Chapter 1

INTRODUCTION

The MS-6188 Flex ATX WH11 mainboard is a high-performance computer mainboard based on Intel® 810 chipset. The MS-6188 is designed for the Intel® Celeron™/ Coppermine (PPGA) processor for inexpensive business/personal desktop markets.

The Intel® 810 chipset is the first generation Integrated Graphics chipset for the Intel® Celeron™ processor. The graphics accelerator architecture consists of dedicated multi-media engines executing in parallel to deliver high performance 3D, 2D, and motion compensation video capabilities. An integrated centralized memory arbiter allocates memory bandwidth to multiple system agents to optimize system memory utilization. A new chipset component interconnect, the hub interface, is designed into the Intel 810 chipset to provide an efficient communication channel between the memory controller hub and I/O hub controller.

The Intel 810 chipset contains three core components: the Graphics and Memory Controller Hub (GMCH), the I/O Controller Hub (ICH) and the Firmware Hub (FWH). The GMCH integrates a 66/100MHz, P6 family system bus controller, integrates 2D/3D graphics accelerator, 100MHz SDRAM controller and high-speed hub interface for communication with the ICH. The ICH integrates an Ultra ATA66(ICH) controller, USB host controller, LPC interface controller, FWH inteface conroller, PCI interface controller, AC'97 digital controller and a hub interface for communication with the GMCH.

1.1 Mainboard Features

CPU
- Support Socket370 for Intel® Celeron™/Coppermine processor.
- Support 300MHz, 333MHz, 366MHz, 400MHz, 433MHz, 466MHz or higher

Chipset
- Intel® 810 (GMCH) chipset. (421 BGA)
  - Integrated Graphics Controller
  - Intel DDM+ Architecture
  - SDRAM memory Independent of System Bus
- Intel® ICH chipset. (241 BGA)
  - AC'97 Controller Integrated
  - 2 full IDE channels, up to ATA66
  - Low pin count interface for SIO

Front Side Bus (FSB)
- 66/100MHz clocks are supported.
- 133Hz clocks are supported for 810E.

Main Memory
- Support two 168-pin DIMM sockets.
- Support a maximum memory size of 256MB(64Mbit technology) or 512MB(128Mbit technology) SDRAM.

Slots
- Two 32-bit Master PCI Bus slots.
- Support 3.3v/5v PCI bus Interface.

On-Board IDE
- An IDE controller on the ICH chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA/66 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 port (1 rear port + 1 header)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 4 USB ports(2 USB rear ports + 2 USB front headers)
  - 1 IrDA connector for SIR.
  - 1 VGA port
  - 1 PanelLink Connector (optional)

Video
- GMCH chip integrated
- 2D/3D Graphics

Audio
- ICH chip integrated
- AC'97 2.1 Compliant

Network
- Intel 82559 10/100M Ethernet (optional. default setting)
  - WFW baseline & NET PC specs compliant
  - Advanced Power Management (ACPI support)
  - ARP & Flexible frame filtering
  - Software drivers are backwards compatible
  - IP checksumming in hardware

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.

Dimension
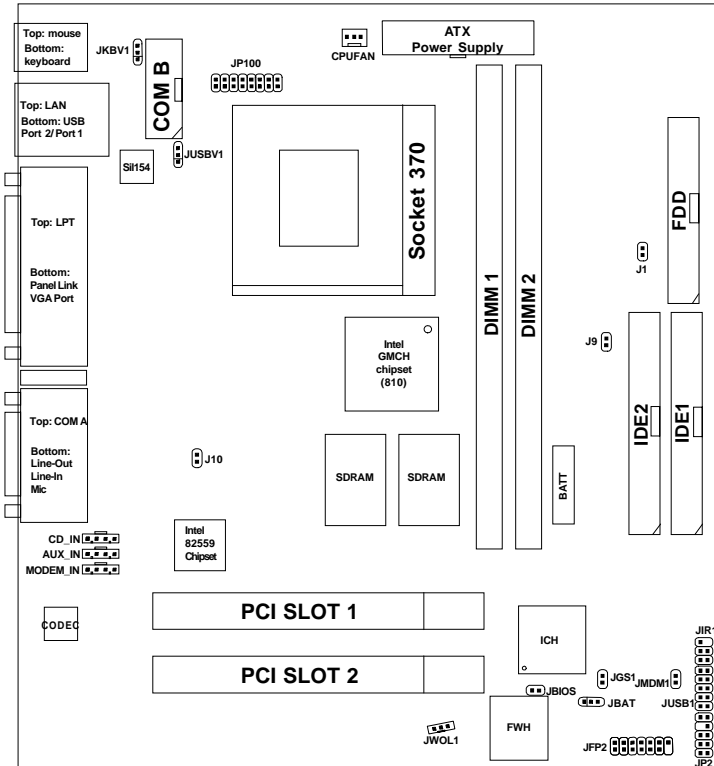● Flex ATX Form Factor: 7.5" x 9" inches

Mounting
● 6 mounting holes.

Warning: According to Intel 810 chipset specification: 810E chipset sup-
ports 66/100/133 MHz FSB processor and 810/810DC100 chipset
supports 66/ 100 FSB processor. Please do not use 133MHz FSB
processor on motherboards which use 810/810DC100 chipset.

Note: To be able to identify the chipset used onboard: During POST
(Power on Self Test), you can determine the chipset, which will
appear briefly at the bottom left of the POST screen.

1.2 Mainboard Layout

MS-6188 Flex ATX WH11 Mainboard