# Chapter 1: Introduction

Welcome

Congratulations on purchasing the P6IWP-Fe mainboard.

The P6IWP-Fe mainboard is a Flex-ATX mainboard that uses 4-layer printed circuit board and measures 228mm x 190mm. The mainboard has a socket-370 for a Celeron or other socket-370 compatible processor. The board can be manufactured with two different chipsets. The P6IWP-Fe/i810 is installed with the Intel 810 chipset and the P6IWP-Fe/i810e is installed with the enhanced Intel 810e chipset. The mainboard has built-in 3D graphics, 3D sound, and a V.90 modem. The board features built-in networking and a port is included for an ethernet network cable. Two 32-bit PCI expansion slots are provided plus a TV-Out/LCD Panel Riser slot. Two DIMM sockets are available for the installation of up to 512 MB SDRAM memory. This mainboard is an ideal platform for an inexpensive entry level or business class multimedia personal computer.
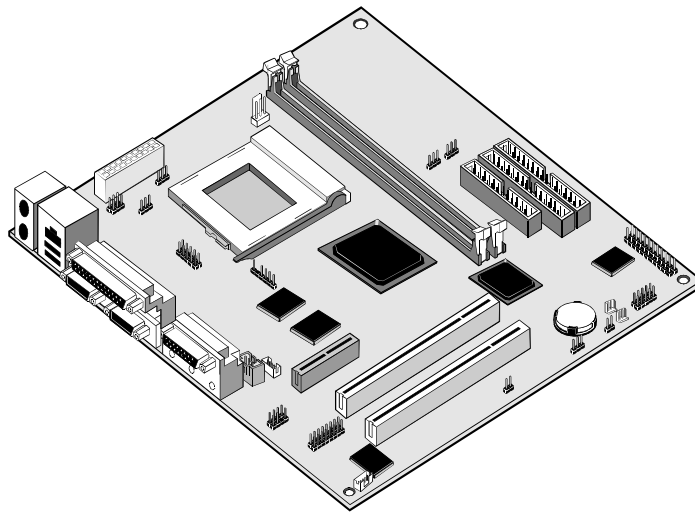
This chapter contains the following information:

❑ **About the Manual** explains how the information in this manual is organized
❑ **Checklist** comprises a list of the standard and optional components that are shipped with this mainboard
❑ **Recommendations** lists some Do's and Don'ts from the manufacturer to help ensure reliability and performance from this product
❑ **Features** highlights the functions and components that make this one of the best value mainboards on the market

About the Manual

The manual consists of the following chapters:

Introduction

Use the **Introduction** Chapter to learn about the features of the mainboard, and the checklist of items that are shipped with the package.

Installation

Use the **Installation** Chapter to learn how to install the mainboard and get your system up and running.

Setup

Use the **Setup** Chapter to configure the mainboard for optimum performance.

Software

Use the **Software** Chapter to learn how to use the software drivers and support programs that are provided with this mainboard.

Checklist

Compare the contents of your mainboard package with the standard checklist below. If any item is missing or appears damaged, please contact the vendor of your mainboard package.

Standard Items

- ✔ 1 x P6IWP-FE Mainboard
- ✔ 1 x Cable/Bracket Pack
            Diskette drive ribbon cable
            IDE drive ribbon cable
- ✔ This User's Manual
- ✔ Software Support CD-ROM Disc

Optional items

- ✔ 1 x V.90 Fax/modem Card
- ✔ 1 x TV-Out Riser Card

Recommendations

This mainboard automatically determines the CPU clock frequency and system bus frequency for the kind of processor that you install. You may be able to change these automatic settings by making changes to jumpers on the mainboard, or changing the settings in the system setup utility. We strongly recommend that you do not overclock the mainboard to run processors or other components faster than their rated speed.

Overclocking components can adversely affect the reliability of the system and introduce errors into your system. Overclocking can permanently damage the mainboard by generating excess heat in components that are run beyond the rated limits.

Components on this mainboard can be damaged by discharges of static electricity. Handle the board carefully holding it by the edges. Don't flex or stress the circuit board. Keep the board in its static-proof packing until you are ready to install it. Follow the static guidelines given at the beginning of Chapter 2.

Features

The key features of this mainboard are the wide range of processors that can be installed, and the high level of integration which includes built-in audio, video, networking, and communications.

Value-class Processors

Functioning as a platform for a value PC, the P6IWP-Fe features a socket-370. Currently the socket-370 can be installed with a PPGA (Plastic Pin Grid Array) Celeron processor. The PPGA Celeron has 32k of internal cache memory, 128K of external cache memory, and operates over a 66 MHz system bus. The PPGA Celeron ships with clock speeds running from 300 MHz through to 466 MHz. The PPGA Celeron is the premiere choice for an entry-level PC.

New, faster processors are planned for use by socket-370 mainboards. The P6IWP-Fe is designed to support the next generation of socket-370 processors. The P6IWP-Fe/i810 has support for a 100 MHz front side bus (FSB) and the P6IWP-Fe/i810e supports 100 MHz and 133 MHz front side buses.

Intel's 810 Chipset

This board features the 810 and 810e chipsets from Intel. The 810/810e chipset is designed to reduce the cost and improve the multimedia capability of value PCs. The chipset features an integrated AGP (Accelerated Graphics Port) graphics controller that is optimized to produce smooth rendition of 2D and 3D video. The graphics controller improves performance and reduces cost by dynamically allocating a segment of active memory as video memory. The 810e chipset supports 4 MB of display cache memory. Display cache memory improves video performance for demanding 3D graphics applications.

The 810/810e I/O chip (82801 I/O Controller Hub) makes a direct connection between the graphics system and the IDE controller and the PCI bus. It uses Accelerated Hub Architecture to effectively double the bandwidth between these components enabling more life like audio and video. It includes an integrated Audio-Codec controller (AC97) that lets the processor more effectively decode sound generated by the integrated audio system or the integrated fax/modem. Finally, the P82802 Firmware Hub allows the system and video BIOS to be stored (eliminating the need for non-volatile CMOS memory) for faster execution, and provides a random number generator to enable strong encryption routines.

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The enhanced 810e chipset has three additional features compared to the 810 chipset: support for 4 MB display cache memory, support for 133 MHz FSB, and support for UDMA 66.

Inexpensive Memory

The board has two DIMM sockets for the installation of 168-pin, 3.3V non-buffered DIMM memory modules. The DIMM memory modules must be installed with SDRAM memory chips. The P6IWP-Fe/i810 board supports a memory bus of 100 MHz and the P6IWP-Fe/i810e board supports a memory bus of 100 MHz and 133 MHz. Each installed memory module can be populated with 8 MB up to 256 MB of memory, so a maximum total of 512 MB memory can be installed. The integrated video system uses a shared memory architecture so that you must reserve some of the installed memory as video memory using the system BIOS. You must install at least one memory module, and the first memory module is installed in DIMM1.

Highly Integrated Design

As well as the Intel 810/810e chipset, the P6ITW-A+ features other highly integrated silicon chips. The ITE LPC I/O controller handles the mainboard's I/O functions. The CMI 8738/PCI C3DX is a two-chip solution that provides an integrated audio and fax/modem system.

Built-in AGP 3D-Graphics

The Intel 810/810e chipset includes an integrated AGP controller that is optimized for smooth 2D and 3D video. The graphics system shares active memory and does not require dedicated video memory. Video is delivered through a regular 15-pin connector. The P6IWP-Fe/i810e is installed with 4 MB of display cache memory. The display cache memory improves the video performance of 3D and virtual reality graphics applications.

Built-in PCI 3D Sound

The Elite PCI Audio CMI 8738 is a single chip solution for PCI-bus 3D audio. The chip provides Sound Blaster 16-bit-compatible audio, plus support for Microsoft's DirectSound 3D specification and Aureal A3D interface. The sound ports include jacks for speakers, microphone and stereo in, and a game/MIDI port. The audio system supports full duplex operation and drivers are available for WIN 95/98 and WIN NT 4.0. The audio system can output sound to 4 loudspeakers and also supports SPDIF 24-bit digital sound input and output.

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Built-in Network Adapter

The integrated network adapter supports twisted-pair ethernet networking using 10BaseT or 100BaseTX technology. The adapter supports PCI power management Ver. 1.0a routines such as On-Now and Wake On LAN. Remote booting is supported for networks using Novell, Windows NT, or OS/2. Driver support is provided for Windows 95/98, Windows NT 4.0, Windows 2000, OS/2, Netware, ODI, SCO Unix, and Linux.

Built-in V.90 Fax/modem (DAA Module is optional)

The P6IWP-Fe mainboard has a built-in 56 Kbps fax/modem that supports the V.90 protocol. The chip is integrated with the built-in audio system to support voice as well as data transmissions. In order to use the built-in fax/modem, you must install a DAA module that supplies the RJ11 sockets for LINE and TELEPHONE.

Expansion Options

The P6IWP-Fe mainboard is pre-installed with features such as audio, video, networking and an optional DAA module for a modem, that normally require add-in cards, so the two 32-bit PCI slots provide plenty of expansion potential. The P6IWP-Fe/i810e PCI slots support UDMA 66 bus mastering. The mainboard also has TV-Out and LCD Riser slot for exporting the system video output to an external TV receiver or LCD panel.

Integrated I/O

The mainboard has a full set of I/O ports and connectors. The I/O template on the backplane includes two PS/2 ports for mouse and keyboard, one serial port, one parallel port, one VGA monitor port, one RJ45 socket for an ethernet cable, one game/MIDI port, two USB ports and audio jacks for microphone, line-in and line-out. The board has a header for the optional installation of an IR port, a second serial port, and 24-bit digital audio. The board includes two PCI IDE channels and a floppy disk drive interface.

Keyboard Power On Feature

Using the system BIOS setup program, you can configure the system to turn on using a keyboard-typed password. A green keyboard is not required.

Programmable Firmware

The mainboard includes Award BIOS that allows BIOS setting of CPU parameters. The fully programmable firmware enhances the system features and allows users to set power management, CPU and memory

timing, LAN and modem wake-up alarms, and so on. The firmware can also be used to set parameters for different Celeron processor clock speeds so that you don't need to change mainboard jumpers and switches.

Chapter 2: Installation

Quick Installation Table

This chapter explains how to successfully install the mainboard into a computer case and build a working system. The installation procedure is as follows:

Quick Jumper Setting Reference
Provides a quick reference for the jumper settings on this mainboard.

Before you Begin
Provides advice on choosing a case, avoiding static electricity damage, and setting jumpers.

Preparing the Mainboard
Provides a guide to the mainboard and I/O port locations, full details on the jumper settings, and advice on installing the mainboard in the system case.

Install Other Hardware
Provides guidance on installing essential hardware: processor, memory, hard disk drive, CD-ROM, floppy disk drive, and expansion cards.

Make the External Connections
Provides advice on using the external I/O ports to install peripheral devices such as a keyboard, a monitor, a mouse, a printer, loudspeakers, and so on.

Quick Jumper Setting Reference

If you are familiar with most of the material in this chapter, you can begin preparing the mainboard for installation by using this quick reference to begin the setting the jumpers. A detailed description of the jumper setting appears later in this chapter.

JP1: Clear CMOS memory jumper
Use this 3-pin jumper top clear all the current data stored in the CMOS memory.

Function	Jumper Cap
Normal operation	Short pins 1-2
Clear CMOS	Short pins 2-3

JP1 1 2 3

JP2: Keyboard power on jumper
Use this 3-pin jumper to enable keyboard power on with hot keys or password.

Function	Jumper Cap
Disable keyboard power on	Short pins 1-2
Enable keyboard power on	Short pins 2-3

JP2 1 2 3

JP3: Force 100 MHz front side bus jumper
Use this jumper to disable the automatic detection of the correct front side bus, and force the system to run with a 100 MHz front side bus.

Function	Jumper Cap
Normal operation	Short Pins 1-2
Force 100 MHz FSB	Short pins 2-3

JP3 1 2 3

JP4: Force 133 MHz front side bus jumper
Use this jumper to disable the automatic detection of the correct front side bus, and force the system to run with a 133 MHz front side bus. **This jumper only functions on the P6IWP-Fe/i810e mainboard.**

Function	Jumper Cap
Normal operation	Short Pins 1-2
Force 133 MHz FSB	Short pins 2-3

JP4 1 2 3

PANEL1: Panel connectors for switches and indicators

Use the panel connector to implement the switches and indicators on your system case.

Function	Pins
Speaker	1, 3, 5, +7
Power Indicator	+2, +4, 6
Keylock	8, 10
Green Indicator	+13, 14
Hard Disk Indicator	+15, 16
Reset Switch	17, 18
Suspend Switch	19, 20
Power Switch	21, 22

22 21

● ● Power SW
● ● Suspend SW
● ● Reset SW
● ● HDD LED
● ● Green LED
● ●

KeyLock ●

● ●

● ●

Power LED ● ● Speaker

● ●

2   1

PANEL1

Before You Begin

Before you begin to install your P6IWP-FE mainboard, take some precautions to ensure that you avoid the possibility of damage to the product from static electricity. Ensure too that you are installing the mainboard into a suitable case.

Static Electricity

In adverse conditions, static electricity can accumulate and discharge through the integrated circuits and silicon chips on this product. These circuits and chips are sensitive and can be permanently damaged by static discharge.

♦ If possible wear a grounding wrist strap clipped to a safely grounded device during the installation.

♦ If you don't have a wrist strap, discharge any static by touching the metal case of a safely grounded device before beginning the installation.

♦ Leave all components inside their static-proof bags until they are required for the installation procedure.

♦ Handle all circuit boards and electronic components carefully. Hold boards by the edges only. Do not flex or stress circuit boards.

Choosing a Case

The mainboard complies with the specifications for the FlexATX system case, although it can also be installed in most micor-ATX case designs. The FlexATX specifications include a maximum size of 9.0" x 7.5" (229mm x 191mm), a reduced number of expansion slots, and support for a smaller power supply unit.

Some features on the mainboard are implemented by cabling connectors on the mainboard to indicators and switches on the system case. Ensure that your case supports all the features required. The P6IWP-FE mainboard can support one or two floppy diskette drives and four enhanced IDE drives. Ensure that your case has sufficient power and space for all the drives that you intend to install.

The mainboard has a set of I/O ports on the rear edge. Ensure that your case has an I/O template that supports the I/O ports and expansion slots.

How to Set Jumpers

A jumper consists of two or more pins mounted on the mainboard. Some jumpers might be arranged in a series with each pair of pins numbered differently. Jumpers are used to change the electronic circuits on the mainboard. When a jumper cap is placed on two jumper pins, the pins are SHORT. If the jumper cap is removed (or placed on just a single pin) the pins are OPEN.

OPEN

SHORT

This illustration shows a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.
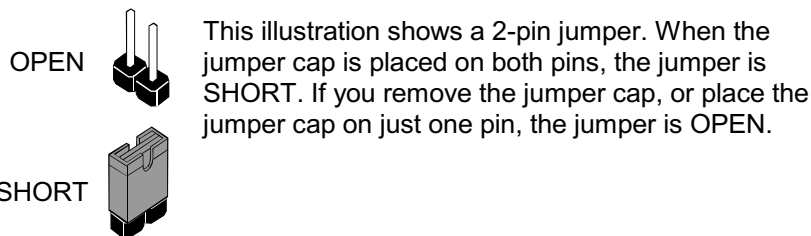
This illustration shows a 3-pin jumper. The jumper cap is placed on pins 2 and 3, so this jumper setting is SHORT PINS 2-3.
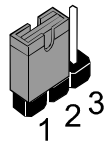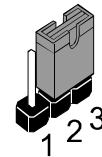
This illustration shows the same 3-pin jumper. The jumper cap is placed on pins 1 and 2, so this jumper setting is SHORT PINS 1-2.

In this manual, all the jumper illustrations clearly show the pin numbers. When you are setting the jumpers, make sure that the jumper caps are placed on the correct pins to select the function or feature that you want to enable or disable.

Preparing the Mainboard

Mainboard Guide

Use the following illustration and key to identify the components on your mainboard.
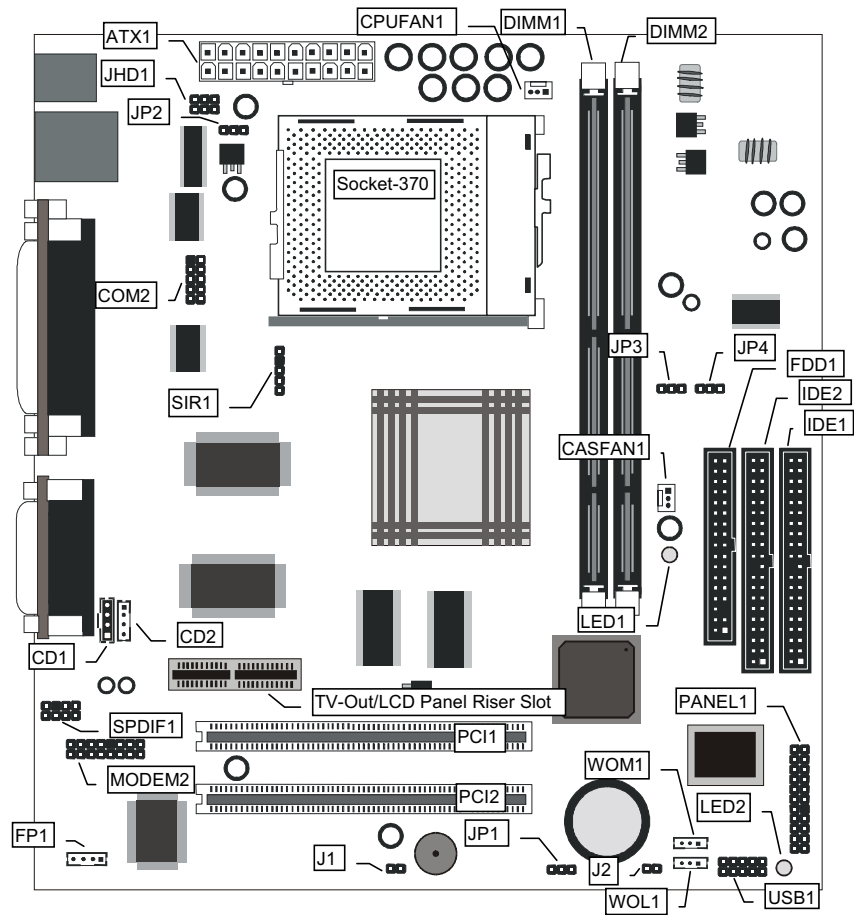
Key to Mainboard Components

Component	Description
Socket-370	Socket for PPGA Celeron Processor
PCI 1, 2	Two 32-bit PCI Slots
TV-Out/LCD Panel Riser	Slot for a TV-Out/LCD Panel Riser card.
DIMM 1, 2	Two slots for 168-pin SDRAM memory module
FDD1	Connector for floppy disk drives
IDE1, IDE2	Primary and secondary IDE channels
ATX1	Connector for ATX power supply
SIR1	Connector for optional infrared port
PANEL1	Panel connector for switches and indicators
WOM1	Connector for modem wake up
WOL1	Connector for LAN wake up
USB1	Connector for auxiliary USB ports
SPDIF1	SPDIF In/out connector (24-bit digital audio interface)
*LED1	3VSB LED for SDRAM
**LED2	Power LED
COM2	Connector for serial port 2/4
CASFAN1	Power connector for case cooling fan
CPUFAN1	Power connector for CPU cooling fan
MODEM2	Connector for modem DAA module
CD1	Audio connector for CD-ROM/DVD drive
CD2	Auxiliary audio connector for CD-ROM/DVD drive
JHD1	Auxiliary keyboard connector
FP1	Auxiliary microphone and speaker out
J1	Chassis open detect connector
J2	Connector for two-color LED
JP1	Clear CMOS memory jumper
JP2	Keyboard power on jumper
JP3	Force system bus frequency to 100 MHz jumper
JP4	Force system bus frequency to 133 MHz jumper

*LED1

This red indicator turns on if your system is suspended to RAM. In a
suspend to RAM, the system turns off most of the power-consuming
components except for the 3.3V required to refresh the memory. If LED1
is turned on, it warns you that the computer is still active and you should
not carry out any work on the mainboard.

***LED2*

This green indicator turns on whenever the system is turned on. It warns you that the system is active and you should not carry out any work on the mainboard.

I/O Ports Side View
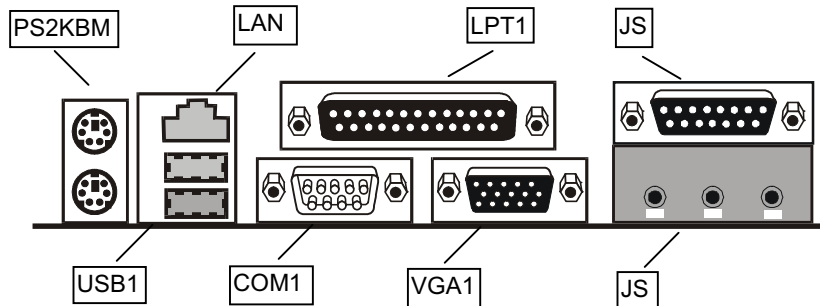
Key to I/O Ports

Component	Description
PS2KBM	PS/2 port for pointing device (upper port)
	PS/2 port for keyboard (lower port)
LAN	RJ45 socket for network cable
LPT1	External parallel port
JS (Upper)	External game/MIDI port
JS (Lower)	Audio jacks for (from left to right) line out, line in, microphone
VGA1	External monitor port
COM1	External serial port COM1/3
USB1	Two stacked Universal Serial Bus ports

Check the Jumper Settings

Check all the mainboard jumpers to ensure that the board is configured correctly.
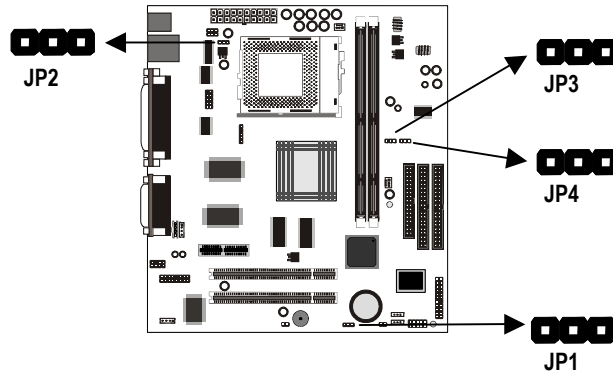
JP1 Clear CMOS Memory Jumper

This jumper lets you erase the system setup settings that are stored in CMOS memory. You might need to erase this data if incorrect settings are preventing your system from operating. To clear the CMOS memory, turn off the system, disconnect the power cable from the mainboard, and short the appropriate pins for a few seconds.

Function	Jumper Cap
Normal Operation	Short pins 1-2
Clear CMOS	Short pins 2-3
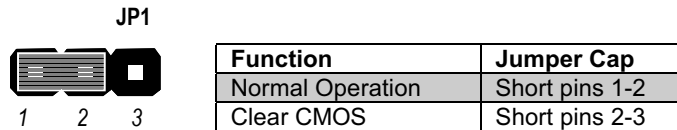
JP2: Keyboard Power On Jumper

This jumper lets you use a typed-in password as a power switch to turn your system on. If you enable this property, you need to define the password or the hot keys using the setup utility. See Chapter 3.

Function	Jumper Cap
Disable keyboard power on	Short pins 1-2
Enable keyboard power on	Short pins 2-3

JP3: Force 100 MHz Front Side Bus Jumper

Use this 3-pin jumper to disable the automatic detection of the correct front side bus (FSB), and force the system to run with a 100 MHz front side bus.

JP3

Function	Jumper Cap
Normal operation	Short pins 1-2
Force 100 MHz FSB	Short pins 2-3

1   2   3

JP4: Force 133 MHz Front Side Bus Jumper

Use this 3-pin jumper to disable the automatic detection of the correct front side bus (FSB), and force the system to run with a 133 MHz front side bus.

Function	Jumper Cap
Normal operation	Short pins 1-2
Force 133 MHz FSB	Short pins 2-3

JP4
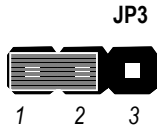
1   2   3

Install the Mainboard in the Case

The mainboard is drilled with a series of holes. Most system cases have mounting brackets installed in the case which correspond to the holes in the mainboard. You can secure the mainboard in the system case by placing the mainboard over the mounting brackets and driving screws through the mainboard into the mounting brackets.

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

Note: Do not overtighten the screws as this can stress the mainboard.

The illustration below shows a mainboard installing in a standard desktop case.
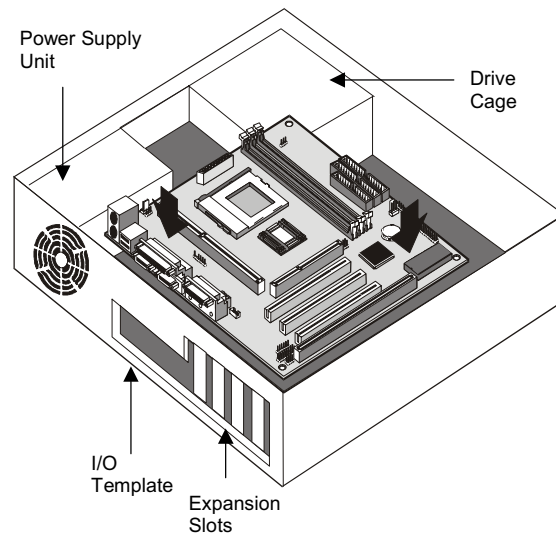
The illustration below shows the mainboard installing into a tower-type case.

Power Supply
Unit

Drive
Cage

I/O
Template

Expansion
Slots
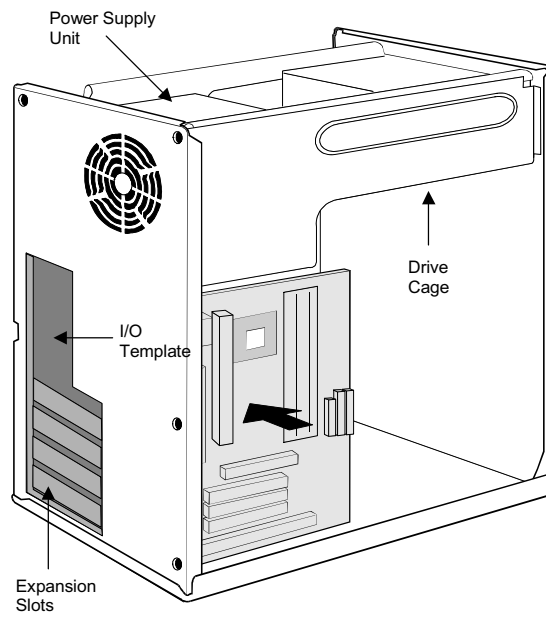
Connecting Power, Chassis Fans, and Switches and Indicators

After you have installed the mainboard into the system case, connect the power cable from the case power supply unit to the mainboard power connector ATX1. Connect the chassis/CPU fans (if your case has them) to the 12V power supply connectors CASFAN1or CPUFAN1 on the mainboard. Then connect the case switches and indicators to the PANEL connector and the J2 LED connector on the mainboard. Finally connect the case open detection alarm to the J1 connector on the mainboard.
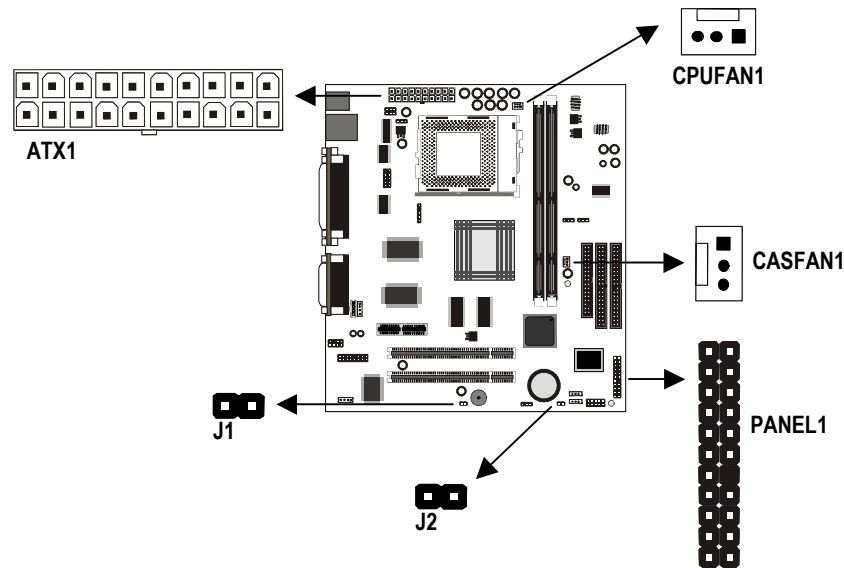
Power Connector

Locate the power cable from the case power supply unit and plug it into the ATX1 power connector.

Chassis and CPU Fans

If your case has a cooling fan installed in the chassis, plug the cable from the chassis-mounted fan into the mainboard 12V power supply connector CASFAN1. If your CPU has a cooling fan, plug the cable into the 12V power supply connector CPUFAN1.

Case Open Detect Alarm

If your case has an alarm circuit to detect if the system chassis has been opened, connect the cable from the alarm into the mainboard case open detect circuit through the 2-pin connector J1.

Green LED Connector

If your case has a dual color indicator lamp for the ACPI Green suspend mode, connect the cable from the indicator to the J2 dual color LED connector.

Panel Connector

The mainboard PANEL connector has a standard set of switch and indicator connectors that are commonly found on ATX system cases. Use the illustration below to make the correct connections to the case switches and indicators.

Function	Pins
Speaker	1, 3, 5, +7
Power Indicator	+2, +4, 6
Keylock	8, 10
Green Indicator	+13, 14
Hard Disk Indicator	+15, 16
Reset Switch	17, 18
Suspend Switch	19, 20
Power Switch	21, 22

PANEL1   22 21

Power SW 21-22
SMI Button 19-20
Reset SW 17-18
HDD LED 15-16
KeyLock 8-10
Power LED 2-4-6
Speaker 1-3-5-7

2   1
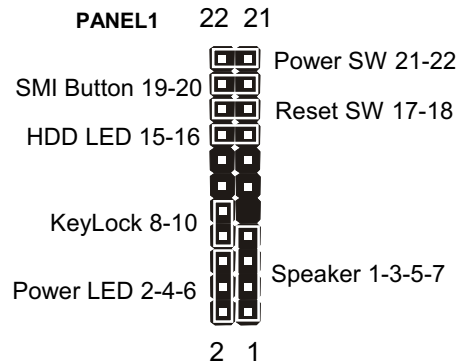
Install Other Hardware

Start installing the essential hardware required to get your system started.

Install the Processor

This mainboard has a Socket-370 processor socket. To choose a processor, you need to consider the performance requirements of the system and also the price of the processor. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory. Higher clock speeds and larger amounts of cache memory deliver greater performance.

About Socket-370 Processors

Currently the socket-370 only supports the Intel PPGA Celeron processor. However, other manufacturers may release socket-370 processors in the future. Intel have plans to release a more powerful socket-370 processor. Ask your board vendor for an up-to-date list of processors that are supported by this mainboard.

Intel PPGA Celeron

PPGA stands for Plastic Pin Grid Array. This is a description of the square plastic package that the processor is embedded in. The PPGA Celeron is identical to the SEPP Celeron, except for the external packaging. PPGA Celerons run at clock speeds from 366 MHz through to 600 MHz. All the current PPGA Celerons operate over a 66 MHz system bus. The PPGA Celeron is less expensive than a SEPP Celeron with the same clock speed.

New Processors

This board is designed to support some future processors that have not yet been released. Ask your mainboard vendor for an up-to-date list of processors that can be installed on this mainboard.

Installing a Socket-370 Processor

To install the mainboard with a PPGA Celeron processor, follow the
steps below.

Locate the Socket-370 and CPUFAN1
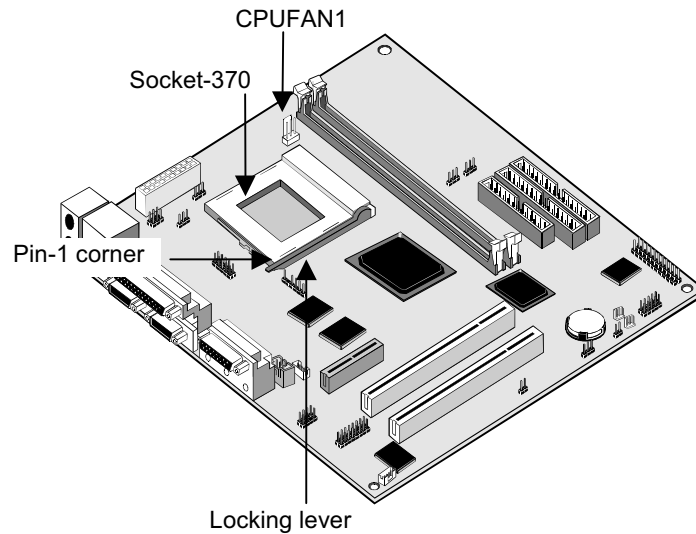
1. On the mainboard, locate the socket-370 and CPUFAN1.
2. On the socket-370, pull the locking lever away from the socket to
    unhook it and then raise the locking lever to the upright position.
3. Identify the pin-1 corner on the socket-370 and the pin-1 corner on
    the processor. The socket pin-1 corner is adjacent to the handle of
    the locking lever. The processor pin-1 corner is beveled.
4. Matching the pin-1 corners, drop the processor into the socket. No
    force is required and the processor should seat into the socket easily.
5. Swing the locking lever down and hook it under the latch on the
    edge of the socket. This locks the processor in place.
6. Locate the power cable on the heatsink/cooling fan assembly that is
    attached to the top of the processor.
7. Plug the power cable into the CPUFAN1 12V power supply on the
    mainboard.

Cooling fan
power cable

CPUFAN1 cooling
fan power supply

Socket-370 processor
with heatsink/cooling
fan assembly

Socket-370 with
locking lever in
upright position
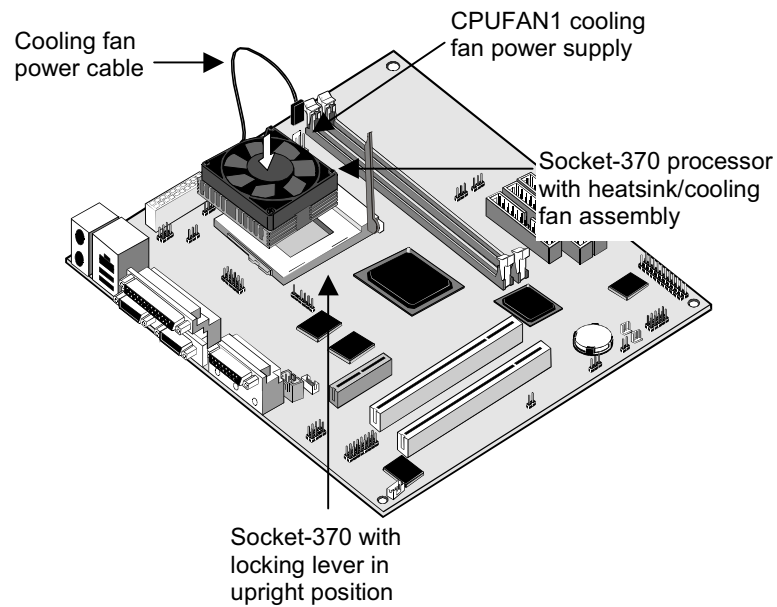
The mainboard must be configured to deliver the correct clock speed and the correct system bus for the kind of processor that you have installed. You can do this by using the system setup utility. The first time you start the system, immediately enter the setup system and make the appropriate settings. Usually, you can automatically configure the CPU by using the CPU & BIOS Features page of the setup utility. See Chapter 3 for more information.

Install the Memory Modules

For this mainboard, you must use 168-pin 3.3V non-buffered Dual In-line Memory Modules (DIMMs). The memory chips must be standard or registered SDRAM (Synchronous Dynamic Random Access Memory). The memory bus can run at 66 MHz or 100 MHz/133 MHz. If your processor operates over a 100/133 MHz system bus, you must install PC-100 or PC133 memory that also operates over a 100/133 MHz bus. If you install a processor that operates over a 66 MHz bus, you can install memory chips that operate at 66 MHz.

There are two slots for memory modules. You must install alt least one module, and it makes no difference which slot you use to install the module. Each model can be installed with from 8 MB to 256 MB of memory, so total memory capacity is 512 MB. The mainboard supports memory chips that have EC (Error Correction) or ECC (Error Correction Code).

1. Locate the DIMM slots on the mainboard.
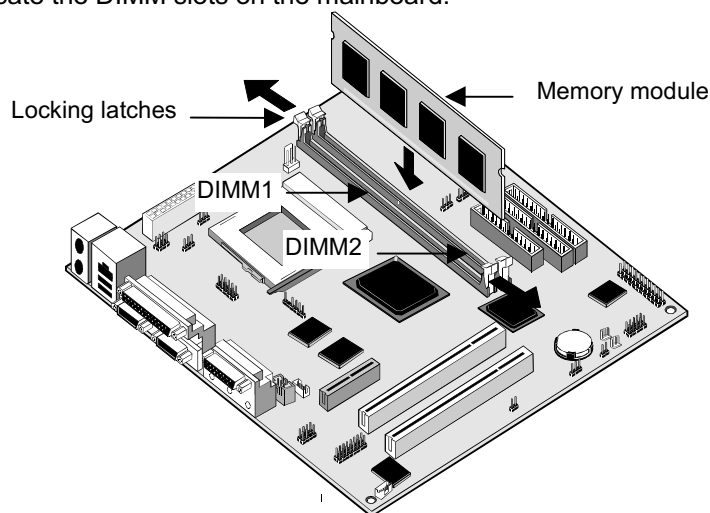
2. The DIMM slots are keyed with notches and the DIMMs are keyed with cut-outs so that they can only be installed correctly. Check that the cut-outs on the DIMM module edge connector match the notches in the DIMM slot.
3. Push the latches on each side of the DIMM slot down.

4. Install the DIMM module into the slot and press it carefully but firmly down so that it seats correctly. The latches at either side of the slot will be levered upwards and latch on to the edges of the DIMM when it is installed correctly.

Install a Hard Disk Drive and CD-ROM

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

Note: Ribbon cable connectors are usually keyed so that they can only be installed correctly on the device connector. If the connector is not keyed make sure that you match the pin-1 side of the cable connector with the pin-1 side of the device connector. Each connector has the pin-1 side clearly marked. The pin-1 side of each ribbon cable is always marked with a colored stripe on the cable.

About IDE Devices.

Your mainboard has a primary IDE channel interface (IDE1) and a secondary IDE interface (IDE2). The mainboard ships with one IDE ribbon cable which supports one or two IDE devices. All IDE devices have jumpers or switches that can be used to set the IDE device as MASTER or SLAVE.

If you install two IDE devices on one cable, you must make sure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

If you want to install more than two IDE devices, obtain a second IDE cable and you can add two more devices to the secondary IDE channel. If there are two devices on the cable, make one MASTER and one SLAVE.

About UDMA

This board supports UltraDMA 33/66. UDMA is a technology that speeds the performance of devices in the IDE channel. We recommend that you install IDE devices that support UDMA, and use IDE cables that support UDMA.

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Installing a Hard Disk Drive

1. Install the hard disk drive into the drive cage in your system case.

2. Plug the IDE cable into the primary IDE channel on the mainboard IDE1.

3. Plug one of the connectors on the IDE cable into the IDE connector on the back edge of the hard disk drive. It doesn't matter which connector on the cable that you use. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.

4. Plug a power cable from the case power supply unit into the power connector on the back edge of the hard disk drive.

5. When you first start up your system, go immediately to the setup utility and use the IDE Hard Disk Auto Detect feature to configure the IDE devices that you have installed. See Chapter 3 for more information.
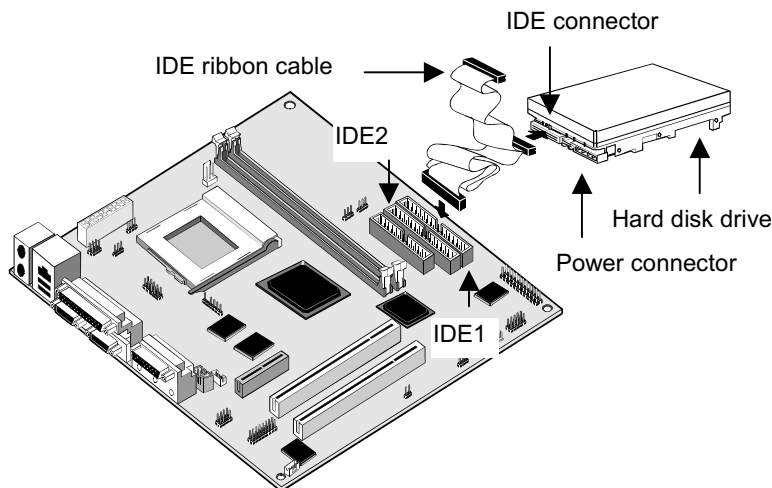
Installing a CD-ROM/DVD Drive

1. Install the CD-ROM/DVD drive into the drive cage in your system case. Plug the IDE cable into the primary IDE channel on the mainboard IDE1.

2. Plug one of the connectors on the IDE cable into the IDE connector on the back edge of the CD-ROM/DVD drive. It doesn't matter which connector on the cable that you use. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.

3. Plug a power cable from the case power supply unit into the power connector on the back edge of the CD-ROM/DVD drive.
4. Use the audio cable provided with the CD-ROM/DVD drive to connect the audio connector on the rear edge of the CD-ROM/DVD drive to the one of the two audio-in connectors CD1 and CD2 on the mainboard.
5. When you first start up your system, go immediately to the setup utility and use the IDE Hard Disk Auto Detect feature to configure the IDE devices that you have installed. See Chapter 3 for more information.
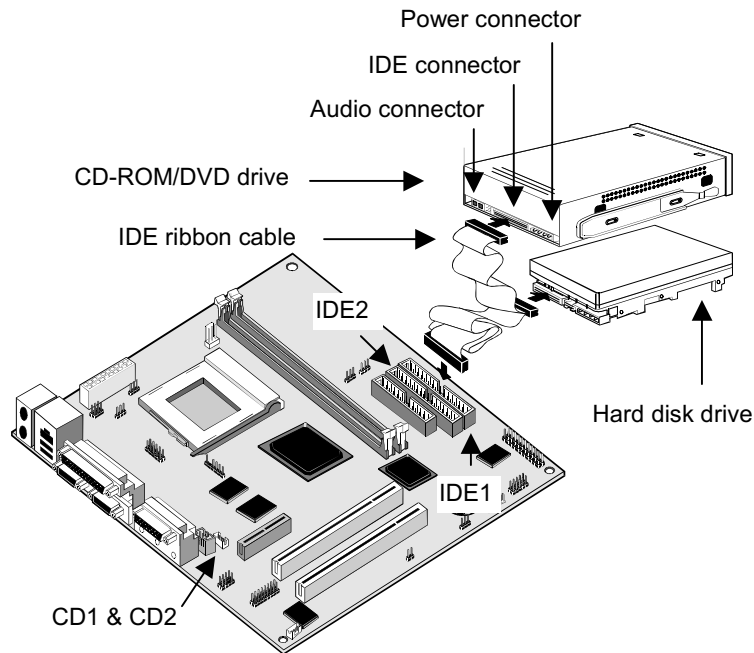
Installing a Floppy Diskette Drive

The mainboard has a floppy diskette drive interface and it ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25" drive or a 3.5" drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25" drive and another type of connector for a 5.25" drive

1. Install the floppy diskette drive into the drive cage in your system case. Plug the diskette drive cable into the diskette drive interface on the mainboard FDD1.
2. Plug one of the connectors on the diskette drive cable into the data connector on the back edge of the floppy diskette drive. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.
3. Plug a power cable from the case power supply unit into the power connector on the back edge of the diskette drive.
4. When you first start up your system, go immediately to the setup utility and use the Standard page to configure the floppy diskette drives that you have installed. See Chapter 3 for more information.

29
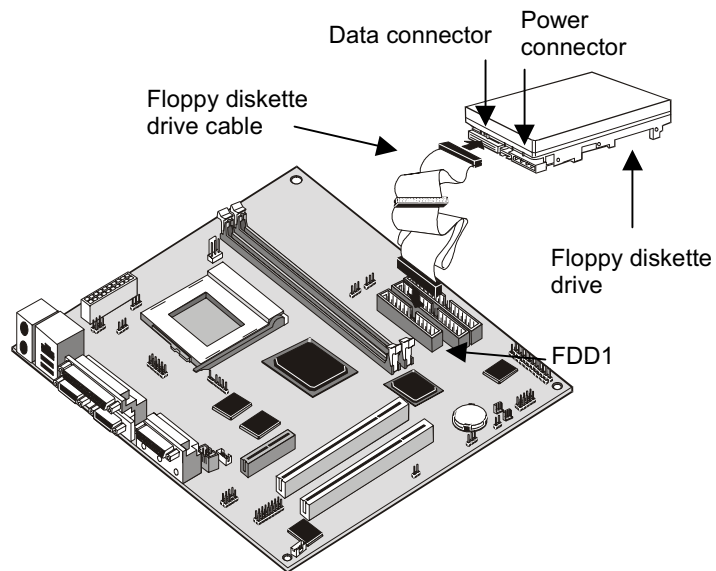
Using the Expansion Slots

This mainboard has two 32-bit PCI expansion slots and one TV-Out/LCD Panel Riser slot.

PCI Slots: The PCI slots can be used to install add-in cards that have the 32-bit PCI (Peripheral Components Interconnect) interface.

TV-Out/LCD Panel Riser: The TV-Out/LCD Panel Riser slot allows for the installation of a riser card for exporting the system's video output to an TV receiver or an external LCD panel.
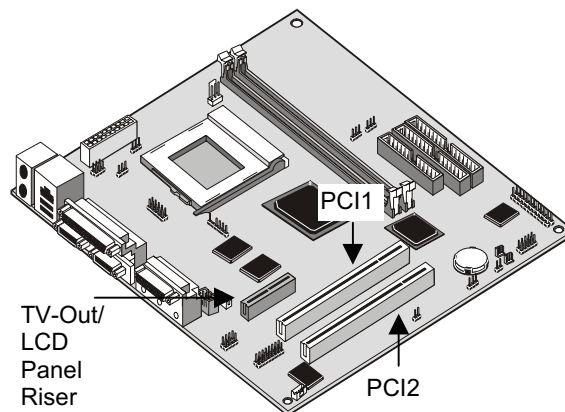
1. Before installing an expansion card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.
2. Select which expansion slot you are going to use for your add-in card.
3. In the system case, remove the blanking plate from the slot in the system case that corresponds to the expansion slot that you are going to use.
4. Position the edge connector of the add-in card over the expansion slot. Position the metal bracket of the card in the empty slot in the system case.
5. Install the edge connector of the add-in card into the expansion slot. Press down quite firmly so that you are sure that the edge connector is correctly seated in the slot.

6. Secure the metal bracket of the card in the empty slot in the system case with a screw.
7. For some add-in cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-in card.

Metal bracket — PCI add-in card — PCI slot

Edge connector
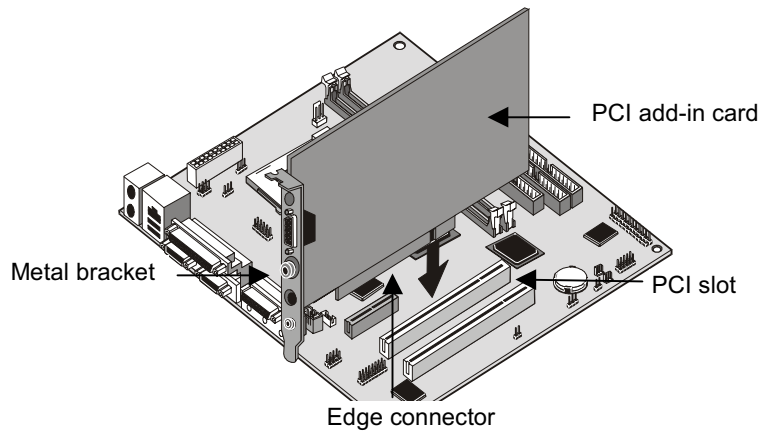
Add-in Card Options

The mainboard has two features that can be used if you have installed either a fax/modem card or a network adapter card.

WOL1: Wake on LAN

If you have installed a network adapter (LAN adapter), you can use the cable provided with the card to plug into the WOL1 connector on the mainboard. This is the Wake On LAN feature. When your system is in a power–saving mode, any traffic through the network automatically resume the system. You must enable this item using the Power Management page of the setup utility. See Chapter three for more information.

WOM1

WOL1
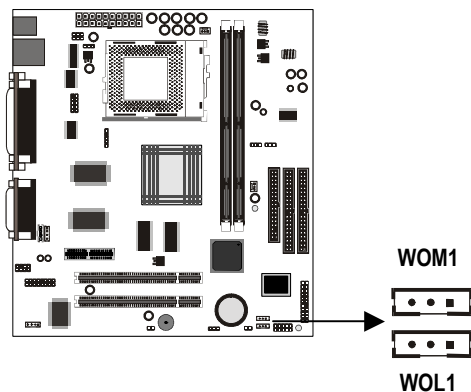
WOM1: Wake on Modem

If you have installed a fax/modem card, you can use the cable provided with the card to plug into the WOM1 connector on the mainboard. This is the Wake On Modem feature. When your system is in a power–saving mode, any incoming calls to the modem automatically resume the system. You must enable this item using the Power Management page of the setup utility. See Chapter three for more information.

Install Options and Extension Brackets

This mainboard has a number of special connectors that allow you to add optional features to your system. You can install any of the following items:

♦ Fax/modem card option
♦ Infrared port
♦ Second serial port
♦ 24-bit digital audio extension bracket (SPDIF)

Fax/modem Card

You must install the fax/modem card in order to use the built-in fax/modem.
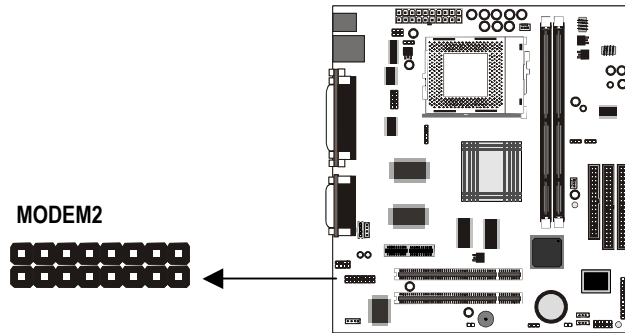
MODEM2

The fax/modem card is an optional item supplied with this mainboard.

1. Locate the J1 fax/modem connector on the mainboard.
2. Remove the expansion slot blanking plate from the system chassis that is adjacent to the fax/modem connector.
3. Install the fax/modem card on to the MODEM2 connector as shown below. The RJ11 Line and Telephone sockets on the bracket are positioned in the expansion slot with the removed blanking plate.

Line and Tel
RJ11 sockets

Fax/modem card

MODEM2
fax/modem
connector
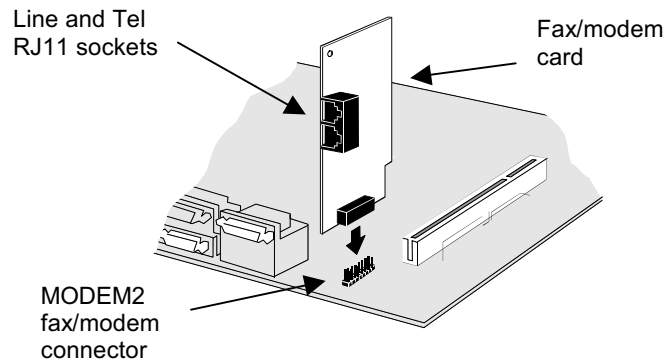
Infrared Port

This option can be purchased from third-party vendors.
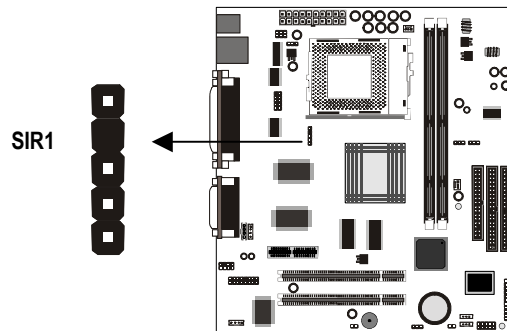
1. If you are installing an optional serial infrared port, connect the cable from the optional IR port to the SIR1 connector on the mainboard.
2. After you have connected the cable, secure the optional IR port to the appropriate place on your system case.

   Note: An IR port may use some of the resources required by a second serial port or a fax/modem card. If you have more than one of these items installed, you may not be able to use them at the same time. You can use the Peripherals page of the setup utility to switch resources between an IR port and a second serial port. See Chapter 3 for more information.

Second Serial Port

The mainboard has a connector for an optional second serial port. You can implement the second serial port by connecting an extension bracket with a serial port to the onboard serial port connector COM2.

COM2
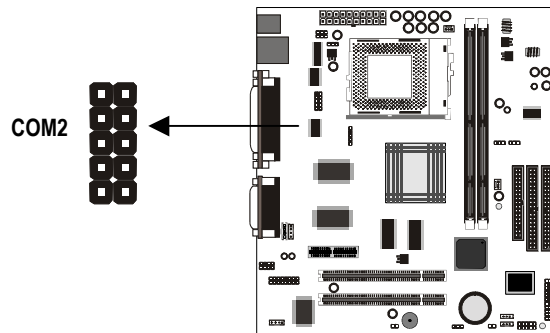
Note: An second serial port may use some of the resources required by an infrared port or a fax/modem card. If you have more than one of these items installed, you may not be able to use them at the same time. You can use the Peripherals page of the setup utility to switch resources between an IR port and a second serial port. See Chapter 3 for more information.

Digital Audio Extension Bracket

You can purchase an optional 24-bit digital audio extension bracket from a third-party vendor. You can use the audio RCA jacks to connect to digital audio devices. If your CD-ROM/DVD drive has digital audio output, you can connect it to the input pins of the SPDIF connector.

Audio Input Pins
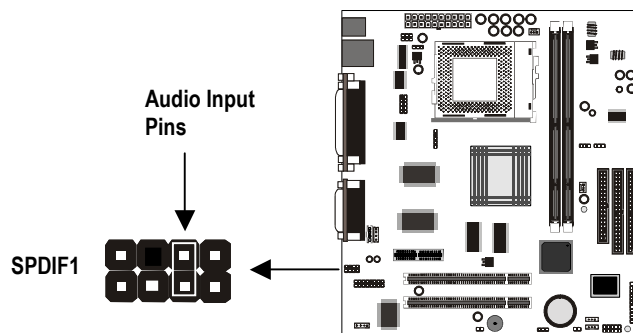
SPDIF1

On the mainboard, locate the digital audio connector SPDIF1. Connect the cable from the digital audio extension bracket to SPDIF1. If you have digital audio output from your CD-ROM/DVD drive, connect it to the marked audio input pins.

Auxiliary Keyboard, Microphone and Speaker Out Connectors

The mainboard has connectors for additional keyboard, Microphone and Speaker Out ports. If your chassis has an additional bracket on the front side, you can use these connectors on the mainboard to connect the proper features to the extension bracket in the case.
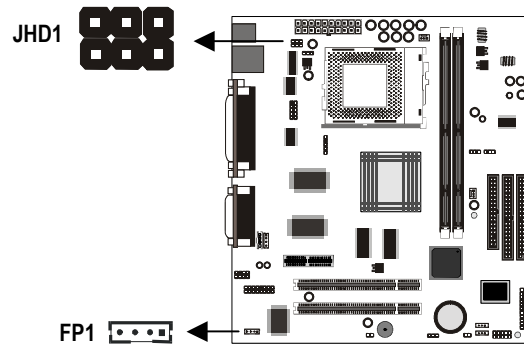
Make the External Connections

After you have installed the mainboard, make the connections to the external ports.
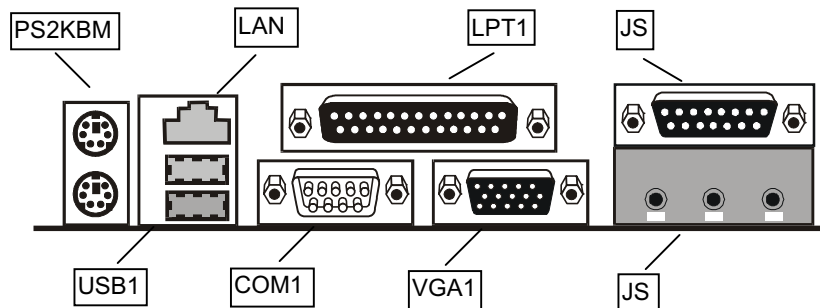
1. PS2KBM is a stack of two PS/2 mini-DIN ports. The upper port can be used by a PS/2 mouse or pointing device. The lower port can be used by a PS/2 keyboard.
2. LAN is an RJ45 connector. You can plug an ethernet networking cable into this connector to join your system to an Local Area Network (LAN).
3. LPT1 is a parallel port that can be used by printers or other parallel communications devices. The system identifies the parallel port as LPT1.
4. The upper 15-pin port J2 is a game/MIDI port. You can use this port to connect a joystick or a MIDI device to your system
5. The lower part of J2 is three audio jacks. The left side jack is for a stereo line out signal. The middle jack is for a stereo line in signal. The right side jack is for a microphone.
6. VGA1 is the connector for a display monitor. Plug the data cable from the monitor into VGA1.
7. COM1 is a serial port that can be used by serial devices such as a mouse, a fax/modem and so on. This serial port is identified by the system as COM1/3.
8. USB1 is a stack of two Universal Serial Bus ports. Use these ports to connect to USB devices.

External Connector Color Coding

To help identify the external connectors, many connectors now use standard colors as shown in the table below.

Connector	Color
Analog VGA	Blue
Audio line in	Light blue
Audio line out	Lime
Digital monitor / flat panel	White
IEEE 1394	Grey
Microphone	Pink
MIDI/Game	Gold
Parallel	Burgundy
PS/2 compatible keyboard	Purple
PS/2 compatible mouse	Green
Serial	Teal or Turquoise
Speaker out / subwoofer	Orange
Right-to-left speaker	Brown
USB	Black
Video out	Yellow
SCSI, network, telephone, modem, and so on	None

Chapter 3: Setup

About the Setup Utility

This chapter explains how to use and modify the BIOS setup utility that is stored on the mainboard. The setup utility stores data about the mainboard components and the configuration of devices that are connected to it. This information is used to test and initialize components at start-up time and to make sure everything runs properly when the system is operating.

The setup utility is installed with a set of default values. You will probably have to make changes to the setup utility whenever you add new components to your system such as new disk drives. You may be able to generate increased performance by changing some of the timing values in the setup, but this can be limited by the kind of hardware you are using, for example the rating of your memory chips. In certain circumstances, the system may generate an error message that asks you to make changes to the setup utility. This happens when the system finds an error during the POST (Power On Self Test) that it carries out at start up.

Starting the Setup Utility

You can only start the setup utility shortly after the computer has been turned on. A prompt appears on the computer display which says *"Press DEL to run Setup"*. When you see this prompt, press the **Delete** key, and the system will start the setup utility and display the main menu of the utility.

Using the Setup Utility

When you start setup, the main menu appears. The main menu of the setup utility shows a list of the options that are available. A highlight shows which option is currently selected. You can use the cursor arrow keys to move the highlight to other options. When an option is highlighted, you can execute the option by pressing the **Enter** key.

Some options lead to dialog boxes which ask you verify that that you wish to execute that option. You usually answer these dialogs by typing **Y** for yes and **N** for no. Some options lead to dialog boxes which ask for more information. Setting passwords have this kind of dialog box.

```
           CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
┌──────────────────────────────────────────────────────────────────────────┐
│                                      │                                     │
│    ▶ Standard CMOS Features          │   ▶ Frequency 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...                         │
│                                                                            │
└──────────────────────────────────────────────────────────────────────────┘
```

Some options (marked with a triangle) lead to tables of items that usually have a value on the right side. The value of the first item is highlighted, and you can use the cursor arrow keys to select any of the other values in the table of items. When an item is highlighted, you can change the value by pressing the **PageUp** or **PageDown** keys, or the **Plus** or **Minus** keys. The **PageUp** and **Plus** keys cycle forward through the available values, the **PageDown** and **Minus** keys cycle backwards through the values.

When you are in the main menu, you can exit the utility by pressing the **Escape** key. You can save the current selections and exit the utility by pressing the **F10** key. When you are in one of the options that displays a dialog box, you can return to the main menu by pressing the **Escape** key.

When you are in an option that displays a table of items, you can return to the main menu by pressing the **Escape** key. For some items, you can display a help message by pressing the **F2** key. You can display a general help screen by pressing **F1**. Press **F5** to discard any changes you have made and return all items to the value that they held when the setup utility was started. Press **F6** to load the displayed items with a standard list of fail-safe values. Press **F7** to load the displayed items with a high-performance list of default values.

How to Flash a New BIOS

You can install an updated BIOS for this motherboard that you can download from the manufacturer's website. New BIOS may provide support for new peripherals, improvements in performance or fixes to address known bugs. Install a new BIOS as follows:

1. Some mainboards have a Flash BIOS jumper that protects the current BIOS from being changed or overwritten. If your mainboard has this jumper, change the setting to allow flashing a new BIOS.
2. Some Setup programs have an item called Firmware Write Protect that prevents the BIOS from being overwritten. If your BIOS has this item (check the Advanced BIOS Features Setup page) disable it for the present.
3. Your computer must be running in a real-mode DOS environment, not the DOS window of Windows NT or Windows 95/98. We recommend that you create a new formatted DOS system floppy diskette.
4. Locate the flash memory utility on the support CD-ROM. It's called AWD712.EXE. Copy this file to the new system diskette.
5. Copy the new BIOS file that you downloaded from the manufacturer's website to the newly formatted system diskette.
6. Turn off your computer and insert the newly formatted DOS diskette in your computer's diskette drive.
7. You might need to run the setup utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.
8. At the A:\ prompt, after your computer has booted a clean DOS from the diskette, type in the filename AWD712 and press **Enter**.

```
┌─────────────────────────────────────────────┐
│          FLASH  MEMORY  WRITER V6.6          │
│    (C)Award Software 1998 All Rights Reserved│
├─────────────────────────────────────────────┤
│                                              │
│        Flash Type -                          │
│                                              │
│   File Name to Program : ████████████████    │
│                                              │
│                                              │
│                                              │
│                                              │
│                                              │
│                                              │
├─────────────────────────────────────────────┤
│   Error Message:                             │
└─────────────────────────────────────────────┘
```
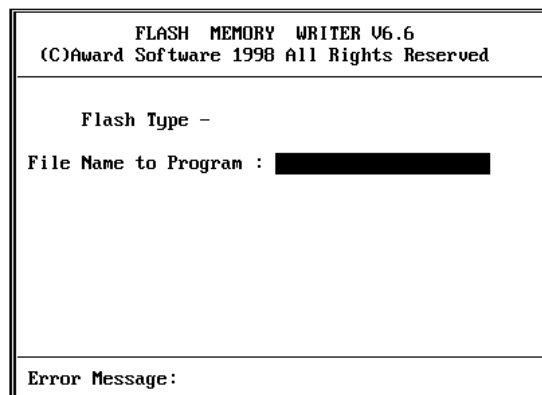
9. In the opening dialog box, type in the filename of the new BIOS and follow the onscreen directions to flash the new BIOS to the motherboard.
10. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your mainboard has a Flash BIOS jumper, don't forget to reset the jumper to protect the newly installed BIOS from being overwritten.

Standard CMOS Features Option

This option displays a table of items which defines basic information about your system.

```
         CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                          Standard CMOS Features
   ┌──────────────────────────────────────────────┬──────────────────────┐
   │  Date (mm:dd:yy)          Thu, Nov  4 1999    │      Item Help       │
   │  Time (hh:mm:ss)          12 : 53 :  5        │                      │
   │                                               │  Menu Level    ▶     │
   │ ▶ IDE Primary Master      Press Enter None    │                      │
   │ ▶ IDE Primary Slave       Press Enter None    │  Change the day, month,│
   │ ▶ IDE Secondary Master    Press Enter None    │  year and century    │
   │ ▶ IDE Secondary Slave     Press Enter None    │                      │
   │                                               │                      │
   │   Drive A                 1.44M, 3.5 in.      │                      │
   │   Drive B                 None                │                      │
   │   Floppy 3 Mode Support   Disabled            │                      │
   │                                               │                      │
   │   Video                   EGA/VGA             │                      │
   │   Halt On                 All Errors          │                      │
   │                                               │                      │
   │   Base Memory                  640K           │                      │
   │   Extended Memory            31744K           │                      │
   │   Total Memory               32768K           │                      │
   └──────────────────────────────────────────────┴──────────────────────┘
   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5:Previous Values     F6:Fail-Safe Defaults     F7:Optimized Defaults
```

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

IDE Devices   Defaults: None
Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel. Press **Enter** to display the IDE sub-menu.

```
            CMOS Setup Utility – Copyright (C) 1984-1999 Award Software
                              IDE Primary Master
  ┌──────────────────────────────────────────────┬─────────────────────┐
  │  IDE HDD Auto-Detection      Press Enter      │      Item Help      │
  │                                               │                     │
  │  IDE Primary Master          Auto             │  Menu Level   ▶▶    │
  │  Access Mode                 Auto             │                     │
  │                                               │  To auto-detect the │
  │  Capacity                    0 MB             │  HDD's size, head...│
  │                                               │  on this channel    │
  │  Cylinder                    0                │                     │
  │  Head                        0                │                     │
  │  Precomp                     0                │                     │
  │  Landing Zone                0                │                     │
  │  Sector                      0                │                     │
  │                                               │                     │
  │                                               │                     │
  │                                               │                     │
  │                                               │                     │
  ├──────────────────────────────────────────────┴─────────────────────┤
  │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
  │     F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults      │
  └──────────────────────────────────────────────────────────────────────────────┘
```

IDE HDD Auto-Detection

Press **Enter** while this item is highlighted if you want the setup utility to automatically detect and configure a hard disk drive on the IDE channel.

IDE Primary/Secondary Master/Slave

If you leave this item at *Auto*, the system will automatically detect and configure any IDE devices it finds. If it fails to find a hard disk, change the value to *Manual* and then manually configure the drive be entering the characteristics of the drive in the items below (Capacity, Cylinder, Head, Precomp, etc.), If you have no device installed change the value to *None*.

Access Mode

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

Press **Esc** to close the IDE device sub-menu and return to the Standard CMOS Features page.

Drive A and Drive B   Default: 1.44M, 3.5 in., None

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

Floppy 3 Mode Support   Default: Disabled

Floppy 3 mode refers to a 3.5" diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

Video   Default: EGA/VGA

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

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Halt On	*Default: All Errors*

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

Base Memory, Extended Memory, Total Memory

These items are automatically detected by the system at start up time.

Advanced BIOS Features Setup Option

This option displays a table of items which defines more advanced information about your system. You can make modifications to most of these items without introducing fatal errors to your system. Note that the page has a scroll-bar to scroll down to more items.

```
          CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                            Advanced BIOS Features
 ┌─────────────────────────────────────────────────┬─────────────────────┐
 │   Anti-Virus Protection      Disabled        ▲  │     Item Help       │
 │   Y2K Monitor                Disabled           │                     │
 │   CPU Internal Cache         Enabled            │  Menu Level   ►     │
 │   External Cache             Enabled            │                     │
 │   CPU L2 Cache ECC Checking  Enabled            │  Allows you to choose│
 │   Processor Number Feature   Enabled            │  the VIRUS warning  │
 │   Quick Power On Self Test   Enabled            │  feature for IDE Hard│
 │   First Boot Device          Floppy             │  Disk boot sector   │
 │   Second Boot Device         HDD-0              │  protection. If this│
 │   Third Boot Device          LS/ZIP             │  function is enabled│
 │   Boot Other Device          Enabled            │  and someone attempt to│
 │   Swap Floppy Drive          Disabled           │  write data into this│
 │   Boot Up Floppy Seek        Enabled            │  area, BIOS will show a│
 │   Boot Up NumLock Status     On                 │  warning message on │
 │   Gate A20 Option            Fast               │  screen and alarm beep│
 │   FirmWare Write Protect     Disabled           │                     │
 │   Typematic Rate Setting     Disabled        ▒  │                     │
 │ x Typematic Rate (Chars/Sec) 6                  │                     │
 │ x Typematic Delay (Msec)     250             ▼  │                     │
 └─────────────────────────────────────────────────┴─────────────────────┘
   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults
```

Anti-Virus Protection	*Default: Disabled*

When this item is enabled it provides some protection against viruses which try to write to the boot sector and partition table of your hard disk drive. This item is *Disabled* as a default. You need to disable it so that you can install an operating system. We recommend that you enable Anti-Virus Protection as soon as you have installed your disk with an OS.

Y2K Monitor	*Default: Disabled*

If you enable this item, the system will monitor for errors generated by the year 2000 bug.

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CPU Internal Cache	*Default: Enabled*

All the processors that can be installed in this mainboard use internal (level 1) cache memory to improve performance. Leave this item at the default value *Enabled* for better performance.

External Cache	*Default: Enabled*

Most processors that can be installed in this system use external (L2) cache memory to improve performance. The exceptions are older SEPP Celeron CPUs running at 266 or 300 MHz. Enable this item for all but these two processors.

CPU L2 Cache ECC Checking	*Default: Enabled*

This item enables or disables ECC (Error Correction Code) error checking on the CPU cache memory. We recommend that you leave this item at the default value.

Processor Number Feature	*Default: Enabled*

Some of the new generation of socket-370 processors are installed with a unique processor number. This number may be used for verification in internet transactions and e-commerce. If you prefer not to use or distribute the unique processor number, use this item to suppress the processor number.

Quick Power On Self Test	*Default: Enabled*

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

First/Second/Third Boot Device	*Default: Floppy/HDD-0/LS/ZIP*

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

Boot Other Device	*Default: Enabled*

If you enable this item, the system will search all other possible locations for an operating system if it fails to find one in the devices specified under the first, second and third boot devices.

Swap Floppy Drive	*Default: Disabled*

If you have two floppy diskette drives in your system, this item allows you to swap around the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

Boot Up Floppy Seek	*Default: Enabled*

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

Boot Up NumLock Status	*Default: On*

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

Gate A20 Option	*Default: Fast*

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

Firmware Write Protect   Default: Disabled

If you enable this item, it protects the firmware (BIOS) from being overwritten. Disable this item if you plan to flash a new BIOS to the system.

Typematic Rate Setting   Default: Disabled

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

Typematic Rate (Chars/Sec)   Default: 6

If the item Typematic Rate Setting is enabled, you can use this item to define how many characters per second are generated by a held-down key.

Typematic Delay (Msec)   Default: 250

If the item Typematic Rate Setting is enabled, you can use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

Security Option   Default: Setup

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

OS Select For DRAM > 64 MB   Default: Non-OS2

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default Non-OS2.

Report No FDD for WIN 95   Default: Yes

If you are running a system with no floppy drive and using the Windows 95 OS, select Yes for this item to ensure compatibility with the Windows 95 logo certification.

Advanced Chipset Features Option

This option displays a table of items that define critical timing parameters of the mainboard components including the memory, and the system logic. Generally, you should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly you may introduce fatal errors or recurring instability into your system. Note that the page has a scroll-bar to scroll down to more items.

```
           CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                           Advanced Chipset Features
   ┌─────────────────────────────────────────────────┬──────────────────────┐
   │  SDRAM CAS Latency Time      3                   │      Item Help       │
   │  SDRAM Cycle Time Tras/Trc   6/8                 ├──────────────────────┤
   │  SDRAM RAS-to-CAS Delay      3                   │  Menu Level    ▶     │
   │  SDRAM RAS Precharge Time    3                   │                      │
   │  System BIOS Cacheable       Enabled             │                      │
   │  Video BIOS Cacheable        Enabled             │                      │
   │  Memory Hole At 15M-16M      Disabled            │                      │
   │  CPU Latency Timer           Disabled            │                      │
   │  Delayed Transaction         Enabled             │                      │
   │  On-Chip Video Window Size   64MB                │                      │
   │  Local Memory Frequency      100 Mhz             │                      │
   │                                                  │                      │
   │  * Onboard Display Cache Setting *               │                      │
   │    Initial Display Cache     Enabled             │                      │
   │     CAS# Latency             3                   │                      │
   │     Paging Mode Control      Open                │                      │
   │     RAS-to-CAS Override      by CAS# LT          │                      │
   │     RAS# Timing              Fast                │                      │
   │     RAS# Precharge Timing    Fast                │                      │
   └─────────────────────────────────────────────────┴──────────────────────┘
   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
        F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults
```

SDRAM CAS Latency Time	***Default: 3***
SDRAM Cycle Time Tras/Trc	***Default: 6/8***
SDRAM RAS-to-CAS Delay	***Default: 3***
SDRAM RAS Precharge Time	***Default: 3***

These four items set the timing and wait states for SDRAM memory. We recommend that you leave these items at the default value.

System BIOS Cacheable	***Default: Enabled***
Video BIOS Cacheable	***Default: Enabled***

These items allow the video and/or system to be cached in memory for faster execution. We recommend that you leave these items at the default value.

Memory Hole at 15M-16M	***Default: Disabled***

This item can be used to reserve memory space for some ISA expansion cards that require it.

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CPU Latency Timer   Default: Disabled
This item sets a timing parameter for CPU access. Since the CPU timing is determined by the system hardware, leave this item at the default value.

Delayed Transaction   Default: Enabled
If the chipset has an embedded 32-bit write buffer to support delay transaction cycles, you can enable this item to provide compliance with PCI Ver. 2.1 specifications. We recommend that you leave this item at the default value.

On-Chip Video Window Size   Default: 64 MB
This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

Local Memory Frequency   Default: 100 MHz
This item sets the frequency for the system memory bus. If you have installed 133 MHz memory, you can change the frequency to 133 MHz.

Note: Only the P6IWP-Fe/i810e mainboard supports 133 MHz memory.

* Onboard Display Cache Setting *
The items under this heading are used to set the parameters for Display cache memory which may be optionally installed on your mainboard. If you have display cache memory, we recommend that you leave these items at the default setting.

Note: Only the P6IWP-Fe/i810e mainboard supports display cache memory.

Integrated Peripherals Option

This option displays a list of items that defines the operation of some peripheral components on the system's input/output ports.

```
        CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                          Integrated Peripherals

      On-Chip Primary   PCI IDE   Enabled        ▲         Item Help
      On-Chip Secondary PCI IDE   Enabled
      IDE Primary Master PIO      Auto                 Menu Level    ▶
      IDE Primary Slave  PIO      Auto
      IDE Secondary Master PIO    Auto
      IDE Secondary Slave  PIO    Auto
      IDE Primary Master UDMA     Auto
      IDE Primary Slave  UDMA     Auto
      IDE Secondary Master UDMA   Auto
      IDE Secondary Slave  UDMA   Auto
      USB Controller              Enabled
      USB Keyboard Support        Disabled
      Init Display First          PCI Slot
      Onboard PCI Audio           Enabled
      Onboard PCI Modem           Enabled
      Onboard PCI LAN             Enabled
      Hardware Reset              Enabled
      AC97 Audio                  Auto
      AC97 Modem                  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 Primary PCI IDE	*Default: Enabled*
On-Chip Secondary PCI IDE	*Default: Enabled*

Use these items to enable or disable the PCI IDE channels that are integrated on this mainboard.

IDE Primary Master PIO	*Default: Auto*
IDE Primary Slave PIO	*Default: Auto*
IDE Secondary Master PIO	*Default: Auto*
IDE Secondary Slave PIO	*Default: Auto*

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

IDE Primary Master UDMA	*Default: Auto*
IDE Primary Slave UDMA	*Default: Auto*
IDE Secondary Master UDMA	*Default: Auto*
IDE Secondary Slave UDMA	*Default: Auto*

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA. UltraDMA technology provides faster access to IDE devices. If you install a device which supports UltraDMA, change the

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appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

USB Controller   *Default: Enabled*

Use this item to enable the USB ports that are integrated on this mainboard.

USB Keyboard Support   *Default: Disabled*

Enable this item if you are using a keyboard connected through the USB Port.

Init Display First   *Default: PCI Slot*

Use this item to define if your graphics adapter is installed in one of the PCI slots or select Onboard if you have a graphics system integrated on the mainboard.

Onboard PCI Audio   *Default: Enabled*

If your mainboard has an integrated PCI audio system, use this item to enable or disable it.

Onboard PCI Modem   *Default: Enabled*

If your mainboard has an integrated PCI modem, use this item to enable or disable it.

Onboard PCI LAN   *Default: Enabled*

If your mainboard has an integrated PCI LAN (network adapter), use this item to enable or disable it.

Hardware Reset   *Default: Enabled*

If you enable this item, you can reset the system by pressing a hardware reset button if you have connected this function to the mainboard.

AC97 Audio   *Default: Auto*

We recommend that you set this item to Auto when you use AMR card.

AC97 Modem   *Default: Auto*

We recommend that you set this item to Auto when you use MR/AMR card.

IDE HDD Block Mode   *Default: Disabled*

Block mode transfers can improve the access to IDE devices. Enable this item if your IDE devices support block mode transfers.

Power On Function   *Default: Hot KEY*
KB Power ON Password   *Default: Enter*
Hot Key Power ON   *Default: Ctrl-F12*

The Power On Function item allows you to power on the system by pressing hot-keys, or typing a password. If you choose Password, you can use the item KB Power On Password to install a power on password. Press Enter to display the Password dialog box. If you set it to Hot Key, you can then use the item Hot Key Power On to choose which hot keys are used to power on the system.

Onboard FDC Controller   *Default: Enabled*

Use this item to turn on or off the floppy disk controller that is built into this mainboard.

Onboard Serial Port 1   *Default: 3F8/IRQ4*

This item lets you disable the built-in serial port 1, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Onboard Serial Port 2   *Default: Disable*

This item lets you disable the built-in serial port 2, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

UART Mode Select   *Default: IrDA*
UR2 Duplex Mode   *DefaultL Half*

This item defines the operation of serial port 2. In the Normal setting, serial port 2 is assigned to the external COM2 connector. If you have installed an optional infrared port, you must change the setting of this item to one of the Infrared settings (usually IrDA or FIR). These settings will disable the external COM2 serial port connector and assign the resources to the infrared device. If you have selected an IR mode, use the following item *UR2 Duplex Mode* to define if the IR port is full duplex or half duplex.

Onboard Parallel Port   *Default: 378/IRQ7*

This item lets you disable the built-in parallel port, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Parallel Port Mode   *Default: SPP*
ECP Mode Use DMA   *Default: 3*

This item defines the operation of the parallel port. As a default it is set to SPP (standard parallel port). If you are connected to a parallel device that supports the higher-performance EPP (enhanced parallel port) or the ECP (extended capabilities port) make the appropriate changes to this item. If you have changed the parallel port to ECP mode, use the following item *ECP Mode Use DMA* to assign a DMA channel to the port.

PWRON After PWR-Fail   *Default: Off*

If this item is enabled, the system will automatically resume when power is restored after an interruption in the power supply.

Game Port Address   *Default: 201*

This item lets you disable the built-in game port, or enable it by assigning an I/O address.

Midi Port Address   *Default:330*
Midi Port IRQ   *Default: 10*

This item lets you disable the built-in MIDI port, or enable it by assigning an I/O address. If you enable the MIDI port, use the following item *Midi Port IRQ* to assign an Interrupt Request line to the port.

Power Management Setup Option

This option displays items that let you control the system power management. Modern operating systems take care of much of the power management. This mainboard supports ACPI (advanced configuration and power interface). The system has various power saving modes including powering down the hard disk, turning off the video, suspending to RAM, and a software power down that allows the system to be automatically resumed by certain events.

Power Management Timeouts

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

Wake Up Calls

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

```
              CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                              Power Management Setup
  ┌─────────────────────────────────────────────┬─────────────────────────┐
  │  ACPI Function              Enabled      ▲   │      Item Help          │
  │  ACPI Suspend Type          S1(POS)          │                         │
  │  Power Management           Define           │ Menu Level    ▶         │
  │  Video Off Method           DPMS             │                         │
  │  Video Off In Suspend       Yes              │                         │
  │  Suspend Type               Stop Grant       │                         │
  │  MODEM Use IRQ              3                 │                         │
  │  Suspend Mode               Disabled         │                         │
  │  HDD Power Down             Disable          │                         │
  │  Soft-Off by PWR-BTTN       Instant-Off      │                         │
  │  Wake-Up by PCI card        Disabled         │                         │
  │  Power On by Ring           Disabled         │                         │
  │  Wake Up On LAN             Enabled          │                         │
  │  CPU Thermal Limit          NA               │                         │
  │  Board Thermal Limit        NA               │                         │
  │  CPU Thermal-Throttling     50.0%            │                         │
  │  Resume by Alarm            Disabled         │                         │
  │ x  Date(of Month) Alarm      0               │                         │
  │ x  Time(hh:mm:ss) Alarm      0    0    0  ▼  │                         │
  └─────────────────────────────────────────────┴─────────────────────────┘
    ↑↓→←: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   *Default: Enabled*

This mainboard supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

ACPI Suspend Type	*Default: S1 (POS)*

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is a suspend to RAM – the system shuts down with the exception of a refresh current to the system memory.

Power Management	*Default: Define*

This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a longer timeout. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

Video Off Method	*Default: DPMS*

This item defines how the video is powered down to save power. As a default, this is set to DPMS (display power management software).

Video Off In Suspend	*Default: Yes*

This option defines if the video is powered down when the system is put into suspend mode.

Suspend Type	*Default: Stop Grant*

If this item is set to the default "Stop Grant", the CPU will go into the Idle Mode.

MODEM Use IRQ	*Default: 3*

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

Suspend Mode	*Default: Disabled*

If you have selected User Define for the *Power Management* item, you can set this item to a timeouts from 1 Min to 1 Hour. The system will go into the power-saving suspend mode if the timeout passes without any system activity.

HDD Power Down	*Default: Disable*

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 1 to 15 minutes. The hard disk drive will power down if the selected timeout passes without any activity on the hard disk.

Soft-Off by PWR-BTTN	*Default: Instant-Off*

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

Wake Up by PCI Card	*Default: Disabled*

If you enable this item, it allows activity on an add-in card in one of the PCI slots to resume the system from a power-saving mode.

| *Power On by Ring* | *Default: Disabled* |

If this item is enabled, it allows the system to resume from a software powerdown or a power-saving mode whenever there is an incoming call to an installed fax/modem. You might have to connect the fax/modem to a mainboard Wake On Modem connector for this feature to work.

| *Wake Up On LAN* | *Default: Enabled* |

If this item is enabled, it allows the system to resume from a software powerdown or a power-saving mode whenever there is an incoming traffic to a network (LAN) adapter. You might have to connect the LAN card to a mainboard Wake On LAN connector for this feature to work.

| *CPU Thermal Limit* | *Default: NA* |
| *Board Thermal Limit* | *Default: NA* |

These two items can be used to set threshold temperatures for the CPU and the mainboard. If the temperatures are exceeded, the system uses power management to reduce the temperatures.

| *CPU Thermal-Throttling* | *Default: 50.0%* |

This item sets the percentage of time that the CPU is idled if CPU throttling is initiated by excess heat.

| *Resume by Alarm* | *Default: Disabled* |

If this item is Enabled, it allows you to set a date and time alarm that will automatically resume the system from a software power down. When you enable this feature, new setup items appear to let you set the alarm. Date (of Month) Alarm lets you select a day from 1 to 31. Time Alarm lets you select a time for the alarm in hours, minutes, and seconds.

Primary IDE 0	*Default: Disabled*
Primary IDE 1	*Default: Disabled*
Secondary IDE 0	*Default: Disabled*
Secondary IDE 1	*Default: Disabled*

When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels.

| *FDD,COM,LPT Port* | *Default: Disabled* |

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the floppy diskette drives, the serial ports, or the parallel port.

| *PCI PIRQ[A-D]#* | *Default: Disabled* |

When this item is enabled, the system will restart the timeout counters when any activity is detected on the Interrupt request lines used over the PCI bus.

PNP/PCI Configuration Option

This option displays a table of items that configures how PNP (Plug and Play) and PCI expansion cards operate in your system.

```
        CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                          PnP/PCI Configurations

    ┌──────────────────────────────────────────────┬──────────────────────┐
    │  Reset Configuration Data    Disabled         │      Item Help       │
    │                                               │                      │
    │  Resources Controlled By     Auto(ESCD)       │  Menu Level    ▶     │
    │ x IRQ Resources              Press Enter       │                      │
    │                                               │  Default is Disabled.│
    │  PCI/VGA Palette Snoop       Disabled         │  Select Enabled to   │
    │                                               │  reset Extended System│
    │                                               │  Configuration Data  │
    │                                               │  ESCD) when you exit │
    │                                               │  Setup if you have   │
    │                                               │  installed a new add-on│
    │                                               │  and the system      │
    │                                               │  reconfiguration has │
    │                                               │  caused such a serious│
    │                                               │  conflict that the OS│
    │                                               │  cannot boot         │
    │                                               │                      │
    └──────────────────────────────────────────────┴──────────────────────┘

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

Reset Configuration Data   ***Default: Disabled***

If you enable this item and restart the system, any PNP configuration data stored in the BIOS setup is cleared from memory. New updated data is created.

Resources Controlled By   ***Default: Auto(ESCD)***

You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to plug and play devices as they are required. If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the *IRQ Resources* and *Memory Resources* sub-menus.

In the *IRQ Resources* sub-menu, if you change any of the IRQ assignations to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press **Esc** to close the IRQ Resources sub-menu.

In the *Memory Resources* sub menu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA expansion card. Use the second item Reserved Memory Length to set the amount of reserved memory. Press **Esc** to close the Memory Resources sub-menu.

PCI/VGA Palette Snoop   *Default: Disabled*

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

PCI Health Status Option

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

```
              CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                                 PC Health Status
  ╔══════════════════════════════════════════════════╦═══════════════════════╗
  ║   Shutdown Temperature      85°C/185°F            ║      Item Help        ║
  ║   VCOREIN                                         ╠═══════════════════════╣
  ║   +1.800V                                         ║  Menu Level    ▶      ║
  ║   +3.300V                                         ║                       ║
  ║   +5.000V                                         ║                       ║
  ║   +12.00V                                         ║                       ║
  ║   -12.00V                                         ║                       ║
  ║   -5.000V                                         ║                       ║
  ║   Voltage Battery                                 ║                       ║
  ║   System Temperature                              ║                       ║
  ║   CPU Temperature                                 ║                       ║
  ║   CPU FAN Speed                                   ║                       ║
  ║   CASE FAN Speed                                  ║                       ║
  ║   Chassis has been          CLOSING              ║                       ║
  ║   Chassis Open Warning      Disabled             ║                       ║
  ║                                                   ║                       ║
  ║                                                   ║                       ║
  ║                                                   ║                       ║
  ╚══════════════════════════════════════════════════╩═══════════════════════╝
  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
        F5:Previous Values     F6:Fail-Safe Defaults    F7:Optimized Defaults
```

If this option is active on your system, we recommend that you accept the default values for these items that are installed by the manufacturer.

Frequency Control Option

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

```
          CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                             Frequency Control
 ┌─────────────────────────────────────────────────┬──────────────────────┐
 │  Auto Detect DIMM/PCI Clk    Enabled             │      Item Help       │
 │  CPU Internal Core Speed     233MHz              ├──────────────────────┤
 │  Spread Spectrum             Disabled            │ Menu Level    ▶      │
 │  CPU/DIMM/PCI Clock          Default             │                      │
 │  CPU Clock Ratio             X 3.5               │                      │
 │                                                  │                      │
 │                                                  │                      │
 │                                                  │                      │
 │                                                  │                      │
 │                                                  │                      │
 │                                                  │                      │
 │                                                  │                      │
 │                                                  │                      │
 │                                                  │                      │
 └─────────────────────────────────────────────────┴──────────────────────┘
   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5:Previous Values     F6:Fail-Safe Defaults    F7:Optimized Defaults
```

Auto Detect DIMM/PCI Clk   ***Default: Enabled***

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

CPU Internal Core Speed   ***Default: 233 MHz***

Use this item to automatically set up the mainboard for the kind of processor that you have installed. Set this item to the rated internal clock speed of the installed processor. If you set this to Manual, two new items appear: *CPU/DIMM/PCI Clock* and *CPU Clock Ratio.*

Spread Spectrum   ***Default: Disabled***

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

CPU/DIMM/PCI Clock
CPU Clock ratio

These items appear if you have set the *CPU Internal Core Speed* to Manual. Use the *CPU/DIMM/PCI Clock* to set the system bus frequency for the installed processor (usually 133 MHz,100 MHz or 66 MHz). Then use *CPU Clock Ratio* to set a multiple. The multiple times the system bus must equal the core speed of the installed processor e.g. **3.5 (multiple) x 100 MHz (system bus) = 350 MHz (installed processor clock speed)**.

Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the whole setup utility. Press the **Y** key and then **Enter** to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install a fail-safe defaults for a specific option, select and display that option, and then press the **F6** key.

Load Optimized Defaults Option

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

Set Supervisor and User Passwords

These items can be used to install a password. A Supervisor password takes precedence over a User password, and the Supervisor can limit the activities of a User.To install a password, follow these steps:

1. Highlight the item Set Supervisor/User password on the main menu and press **Enter**.
2. The password dialog box appears.

3. If you are installing a new password, carefully type in the password. You cannot use more than 8 characters or numbers. The password will differentiate between upper case and lower characters. Press **Enter** after you have typed in the password. If you are deleting a password that is already installed just press **Enter** when the password dialog box appears.
4. The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press **Enter**, or just press **Enter** if you are deleting a password that is already installed.
5. If you typed the password correctly, the password will be installed.

Save And Exit Setup Option

Highlight this item and press **Enter** to save the changes that you have made in the setup utility and exit the setup program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to return to the setup main menu.

Exit Without Saving Option

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

Chapter 4: Software

About the Software

The software for this mainboard is supplied on a CD-ROM. The disk has some folders that can be used by many different mainboards, for example the **UTILITY** and **PERIPHERAL** folders. Some folders can only be used by mainboards which have certain brands of chipsets, for example the **INTEL** and **VIA** folders. In addition, software that is specifically intended for one kind of mainboard is stored in a folder with the name of that board. The folder for this mainboard is stored in the **P6IWP-Fe** folder.

> *Note: Never try to install software from a folder that is not specified for use with your mainboard.*

Folders for this Mainboard

For this board, you can install software from the following folders:

Utility Folder

You can use the software in the following sub-folders:
- ❑ **AWDFLASH**: Software to erase and install new revisions of the system BIOS
- ❑ **DIRECTX5:** Software display drivers for Microsoft's DirectX Rev. 5 specification
- ❑ **PC-CILLIN:** Anti-virus software
- ❑ **BITWARE:** Software for the built-in fax/modem
- ❑ **GAMUT:** Audio rack for built-in sound system

CMI8X38 Folder

You can use the software from the following sub-folders:
- ❑ **AUDIO:** Drivers and software for the built-in audio system
- ❑ **MODEM:** Drivers and software for the built-in fax/modem

Peripheral Folder

You can use the software in the following sub-folders:

- ❑ **LAN:** Drivers and software for the built-in network adapter
- ❑ **KEYBOARD, CD-ROM, MOUSE:** These three folders have drivers for accessories manufactured by BTC. Some system assemblers ship these accessories with complete systems based on this mainboard.

Intel Folder

- ❑ **I810_ACPI:** This folder has a patch program so that the suspend to RAM feature will run under Windows 98(ACPI)
- ❑ **INF:** This folder has a variety of programs, all designed to improve the operation of Intel chipsets under Windows 95/98.
- ❑ **VGA:** This folder has drivers and software for the graphics system built into the Intel 810 chipset.

P6IWP-Fe Folder

You can use the software in the following sub-folders:

- ❑ **MONITOR :** Hardware monitoring software for Windows 95/98, and Windows NT4.0/5.0
- ❑ **ACPI, AUDIO, LAN, MODEM, VGA, WIN9x-Inf:** These folders are empty. A readme file directs you to an alternate location with the required software.

Note: Some folders are subdivided into different operating systems such as DOS, Windows 95, Windows NT, and so on. Always make sure that you are installing the correct software for the operating system on your computer. Some folders are also subdivided into different language versions, such as English, French, German and so on.

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

Running the Support CD-ROM

1. Place the disk in your CD-ROM drive. If you are running Windows with Autoplay enabled, the opening screen of the CD appears automatically. Click on READ ME to read the latest instructions.
2. Click on the item BROWSE THE CD TITLE. This uses Windows Explorer to show the contents of the support CD.
3. Double click on a folder to display the sub-folders.
4. Before installing the software, look for a file named README.TXT, or something similar. This file may contain important information to help you install the software correctly.
5. Some software is installed in separate folders for different operating systems, such as DOS, WIN NT, WIN95/98, and so on. Always log on to the correct folder for the kind of OS you are using.
6. To install the software, you usually execute a file named SETUP.EXE or INSTALL.EXE by double clicking on the filename.

Utility Folder Installation Notes

Award Flash Memory Utility

This utility lets you erase the system BIOS stored on a Flash Memory chip on the mainboard, and lets you copy an updated BIOS to the chip. Take care how you use this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction.

There are two flash memory utilities called **AWD66.EXE** and **AWD712.EXE**. For this mainboard you must use the **AWD712.EXE** utility. To use the utility, you must be in real-mode DOS (not the DOS box that is available in Windows 95/98/NT). If you are using WINDOWS 95/98, shut down your computer and select the option Restart in DOS in the shut-down dialog box. If you are running Windows NT, shut down your computer and boot from a DOS diskette temporarily in order to run the flash memory utility.

DirectX5 Drivers

The DirectX drivers are for installation only in Windows 95/98. The directX drivers need to be installed before you install an AGP driver. You may be able to get more up-to-date directX drivers from the Microsoft web site. Start the installation by clicking on the file DX5CORE.EXE.

PC-Cillin Anti-Virus Utility

Anti-virus software is provided for DOS, for WIN95, and WIN 98. Log on to the appropriate directory for your operating system. For DOS, copy all the files in the DOS folder to your hard disk drive. For Windows 95, log on to the Disk 1 folder and run SETUP. For Windows 98, run SETUP.

CMI8X38 Folder Installation Notes

Audio Software

This folder has software and drivers for the sound system that is integrated on this mainboard. Drivers are provided for Windows 95/98, Windows NT, and DOS. An MS-WORD format manual is stored in the MANUAL folder.

DOS Installation

Log on to the DOSDRV folder and run the program INSTALL.EXE

Windows 95/98 Installation

Please specify the path to the CD-ROM\CMI8X38\AUDIO_ITE_GAME \W95-98\DRV\ when your system detects the installed audio system. To install the audio applications, log on to the W95-98 folder, and then log on to the APPS folder. Run the SETUP program.

Windows NT 4.0 Installation

1. Press the *"Start"* button.
2. Move the highlight to *"Settings"* and select *"Control Panel"*.
3. Double click on the *"Multimedia"* icon.
4. Select the *"Devices"* tab.
5. Press the *"Add..."* button.
6. Select item *"Unlisted or Updated Driver"* in the *"List of Drivers"* list box.
7. Specify the path to the PCI audio NT drivers.
8. Select *"C-Media CM8338 PCI Device"* and press the *"OK"* button.
9. Choose proper I/O or the *"OK"* button for the default setting.
10. Restart the Windows NT system.

To install the audio applications, log on to the NT4 folder, and then log on to the APPS folder. Run the SETUP program.

Modem Driver and Software

Install the Modem driver from the sub-folders for Windows 95/98 or Windows NT4.0.

Windows 95/98

The modem is a plug and play device so Windows 95/98 will automatically detect the presence of your modem. When the Plug and Play wizard begins to look for modem drivers, click on the button that says **Have Disk** and then browse or type in the pathname to the CMI8x58\modem\win9x folder.

Windows NT 4.0

Follow the instructions in the README file in the WINNT4 sub-folder.

Peripheral Folder Installation Notes

Network Drivers

You can use the **LAN** sub-folder to install a driver for the built-in network adapter. Log on to the LAN folder. This folder has sub-folders for many different operating systems including Netware, DOS, SCO UNIX, Workgroups for Windows, Windows 95/98, OS2, and so on. Log on to the correct operating system and version for your computer. Read or print the README file that is stored in the sub-folder. Follow the installation instructions in the README file.

Intel Folder Installation Notes

I810_ACPI

This folder has a patch that allows a Windows 95/98 system to carry out a suspend to RAM. Run SETUP.EXE to install the patch. Don't install this patch file into Windows 98 Second Edition.

Inf

The Intel INF Installation Utility installs to the target system the Windows* INF files that outline to the operating system how the chipset components shall be configured. This is needed for proper functionality of the following features:

♦   Core PCI and ISAPNP Services

- ♦ AGP Support
- ♦ IDE/ATA33/ATA66 Storage Support
- ♦ USB Support
- ♦ Identification of Intel Chipset Components in Device Manager

To install the files, run SETUP.EXE.

VGA

This folder has the software and drivers for the graphics system built into the 810 chipset. Select the folder for the operating system that you are running and then begin the installation by running SETUP.EXE.

Mainboard (P6IWP-Fe) Installation Notes

Most of the sub-folders in this folder are empty, with a short README file giving directions to alternate folders for the appropriate software. Two folders contain software that you can install.
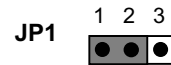
Monitor Sub-folder

The software in this folder provides a graphical interface to the hardware monitoring feature of this mainboard. The software will run under Windows 95/98 or Windows NT4.0. Follow the installation instructions contained in the file INSTALL.TXT.

Appendix 1: Quick Jumper Setting Reference

JP1: Clear CMOS memory jumper
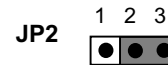Use this 3-pin jumper top clear all the current data stored in the CMOS memory.

Function	Jumper Cap
Normal operation	Short pins 1-2
Clear CMOS	Short pins 2-3

JP1

1 2 3

JP2: Keyboard power on jumper
Use this 3-pin jumper to enable keyboard power on with hot keys or password.

Function	Jumper Cap
Disable keyboard power on	Short pins 1-2
Enable keyboard power on	Short pins 2-3

JP2

1 2 3

JP3: Force 100 MHz front side bus jumper
Use this jumper to disable the automatic detection of the correct front side bus, and force the system to run with a 100 MHz front side bus.

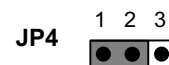| Function	Jumper Cap
Normal operation	Short Pins 1-2
Force 100 MHz FSB	Short pins 2-3

JP3

1 2 3

JP4: Force 133 MHz front side bus jumper
Use this jumper to disable the automatic detection of the correct front side bus, and force the system to run with a 133 MHz front side bus**.
This jumper only functions on the P6IWP-Fe/i810e mainboard.**

Function	Jumper Cap
Normal operation	Short Pins 1-2
Force 133 MHz FSB	Short pins 2-3

JP4

1 2 3

PANEL1: Panel connectors for switches and indicators

Use the panel connector to implement the switches and indicators on your system case.

Function	Pins
Speaker	1, 3, 5, +7
Power Indicator	+2, +4, 6
Keylock	8, 10
Green Indicator	+13, 14
Hard Disk Indicator	+15, 16
Reset Switch	17, 18
Suspend Switch	19, 20
Power Switch	21, 22

22 21

Power SW
Suspend SW
Reset SW
HDD LED
Green LED

KeyLock

Power LED   Speaker

2 1

PANEL1