

Chapter 1

INTRODUCTION

The ATX BX1 mainboard is a high-performance personal computer mainboard based on the Pentium® II processor. The Pentium® II processor supports MMX™ (Multimedia Extension) technology.

The mainboard uses the highly integrated Intel® 82443BX AGP chipset to support the PCI/ISA and Green standards, and to provide the Host/AGP bridge. The Intel® 82371EB chipset integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM(OS Direct Power Management) function. The Intel® 82371EB chipset also improves the IDE transfer rate by supporting Ultra DMA/33 IDE that transfers data at the rate of 33MB/s.

The mainboard also supports the System Hardware Monitor Controller as an optional function. The Hardware Monitor function includes: CPU /power supply/chassis fan revolution detect, CPU/system voltage monitor, system temperature monitor, and chassis intrusion detect(optional).

1.1 Mainboard Features

CPU

- Slot 1 for Pentium® II processor.
- Supports 233MHz, 266MHz, 300MHz, 333MHz, 400MHz, and faster.
- Core/Bus ratios are x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6 and higher.

Switching Voltage Regulator

- On-board switching mode DC-DC Step Down Regulator.
- Conforms to Intel® VRM ver 8.2 specifications.
- Over-Voltage and Over-Current protection.

Chipset

- Intel® 82440BX AGP chipset.

Clock Generator

- 66.6MHz and 100MHz clocks are supported.
- 75MHz and 83MHz clocks (reserved)

Main Memory

- Supports eight memory banks using four 168-pin unbuffered DIMM sockets.
- Supports a maximum memory size of 512MB (8M x 8) or 1GB (16M x 4) registered DIMM only.
- Supports ECC(1-bit Error Code Correct) function.
- Supports only 3.3v SDRAM DIMM.

Slots

- One AGP(Accelerated Graphics Port) slot.
 - AGP specification compliant
 - AGP 66/133MHz 3.3v device support
- Four 32-bit Master PCI Bus slots and three 16-bit ISA bus slots wherein one shared slot that can be used as ISA or PCI.
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE

- An IDE controller on the Intel® 82371EB PCI chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA/33 operation modes.
- Can connect up to four IDE devices.

On-Board Peripherals

- On-Board Peripherals include:
 - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
 - 2 serial ports (COMA + COMB)
 - 1 parallel port supports SPP/EPP/ECP mode
 - 2 USB ports
 - 1 IrDA connector for Fast IrDA. (reserved)

BIOS

- The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface(DMI) function which records your mainboard specifications.
- The mainboard provides “CPU Plug & Play” function.
CPU Plug & Play - the user don't need jumper/DIP switch to set the CPU speed setting. The BIOS is used to set the speed.

System Hardware Monitor (optional)

- CPU/Power Supply/Chassis Fan Revolution Detect
- CPU Fan Control (the fan will automatically stop when the system enters suspend mode)
- System Voltage Detect
- CPU Overheat Warning (reserved)
- Chassis Intrusion Detect (reserved)
- Display Actual Current Voltage

RTC

- PIIX4(82371EB) built-in RTC.

Keyboard Connector

- PS/2® keyboard interface and PS/2® mouse interface.

Dimension

- ATX Form Factor: 30cm(L) x 22.5cm(W) x 4 layers PCB.
- Double deck I/O connectors, compatible with Intel® Venus Mainboard.

Mounting

- 9 mounting holes.

Other Features

- Keyboard Password Wake-Up.(reserved)
- LAN Wake-Up.
- Internal/External Modem Wake-Up.
- AC Power Loss Restore.

1.2 Mainboard Layout

