Chapter 1

INTRODUCTION

The MICRO ATX BX7 mainboard is a high-performance personal computer mainboard based on the Intel® Pentium® II/III processor. This mainboard combines leading edge AGP ATI® 3D RAGE PRO/RAGE PRO Turbo technology in graphics and Creative® ES1371/ES1373(reserved) PCI technology in audio. The Intel® Pentium® II/III 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. Its functions include: 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 Intel® Pentium® II/III Celeron™ processor.
- Supports 233MHz, 266MHz, 300MHz, 333MHz, 350MHz, 400MHz, 450MHz, and faster.

Chipset
- Intel® 82443BX/PIIX4E chipset.

Clock Generator
- 66/68/75/83/100/112/133MHz clocks are supported.

Main Memory
- Supports four memory banks using two 168-pin unbuffered DIMM.
- Supports a maximum memory size of 256MB (8M x 8) or 512MB (16M x 4) registered DIMM only.
- Supports ECC(1-bit Error Code Correct) function.
- Supports 3.3v SDRAM DIMM.

Slots
- Three 32-bit Master PCI Bus slots and one 16-bit ISA bus slots.
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE
- An IDE controller on the Intel® PIIX4E 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.
  - 1 serial port (COM A) + 1 serial connector (COM B)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 2 USB ports
  - 1 IrDA connector for SIR.

VGA
- ATI® 3D RAGE PRO/RAGE PRO TURBO 2x
    - Running on AGP BUS.
    - Onboard 8MB SDRAM.
    - 3D Acceleration.
    - AGP 2x mode (133MHz) support pipelined and sideband protocols.

Sound
- Creative® ES1371/ES1373 (reserved)
    - Running on PCI BUS.
    - 64 Voice and AC3 Capable (ES1373 only)
    - Support Direct Sound and Direct Sound 3D
    - AC97' Compliant

I/O Chip
- Winbond® multi super I/O W83977F
    - 2M bps fast tape drive, IRQ sharing
    - Device Power Management
    - Real time clock (256 bytes RAM)
    - 8042-based keyboard controller (support PS/2 mouse)

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.
- ACPI(Advanced Configuration and Power Interface) feature.

Dimension
- MICRO ATX Form Factor : 24.4cm(L) x 19.2cm(W) x 4 layers PCB
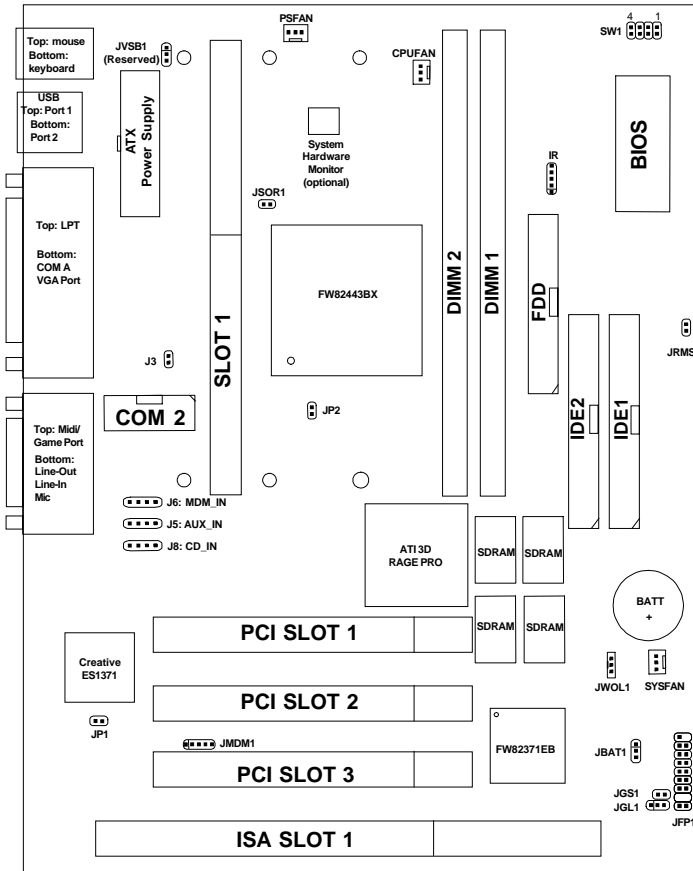
Mounting
- 6 mounting holes.

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.
- Display Actual Current Voltage

Other Features
- Keyboard Password Wake-Up (reserved)
- LAN Wake-Up
- Internal/External Modem Wake-Up

1.2 Mainboard Layout

Top: mouse
Bottom: keyboard

USB
Top: Port 1
Bottom: Port 2

Top: LPT

Bottom:
COM A
VGA Port

Top: Midi/
Game Port

Bottom:
Line-Out
Line-In
Mic

JVSB1
(Reserved)

ATX
Power Supply

J3

COM 2

SLOT 1

J6: MDM_IN
J5: AUX_IN
J8: CD_IN

Creative
ES1371

JP1

JMDM1

PSFAN

JSOR1

FW82443BX

JP2

CPUFAN

System
Hardware
Monitor
(optional)

DIMM 2

DIMM 1

FDD

IR

ATI 3D
RAGE PRO

PCI SLOT 1

PCI SLOT 2

PCI SLOT 3

SDRAM   SDRAM

SDRAM   SDRAM

FW82371EB

ISA SLOT 1

SW1   4   1

BIOS

JRMS1

IDE2

IDE1

BATT
+

JWOL1   SYSFAN

JBAT1

JGS1
JGL1

JFP1

MS-6147 MICRO ATX BX7 Mainboard