IWILL P4GB Series Motherboard

User's Manual

P4GB Series Version 1.0

FB23622000

FCC Compliance Statement

This equipment has been tested and found to comply with 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 residential installations. 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 interference to radio or television equipment 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
- Move the equipment away from the receiver
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void Your authority to operate such equipment.

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

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Table of Contents

1: Introduction

The P4GB Series motherboard is a high-performance personal computer motherboard that supports the Intel® Pentium® 4 processor. The motherboard accommodates 200/266 MHz DDR SDRAM using four DIMM memory sockets. Five 32-bit PCI slots provide expansion flexibility.

The P4GB Series motherboard uses the latest Intel® E7205 chipset to integrate all system control functions.

Features of this motherboard include support for:

- Intel® Pentium® 4 processor with support for Hyper-Threading Technology
- 533/400 MHz system bus
- Up to 4GB DDR266 (PC2100) SDRAM
- Five 32-bit PCI/33 MHz slots
- Onboard Accelerated Graphics Port (AGP Pro/8X/4X)
- Intel® Kenai-32 GbE LAN integrated
- Firewire (IEEE-1394) built-in
- Four USB 2.0 external ports on rear panel (stacked) and one connector to offer two USB 2.0 ports for the front panel

For a complete list of specifications, see Chapter 6, Specifications.

About This Manual

This manual's six chapters cover the following topics:

1. Introduction, provides a basic introduction to the motherboard and package contents.
2. Hardware Configuration, describes the motherboard layout, components, and configuration
3. Motherboard Installation, explains basic motherboard installation procedures.
4. BIOS Setup, describes the settings of the BIOS.
5. Drivers and Utilities, explains how to use the bundled software drivers and utilities.
6. Specifications, lists the motherboard's technical specifications.

Package Contents

The motherboard package contains the following items:

- P4GB Series motherboard
- IDE connector cables
- Floppy Disk Drive connector cables
- Firewire (IEEE-1394) bracket (2 external ports)
- Rear I/O Shield
- Three spare Jumper caps
- Power Installer software & utilities disc
- User's Manual

Remove the motherboard from its anti-static bag and place it on a grounded or anti-static surface (component side up). Inspect the motherboard; if any items are damaged or missing, contact your vendor immediately.

2: Hardware Configuration

This chapter describes the motherboard layout and shows the location, function, and configuration of key components, including sockets, slots, connectors and jumpers as well as the external I/O ports. Before installing this motherboard read the following pages carefully for location and function of these items.

Components

The motherboard provides sockets, slots, and connectors for the installation of the CPU, memory, power supply, and PCI expansion cards.

Connectors

The motherboard's connectors let you attach IDE and FDD drives, CPU fan/heatsink, IR module, audio devices, and front panel features such as LEDs, speaker, and power switch.

Jumpers

The motherboard's jumpers provide information to the operating system about installed options and system settings.

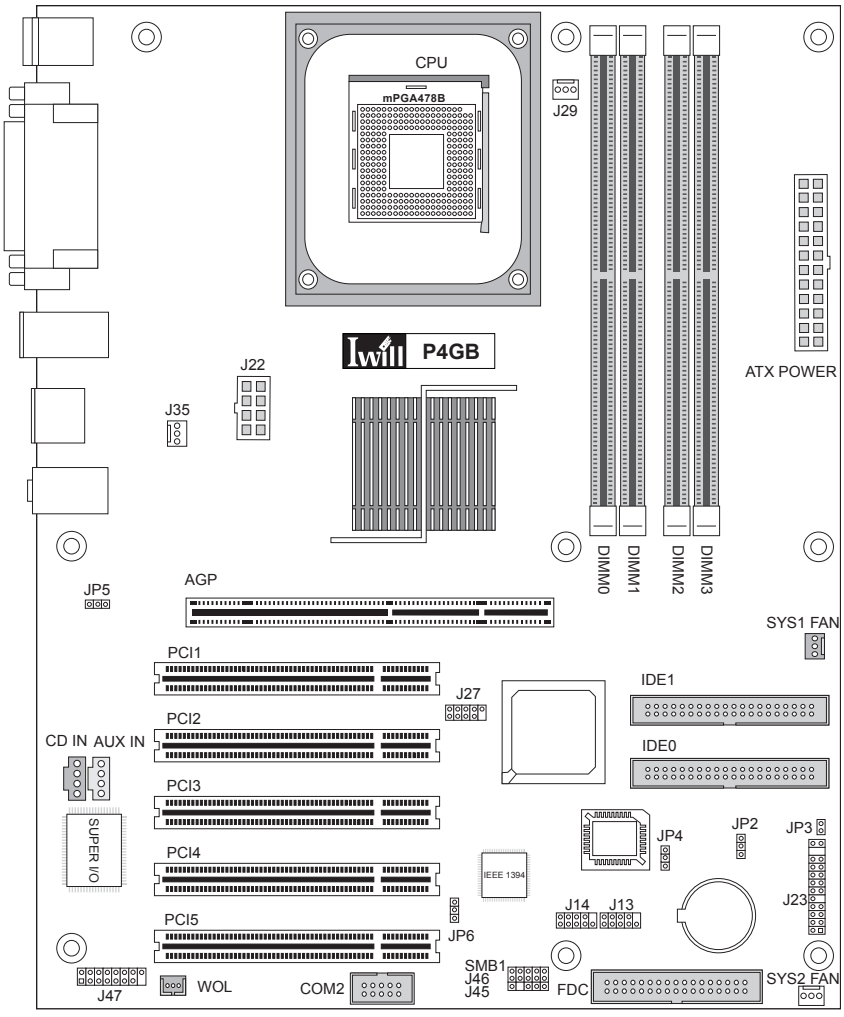
External I/O Ports

The external Input/Output ports let you connect external devices.

Motherboard Layout

The location of motherboard components is shown below.

P4GB



Motherboard Layout Key

These components, connectors and jumpers are located in the motherboard layout graphic on the facing page.

Component	Function
CPU	mPGA478 CPU socket
AGP	Accelerated Graphics Port
DIMM0 ~ DIMM3	DIMM sockets for DDR SDRAM
PCI1~ PCI5	32_bit PCI expansion slots

Connectors	Function
J13, J14	Firewire internal connectors
J21, ATX POWER	Connectors for power supply
J22	ATX 12V/EPS 12V power connector
J23	Front panel feature connector
J27	Internal USB connector
J29	CPU cooling fan power connector
J34	Wake on LAN
J35	Auxiliary Fan connector
J45, J46	IR port module connectors
J47	Gameport connector
AUX IN	AUX-auxiliary audio-in connector
CD IN	CD-ROM drive audio-in connector
COM2	COM2 port bracket connector
FDC	Floppy disk drive connector
IDE0, IDE1	IDE drive connectors
SMB1	SMBus Connector
SYS1, SYS2	System cooling fan connectors

Jumpers	Function
JP2	Clear CMOS
JP3	Case Open
JP4	Flash Protect
JP5	Lan Enabled/Disabled
JP6	IEEE-1394 Enabled/Disabled

JP2: Clear CMOS Jumper

This jumper switch, JP2, clears the CMOS Setup configuration that is stored in the real-time clock's CMOS memory. If configuration becomes corrupted, or if the CMOS settings are changed to an unsuitable configuration, the motherboard may not work properly. JP2 lets you delete the configuration data stored in CMOS memory and reset the CMOS to the Optimized Defaults.

Follow the procedure below to clear CMOS memory.

1 Turn off and unplug the system and remove the system housing cover.

2 Set JP2 to the Clear CMOS position by placing the jumper cap over pins 2 and 3 for one minute.

3 Return the jumper cap to the Normal setting, pins 1 and 2.

4 Replace the system housing cover, plug in the system and power on.

5 Run the CMOS Setup Utility and load the Optimized Defaults. Make any custom settings you require. (See Chapter 4, BIOS Settings.)

6 Save the settings as you exit the program and restart your computer.

Normal(Default) Clear CMOS

JP3: Case Open

The Case Open connector lets you detect unauthorized intrusion into the chassis. If the chassis is opened a warning message is displayed when the system is turned on.

JP4: Flash Protect

This jumper switch, JP4, lets you enable or disable the BIOS flash protection either through the BIOS (default) or through hardware.

1-2: Control by BIOS (Default)

2-3: Protected by H/W

Open: Flashable by H/W

JP5: LAN Enabled/Disabled

This jumper switch, JP5, enables or disables the on-board LAN.

1-2: Enabled (Default)

2-3: Disabled

JP6: IEEE-1394 Enabled/Disabled

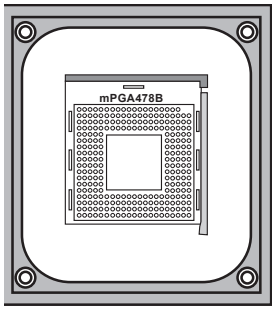
This jumper switch, JP6, enables or disables the on-board IEEE-1394 function.

1-2: Enabled (Default)

2-3: Disabled

CPU Socket & Cooling Fan / Heatsink Frame

The mPGA478B CPU socket supports a 478-pin Intel Pentium 4 processor. The Pentium 4 CPU requires a cooling fan/heatsink, which attaches to the board using a retention mechanism mounting frame. See the section on installing the CPU in Chapter 3.



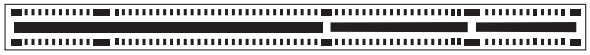
The mPGA478B CPU socket is located within a cooling fan/ heatsink frame.

AGP Pro 8X 1.5V Slot

The AGP slot is for the exclusive use of high speed AGP video display cards. It is AGP 3.0 compliant. This AGP slot supports AGP4X and AGP8X card. This slot only supports 1.5V devices. Do not use a 3.3V AGP card with this motherboard. The AGP slot is extended to include support for AGP Pro cards using up to 50 watts of power.

Important:
For AGP 4X, 8X, and Pro 1.5V cards only. Do not use 3.3V cards in this slot.

AGP

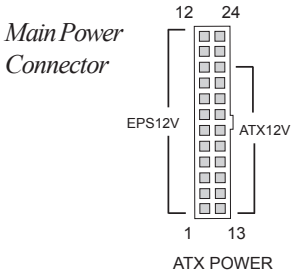


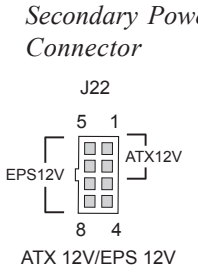
AGP Pro 8X Slot

EPS12V / ATX12V Power Connectors

The two power connectors let you attach two leads from either an EPS12V power supply or an ATX12V power supply to the motherboard. The EPS12V standard calls for a 24-pin main connector and an 8-pin secondary connector. The ATX12V standard requires a 20-pin ATX connector plus a 4-pin ATX12V connector.

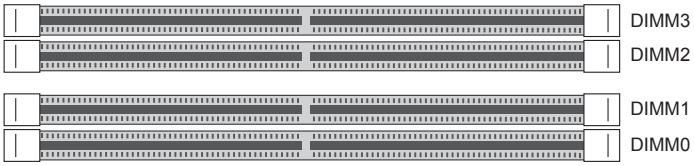
The two power connectors on this motherboard can accommodate either standard. For an EPS12V power supply, insert the two leads fully into the two connectors. For an ATX12V power supply insert the 20-pin lead of the ATX12V into the first 20 holes of the power connector leaving the last four empty, and the 4-pin ATX12V lead into the first 4 holes on the secondary power connector, also leaving the last four holes empty. See the connector diagrams below.





System Memory Sockets

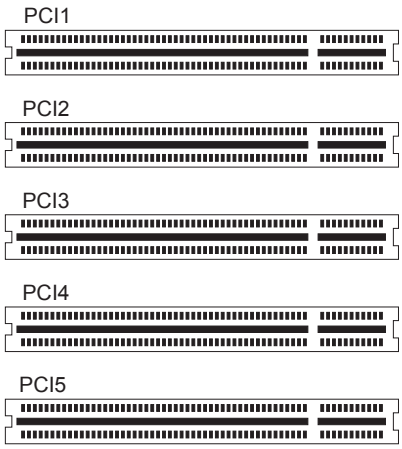
These DIMM system memory sockets support 200MHz (PC1600) or 266MHz (PC2100) DDR SDRAM system memory modules. See the section on installing memory in Chapter 3.



DDR SDRAM System Memory Modules

PCI Expansion Slots

The PCI expansion slots let you install additional system hardware via add-on cards. There are five 32-bit, 33MHz slots that are compliant with PCI 2.1/2.2 on this motherboard. See the section on installing internal peripherals in Chapter 3.



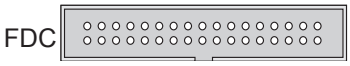
PCI Expansion Slots

Drive Connectors

There are drive connectors on the motherboard for connecting IDE and floppy disk drives.

FDC: Floppy Disk Drive Connector

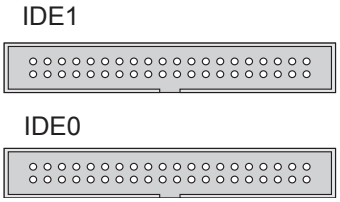
The connector FDD lets you attach one floppy disk drive to the motherboard using a standard FDD ribbon cable.



Floppy Drive Connector

IDE0, IDE1: IDE Drive Connectors

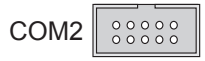
The two IDE drive connectors are marked IDE0, the primary channel, and IDE1, the secondary channel. Each connector supports two drives, a Master and a Slave.



IDE Drive Connectors

COM2: COM2 Port Bracket Connector

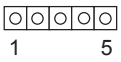
The COM2 Port Bracket Connector lets you add an additional serial port, to which you can connect peripherals such as serial modems and pointing devices. The COM2 port is configured in the CMOS Setup Utility, see Chapter 4.



COM2 Port Bracket Connector

SMB1: SMBus Connector

This connector, SMB1, lets you connect SMBus (System Management Bus) devices. These devices communicate via the SMBus with an SMBus host and/or other SMBus devices.

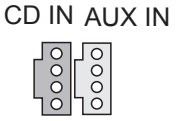


Pin	Assignment
1:	SMBUS CLK
2:	NC
3:	GND
4:	SMBUS DATA
5:	VCC

SMB1: SMBus Connector Pin Assignments

CD-IN & AUX-IN: Audio Connectors

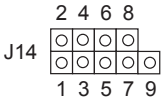
These two connectors, CD-IN and AUX-IN, let you attach audio-in cables from internal peripherals, such as a CD-ROM or DVD-ROM drive. The connectors provide an audio input connection between a device and the integrated audio subsystem.



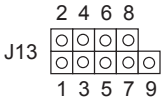
CD-IN, AUX-IN Audio Connectors

J13, J14: IEEE-1394 Connectors

These connectors, J13 and J14, provide onboard support for devices using the IEEE-1394 standard. The IEEE-1394 standard provides high speed digital interface for audio/ video appliances such as digital video camcorders, digital television, storage peripherals and other PC portable devices.



Pin	Assign	Pin	Assign
1:	TPB0+	2:	TPB0-
3:	GND	4:	GND
5:	TPA0+	6:	TPA0-
7:	+12V	8:	+12V
9:	NC	10:	NC



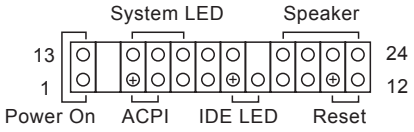
Pin	Assign	Pin	Assign
1:	TPB1+	2:	TPB1-
3:	GND	4:	GND
5:	TPA1+	6:	TPA1-
7:	+12V	8:	+12V
9:	NC	10:	NC

J13, J14: Connector Pin Assignments

J23: Front Panel Connector

This connector, J23, connects the following system housing front panel features:

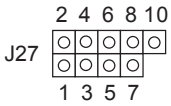
- Reset Switch (Reset in diagram)
- IDE device LED (IDE LED in diagram)
- ACPI Suspend LED (ACPI in diagram)
- Power Switch (Power On in diagram)
- System Activity LED (System LED in diagram)
- Housing-mounted Speaker (Speaker in diagram)



J23: Front Panel Connector Pin Assignments

J27: Internal USB Connector

This connector, J27, lets you attach internal USB devices.



Pin	Assignment	Pin	Assignment
1:	+5V	2:	+5V
3:	USB DATA 4-	4:	USB DATA 5-
5:	USB DATA 4+	6:	USB DATA 5+
7:	GND	8:	GND
9:	NC	10:	NC

J27: Connector Pin Assignments

J29, J35, SYS1, SYS2: CPU, Auxiliary & System Fan Connectors

These 3-pin connectors provide power to the CPU cooling fan (J29), the Auxiliary fan (J35), and to the System cooling fans (SYS1, SYS2). These connectors all support fan speed monitoring. A temperature monitor detects the CPU and internal system temperatures. You can set a system shutdown temperature in the PC Health section of the CMOS Setup Utility.

CPU Cooling Fan Connector

Auxiliary Fan Connector

System Cooling Fan Connectors

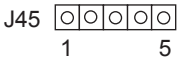
J34: Wake On LAN

This connector, J34, lets you attach a managed network adapter to the motherboard via a Wake-on-LAN cable. When the system is off, the managed network adapter uses an alternate power source to monitor the network. If it receives a wake-up packet from the server the system is remotely and automatically powered up.

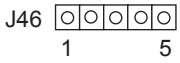
Pin	Assignment
1:	5VSB
2:	GND
3:	LAN_Wake

J45, J46: Infrared Connectors

These connectors, J45 and J46 let you attach an Infrared (IR) port module. The connectors support both IrDA and ASKIR infrared port modules. Review the module's instructions for installation information. To use this feature you must configure the motherboard using the CMOS Setup Utility, see the Integrated Peripherals section of Chapter 4.



Pin	Assignment
1:	+5V
2:	NC
3:	IRRX
4:	GND
5:	IRTX

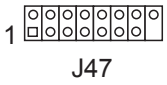


Pin	Assignment
1:	NC
2:	CIRRX
3:	5VSB
4:	NC
5:	NC

J45, J46: IR Port Module Connectors Pin Assignments

J47: Gameport connector

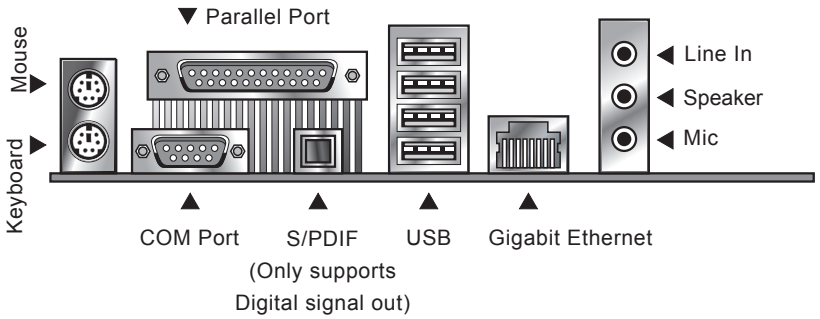
This connector, J47, is a standard 15-pin gameport connector for attaching game controlling devices.



J47: Gameport Connector

External I/O Ports

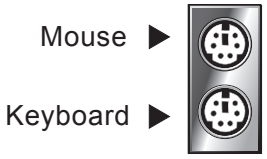
On the rear edge of the motherboard there are several external Input/Output ports. These ports are color-coded for easy identification.



External I/O Ports

PS/2 Ports

The PS/2 ports are for a system keyboard and mouse or other tracking device. It is recommended that you do not plug or unplug devices when the system is on.

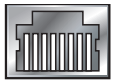


USB Ports

There are four high-speed USB 2.0 ports, USB 0 and USB 1, for connecting either USB 1.1 or 2.0 devices to the system. These ports are for "Type A" USB cable connectors. It does not matter if the system is on when you connect or disconnect USB devices. See the graphic below.

Gigabit Ethernet Port

The Gigabit Ethernet Port is an RJ-45 connector for standard Cat 5 LAN cabling. The connector attaches to the onboard Intel Kenai-32 Gigabit Ethernet LAN controller. It does not matter if the system is on when connecting or disconnecting a LAN cable.



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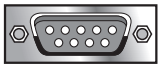
Gigabit Ethernet

COM Serial Port

The COM Serial port has a 9-pin connector and can operate at speeds up to 115,200bps. Do not connect or disconnect a serial port when the system is turned on.



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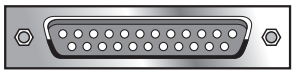
COM Port

Parallel Port

The Parallel port connects the system to devices that have a parallel interface. This port is generally used to connect a printer to the system.

▼ Parallel Port



S/PDIF Port

The S/PDIF (Sony/Philips Digital Interface) port provides high quality digital connectivity to speaker systems. The S/PDIF port only supports digital signal out.

▲

S/PDIF
(Only supports
Digital signal out)

Audio Jacks

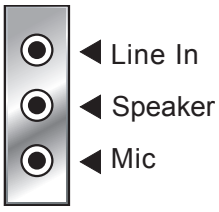
The audio jacks are for connecting external audio devices to the onboard audio subsystem.

The three audio jacks are:

Line In: provides audio input connector for an external audio source.

Speaker: offers output to two stereo speakers.

Mic: this jack is for plugging in a computer microphone.



3: Motherboard Installation

This chapter describes preparing and installing the motherboard, as well as installing and connecting other components.

Please review each of the following procedures before installing the motherboard.

Before You Install this Motherboard

Before placing and fastening the motherboard into a case you must first install a CPU and system memory modules. Please read the sections below and follow the instructions carefully.

Installing a CPU

The P4GB motherboard supports the Intel Pentium 4 processor. You must install both the Intel Pentium 4 and its cooling assembly carefully and in accordance with the procedures below. If you fail to follow these procedures, it could result in either improper operation or damage to the CPU or motherboard.

To install an Intel Pentium 4 processor on this motherboard you need to do the following:

1. Install a Pentium 4 processor in the mPGA478 socket.

2. Install the Heatsink/Retention Mechanism

In addition to the following instructions, please review the instructions that come with your boxed Intel Pentium 4.

Selecting a Processor

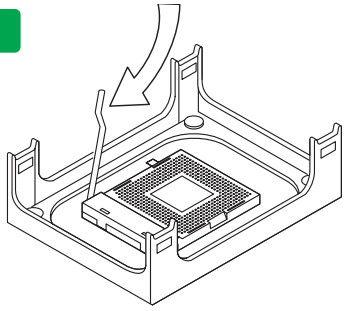
This motherboard supports all Intel Pentium 4 processors. The motherboard's BIOS automatically detects the required settings and configures the CMOS Setup Utility.

Installing the Processor

It is important to review all of the instructions before beginning the installation procedure. Carefully handle the processor by its edges, and take all precautions against electrostatic discharge. The boxed Intel Pentium 4 processor comes with a Heatsink and Thermal Interface Material applicator. Non-boxed processors follow the same procedures, but the accessories may have a different appearance. The following illustrations are a generic representation and may not show the components' exact appearance.

1. Unlock the socket by pressing the lever sideways, then lift it up to a vertical angle.

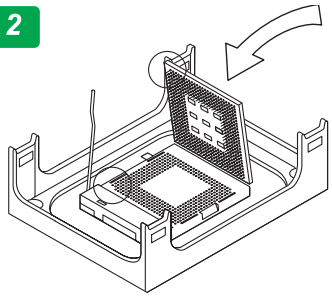
Step 1

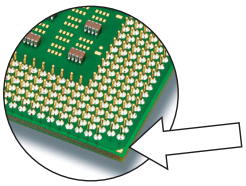


Unlock the socket by pressing the lever sideways, then lift it up to a vertical angle

2. Position the CPU above the socket such that its marked corner matches the base of the socket lever.

Step 2

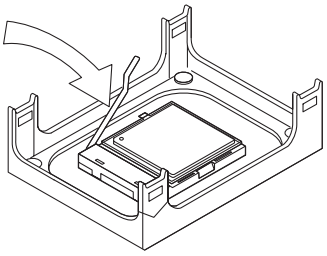


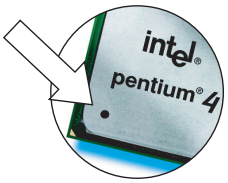


Position the CPU above the socket such that its marked corner matches the base of the socket lever.

3. Press it firmly on the socket while you push down the socket lever to secure the CPU.

Step 3





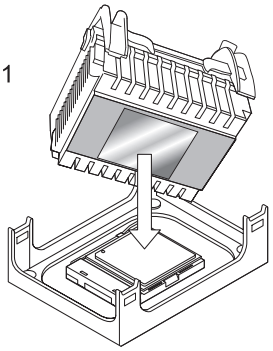
Press it firmly on the socket while you push down the socket lever to secure the CPU.

4. After installing the CPU you may need to apply the Thermal Interface Material (TIM) to the top of the installed CPU (Fig. 2). The TIM is supplied in an applicator with the boxed Pentium 4 processors. The TIM secures the Fan/Heatsink to the CPU. However, if the Fan/Heatsink already has a patch of TIM on its underside, you won't need to apply additional TIM to the CPU (Fig. 1).

Step 4

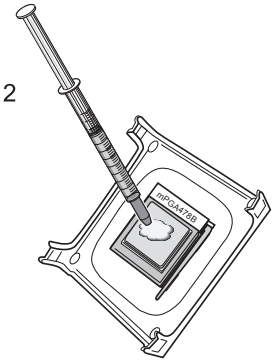
The heatsink may have thermal interface material attached to the bottom as shown in Fig.1, or you may need to apply the thermal interface material using a syringe as shown in Fig.2.

Fig.1



Be careful not to damage the thermal interface material.

Fig. 2



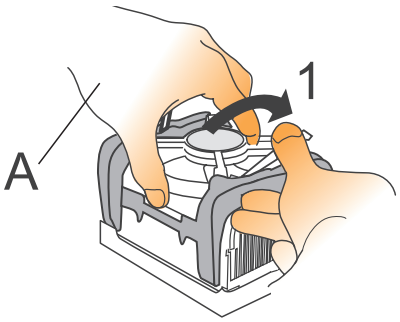
Using the enclosed syringe and apply all of the thermal interface material to the top of the processor

Installing the Fan/ Heatsink

To install the Fan/Heatsink assembly:

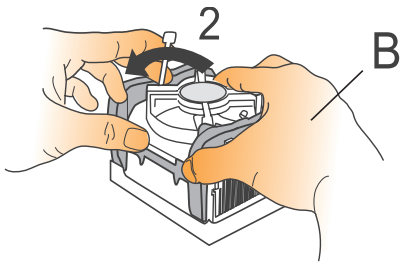
5. When installing the Fan/Heatsink and clip assembly it is important to make sure the Fan/Heatsink ***does not*** rotate or twist on the processor. Securing the Fan/ Heatsink while closing the clip lever will ensure the thermal interface material (TIM) is not damaged and the processor will operate correctly. The TIM is attached to the heatsink.

Step 5



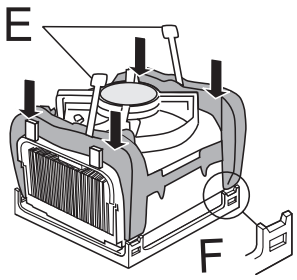
6. Make sure to close the clip levers one at a time. Close the clip lever (1), while holding the top-side of the Fan/Heatsink with your other hand (A). Close the clip lever (2) while holding the top-side of the Fan/ Heatsink with your other hand (B).

Step 6



7. Align the Heatsink and clip assembly with the Retention Mechanism and place it on the processor. The Heatsink is symmetrical.

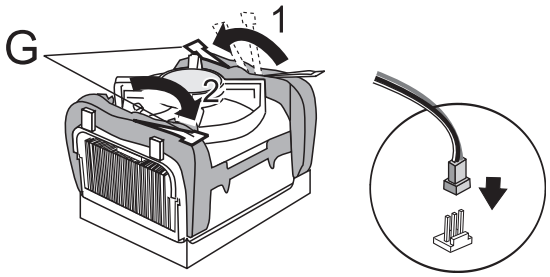
Step 7



8. With the clip levers in the up position (E), push down on all four clip frame corners to secure to the Retention Mechanism hooks (F). Close the clip levers (G). The levers require force to be completely closed.

   Connect the processor fan cable connector to the motherboard header.

Step 8



Installing System Memory

Review this section carefully before installing the memory modules.

Memory Specifications

The P4GB motherboard has four DIMM module sockets that support DDR SDRAM. See Chapter 2: Hardware Configuration.

Memory specifications are:

- 200Mhz PC1600 or 266MHz PC2100 DDR SDRAM
- Unbuffered DDR SDRAM modules
- Maximum 4GB total system memory

Memory configuration options are:

- Supports 128MB, 256MB, 512MB, and 1GB modules
- Any capacity DIMM may be used in the sockets as long as total memory is not greater than 4GB
- Modules of the same speed provide better performance

Note1: Installing two or more memory modules is recommended for this motherboard. Although one memory module runs smoothly, overall system performance is not optimal. When installing two modules, you must first fill the sockets DIMM0 and DIMM1.

Note2: If installing dual channel memory you should use two modules that are manufactured by the same company, that are the same model, and the same size.

Installing Memory Modules

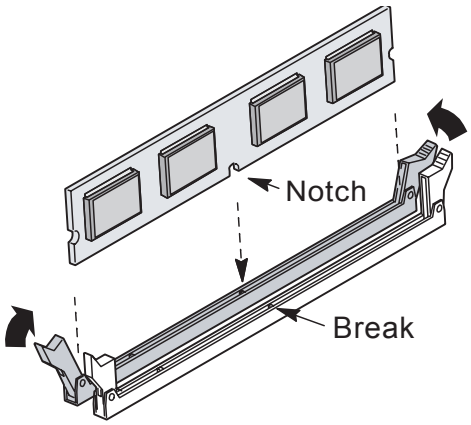
To install a memory module, you insert a module into its socket and secure it with the socket retaining arms. The modules are notched so that you cannot insert them incorrectly. The BIOS recognizes the installed memory and configures the CMOS Setup Utility automatically.

Note: It is recommended that you install at least two memory modules, beginning in sockets DIMM0 and DIMM1.

To install memory modules:

1 Unlock a DIMM socket by pressing the retaining clips outward.

2 Align the "notch" on the memory module to the "break" on the socket.



3 Firmly insert the module into the socket until the retaining clips snap back into place and the module is properly seated.

4 Make sure the memory module is locked on the socket with both retaining clips.

Installing the Motherboard in the Chassis

After installing the CPU and memory modules, you can install the motherboard in the system housing. There are many system housing designs and you should consult your system housing documentation for specific installation information.

Installing the Motherboard

To install the motherboard into the chassis:

1 Review the housing documentation and prepare the required mounting hardware.

2 Identify the mounting holes on the board and confirm that the housing standoffs are suitably placed.

3 Install the included rear I/O panel shield in the housing's I/O panel opening, matching the ports on the board.

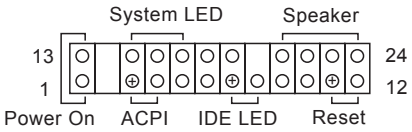
4. Insert the board in the housing and align the mounting holes to the standoffs on the housing's motherboard mounting plate. Check to make sure all rear I/O ports are aligned with the openings in the I/O panel shield.

5. Attach the board to the housing by inserting mounting screws in all the holes and tightening these screws using a Philips head screwdriver.

Connecting Front Panel Components

After installing the motherboard in the system housing, you should connect the front panel components to the Front Panel Connector, J23.

Check the figure below for pin assignments.



J23: Front Panel Connector Pin Assignments

Completing System Configuration

After installing the motherboard in the system housing, you can connect or install the internal devices you need to complete the system. This will include attaching disk drives and connecting housing power supply connectors.

After replacing the system housing cover, you can connect external peripherals such as a monitor, a keyboard, and a pointing device.

Once you have completed final hardware installation, you can configure the CMOS Setup Utility and Drivers—see the following chapters—and install an operating system and support software—see related documentation.

4: BIOS Setup

After you have installed the motherboard and assembled the system hardware, you can power up the system.

The motherboard uses the most recent Award BIOS CMOS chip. The ROM setup instructions for configuring the motherboard's BIOS (Basic Input Output System) are contained on this chip. The CMOS Setup program lets you set system parameters, which are stored in nonvolatile CMOS RAM. This information is retained by battery backup when the system is powered off. The values stored in the CMOS configures the system each time the system is powered on.

Running the CMOS Setup Utility

The CMOS Setup Utility does not depend on an operating system to run. You run the utility by typing the Del or Delete key before the operating system boots up. The CMOS Main screen will appear. You navigate the CMOS Setup Utility using keyboard commands that are listed at the bottom of each screen. Help is available at any time by pressing the F1 key.

Once you have fully configured the CMOS Setup Utility you will rarely if ever need to configure it again.

Entering Setup

Each time the system is turned on, the BIOS performs Power-On Self Test (POST) routines. These routines run through a series of diagnostic checks. If an error occurs, it is reported in one of two ways:

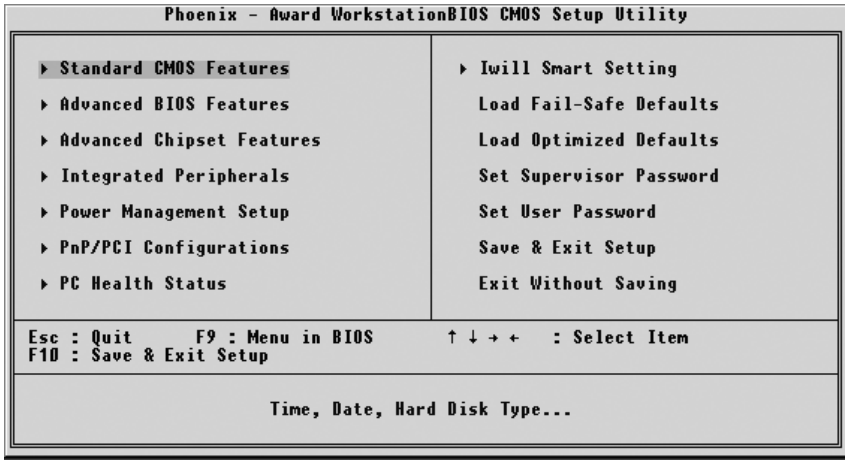
1. A series of beeps, if the error is encountered before the display is initialized.

2. An error message is shown on the screen, if the display is initialized.

After the POST routines are performed, the following message appears:

"Press DEL to enter SETUP"

Press the <DEL> key to enter the Award BIOS Setup program, and the main screen appears:

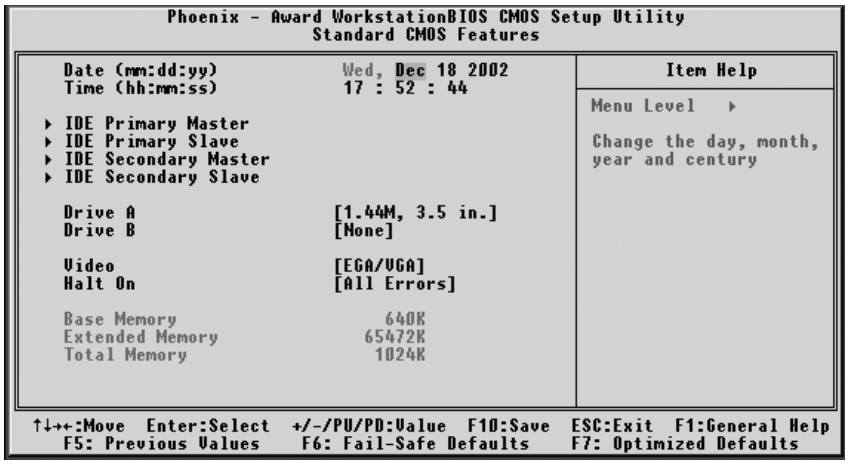


CMOS Setup Main Screen

Use the arrow keys to select items. A description of each selection follows.

Standard CMOS Features

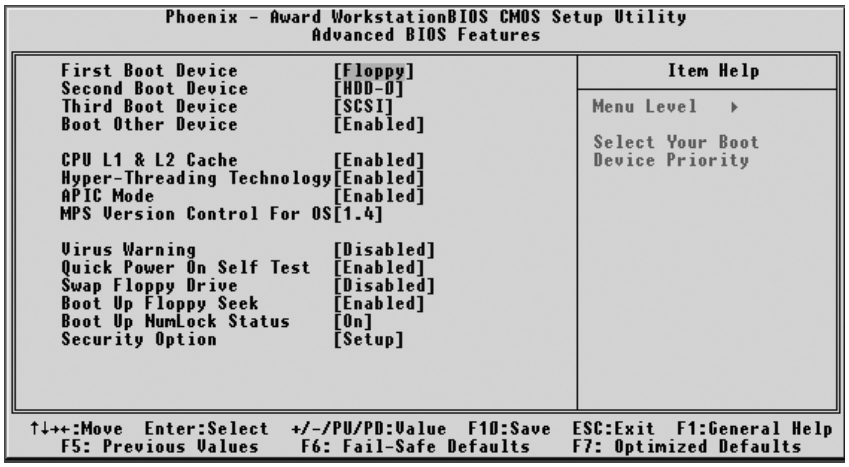
The Standard CMOS Features screen lets you reset time and date settings to suit your location. The IDE devices are autodetected, but you can change these settings manually if necessary. The floppy drive settings and other settings are standard defaults, that you can also change if necessary.



Standard CMOS Features Screen

Advanced BIOS Features

The Advanced BIOS Features screen configures boot options such as boot devices, boot order, various boot configurations and other power functions. Unless you fully understand the function of these settings, it is better to leave the default settings.



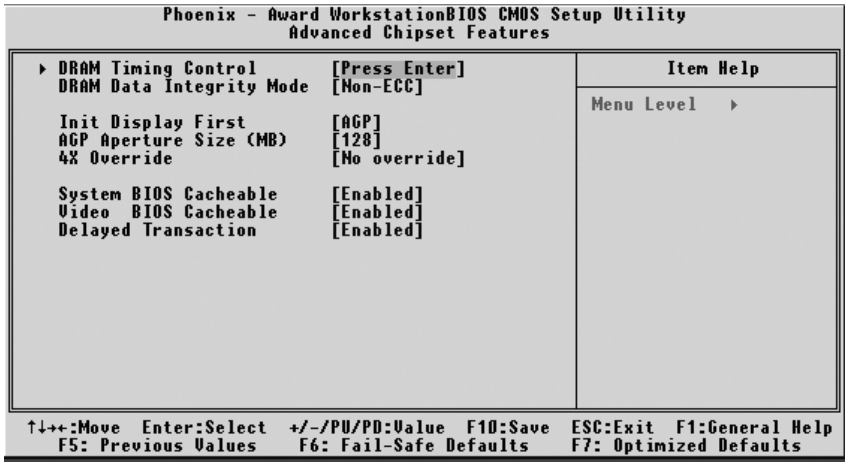
Advanced BIOS Features Screen

Note1: Please enable both the "Hyper-threading" and "APIC Mode" if you install a CPU with a speed higher than 3.06GB.

Note2: If you install the system bus as 100MHz CPU with micro.18 process, the system will recognize and post the CPU as 133 FSB!

Advanced Chipset Features

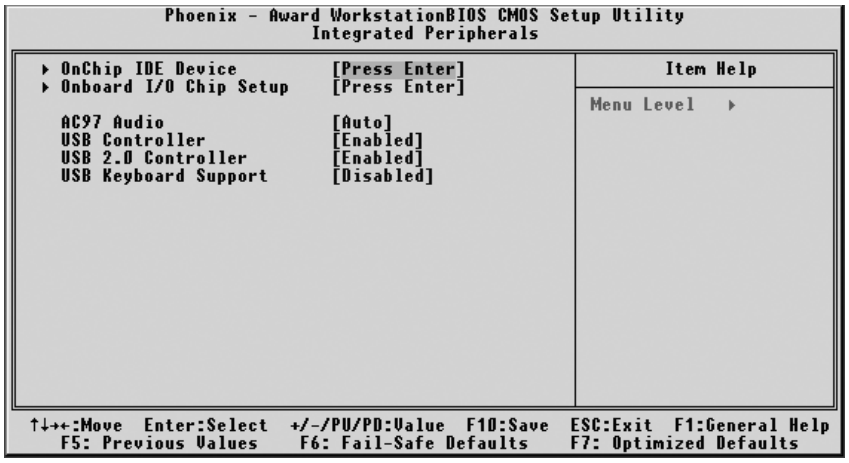
The Advanced Chipset Features screen configures the chipset, BIOS caching and the AGP. Unless you fully understand the function of these settings, it is recommended that you do not change the default settings.



Advanced Chipset Features Screen

Integrated Peripherals Screen

The Integrated Peripherals screen configures the peripheral features integrated onto the motherboard. The settings on this screen are all optimized defaults. The IDE settings are autodetected and the port settings are standard settings.

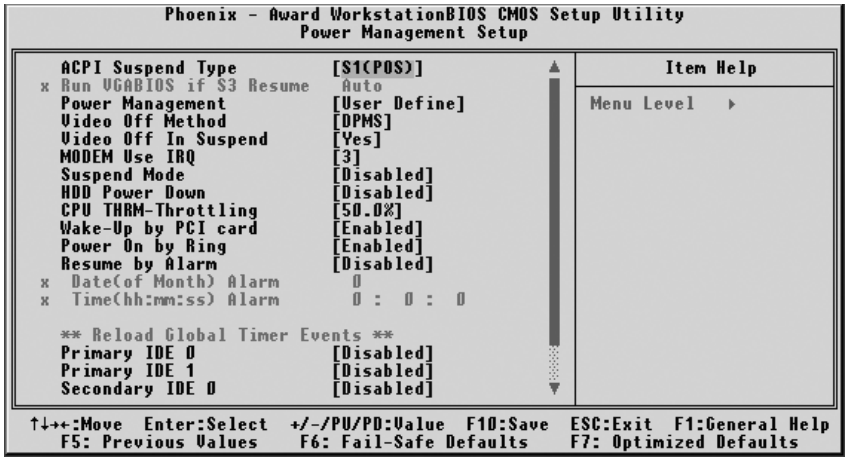


Integrated Peripherals Screen

Power Management Setup Screen

The Power Management Setup screen configures power management settings. The settings on this screen are all optimized defaults. Windows ACPI power management overrides most of these settings.

There are Minimum and Maximum configurations available in addition to the User Defined defaults. In User Defined mode you can customize all settings.

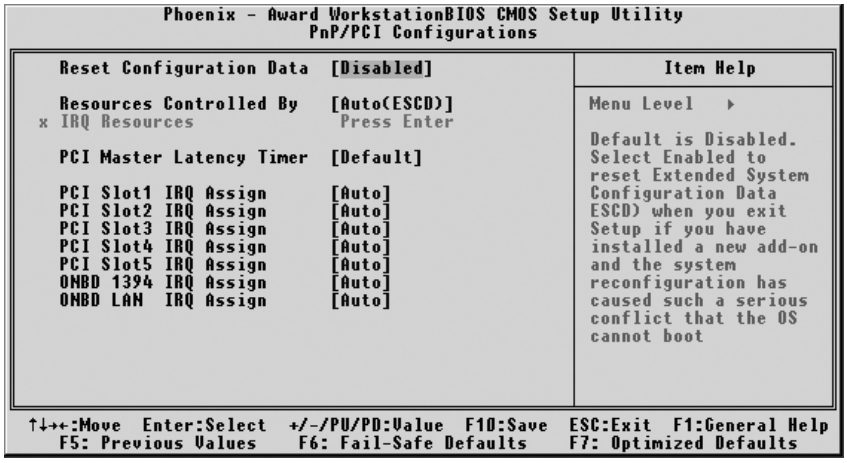


Power Management Screen

PnP/PCI Configurations

The PnP/PCI Configurations screen configures Plug and Play and other PCI bus settings. The default is for BIOS control of these functions.

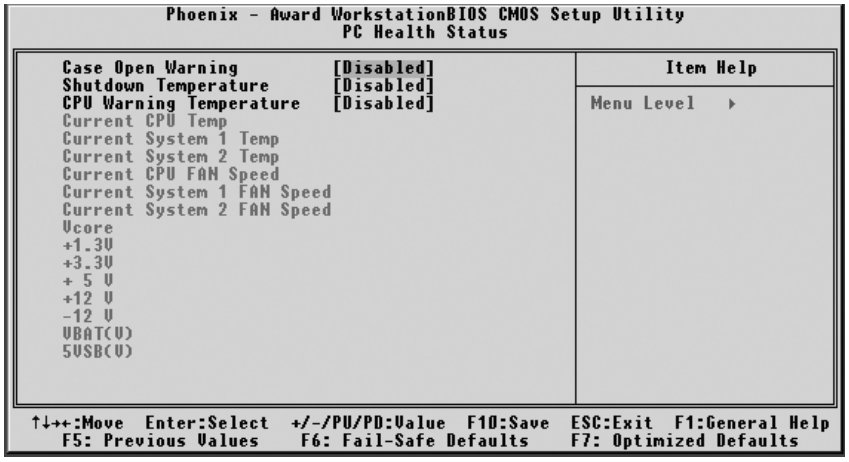
Set Reset Configuration Data to Enabled if a problem occurs after installing an expansion card. This rewrites the ESCD.



PnP/PCI Configurations Screen

PC Health Status

The PC Health Status screen displays system information such as CPU cooling fan speed and various voltage levels. This information is autodetected.

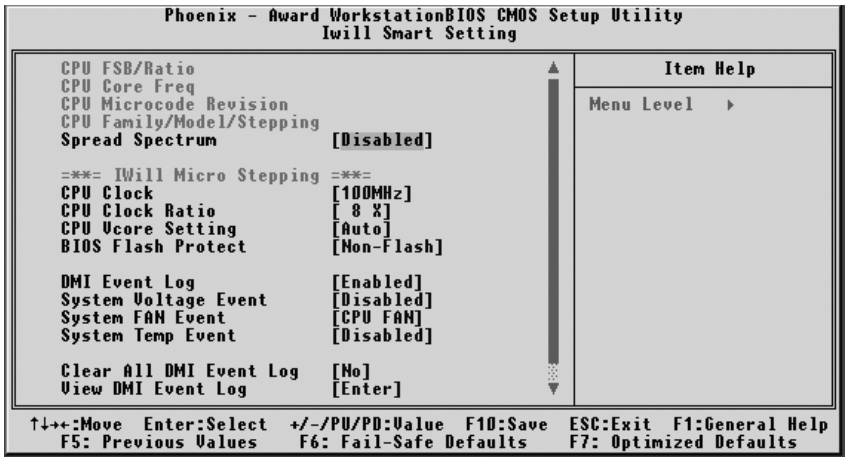


PC Health Status Screen

IWILL Smart Setting

The IWILL Smart Setting screen configures CPU settings. The default settings for the CPU are autodetected. You should not change these autodetected settings. Configuring CPU settings that are different than Intel specifications can damage the Intel CPU and void the CPU warranty.

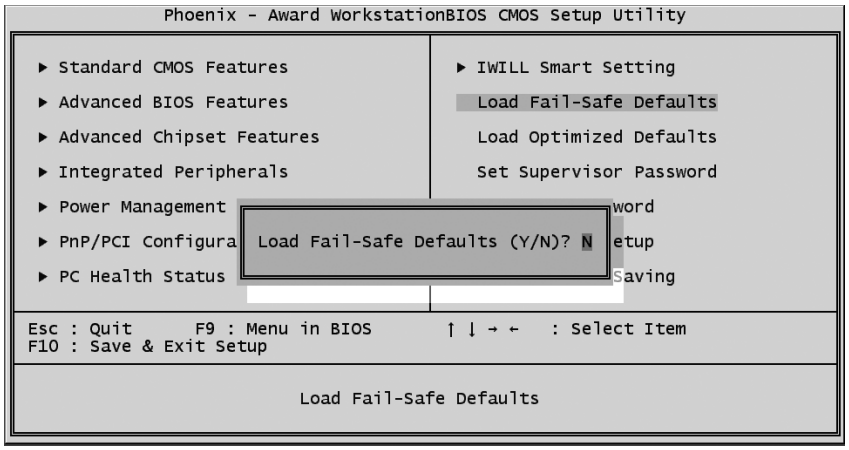
Enable the Spread Spectrum setting to reduce interference generated by the board circuitry.



IWILL Smart Setting Screen

Load Fail-Safe Defaults

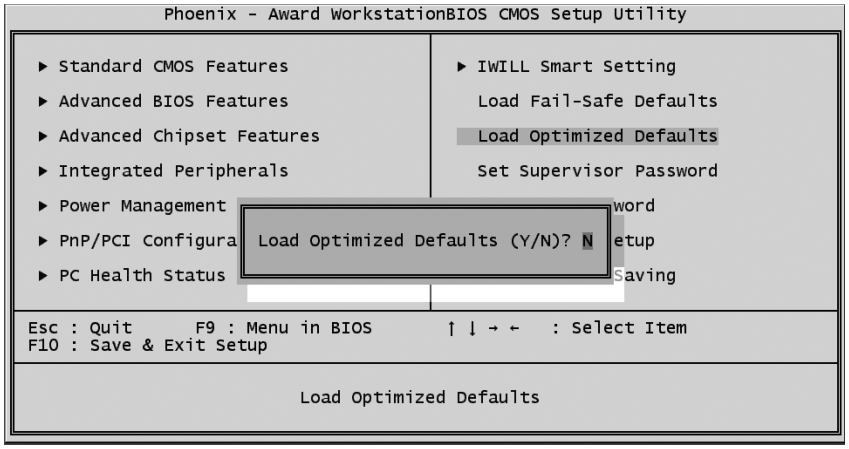
Selecting "Y" for this item loads the minimum set of configuration settings. The Fail-Safe Defaults let the system start for troubleshooting of hardware problems.



Load Fail-Safe Defaults

Load Optimized Defaults

Selecting "Y" after choosing this item loads the optimized set of default settings. Use these default settings if the configuration is corrupted or if a mistake is made in the configuration. You should also load these settings after performing the Clear CMOS procedure.



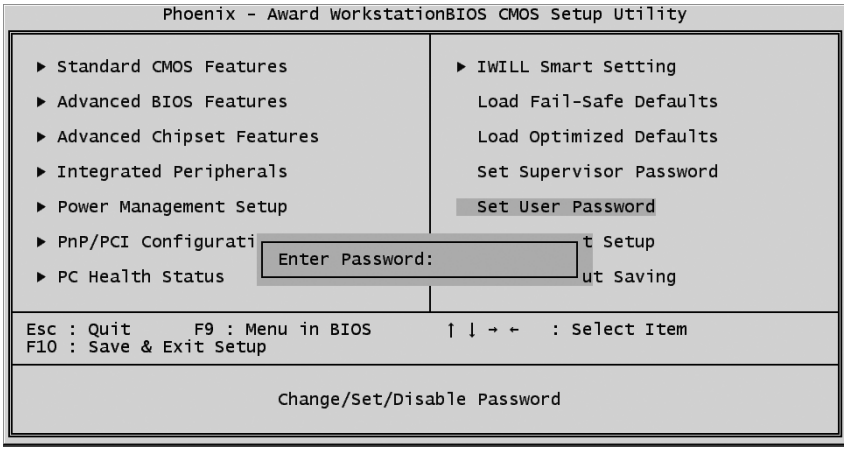
Load Optimized Defaults

Setting Supervisor/User Password

The Set Supervisor/User Password items let you set passwords for system access. The Supervisor password prevents access to the CMOS Setup Utility, the User password prevents access to the entire system.

Set a password as follows:

1 Choose either Set Supervisor Password item or the Set User Password item in the main screen and press Enter. A password dialog box appears.



Set User Password

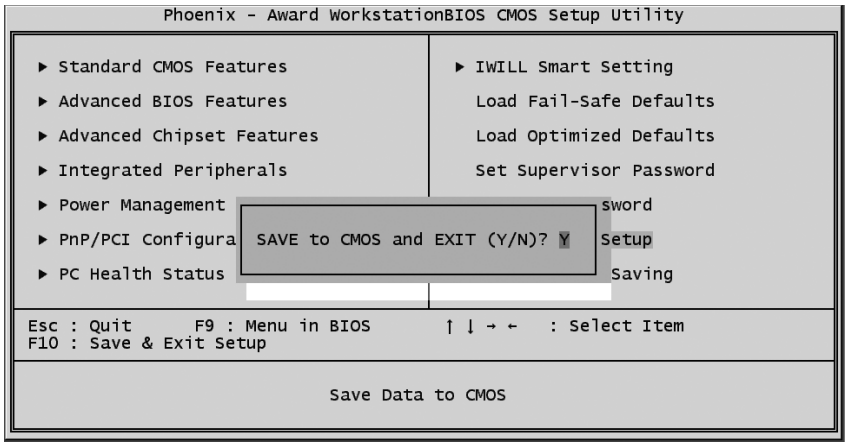
2 To enter a new password type in the password using no more than eight characters or numbers and press Enter. Note that passwords are case sensitive. To delete a password, press enter when the password dialog box appears.

3. A dialog box asks you to confirm the new password by typing it in a second time. Type the password again and press Enter, or just press Enter if you are deleting a password. The password is then recorded.

After bringing up the password dialog box you decide not to set a password, press the Enter key, not the Esc key, to exit the password dialog box.

Save & Exit Setup

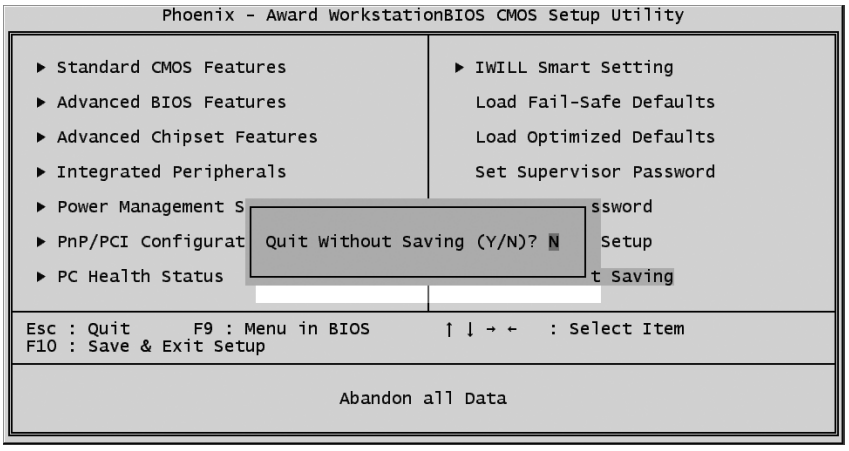
Entering "Y" and pressing Enter saves the current utility configuration as a new record, exits the utility and restarts the system using the saved configuration record.



Save & Exit Setup

Exit Without Saving

This item lets you exit the utility and restart the system without changing the saved configuration record.



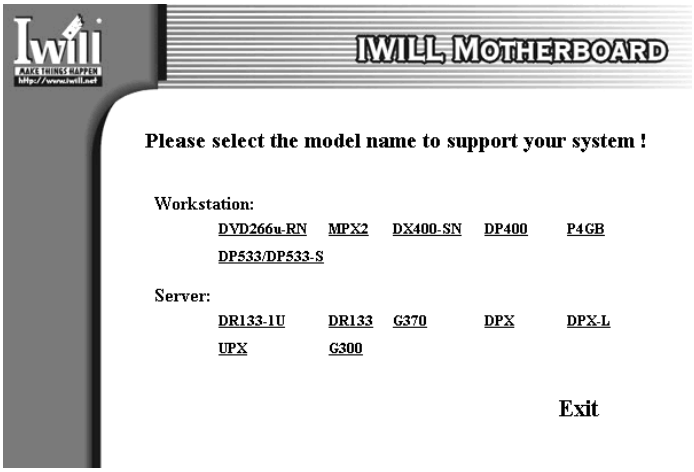
Exit Without Saving

5: Drivers and Utilities

The P4GB Series motherboard comes bundled with a Power Installer CD-ROM disc that includes driver and utility software. This chapter describes installing and using this software.

Running the Power Installer Disc

The Power Installer CD-ROM install interface runs under Microsoft Windows 9X, NT 4.0, 2000, or XP. After inserting the disc into your CD-ROM drive the install interface loads automatically. Choose model P4GB from the selections. If it does not load, run the Power Installer directly from the disc by running Setup.



Install Interface Screen

Drivers and Utilities Screen

This screen has five selections. Choose a selection to open its respective screen, which are described below. The **User's Manual** selection opens the motherboard documentation.

Choose **Exit** to leave this screen.

Drivers and Utilities Screen

Drivers Installation Screen

Click **Driver Installation** in the Drivers and Utilities screen and the Driver Installation screen appears. Choose drivers in sequence to open their respective install programs. Select the installation guides to review installation information. When you are finished click **Exit** to leave this screen.

Drivers Installation Screen

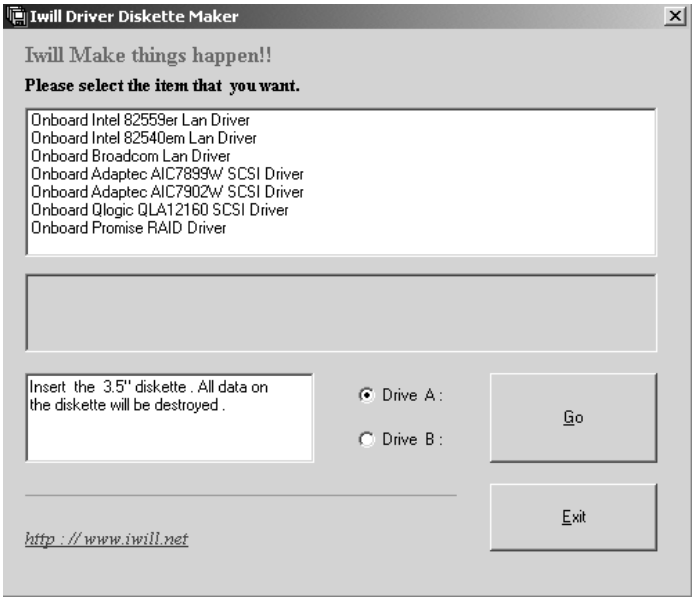
Software Utility Screen

Click **Software Utility** in the Drivers and Utilities screen and the Software Utility screen appears. To install the **Adobe Acrobat Reader** or **McAfee Anti-Virus** software packages, click on the item you wish to install and follow the instructions. Clicking on the **Hardware Monitor Utility** lets you install a program that gives access to information detected by the Winbond hardware monitor.

Software Utility Screen

Make Driver Screen

Click **Make Driver** in the Drivers and Utilities screen and the Make Driver utility screen appears. This utility gives you a convenient way to make driver floppy disks. You can use this utility to make driver disks for the Promise RAID driver and utility, LAN drivers, and SCSI drivers.



Make Driver Screen

6: Specifications

Technical specifications for the P4GB series of mother boards are listed below.

P4GB Motherboard

Processor

Single processor for Intel 478 Pentium 4
System Bus: 533 /400MHz
Support for Hyper-Threading Technology
Auto detects CPU type, external clock and multiplier.

CPU Power

Follows VRM 9.0 spec
VRD design
Supports Vcore output up to 60A

Memory

Dual Channel PC1600/PC2100 DDR SDRAM
Supports 128MB/ 256MB/ 512MB up to 1GB memory module for each DIMM socket
Two pair DIMMs (Four rows)
Supports ECC
Unbuffered DDR SDRAM
Supports 128Mb/256Mb/512Mb memory
Supports maximum memory of up to 4GB
Peak memory bandwidth of 4.2GB/s

Chipset

MCH : Granite Bay , 133 MHz
ICH4 : 266 MB/s
Firmware Hub
Winbond Super I/O : W83627HF

Graphics

AGP 8X/4X at 1.5V only
AGP 3.0 specification
AGP Pro
One Power connector for AGP Pro

PCI

Five 32bit PCI/33MHz slots
PCI 2.1/2.2 Compliant

LAN

On board LAN
Intel Kenai-32 GbE
One RJ-45 connector
One Wake on LAN connector

USB 2.0

Four USB 2.0 external port on the back panel (stacked)
One internal connector supports two USB2.0 ports for front panel

Audio

AC'97 software Sound
Analog Device AD1981A
One audio connector at rear panel to support LINE IN/ LINE OUT/MIC IN/SPDIF
One 4-pin CD-ROM Audio In header
One 4-pin AUX header

IEEE-1394

TI TSB43AB22 design in
Fully supports IEEE Std 1394a-2000
Cable port data rate at 100Mbs, 200Mbs and 400Mbs
Two internal connectors for the IEEE-1394 bracket

General I/O

Two IDE connectors (Bus Master with Enhanced) to support Ultra DMA 33/ATA66/ATA100 IDE drives and ATAPI compliant devices
One Floppy Controller for up to two drives
Two UART connectors, one on the rear I/O panel, the other internal connector is on the board.
One 25pin ECP/EPP Parallel Port
One PS/2 Keyboard
One PS/2 Mouse
One internal Smbus connector
One internal WOL connector

BIOS

Phoenix BIOS
4Mb Flash ROM (FWH)
Flash write Protection for BIOS
Support ACPI S1, S3 and S4
BIOS feature set
BIOS event logging feature set
BIOS setup features
Auto configuration for IDE hard disk types
Multiple boot options

Power Supply

ATX 12V/EPS 12V Power Supply

System Management

Winbond hardware monitor
One 3-pin CPU Fan header with fan speed detect
Two 3-pin Chassis Fan headers with fan speed detect
Two temperature sensors
Eight Voltage monitoring (Vcore, +1.3V, +3.3V, +5V, +12V, -12V, Battery, 5VSTB)
One 2-pin Chassis intrusion header

Form Factor

ATX Form Factor
EPS12V/ATX 12V power connectors
Stacked PS/2 Mouse/Keyboard ports
Stacked 4 USB2.0 ports
Stacked one Serial, One S/PDIF and one Parallel ports
One RJ45 LAN port with LED
Audio Line-in, Line-out and Microphone

Other

Support AC power failure
Spec
1. ACPI 1.1
2. PC2001
3. APM 1.2
4. SMBIOS 2.3
5. BIOS boot Spec. 1.01
6. WfM 2.0
7. DMI 2.0

Approvals

FCC class B Product safety IEC60950, EN60950,
CE mark 89/336/ECC(EMV) and acc. To EU