

Chapter 1: Introduction

Welcome

Congratulations on your purchase of the P6BX-MS mainboard. The P6BX-MS mainboard complies with the specifications for a microATX motherboard. MicroATX boards are no larger than 9.6" x 9.6" (244mm x 244mm). The microATX form factor permits reduced case sizes and smaller power supply units. However, the board can also be used in standard ATX cases if required.

The P6BX-MS includes a SLOT1 for a Pentium-II CPU cartridge using either a 66 MHz or 100 MHz system bus. The board also features an integrated stereo sound system and an integrated AGP graphics adapter.

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
- **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 P6BX-MS Mainboard
- ✓ 1 x Cable/Bracket Pack
 - Diskette drive ribbon cable
 - IDE drive ribbon cable
 - Retention Module (for Pentium-II Cartridge)
- ✓ This User's Manual
- ✓ Software Support CD-ROM disc or diskettes

Optional Items

- ✓ System Hardware Monitor IC chip (W83781D)

Features

The P6BX-MS is a fully integrated mainboard which includes built in PCI audio and built-in AGP graphics. The system supports the first and second generation of Pentium-II processors by having a selectable system bus speed of 66 MHz or 100 MHz. Three DIMM sockets can support a maximum memory of 768 MB, and four expansion slots (3 x PCI, 1 x ISA) can be used for system expansion.

The P6BX-MS, therefore is an economic, integrated solution for a network or stand-alone workstation. It supports a wide range of high-performance processors and has substantial expansion potential.

Versatile Performance Options

The Slot1 can be configured to run with either a 66 MHz system bus, or a 100 MHz system bus. At 66 MHz, the system can support the low cost Celeron, and the first generation Pentium-II cartridges with clock speeds of 233 MHz, 266 MHz, 300 MHz and 333 MHz. At 100 MHz, the system supports the second generation of Pentium-II cartridges with clock speeds of 350 MHz, 400 MHz, 450 MHz. All the supported processors have internal level-1 cache memory. All the supported processors, with the exception of the Celeron, have external level-2 cache memory. The board supports

automatic detection and firmware configuration of the system clocks, so that changing processors is simply accomplished.

Fully Integrated Design

The P6BX-MS is a highly integrated mainboard which requires only memory and processor to be ready for use. The Intel 440BX system logic chipset supports AGP graphics. Video and audio sub-systems are located on the PCI bus, and provided by the onboard SiS 6326 AGP/PCI chip, and the ESS Solo-1 PCI chip. I/O services are handled by the Winbond 83977TF-AW, and optionally, hardware monitoring can be installed with the addition of a W83781D.

Keyboard Power On Option

Using the system BIOS settings, you can configure the system to turn on using keyboard hot keys or password. A green keyboard is not required.

High-capacity Memory Support

Unlike many competitive Micro-ATX mainboards, the P6BX-MS has three DIMM sockets. Each socket can be installed with a 168-pin SDRAM memory module. Using standard SDRAMs, each socket supports a module with up to 128 MB – for a maximum of 384 MB. Using Registered SDRAMs, each socket supports a module with up to 256 MB – for a maximum of 768 MB. ECC (Error Correction Code) memory is supported.

Maximum Expansion Options

The P6BX-MS has four free expansion slots. Since the audio and video are integrated onboard, this means the all four expansion slots can be free in a working system. Three slots are on the 32-bit PCI bus and one slot is on the 8/16-bit ISA bus.

Fully Integrated I/O

The board features a full set of I/O ports – Parallel, 2 x Serial, 2 x USB, Game/MIDI, Monitor and audio jacks for stereo in, stereo out, and microphone. The ports are arranged in a two-tier array which is supported by standard ATX I/O templates. The integrated graphics system has a feature connector so that you can easily add in auxiliary video cards such as an MPEG decoder or video capture card. A connector is provided for the optional installation of an infrared port. Two IDE channels support performance Ultra-DMA drives, and floppy disk supports is also included.

High-performance Built-in Video

The mainboard features an integrated SiS 6326 Graphics sub-system. This chip provides an AGP 1.0 (accelerated graphics port) over the PCI bus. It includes hardware acceleration for 2-D and 3-D graphics and decoding for MPEG1 and MPEG2 compressed video. The board is installed with 8 MB of SDRAM video memory so the system graphics will support super-high resolution graphic modes with a virtual screen size of 2048 x 2048.

Built-in PCI Audio

The built-in PCI audio chip provides a full duplex sound system that is compatible with the Sound Blaster and Windows Sound standards. It allows simultaneous recording and playback, and can record at CD-quality sampling rates of 44 kHz.

Programmable Firmware

The mainboard includes Award BIOS which allows BIOS setting of CPU parameters. The fully programmable firmware enhances the system features and allows users to set power management, hardware monitoring, (optional) LAN and Modem wake up alarms, and so on.

Optional Hardware Monitoring

The Winbond W83781D hardware monitoring chip can be specified as a factory installed option. This chip can provide hardware monitoring of critical internal temperatures and voltages. This option is useful for large scale network administration and diagnostic routines. The optional thermal detector, which interacts with the W83781D monitoring chip, gives accurate information on the actual temperature of the Pentium-II processor module in Slot-1. This option is useful for large-scale network administration and diagnostic routines.