

## Chapter 1

### INTRODUCTION

The ATX LX4 Dual-P mainboard is a high-performance dual-processor personal computer mainboard based on the Intel® Pentium® II processor.

The mainboard uses the highly integrated Intel® 82440LX AGP chipset which optimize the system bandwidth and concurrency with the implementation of Quad Port Acceleration (QPA). QPA provides 4-port concurrent arbitration of the processor bus, graphics, PCI bus and SDRAM.

The Intel® 82371AB 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® 82371AB 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 LM78 System Hardware Monitor Controller as an optional function. The LM78 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**

- Two Slot 1 for dual Pentium®II processor
- Supports 200MHz, 233MHz, 266MHz, 300MHz, 333MHz, 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 8.1 specifications.
- Over-Voltage and Over-Current protection.

### **Chipset**

- Intel®82440LX AGP chipset.

### **Clock Generator**

- 66.6MHz clocks are supported.

### **Main Memory**

- Supports eight memory banks using four 168-pin unbuffered DIMM sockets.
- Supports a maximum memory size of 512MB with SDRAM, or 1GB with EDO.
- Supports ECC(1-bit Error Checking) and EC(Multiple-Bit Error Correction) function.
- Supports 3.3v Extended Data Output (EDO) and SDRAM DIMM.

### **Slots**

- One AGP(Accelerated Graphics Port) slot.
  - AGP 1.0 specification compliant
  - AGP 66/133MHz 3.3v device support
- Five 32-bit Master PCI Bus slots and two 16-bit ISA bus slots wherein one shared slot can be used as ISA or PCI.
- Supports 3.3v/5v PCI bus Interface.

**On-Board IDE**

- An IDE controller on the Intel®82371AB PCI chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA/33 operation modes.
- 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 IrDA.

**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.

**On-Board System Hardware Monitor(LM78)**

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

**RTC**

- PIIX-4 (82371AB) built-in RTC.

**Keyboard Connector**

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

**Dimension**

- ATX Form Factor: 30cm(L) x 25cm(W) x 4 layers PCB.
- Double deck PS/2® keyboard and PS/2® mouse.
- Double deck USB ports.
- Double deck Serial and LPT ports.
- Double deck I/O connectors, compatible with Intel® Venus Mainboard.

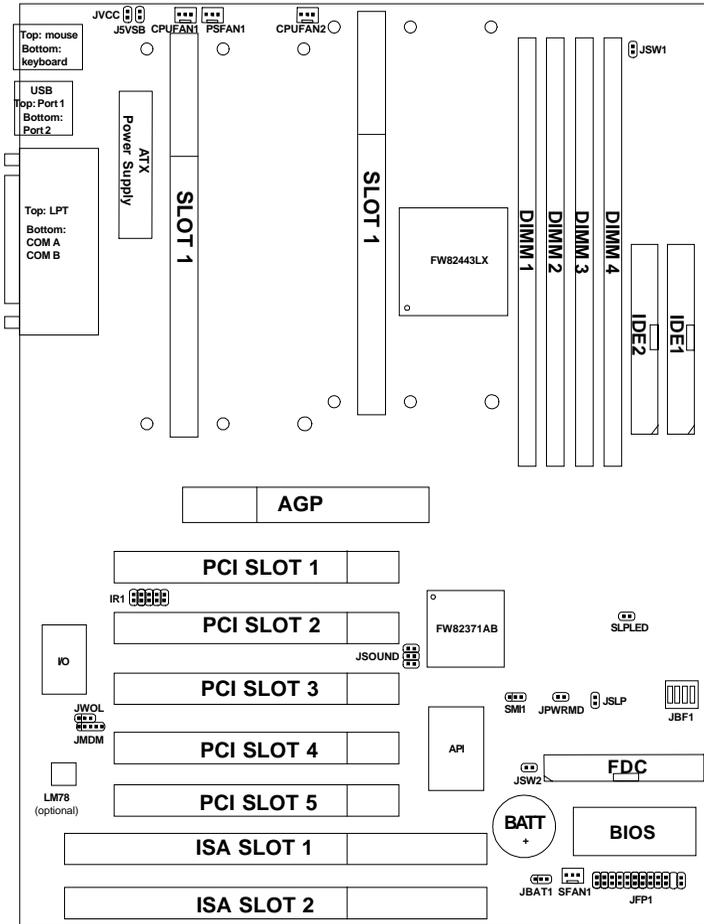
**Mounting**

- 9 mounting holes.

**Special Connector**

- LAN Wake-Up Connector.
- Internal Modem Wake-Up Connector
- Distributed DMA connector for PCI 3D Sound Card.

# 1.2 Mainboard Layout



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