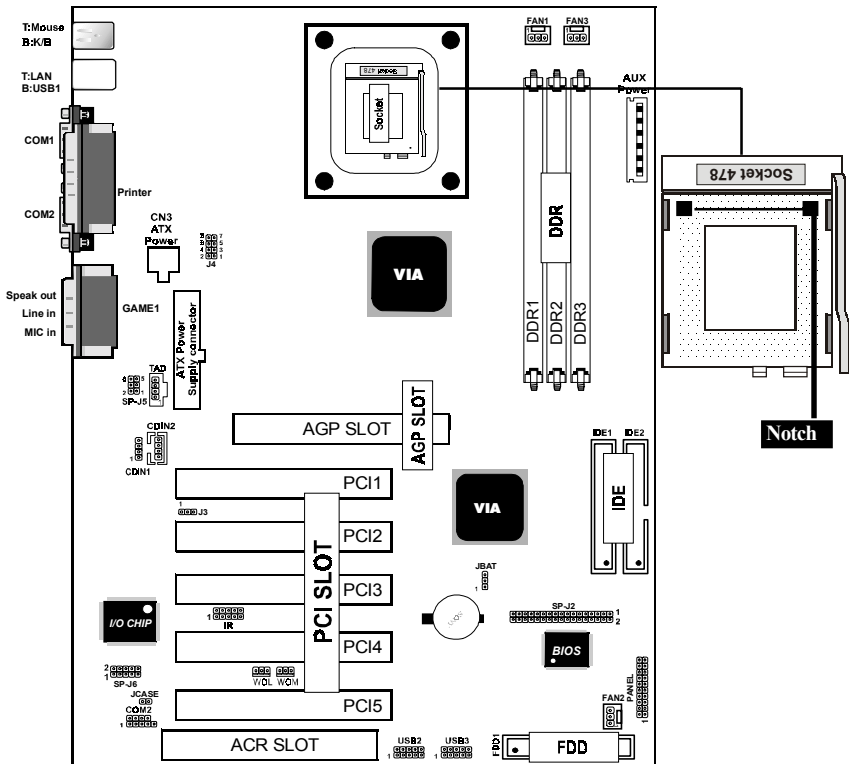
Unlike serial ports, parallel interface ports have been standardized and should not present any difficulty interfacing peripherals to your system. Sometimes called a Centronics port, the parallel port is almost exclusively used with printers. The parallel port on your system has a 25-pin, DB 25 connector(see the picture below).



1.6 CPU Installation

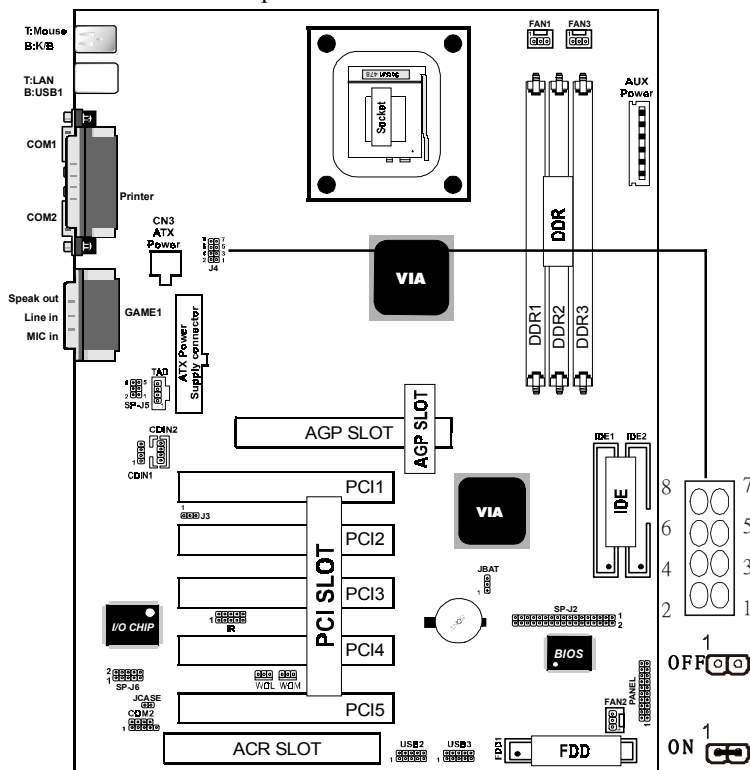
1.6.1 CPU Installation Procedure: Socket 478

1. Pull the lever sideways away from the socket then raise the lever to a 90-degree angle.
2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot/cut edge then insert the CPU.
3. Press the lever down to complete the installation.
4. Make sure the spec of the heatsink is good enough.



1.6.2 CPU Clock Frequency Setting: J4

Overclocking is operating a CPU/Processor beyond its specified frequency. J4 jumper is used for the CPU Front Side Bus Frequencies from 66MHz to 133MHz.

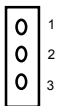


| 1-2 | 3-4 | 5-6 | 7-8 | CPU(MHz) | PCI(MHz) |
|-----|-----|-----|-----|----------|----------|
| ON | ON | OFF | OFF | 66 | 33.3 |
| OFF | ON | OFF | OFF | 100 | 33.3 |
| OFF | OFF | OFF | OFF | 133 | 33.3 |

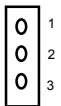
NOTE:

Intel CPU doesn't support overclock and overcore, we don't recommend users use these funtions for possible CPU damage.


1.7.1 CPU/System Fan Connector: Fan2

| Pin | Assignment |
|---|------------|
|  1 | FAN2 |
| 2 | +12VDC |
| 3 | Ground |

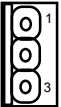
1.7.1 CPU/System Fan Connector: Fan3

| Pin | Assignment |
|---|------------|
|  1 | NC |
| 2 | +12VDC |
| 3 | Ground |

1.7.2 Wake-On Modem Header: WOM

| Pin | Assignment |
|---|------------|
|  1 | 5V_SB |
| 2 | Ground |
| 3 | Signal |

1.7.3 Wake-On LAN Header: WOL

| Pin | Assignment |
|--|------------|
|  1 | 5V_SB |
| 2 | Ground |
| 3 | Signal |

1.7.4 AC'97 CODEC Selection: J3

| Pin | Assignment |
|-----|----------------------------------|
| 1-2 | On board CODEC is used (Default) |
| 2-3 | ACR Slot is used (for ISA side) |

1.7.5 CMOS Function Selection: JBAT

| Pin | Assignment |
|-----|------------------|
| 1-2 | Normal (Default) |
| 2-3 | Clear CMOS |

NOTE:

(Please follow the procedure below to clear CMOS data.)

- (1) Remove the AC power line.
- (2) JBAT(2-3) Closed.
- (3) Wait five seconds.
- (4) JBAT(1-2) Closed.
- (5) AC Power on.
- (6) Reset your desired password or clear CMOS data.

1.7.6 IrDA Connector: IR

| Pin | Assignment | Pin | Assignment |
|-----|------------|-----|------------|
| 1 | +5V | 2 | |
| 3 | | 4 | CIRRX |
| 5 | IRRX1 | 6 | 5VSB |
| 7 | GND | 8 | |
| 9 | IRTX | 10 | |

1.8 DDR SDRAM Installation

1.8.1 DDR

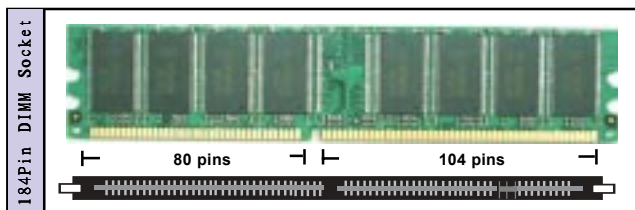
DDR SDRAM Access Time: 2.5V Unbuffered PC1600/
PC2100 Type required.

DDR SDRAM Type: 64MB, 128MB, 256MB, 512MB, 1GB
DDR Module. (184 pin)

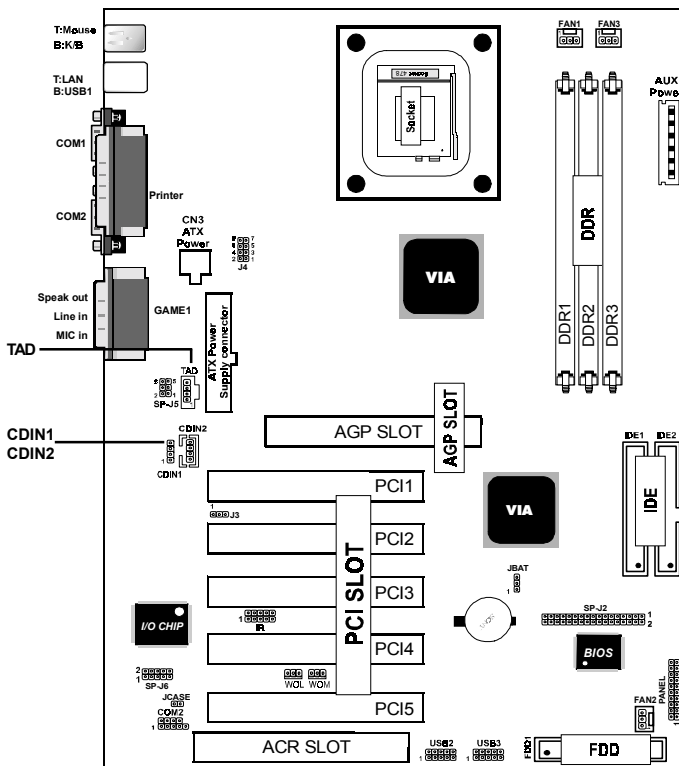
| Bank | Memory module |
|--------------|--------------------------------------|
| DDR 1 | 64MB, 128MB, 256MB, 512MB, 1GB |
| (Bank 0-1) | 184 pin, 2.5V DDR SDRAM |
| DDR 2 | 64MB, 128MB, 256MB, 512MB, 1GB |
| (Bank 2-3) | 184 pin , 2.5V DDR SDRAM |
| DDR 3 | 64MB, 128MB, 256MB, 512MB, 1GB |
| (Bank 4-5) | 184 pin, 2.5V DDR SDRAM |
| | Total System Memory (Max 3GB) |

1.8.2 How to install a DDR Module

1. The DDR socket has a “Plastic Safety Tab” and the DDR memory module has an asymmetrical notch”, so the DDR memory module can only fit into the slot in one direction.
2. Push the tabs out. Insert the DDR memory modules into the socket at a 90-degree angle then push down vertically so that it will fit into place.
3. The Mounting Holes and plastic tabs should fit over the edge and hold the DDR memory modules in place.



1.9 Audio Subsystem



1.9.1 CD Audio-in Connectors: CDIN1/CDIN2

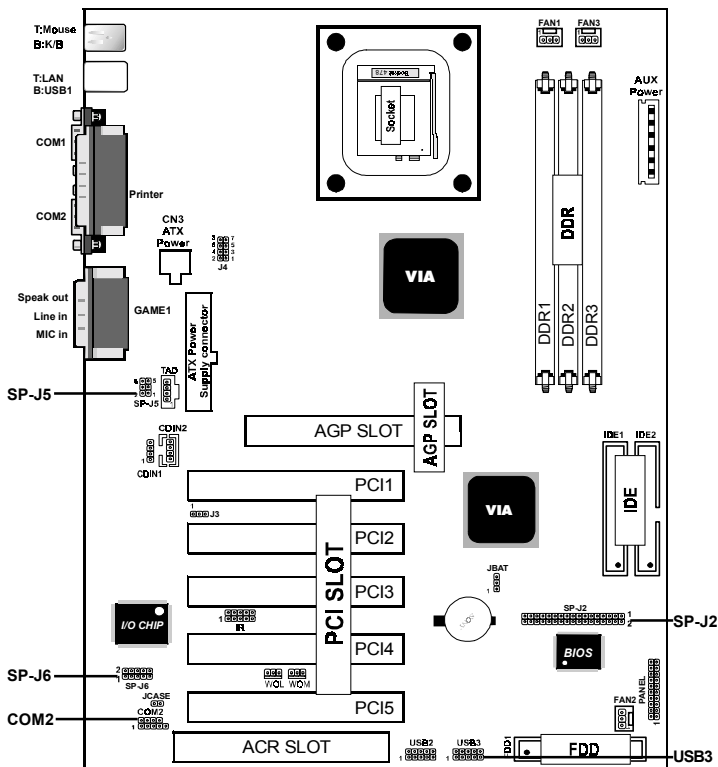
| Pin CDIN1 | Assignment |
|-----------|------------|
| 1 | CD-L |
| 2 | GND |
| 3 | GND |
| 4 | CD-R |

| Pin CDIN2 | Assignment |
|-----------|------------|
| 1 | GND |
| 2 | CD-L |
| 3 | GND |
| 4 | CD-R |

1.9.2 Telephone in Connector: TAD

| Pin TAD | Assignment |
|---------|------------|
| 1 | PHONE |
| 2 | GND |
| 3 | GND |
| 4 | MONO_OUT |

1.10 Smart Panel Onboard Connector



Note:

The motherboard provides the pin leads for Smart Panel. If you want POST Error Code or Smart Panel function, please refer to Smart Panel (SPPX266A) manual.

1.10.1 Port 80 Debug Function: SP-J6

For Smart Panel connector(SP-J6) to M/B (SP-J6).

| Pin SP-J6 | Assignment | Pin SP-J6 | Assignment |
|-----------|------------|-----------|------------|
| 1 | ERD4 | 2 | ERD0 |
| 3 | ERD5 | 4 | ERD1 |
| 5 | ERD6 | 6 | ERD2 |
| 7 | ERD7 | 8 | ERD3 |
| 9 | GND | 10 | NC |

1.10.2 Second BIOS Connector: SP-J2

For Smart Panel connector(SP-J2) to M/B (SP-J2).

| Pin BIOS | Assignment | Pin BIOS | Assignment |
|----------|------------|----------|------------|
| 1 | XDD0 | 2 | +5V |
| 3 | XDD1 | 4 | XAA0 |
| 5 | XDD2 | 6 | XAA1 |
| 7 | XDD3 | 8 | XAA2 |
| 9 | XDD4 | 10 | XAA3 |
| 11 | XDD5 | 12 | XAA4 |
| 13 | XDD6 | 14 | XAA5 |
| 15 | XDD7 | 16 | XAA6 |
| 17 | NC | 18 | DISABLE |
| 19 | ROMCS- | 20 | XAA7 |
| 21 | MEMR- | 22 | XAA8 |
| 23 | MEMW- | 24 | XAA9 |
| 25 | SA18J | 26 | XAA10 |
| 27 | XAA17 | 28 | XAA11 |
| 29 | XAA16 | 30 | XAA12 |
| 31 | XAA15 | 32 | XAA13 |
| 33 | NC | 34 | XAA14 |

1.10.3 AUX Line Connector: SP-J5

For Smart Panel connector(SP-J5) to M/B (SP-J5).

| Pin SP-J5 | Assignment | Pin SP-J5 | Assignment |
|-----------|------------|-----------|------------|
| 1 | LINE_OUT_L | 2 | LINE_OUT_R |
| 3 | LINE_IN_L | 4 | LINE_IN_R |
| 5 | MIC_IN_L | 6 | NC |

1.10.4 Front COM2 Header Conn.: SP-J7(COM2)

For Smart Panel connector(SP-J7) to M/B
(SP-J7).

| Pin SP-J7 | Assignment | Pin SP-J7 | Assignment |
|-----------|------------|-----------|------------|
| 1 | DCD | 2 | RX |
| 3 | TX | 4 | DTR |
| 5 | GND | 6 | DSR |
| 7 | RTS | 8 | CTS |
| 9 | RI | | |

1.10.5 Front USB3,4 Header Conn.: SP-J8(USB3)

For Smart Panel connector(SP-J8) to M/B
(USB3).

| Pin SP-J8 | Assignment | Pin SP-J8 | Assignment |
|-----------|------------|-----------|------------|
| 1 | VCC | 2 | GND |
| 3 | P4- | 4 | GND |
| 5 | P4+ | 6 | P5+ |
| 7 | GND | 8 | P5- |
| 9 | GND | 10 | VCC |

2. BIOS Setup

Introduction

This manual discussed the Award Setup program built into the ROM BIOS. The Setup program allows the user to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the setup information when the power is turned off.

The Award BIOS installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports Intel P4 processors input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

This AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD(Extended System Configuration Data) write is supported.

EPA Green PC Support

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

APM Support

This AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management(APM) specification. Power management features are implemented via the System Management Interrupt(SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

Support CPU

This AWARD BIOS supports the Intel P4 CPU processor.

Using Setup

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

Note:

(BIOS version 1.0 is for reference only. If there is a change in BIOS version, please use the actual version on the BIOS.)

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

2.1 Main Menu

Once you enter AWARD BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup function. Use the arrow keys to select among the items and press<Enter> to accept and enter the sub-menu.

“WARNING”

The information about BIOS defaults on manual (Figure 1,2,3,4,5,6,7,8,9,10,11,12,13,14)is just for reference, please refer to the BIOS installed on the board for updated information.

© Figure 1. Main Menu

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| | |
|--|---------------------------|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | Set Supervisor Password |
| Power Management Setup | Set User Password |
| PNP/PCI Configurations | Save & Exit Setup |
| PC Health Status | Exit Without Saving |
| Esc : Quit F9 : Menu in BIOS ←→↑↓: Select Item | |
| F10 : Save & Exit Setup | |
| Time , Date , Hard Disk Type ... | |

Standard CMOS Features

This setup page includes all the items in standard compatible BIOS.

Advanced BIOS Features

This setup page includes all the items of the BIOS special enhanced features.

Advanced Chipset Features

This setup page includes all the items of the Chipset special enhanced features.

Integrated Peripherals

This selection page includes all the items of the IDE hard drive and Programmed Input/Output features.

Power Management Setup

This setup page includes all the items of the power management features.

PnP/PCI Configurations

This setup page includes the user defined or default IRQ Setting.

PC Health Status

This page shows the hardware Monitor information of the system.

Frequency / Voltage Control

This setup page controls the CPU's clock and frequency ratio.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

These settings are more likely to configure a workable computer when something is wrong. If you cannot boot the computer successfully, select the BIOS Setup options and try to diagnose the problem after the computer boots. These settings do not provide optional performance.

Set Supervisor Password

Change, set, or, disable password. It allows you to limit access to the system and Setup, or just to Setup.

Set User Password

You can specify both a User and a Supervisor password. When you select either password option, you are prompted for a 1-6 character password. Enter the password and then retype the password when prompted.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

2.2 Standard CMOS Features

This item in the Standard CMOS Setup Menu is divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

◎ Figure 2. Standard CMOS Features

CMOS Setup Utility-Copyright (C) 1984-2001 Award Software
Standard CMOS Features

| | | |
|----------------------|------------------|--|
| Date(mm:dd:yy) | Tue,Jun 6 2000 | Item Help |
| Time (hh:mm:ss) | 11:26:10 | |
| IDE Primary Master | None | Menu Level |
| IDE Primary Slave | | |
| IDE Secondary Master | | Change the day, month, year and century. |
| IDE Secondary Master | None | |
| Drive A | 1.44M,3.5 in | |
| Drive B | None | |
| Video | EGA/VGA | |
| Halt On | All,But Keyboard | |
| Base Memory | 640K | |
| Extended Memory | 65472K | |
| Total | 1024K | |

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

Main Menu Selections

This table shows the selections that you can make on the Main Menu.

| Item | Options | Description |
|----------------------|---|---|
| Date | Month DD YYYY | Set the system,date. Note that the 'Day' automatically changes when you set the data. |
| IDE Primary Master | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| IDE Primary Slave | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| IDE Secondary Master | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| IDE Secondary Slave | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| Drive A Drive B | None 360K, 5.25in 1.2M, 5.25in 720K, 3.5in 1.44M, 3.5in 2.88M, 3.5in | Select the type of floppy disk drive installed in your system. |
| Video | EGA/VGA CGA 40 CGA 80 MONO | Select the default video device. |

| Item | Options | Description |
|-----------------|--|--|
| Halt On | All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key | Select the situation in which you want the BIOS to stop the POST process and notify. |
| Base Memory | N/A | Displays the amount of conventional memory detected during boot up. |
| Extended Memory | N/A | Displays the amount of conventional memory detected during boot up. |
| Total Memory | N/A | Displays the total memory available in the system. |

CMOS Setup Utility-Copyright (C) 1984-2001 Award Software
IDE Primary Master

| | | |
|--------------------------------|--------------|------------|
| IDE HDD Auto-Detection | Press Enter | Item Help |
| IDE Primary Master Access Mode | Auto Auto | Menu Level |
| Capacity | 13022MB | |
| Cylinder | 25232 | |
| Head | 16 | |
| Precomp | 0 | |
| Landing Zone | 25231 | |
| Sector | 61 | |

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

2.3 Advanced BIOS Features

© Figure 3. Advanced BIOS Features

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Advanced BIOS Features

| | | |
|----------------------------|----------|---|
| Virus Warning | Disabled | Item Help |
| CPU L1 & L2 Cache | Enabled | Menu Level Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep |
| CPU L2 Cache ECC Checking | Enabled | |
| Quick Power On Self Test | Enabled | |
| First Boot Device | Floppy | |
| Second Boot Device | HDD-0 | |
| Third Boot Device | LS120 | |
| Boot Other Device | Enabled | |
| Swap Floppy Drive | Disabled | |
| Boot Up Floppy Seek | Enabled | |
| Boot Up NumLock Status | On | |
| Typematic Rate Setting | Disabled | |
| Typematic Rate (Chars/Sec) | 6 | |
| Typematic Delay (Msec) | 250 | |
| Security Option | Setup | |
| OS Select For DRAM | Non-OS2 | |
| Video BIOS Shadow | Enabled | |
| Small Logo(EPA) Show | Disabled | |

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

Virus Warning

This option allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep.

The Choices: Disabled(default), Enabled.

CPU L1 & L2 Cache

This fields allow you to Enable or Disable the CPU'S "Level 1" & "Level 2" cache. Caching allows better performance.

Enabled (default) Enabled cache.

Disabled Disabled cache.

CPU L2 Cache ECC Checking

The item allows you to enable/disable CPU L2 Cache ECC Checking.

The Choices: Enabled(default), Disabled.

Quick Power On Self Test

This category speeds up Power on Self-Test(POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled (default) Enabled quick POST.

Disabled Normal POST.

First/Secondary/Third Boot Device

This BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

Boot Other Device

The Choices: Enabled(default), Disabled.

Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignments.

The Choices: Disabled(default), Enabled.

Boot Up Floppy Seek

Seek disk drives during boot up. Disabled speeds boot-up.

The Choices: Enabled(default), Disabled.

Boot Up NumLock Status

Select power on state for Numlock.

On (default) Numpad is number keys.

Off Numpad is arrow keys.

Typematic Rate Setting

| | |
|---------------------------|--|
| Enabled | Enabled this option to adjust the keystroke repeat rate. |
| Disabled (default) | Disabled. |

Typematic Rate (Char/Sec)

Range between 6(**default**) and 30 characters per second.
This option controls the speed of repeating keystrokes.

Typematic Delay (Msec)

This option sets the time interval for displaying the first and the second characters.

The Choices: 250(default), 500, 750, 1000.

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

| | |
|------------------------|---|
| System | The system will not boot and access to Setup will be denied if the correct password is not entered in prompt. |
| Setup (default) | The system will boot, but access to Setup will be denied if the correct password is not entered in prompt. |

OS Select For DRAM

Select the operating system that is running with greater than 64MB of RAM on the system.

The Choices: Non-OS2(default), OS2.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

| | |
|--------------------------|---------------------------|
| Enabled (default) | Optional ROM is enabled. |
| Disabled | Optional ROM is disabled. |

C8000-CFFFF Shadow / D0000-DFFFF Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

| | |
|---------------------------|-------------------------------|
| Enabled | Optional ROM is Shadowed. |
| Disabled (default) | Optional ROM is not Shadowed. |

Note: For C8000-DFFFF option-ROM on PCI BIOS, BIOS will automatically enable the shadow RAM. User does not have to select the item.

Small Logo(EPA) Show

The Choices: Disabled(default), Enabled.

2.4 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications of the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was lost while using your system.

© Figure 4. Advanced Chipset Features

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Advanced Chipset Features

| | | |
|----------------------------|-------------|------------|
| DRAM Clock / Drive Control | Press Enter | Item Help |
| AGP & P2P Bridge Control | Press Enter | Menu Level |
| CPU & PCI Bus Control | Press Enter | |
| Chipset Register Adjust | Press Enter | |
| Memory Hole | Disabled | |
| System BIOS Cacheable | Disabled | |
| Video RAM Cacheable | Disabled | |
| Delay Prior to Thermal | 16 min | |

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

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DRAM Clock / Drive Control

| | | |
|----------------------------|----------|------------|
| Current FSB Frequency | | Item Help |
| Current DRAM Frequency | | Menu Level |
| DRAM Clock | By SPD | |
| DRAM Timing | By SPD | |
| *SDRAM CAS Latency | 2 | |
| *Bank Interleave | Disabled | |
| *Precharge to Active(Trp) | 3T | |
| *Active to Precharge(Tras) | 6T | |
| *Active to CMD(Trcd) | 3T | |
| *DRAM Burst Len | 4 | |
| DRAM Command Rate | 2T | |

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

DRAM Clock

This item determines DRAM Clock following the CPU host clock.

The Choices: By SPD(default), 100, 133.

DRAM Timing

The DRAM timing is controlled by the DRAM Timing Registers. The Timings programmed into this register are dependent on the system design.

The Choices: By SPD(default), Manual.

SDRAM CAS Latency

2 (default) Set SDRAM latency Time to 2.
3 Set SDRAM latency Time to 3.

Bank Interleave

The Choices: Disabled(default), Enabled.

Active to Precharge

7T Set DRAM Precharge in 7.
6T (default) Set DRAM Precharge in 6.
5T Set DRAM Precharge in 5.

DRAM Command Rate

The Choices: 2T Command(default), 1T Command.

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AGP & P2P Bridge Control

| | | |
|----------------------|----------|------------|
| AGP Aperture Size | 64M | Item Help |
| AGP Mode | 4X | Menu Level |
| AGP Driving Control | Auto | |
| AGP Driving Value | DA | |
| AGP Fast Write | Disabled | |
| AGP Master 1WS Write | Disabled | |
| AGP Master 1WS Read | Disabled | |

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

AGP Aperture Size

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

The Choices: 64M(default), 32M, 16M, 8M, 4M, 128M.

AGP Mode

The Choices: 4X(default), 2X, 1X.

AGP Driving Control

By choosing “Auto” the system BIOS will enable the AGP output Buffer Drive strength that were defined by AGP Card. By choosing “Manual”, it allows user to set AGP output Buffer Drive strength by manual.

The Choices: Auto(default), Manual.

AGP Fast Write

The Choices: Disabled(default), Enabled.

AGP Master 1WS Write

When Enabled, write data to the AGP (Accelerated Graphic Port) that will be executed with one wait states.

The Choices: Disabled(default), Enabled.

AGP Master 1WS Read

When Enabled, read data to the AGP (Accelerated Graphic Port) that will be executed with one wait states.

The Choices: Disabled(default), Enabled.

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CPU & PCI Bus Control

| | | |
|-------------------------|----------|------------|
| CPU to PCI Write Buffer | Enabled | Item Help |
| PCI Master 0 WS Write | Enabled | Menu Level |
| PCI Delay Transaction | Disabled | |

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

CPU to PCI Write Buffer

When this field is Enabled, write from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the are not buffered and the CPU must wait until the write is complete before starting another write cycle.

The Choices: Enabled(default), Disabled.

PCI Master 0 WS Write

When this field is Enabled, write data to the PCI bus are executed with zero wait states.

The Choices: Enabled(default), Disabled.

PCI Delay Transaction

The Choices: Disabled(default), Enabled.

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Chipset Register Adjust

| | | |
|-------------|------|------------|
| DRAM Driv-0 | Auto | Item Help |
| D/0 Value | BA | Menu Level |
| DRAM Driv-1 | Auto | |
| D/1 Value | 0B | |

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

DRAM Driv-0

The Choices: **Auto**(default), Manual.

DRAM Driv-1

The Choices: **Auto**(default), Manual.

Memory Hole

In order to improve performace, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.

The Choices: **Diasbled**(default), 15M-16M.

System BIOS Cacheable

When enabled, the access to the system BIOS ROM address at F0000H-FFFFFFH is cached.

The Choices: **Disabled**(default), Enabled.

Video RAM Cacheable

Enabled Enabled Video RAM
Cacheable.

Disabled (default) Disabled Video RAM
Cacheable.

Delay Prior to Thermal

The Choices: **16 min**(default), 4min, 8min, 32min.

2.5 Integrated Peripherals

© Figure 5. Integrated Peripherals

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Integrated Peripherals

| | | |
|-----------------------|-------------|------------|
| VIA Onchip IDE Device | Press Enter | Item Help |
| VIA Onchip PCI Device | Press Enter | Menu Level |
| Super IO Device | Press Enter | |
| Init Display First | AGP | |
| Onchip USB Connector | All Enabled | |
| USB Keyboard Support | Disabled | |
| USB Mouse Support | Disabled | |
| IDE HDD Block Mode | Enabled | |

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

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VIA Onchip IDE Device

| | | |
|-----------------------|---------|------------|
| On-Chip IDE Channel 0 | Enabled | Item Help |
| On-Chip IDE Channel 1 | Enabled | Menu Level |
| IDE Prefetch Mode | Enabled | |
| Primary Master PIO | Auto | |
| Primary Slave PIO | Auto | |
| Secondary Master PIO | Auto | |
| Secondary Slave PIO | Auto | |
| Primary Master UDMA | Auto | |
| Primary Slave UDMA | Auto | |
| Secondary Master UDMA | Auto | |
| Secondary Slave UDMA | Auto | |

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

On-Chip IDE Channel 0

Enabled (default)

Enabled onboard 1st channel IDE port.

Disabled

Disabled onboard 1st channel IDE port.

On-Chip IDE Channel 1

Enabled (default)

Enabled onboard 2nd channel IDE port.

Disabled

Disabled onboard 2nd channel IDE port.

IDE Prefetch Mode

The onboard IDE drive interface supports IDE prefetching, for faster drive access. If you install a primary and or secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

The Choices: Enabled(default), Disabled.

Primary Master PIO(for onboard IDE 1st channel)

Auto (default) BIOS will automatically detect the IDE HDD Accessing mode.

Mode 0~4 Manually set the IDE Accessing mode.

Primary Slave PIO(for onboard IDE 2nd channel)

Auto (default) BIOS will automatically detect the IDE HDD Accessing mode.

Mode 0~4 Manually set the IDE Accessing mode.

Secondary Master PIO(for onboard IDE 1st channel)

Auto (default) BIOS will automatically detect the IDE HDD Accessing mode.

Mode 0~4 Manually set the IDE Accessing mode.

Secondary Slave PIO(for onboard IDE 2nd channel)

Auto (default) BIOS will automatically detect the IDE HDD Accessing mode.

Mode 0~4 Manually set the IDE Accessing mode.

Primary Master UDMA

Auto (default) BIOS will automatically detect the IDE HDD Accessing mode.

Disabled Disabled.

Primary Slave UDMA**Auto (default)**

BIOS will automatically detect the IDE HDD Accessing mode.

Disabled

Disabled.

Secondary Master UDMA**Auto (default)**

BIOS will automatically detect the IDE HDD Accessing mode.

Disabled

Disabled.

Secondary Slave UDMA**Auto (default)**

BIOS will automatically detect the IDE HDD Accessing mode.

Disabled

Disabled.

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VIA Onchip PCI Device

| | | |
|---------------------|----------|------------|
| VIA-3058 AC97 Audio | Auto | Item Help |
| VIA-3068 AC97 Modem | Auto | |
| VIA-3043 Onchip LAN | Enabled | Menu Level |
| OnChip LAN Boot ROM | Disabled | |

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

VIA-3058 AC97 Audio

The default setting of this item utilizes an onboard sound chip for audio output. There is no need to buy and insert a sound card. If a sound card is installed, disable this item.

The Choices: Auto(default), Disabled**VIA-3068 AC97 Modem**

The item allows you to control the onboard MC97 Modem controller.

The Choices: Auto(default), Disabled.**VIA-3043 Onchip LAN****The Choices:** Enabled(default), Disabled.

OnChip LAN Boot ROM

The Choices: Disabled(default), Enabled.

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Super IO Device

| | | |
|------------------------|-----------|------------|
| Onboard FDC Controller | Enabled | Item Help |
| Onboard Serial Port 1 | 3F8/IRQ4 | Menu Level |
| Onboard Serial Port 2 | 2F8/IRQ3 | |
| UART Mode Select | Normal | |
| RxD,TxD Active | Hi,Lo | |
| IR Transmission Delay | Enabled | |
| UR2 Duplex Mode | Half | |
| Use IR Pins | IR/Rx2Tx2 | |
| Onboard Parallel Port | 278/IRQ5 | |
| Parallel Port Mode | SPP | |
| EPP Mode Type | EPP1.7 | |
| ECP Mode Use DMA | 3 | |
| Game Port Address | 201 | |
| Midi Port Address | 330 | |
| Midi Port IRQ | 10 | |

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

Onboard FDC Controller

Enabled (default)

Enabled onboard FDC Controller.

Disabled

Disabled onboard FDC Controller.

Onboard Serial Port1

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: 3F8/IRQ4(default), Auto, (2F8/IRQ3), (3E8/IRQ4), (2E8/IRQ3), Disabled.

Onboard Serial Port 2

Auto

BIOS will automatically setup the Serial Port 2 address.

3F8/IRQ4

Enabled onboard Serial Port 2 and address is 3F8.

2F8/IRQ3 (default)

Enabled onboard Serial Port 2 and address is 2F8.

| | |
|-----------------|--|
| 3E8/IRQ4 | Enabled onboard Serial Port2 and address is 3E8. |
| 2E8/IRQ3 | Enabled onboard Serial Port2 and address is 2E8. |
| Disabled | Disabled. |

UART Mode Select

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.

The Choices: **Normal**(default), IrDA, SCR, ASKIR.

UR2 Duplex Mode

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.

The Choices: **Half**(default), Full.

Onboard Parallel Port

This item allows you to select the I/O address with which to access the onboard parallel port controller.

Disabled.

378/IRQ7.

278/IRQ5. (default)

3BC/IRQ7.

Parallel Port Mode

| | |
|----------------------|--|
| SPP (default) | Using Parallel port as Standard Parallel Port. |
| EPP | Using Parallel port as Enhanced Parallel Port. |
| ECP | Using Parallel port as Extended Capabilities Port. |
| ECP/EPP | Using Parallel port as ECP/EPP mode. |

Game Port Address

| | |
|----------------------|-------------------------------|
| 201 (default) | Set onboard game port to 201. |
| 209 | Set onboard game port to 209. |
| Disabled | Disabled. |

Midi Port Address

| | |
|----------------------|-------------------------------|
| 300 | Set Midi Port address to 300. |
| 330 (default) | Set Midi Port address to 330. |

Midi Port IRQ

| | |
|---------------------|--------------------------|
| 10 (default) | Set Midi Port IRQ to 10. |
| 5 | Set Midi Port IRQ to 5. |

Init Display First

| | |
|----------------------|--|
| PCI Slot | Set Init Display First to PCI Slot. |
| AGP (default) | Set Init Display First to onboard AGP. |

Onchip USB Connector

This should be enabled if your system has a USB installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

The Choices: **All Enabled**(default), All Disabled, 1&2 USB Port, 2&3 USB Port, 1&3 USB Port, 1 USB Port, 2 USB Port, 3 USB Port.

USB Keyboard Support

Select Enabled if your system contains a Universal Serial Bus(USB) controller and you have a USB keyboard.

The Choices: **Disabled**(default), Enabled.

USB Mouse Support

Select Enabled if your system contains a Universal Serial Bus(USB) controller and you have a USB mouse.

The Choices: **Disabled**(default), Enabled.

IDE HDD Block Mode

| | |
|--------------------------|-----------|
| Enabled (default) | Enabled. |
| Disabled | Disabled. |

2.6 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

© Figure 6. Power Management Setup

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Power Management Setup

| | | |
|-----------------------------|----------------|------------|
| ACPI Function | Enabled | Item Help |
| ACPI Suspend Type | S1(POS) | Menu Level |
| Power Management Option | User Define | |
| HDD Power Down | Disabled | |
| Suspend Mode | Disabled | |
| Video Off Option | Suspend->Off | |
| Video Off Method | V/H SYNC+Blank | |
| Modem Use IRQ | 3 | |
| Soft-Off by PWRBTN | Instant-Off | |
| PWRON After PWR-Fail | Off | |
| IRQ / Event Activity Detect | Press Enter | |

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

ACPI Function

This item display status of the Advanced Configuration and Power Management (ACPI).

ACPI Suspend Type

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

S1(POS) (default) Power on Suspend.

S3(STR) Suspend to RAM.

Power Management Option

This option allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

The Choices: **User Define** (default), Min Saving, Max Saving.

HDD Power Down

By default, this is “Disabled”, meaning that no matter the mode of the rest of the system, the hard drive will remain ready. Otherwise, you have a range of choices from 1 to 15 minutes or Suspend. This means that you can select to have your hard disk drive be turned off after a selected number of minutes or when the rest of the system goes into a suspend mode.

The Choices: Disabled(default).

Suspend Mode

The **Suspend Mode** fields set the Period of time after each of these modes activates. At Max Saving, these modes activate sequentially (in the given order) after one minute; at Min Saving after one hour.

The Choices: Disabled(default).

Video Off Option

This field determines when to activate the video off feature for monitor power management.

The Choices: Suspend->off(default), Always on.

Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank
(default)

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

DPMS Support

Initial display power management signaling.

Modem Use IRQ

This determines the IRQ, which can be applied in Modem use.

3(default)

4/5/7/9/10/11/NA

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung”.

The Choices: Instant-Off(default), Delay 4 Sec.

PWRON After PWR-Fail

This option will determine how the system will power on after a power failure.

The Choices: Off(default), On, Former-Sts.

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IRQ / Event Activity Detect

| | | |
|--------------------------|-------------|------------|
| VGA | OFF | Item Help |
| LPT & COM | LPT/COM | Menu Level |
| HDD & FDD | ON | |
| PCI Master | OFF | |
| PowerOn by PCI Card | Disabled | |
| Modem Ring Resume | Disabled | |
| RTC Alarm Resume | Disabled | |
| Date (of Month) | 0 | |
| Resume Time (hh:mm:ss) | 0 0 0 | |
| IRQs Activity Monitoring | Press Enter | |

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

IRQ / Event Activity Monitoring

If you highlight the “Press Enter” next to the “Wake Up Events” label and then press the enter key, it will take you to a submenu with the following options:

VGA

When set to On, any event occurring at a VGA port will awaken a system which has been powered down.

LPT & COM

When set to On, any event occurring at a COM(serial) / LPT (printer) port will awaken a system which has been powered down.

HDD & FDD

When set to On(default), any event occurring at a hard or floppy drive will awaken a system which has been powered down.

PCI Master

When set to On, any event occurring at a PCI port will awaken a system which has been powered down.

Modem Ring Resume

To use this function, you need a LAN add-on card which supports power on function. It should also support the wake-up on LAN jump. **The Choices: Disabled**(default).

RTC Alarm Resume

When “Enabled”, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

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IRQs Activity Monitoring

| | | |
|----------------------|----------|------------|
| Primary INTR | ON | Item Help |
| IRQ 3 (COM2) | Disabled | Menu Level |
| IRQ 4 (COM1) | Enabled | |
| IRQ 5 (LPT2) | Enabled | |
| IRQ 6 (Floppy Disk) | Enabled | |
| IRQ 7 (LPT1) | Enabled | |
| IRQ 8 (RTC Alarm) | Disabled | |
| IRQ 9 (IRQ2 Redir) | Disabled | |
| IRQ 10 (Reserved) | Disabled | |
| IRQ 11 (Reserved) | Disabled | |
| IRQ 12 (PS2/Mouse) | Enabled | |
| IRQ 13 (Coprocessor) | Enabled | |
| IRQ 14 (Hard Disk) | Enabled | |
| IRQ 15 (Reserved) | Disabled | |

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

IRQs Activity Monitoring

When set to On(default), any event occurring at Primary INTR will awaken a system which has been powered down.

The following is a list of IRQ, Interrupt ReQuests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. As above, the choices are On and Off. Off is the default. When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

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

2.7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

© Figure 7. PnP/PCI Configurations

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PnP/PCI Configurations

| | | |
|--|---------------------------|--|
| PNP OS Installed | No | Item Help |
| Reset Configuration Data | Disabled | Menu Level |
| Resources Controlled By IRQ Resources | Auto(ESCD) Press Enter | Select Yes if you are using a Plug and Play capable operating system |
| PCI/VGA Palette Snoop | Disabled | select No if you need the BIOS |
| Assign IRQ For VGA | Enabled | to configure non- |
| Assign IRQ For USB | Enabled | boot devices |

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

PNP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows 95. When set to No, BIOS will initialize all the PnP cards. Therefore for non-PnP operating systems (DOS, Netware), this option must be set to No.

Reset Configuration Data

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and proceeds resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved at the system BIOS.

If Disabled (Default) is chosen, the system's ESCD will update only when the new configuration varies from the last one. If Enabled is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

| | |
|-------|-------------------------|
| IRQ3 | assigned to:PCI/ISA PnP |
| IRQ4 | assigned to:PCI/ISA PnP |
| IRQ5 | assigned to:PCI/ISA PnP |
| IRQ6 | assigned to:PCI/ISA PnP |
| IRQ7 | assigned to:PCI/ISA PnP |
| IRQ8 | assigned to:PCI/ISA PnP |
| IRQ9 | assigned to:PCI/ISA PnP |
| IRQ10 | assigned to:PCI/ISA PnP |
| IRQ11 | assigned to:PCI/ISA PnP |
| IRQ12 | assigned to:PCI/ISA PnP |
| IRQ13 | assigned to:PCI/ISA PnP |
| IRQ14 | assigned to:PCI/ISA PnP |
| IRQ15 | assigned to:PCI/ISA PnP |
| DMA-0 | assigned to:PCI/ISA PnP |
| DMA-1 | assigned to:PCI/ISA PnP |
| DMA-2 | assigned to:PCI/ISA PnP |
| DMA-3 | assigned to:PCI/ISA PnP |
| DMA-4 | assigned to:PCI/ISA PnP |
| DMA-5 | assigned to:PCI/ISA PnP |
| DMA-6 | assigned to:PCI/ISA PnP |
| DMA-7 | assigned to:PCI/ISA PnP |

The above settings will be shown on the screen only if “Manual” is chosen for the resources controlled by function.

Legacy is the term which signifies that a resource is assigned to the ISA Bus and provides for non-PnP ISA add-on cards. PCI/ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

Resources Controlled By

By Choosing “Auto” (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing “Manual” the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

PCI / VGA Palette Snoop

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the write access to the VGA palette and registers the snoop data. In PCI based systems, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

| | |
|---------------------------|--------------------|
| Disabled (default) | Function Disabled. |
| Enabled | Function Enabled. |

Assign IRQ For VGA

Lets the user choose which IRQ to assign for the VGA.

Assign IRQ For USB

Lets the user choose which IRQ to assign for the USB.

2.8 PC Health Status

© Figure 8. PC Health Status

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PC Health Status

| | | |
|--------------------------|----------|------------|
| CPU Warning Temperature | Disabled | Item Help |
| Current System Temp. | | Menu Level |
| Current CPU Temperature | | |
| Current CPU Fan Speed | | |
| Current System Fan Speed | | |
| Vcore | | |
| +3.3V | | |
| +5V | | |
| +12V | | |
| -12V | | |
| -5V | | |
| VBAT(V) | | |
| 5VSB(V) | | |

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

Current Voltage(V) Vcore +12V / -12V / +-5V / +3.3V / 5VSB / VBAT

Detect system's voltage status automatically.

Current CPU / System Temperature(°C/°F)

This field displays the current CPU temperature,if your computer contains a monitoring system.

Current CPU Fan / System Fan Speed

These field displays the current speed of up to System Fans,if your computer contains a monitoring system.

CPU Warning Temperature(°C)

| | |
|---------------------------|-----------------------------------|
| Disabled (default) | Disabled. |
| 50°C / 122°F | Monitor CPU Temp.at 50°C / 122°F. |
| 53°C / 127°F | Monitor CPU Temp.at 53°C / 127°F. |
| 56°C / 133°F | Monitor CPU Temp.at 56°C / 133°F. |
| 63°C / 145°F | Monitor CPU Temp.at 63°C / 145°F. |
| 66°C / 151°F | Monitor CPU Temp.at 66°C / 151°F. |
| 70°C / 158°F | Monitor CPU Temp.at 70°C / 158°F. |

2.9 Frequency / Voltage Control

© Figure 9. Frequency / Voltage Control

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Frequency / Voltage Control

| | | |
|----------------------------|----------|------------|
| CPU Vcore Select | Default | Item Help |
| Auto Detect DIMM / PCI CLK | Enabled | Menu Level |
| Spread Spectrum | Disabled | |
| CPU Clock | 100 | |
| CPU Ratio | X8 | |

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

CPU Vcore Select

This item allows you to select voltage.

The Choices: Default, +0.025V~+0.1V, -0.025V~-0.1V.

Auto Detect DIMM / PCI CLK

This item allows you to enable/disable auto detect DIMM / PCI CLOCK.

The Choices: Enabled(default), Disabled.

Spread Spectrum

This function is designed to EMI test only.

The Choices: Disabled(default), +/-0.25%~+/-0.5%, -0.5%.

CPU Clock

This item allows you to select the CPU clock from 133MHz to 166MHz, 100MHz to 133MHz or 66MHz to 100MHz depending on the CPU Host Clock .

The Choices: 100(default), Min.66~Max.133.

CPU Ratio

This option will not be shown if you are using a CPU with the locked ratio.

The Choices: X8~X23.

NOTE:

Intel CPU doesn't support overclock and overvcore, we don't recommend users use these funtions for possible CPU damage.

2.10 Load Fail-Safe Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

© **Figure 10. Load Fail-Safe Defaults**

CMOS Setup Utility-Copyright (C) 1984-2001 Award Software

| | |
|--|--|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | Set Supervisor Password |
| Power Management | Load Fail-Safe Default (Y/N)? N |
| PNP/PCI Configuration | Save & Exit Setup |
| PC Health Status | Exit Without Saving |
| Esc : Quit F9 : Menu in BIOS ←→↑↓: Select Item | |
| F10 : Save & Exit Setup | |
| Time , Date , Hard Disk Type ... | |

Pressing 'Y' loads the default values that are factory settings for optimal performance of system operations.

2.11 Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

© **Figure 11. Load Optimized Defaults**

CMOS Setup Utility-Copyright (C) 1984-2001 Award Software

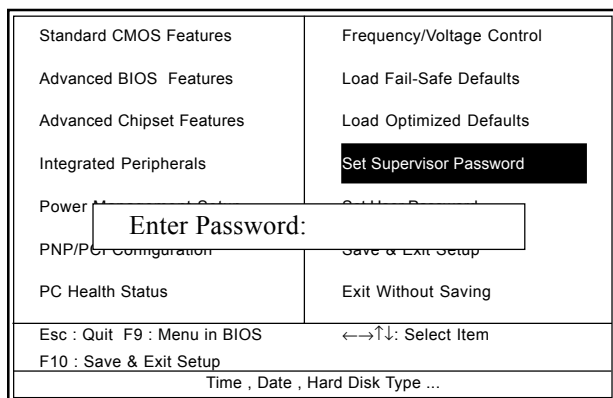
| | |
|---|---------------------------------|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | Set Supervisor Password |
| Power | Load Optimized Default (Y/N)? N |
| PNP/PCI Configuration | Save & Exit Setup |
| PC Health Status | Exit Without Saving |
| Esc : Quit F9 : Menu in BIOS ←↑↓: Select Item | |
| F10 : Save & Exit Setup | |
| Time , Date , Hard Disk Type ... | |

Pressing ‘Y’ loads the default values that are factory settings for optimal performance of system operations.

2.12 Set Supervisor / User Password

© Figure 12. Set Supervisor / User Password

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When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Enter Password

Type a password, up to eight characters, and press <Enter>. The password you type now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <ESC> to abort the selection and not enter a password. To disable the password, just press <Enter> when you are prompted to enter a password. A message will confirm that you wish to disable the password. Once the password is disabled, the system will boot and you can enter setup freely.

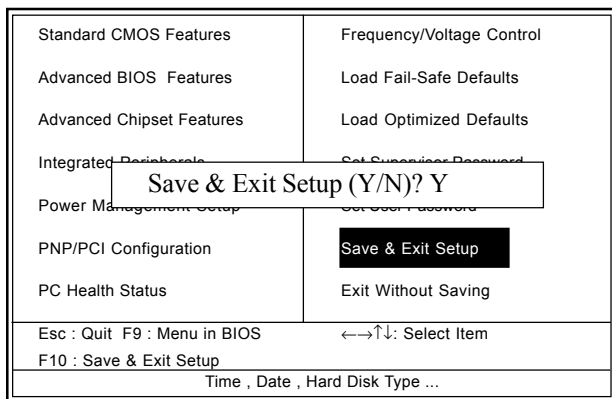
Password Disabled

If you select “System” at the Security Option of BIOS Features Setup Menu, you will be prompted for the password every time when the system is rebooted, or any time when you try to enter Setup. If you select “Setup” at the Security Option of the BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

2.13 Save & Exit Setup

© Figure 13. Save & Exit Setup

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Typing “Y” will quit the Setup Utility and save the user setup value to RTC CMOS RAM.

Typing “N” will return to the Setup Utility.

2.14 Exit Without Saving

© Figure 14. Exit Without Saving

CMOS Setup Utility-Copyright (C) 1984-2001 Award Software

| | |
|--|----------------------------|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | |
| Power Management Setup | Set User Password |
| PNP/PCI Configuration | Save & Exit Setup |
| PC Health Status | Exit Without Saving |
| Esc : Quit F9 : Menu in BIOS ←→↑↓: Select Item | |
| F10 : Save & Exit Setup | |
| Time , Date , Hard Disk Type ... | |

Typing “Y” will quit the Setup Utility without saving to RTC CMOS RAM.

Typing “N” will return to the Setup Utility.

3. Driver Installation

Introduction

There are motherboard drivers in CD disc. You don't need to install all of them in order to boot your system. But after you finish the hardware installation, you have to install your operating system first (such as windows 98) before you can install any drivers or utilities. Please refer to your operating system installation guide.

Note: Please follow recommended procedure to install Windows ME and Windows 98.

3.1 Auto-run Menu

You can use the auto-run menu of Bonus CD disc.

Choose the utility or driver and select model name.

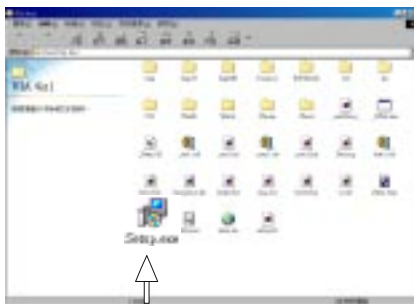


3.2 Installing VIA 4 in 1 Driver

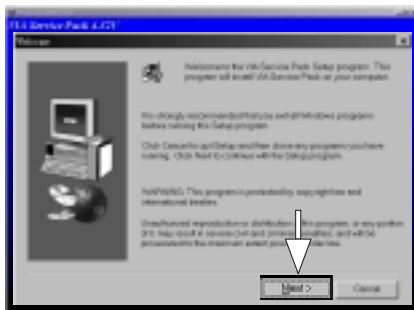
You can install the VIA 4 in 1 driver (IDE Bus master (For Windows NT use), VIA ATAPI Vendor Support Driver, VIA AGP, IRQ Routing Driver (For Windows 98 use), VIA Registry (INF) Driver) from the Bonus Pack CD disc auto-run menu.



(1)
Click
"VIA 4in1" Item.



(2)
Click
"Setup" Item.



(3)
Click "Next".

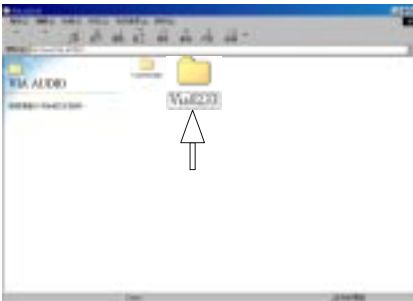
Note: Installing this Bus Master IDE driver may cause Suspend to Hard Drive failure.

3.3 Installing Audio Driver

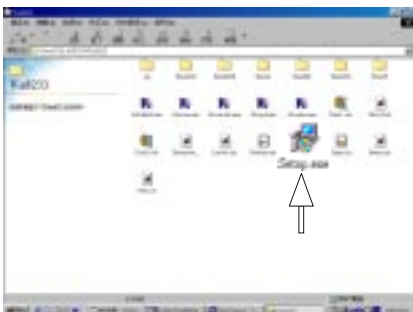
This motherboard comes with an AC97 CODEC and the sound controller is in VIA South Bridge chipset. This item install the VIA Audio for Microsoft Windows 9X/98SE/ME/NT4.0/2000/XP.



(1)
Click
"VIA Audio" Item.



(2)
Click
"Via8233" Item.



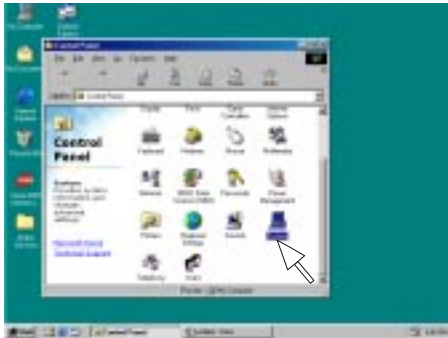
(3)
Click "Setup".

Note:

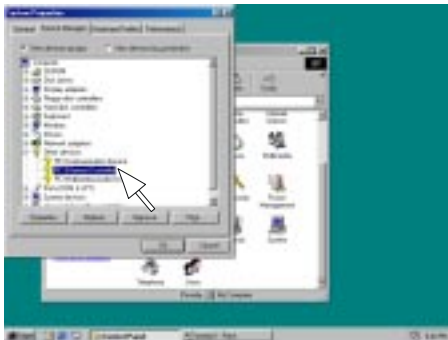
For Win NT, Win 2000, WinXP
,Win 9X/SE/ME system.

3.4 Installing LAN Driver

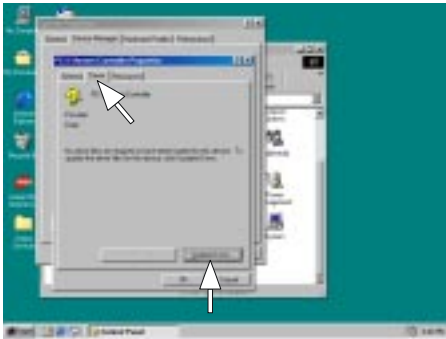
When your mainboard comes with the VIA PCI 10/100Mb Fast Ethernet Adapter, you must install the VIA® LAN driver to support the LAN function. In some operating systems like Windows 98, Windows 2000, Windows NT the provided CD will auto-run when you insert the CD disk into the CD-ROM drive.



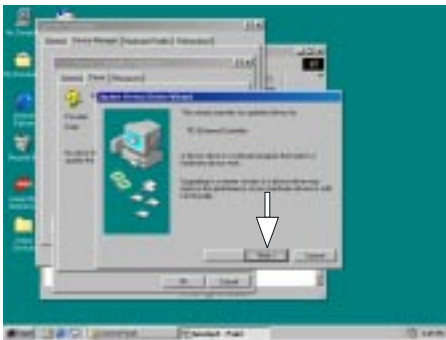
(1)
Click
"System" Item.



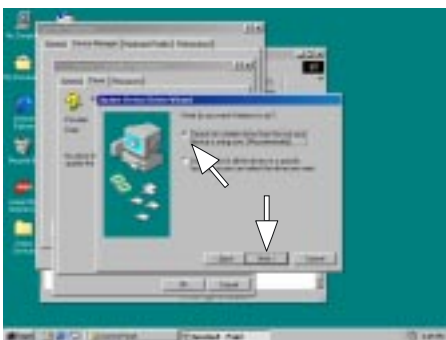
(2)
Select
"Other Devices"
then Click
"PCI Ethernet
Controller" Item.



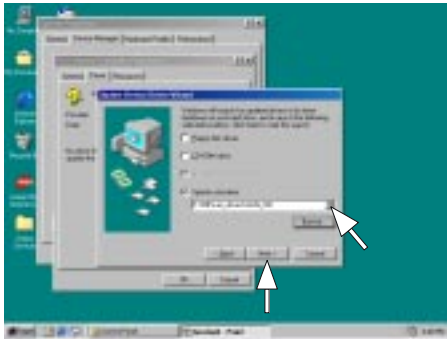
(3)
Select
"Driver"
then Click
"Update Driver" Item.



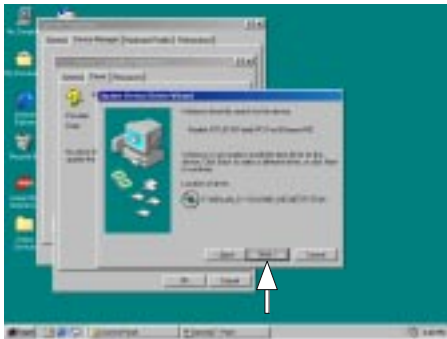
(4)
Click
"Next" Item.



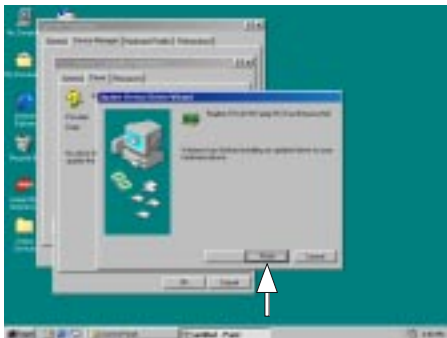
(5)
Click
"Next" Item.



(6)
Selection your system
environment follow
path :
\\MB\\LAN_driver\\VT6103
then
Click "Next" Item.



(7)
Click "Next" Item.



(8)
Click "Finish" Item.

4PX266A System Compatibility Test Report

**** Note:**
This test report is for your reference, we would like to suggest you to use these devices that we had approved.

A. CPU & Memory Compatibility Test Pass

| CPU MEMORY | Pentium 4 1.5GHz | Pentium 4 1.7GHz | Pentium 4 1.8GHz |
|-----------------------|---------------------|---------------------|---------------------|
| HYUNDAI | 256MBX1 | 256MBX2 | 256MBX1 |
| HY5DU28822T-H(116A) | D1 PASS | D2,3 PASS | D3 PASS |
| NANYA | 512MBX1 | 512MBX2 | 512MBX2 |
| NT5DS32M8AT-7K(0046) | D3 PASS | D1,2 PASS | D2,3 PASS |
| HYUNDAI | 128MBX2 | 128MBX1 | 128MBX1 |
| HY5DU28822T-H(115A) | D1,3 PASS | D2 PASS | D1 PASS |
| SAMSUNG | 256MBX2 | 256MBX1 | 256MBX2 |
| K4H280838B-TCB0(112) | D2,3 PASS | D1 PASS | D1,3 PASS |

| CPU MEMORY | Pentium 4 1.5GHz | Pentium 4 1.7GHz | Pentium 4 1.8GHz |
|-----------------------|---------------------|---------------------|---------------------|
| NANYA | 128MBX2 | 128MBX1 | 128MBX2 |
| NT5DS16M8AT-7KS | D2,3 PASS | D1 PASS | D1,2 PASS |
| NANYA | 256MBX1 | 256MBX2 | 256MBX1 |
| NT5DS16M8AT-7KS | D2 PASS | D1,2 PASS | D3 PASS |
| SAMSUNG | 256MBX2 | 256MBX1 | 256MBX2 |
| K4H280838B-TCB0(106) | D1,2 PASS | D3 PASS | D2,3 PASS |
| NANYA | 128MBX1 | 128MBX2 | 128MBX1 |
| NT5DS16M8AT-7K(0049) | D3 PASS | D2,3 PASS | D1 PASS |

| CPU MEMORY | Pentium 4 1.5GHz | Pentium 4 1.7GHz | Pentium 4 1.8GHz |
|-----------------------|---------------------|---------------------|---------------------|
| SAMSUNG | 256MBX2 | 256MBX2 | 256MBX1 |
| K4H280838B-TCB0(106) | D1,2 PASS | D2,3 PASS | D2 PASS |
| NANYA | 256MBX1 | 256MBX1 | 256MBX2 |
| NT5DS16M8AT-7K(0101) | D3 PASS | D2 PASS | D1,2 PASS |
| SAMSUNG | 128MBX2 | 128MBX2 | 128MBX1 |
| K4H280838B-TCB0(103) | D2,3 PASS | D1,3 PASS | D3 PASS |
| NANYA | 128MBX1 | 128MBX1 | 128MBX2 |
| NT5DS16M8AT-7K(0049) | D1 PASS | D3 PASS | D2,3 PASS |

| CPU MEMORY | Pentium 4 1.5GHz | Pentium 4 1.7GHz | Pentium 4 1.8GHz |
|-----------------------|---------------------|---------------------|---------------------|
| SAMSUNG | 128MBX2 | 128MBX1 | 128MBX1 |
| K4H280838B-TCB0(118) | D1,2 PASS | D2 PASS | D3 PASS |
| SAMSUNG | 128MBX1 | 128MBX2 | 128MBX2 |
| K4H280838B-TCB0(049) | D2 PASS | D1,3 PASS | D1,2 PASS |
| SAMSUNG | 128MBX2 | 128MBX1 | 128MBX1 |
| K4H280838B-TCB0(118) | D2,3 PASS | D1 PASS | D2 PASS |
| SAMSUNG | 256MBX2 | 256MBX1 | 256MBX2 |
| K4H280838B-TCB0(118) | D1,2 PASS | D2 PASS | D2,3 PASS |

4PX266A System Compatibility Test Report

B. AGP Display Compatibility Test

Win98 SE 1024 x 768 x 32 bit

| AGP Model | Vendor | AGP Mode | Dirver Version | 3D MARK 2001 Bench Mode | Quake III Demo 001 | | |
|---------------|----------|----------|-------------------|----------------------------|--------------------|---------|-------|
| | | | | | frames | seconds | fps |
| V7100 | ASUS | 4X | 4.13.01.1241 | 2227 | 1346 | 10.8 | 124.7 |
| GA-GF1280 | Gigabyte | 4X | 4.13.01.1241 | 2230 | 1346 | 10.8 | 124.4 |
| MS-8817 | MSI | 2X | 4.13.01.1241 | 2226 | 1346 | 10.9 | 123.8 |
| GeForce 2 MX | ACORP | 4X | 4.13.01.1241 | 1238 | 1346 | 16.8 | 80.3 |
| GLADIAC | ELSA | 4X | 4.13.01.1241 | 2300 | 1346 | 10.9 | 123.6 |
| MS-8806 | MSI | 4X | 4.13.01.1241 | 1489 | 1346 | 19 | 70.7 |
| ERAZOR X-A32 | ELSA | 4X | 4.13.01.1241 | 2127 | 1346 | 10.7 | 125.5 |
| GeForce 2 GTS | Creative | 4X | 4.13.01.1241 | 3202 | 1346 | 9.3 | 145.2 |
| G400 | Matrox | 4X | 4.11.01.1250 | 1257 | 1346 | 22.2 | 60.6 |
| Gladlac MX | ELSA | 4X | 4.13.01.1241 | 3541 | 1346 | 9.4 | 143.4 |

WinSE 800 x 600 x 16 bit

| AGP Model | Vendor | AGP Mode | Dirver Version | 3D MARK 2000 Bench Mode | Quake III Demo 001 | | |
|---------------|---------|----------|-------------------|----------------------------|--------------------|---------|-------|
| | | | | | frames | seconds | fps |
| Synergy 2000 | ELSA | 4X | 4.13.01.1241 | 6480 | 1346 | 9.3 | 144.3 |
| GeForce 256 | ACORP | 4X | 4.13.01.1241 | 5470 | 1346 | 9.7 | 139.4 |
| MS-8829 | MSI | 4X | 4.13.01.1241 | 4418 | 1346 | 11.7 | 114.9 |
| V7700 | ASUS | 4X | 4.13.01.1241 | 8024 | 1346 | 9 | 150.2 |
| V3800 | ASUS | 4X | 4.13.01.1241 | 2414 | 1346 | 22 | 61.1 |
| Savage 4 | LEMEL | 4X | 4.11.01.8002 | 1146 | 1346 | 47 | 28.7 |
| TNT 2 Vanta | ACORP | 2X | 4.13.01.1241 | 2422 | 1346 | 23.2 | 58.1 |
| Synergy II-32 | ELSA | 4X | 4.13.01.1241 | 4050 | 1346 | 15.3 | 87.9 |
| L2300 Pro | WinFast | 1X | 4.12.01.2107 | 1868 | 1346 | 50.8 | 26.5 |
| GeForce 2 MX | LEMEL | 4X | 4.13.01.1241 | 6374 | 1346 | 9.3 | 145.2 |

Win2000 1024 x 768 x 32 bit

| AGP Model | Vendor | AGP Mode | Dirver Version | 3D MARK 2001 Bench Mode | Quake III Demo 001 | | |
|--------------|----------|----------|-------------------|----------------------------|--------------------|---------|------|
| | | | | | frames | seconds | fps |
| MS-8822 | MSI | 4X | 5.13.01.1241 | 1351 | 1346 | 48.6 | 27.7 |
| GeForce 3 | WinFa | 4X | 5.13.01.1241 | 1693 | 1346 | 27.8 | 48.4 |
| MS-8826 | MSI | 4X | 5.13.01.1241 | 834 | 1346 | 23 | 58.4 |
| GeForce 2 MX | WinFast | 4X | 5.13.01.1241 | 772 | 1346 | 48.1 | 28 |
| GV-GA1280RT | Gigabyte | 4X | 5.13.01.1241 | 823 | 1346 | 27.5 | 48.9 |

Win2000 1024 x 768 x 32 bit

| AGP Model | Vendor | AGP Mode | Dirver Version | 3D MARK 2000 Bench Mode | Quake III Demo 001 | | |
|------------------|---------|----------|-------------------|----------------------------|--------------------|---------|-------|
| | | | | | frames | seconds | fps |
| MS-8815 | MSI | 4X | 5.13.01.1241 | 1625 | 1346 | 43.4 | 31 |
| RADEON | Ati | 4X | 5.12.2184 | 1240 | 1346 | 44.6 | 30.2 |
| TNT 2 M64 | ACORP | 4X | 5.13.01.1241 | 770 | 1346 | 55.9 | 24.1 |
| V7100 Pro | ASUS | 4X | 5.13.01.1241 | 3746 | 1346 | 9.1 | 147.3 |
| GeForce 2 MX MAX | WinFast | 4X | 5.13.01.1241 | 3145 | 1346 | 8.7 | 155.4 |

4PX266A System Compatibility Test Report

C. PCI/ISA Device Compatibility Test

| Device Model | BUS | Vendor Model | Driver Version | Result |
|-----------------|-----|-------------------------------------|-----------------|--------|
| LAN Card | PCI | D_Link | 2.52 | PASS |
| | PCI | Intel PILA8460C3 | 5.40.17.0000 | PASS |
| | PCI | Realtek 8319A | 5.352.1215.1998 | PASS |
| Sound Card | PCI | Creative Live 5.1 | 4.12.01.0905 | PASS |
| | PCI | ESS Solo-1 1989S | 4.12.01.7135 | PASS |
| | PCI | YAMAHA TF-754 | 4.07.00.2013 | PASS |
| VGA Card | PCI | S3 Trio64v2-DX/GX | 4.10.1715 | PASS |
| IEEE1394 Card | PCI | ACORP 1394TTO | 4.10.2222 | PASS |
| | PCI | KOUWELL KW-582V2 | 4.10.2222 | PASS |
| | PCI | DOMEX DMX-5340 | 4.10.2222 | PASS |
| IEEE1394 Device | | Venus Series 3.5" Storage Enclosure | | PASS |

Win98 SE

| Device Model | BUS | Vendor Model | Driver Version | Result |
|-------------------------|-----|------------------|-----------------|--------|
| All PCI/ISA Device Card | PCI | PCTEL PCT789T-A | 7.66-9K-03 | PASS |
| | PCI | D_Link DFE-530TX | 2.52 | PASS |
| | PCI | ACORP BT878 | Version 4.1.8.8 | PASS |
| | PCI | Tekram DC-390U2W | 3.22 | PASS |
| | PCI | YAMAHA YF-754 | 4.0700.2013 | PASS |

Win2000

| Device Model | BUS | Vendor Model | Driver Version | Result |
|-------------------------|-----|------------------|----------------|--------|
| All PCI/ISA Device Card | PCI | PCTEL PCT789T-A | 7.66-9K-03 | PASS |
| | PCI | D_Link DFE-530TX | 2.52 | PASS |
| | PCI | ACORP BT878 | 3.1.28.0 | PASS |
| | PCI | Tekram DC-390U2W | 3.22 | PASS |
| | PCI | YAMAHA YF-754 | 5.00.2175.1 | PASS |

D. Other Peripherals Compatibility Test

| Device Model | Vendor Model | Result |
|---------------|-----------------------------------|--------|
| USB Mouse | DEXIN MODEL:A3U800A | Pass |
| | GENUINE | Pass |
| USB Keyboard | Microsoft Optical USB Mouse | Pass |
| | 台灣 7932M | Pass |
| | GENUINE K371 | Pass |
| USB Modem | ACORP 56K Fax MODEM | Pass |
| USB Print | EPSON Stylus 740 | Pass |
| USB ZIP | IOMEGA Z100 | Pass |
| USB SCANNER | UMAX Stra 3400 | Pass |
| USB Joystick | Microsoft SideWinder P&P Game Pad | Pass |
| Mouse | Microsoft PN X05-51692E | Pass |
| Modem | LEMEL 33.6K Modem | Pass |
| Print | EPSON Stylus 740 | Pass |
| PS/2 Mouse | Microsoft PN X05-51692 | Pass |
| PS/2 Keyboard | GENUINE FKD46AK288 | Pass |

4PX266A System Compatibility Test Report

E. System Reliability Test

| O.S. Environment | Test Software | Version | Loop times | Result |
|------------------|--------------------------------|---------|------------|--------|
| Win98 SE | WinStone 99 Business Test | 1.3 | 8 Hours | PASS |
| | 3D MARK 2001 DEMO Mode Test | 1.0 | 8 Hours | PASS |
| Win ME | Quake III DEMO Mode Test | 1.0 | 8 Hours | PASS |
| Win NT 4.0 | WinStone 99 All Test | 1.3 | 8 Hours | PASS |
| | HCT System stress Test | 9.5 | 8 Hours | |
| Win 2000 | Content Creation Winstone 2001 | 1.0 | 8 Hours | PASS |
| | SysMark 2000 | 1.0 | 1 Time | PASS |