

## **Chapter 1**

### **INTRODUCTION**

The ATX GX1 Dual-P mainboard is a state-of-the-art dual-processor server mainboard based on Intel® Pentium® II Xeon™ processor. The Intel® Pentium® II Xeon™ processor is designed exclusively for powerful servers and workstations.

The mainboard uses the highly integrated Intel® 82440GX chipset to support the PCI/ISA and Green standards, and to provide the Host/AGP bridge. The 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. This function includes: CPU /power supply/chassis fan revolution detect, CPU/system voltage monitor, system temperature monitor, and chassis intrusion detect.

## **1.1 Mainboard Features**

### **CPU**

- Dual Slot 2 for Intel® Pentium® II Xeon processor.
- Support 400MHz or faster with 512KB, 1MB or 2MB integrated L2 cache.

### **Chipset**

- Intel® 82440GX AGPset.
- Intel® 82371EB chipset.

### **Onboard SCSI Connector**

- Adaptec AIC-7890/AIC3860
  - support high performance 80Mbytes/sec Ultra 2 SCSI peripherals at a cable length up to 12 meters.

### **PCI-To-PCI Bridge**

- Digital 21152
  - complies fully with Revision 2.1 of PCI Local Bus Specification.
  - support six PCI master.

### **Main Memory**

- Support eight memory banks using four 168-pin gold-lead DIMM sockets.
- Support a maximum memory size of 2GB.
- Support unbuffered or registered ECC(1-bit Error Code Correct) SDRAM.
- Support 3.3v SDRAM DIMM.

### **Slots**

- One AGP (Accelerated Graphics Port) slot
  - data transfer rates at 133MHz (with AC timing)
- Six 32-bit Master PCI Bus slots and one ISA bus slot (wherein 1 PCI/ISA is shared).
- Support 3.3v/5v PCI bus Interface.

**On-Board IDE**

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

**Integrated Super I/O Controller**

- Winbond W83977F-AW I/O controller
  - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
  - 2 serial port (COM A + COM B)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 1 IrDA connector for SIR.

**Network**

- Intel® 82558 10/100MB Ethernet
  - ACPI
  - Magic packet filtering to support wake-up on LAN.
  - ARP & FLEXIBLE frame filtering.
  - Software drivers are backwards compatible.
  - 1 Lan Connector (RJ-45)

**USB**

- Two USB ports

**BIOS**

- The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- IDE drive auto configure, Advanced Power Management (APM) 1.2, ACPI 1.0, DMI 2.0, ECC/Parity support, LS120 support, Auto enable onboard SCSI terminator.

**Dimension**

- Custom ATX Form Factor : 33cm(L) x 30.5cm(W) x 6 layers PCB

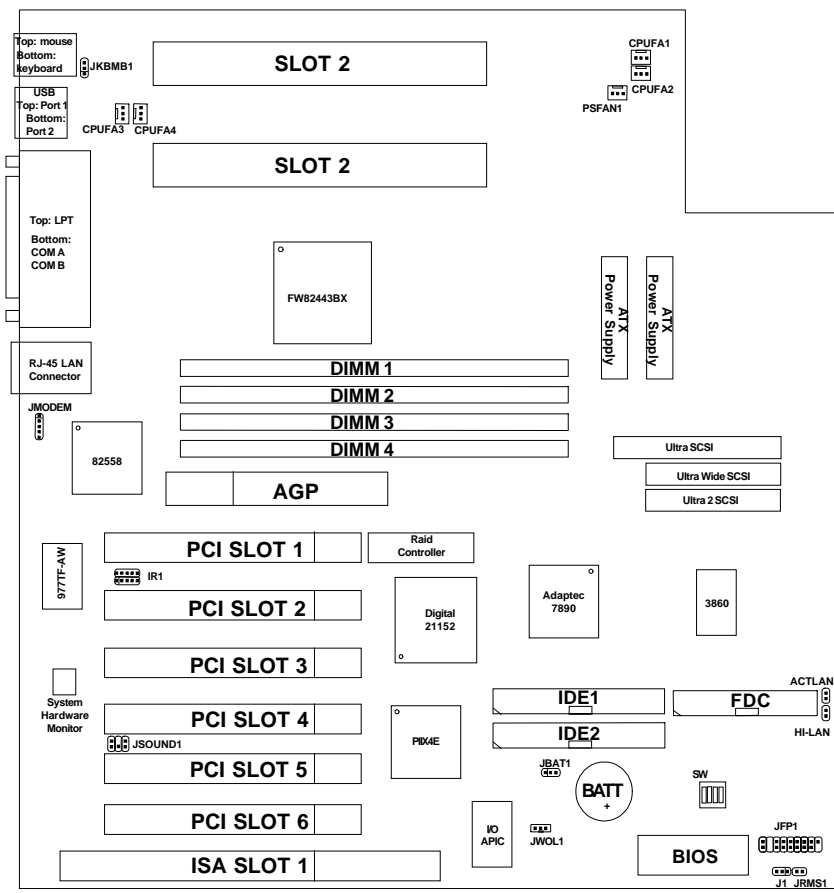
**Mounting**

- 12 mounting holes.

**System Hardware Monitor**

- 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.
- Display Actual Current Voltage

1.2 Mainboard Layout



MS-6135 ATX GX1 Dual-P Mainboard