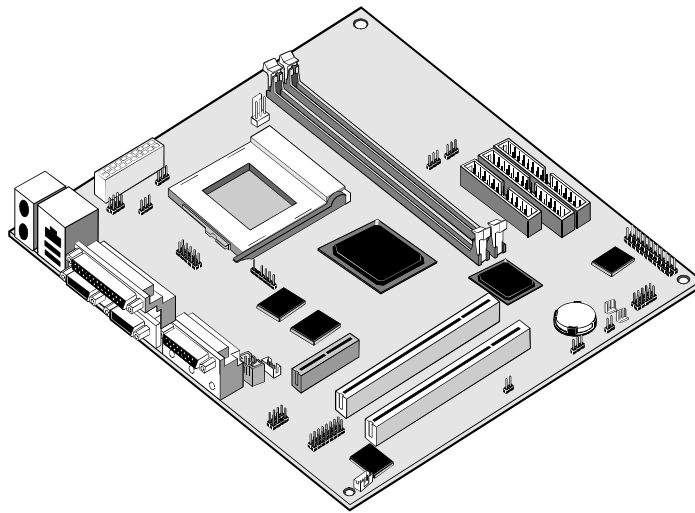


Chapter 1: Introduction

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.

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 motherboard'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.

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.