Chapter 1

INTRODUCTION

The MS-6182 ATX WH8 mainboard is a high-performance computer mainboard based on a series of Intel® 810 chipset (810/810 DC100/ 810e). The MS-6182 is designed for the Intel® Pentium® II/III or Celeron™ processor for value and mainstream business/personal desktop markets.

The Intel® 810 chipset is the first generation Integrated Graphics chipset for the Intel® Pentium® II/III and 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 series of Intel® 810 chipset to provide an efficient communication channel between the memory controller hub and I/O hub controller.

The series of 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 for 810 and 810 DC100 and 66/100/133 MHz for 810e, P6 family system bus controller, 2D/3D graphics accelerator, 100MHz SDRAM controller and high-speed hub interface for communication with the ICH. The ICH integrates an Ultra ATA 33(ICHO)/66(ICH) controller, USB host controller, LPC interface controller, FWH interface conroller, PCI interface controller, AC'97 digital controller and a hub interface for communication.

The Intel® 82802 Firmware Hub (FWH) component is part of the seried of Intel® 810 chipset. The FWH is key to enabling future security and manageability infrastructure for the PC platform.

1.1 Mainboard Features

CPU

- Slot 1 for Intel® Pentium® II/Pentium® III processor.
- Supports 400MHz, 450MHz, 500MHz, 550MHz, 600MHz, 667MHz and faster processor.

Chipset

- Intel® GMCH chipset. (421 BGA)
  - Integrated Graphics Controller
  - VGA memory supports upto 133MHz FSB (810e)
  - 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)

- For 810e: 66/75/83/100/112/117/129/133/138/140/150 MHz clocks are supported.
- For 810 DC100: 66/75/83/100/112/117/129/133/138/140/150/121/124/125/127/130/133/136/138/140/145/150/155 MHz clocks are supported.

Main Memory

- Support three 168-pin DIMM sockets.
- Support a maximum memory size of 256MB(64-bit) or 512MB(128-bit) SDRAM.

Slots

- One AMR(Audio Modem Riser) and one PTI(PanelLink TV-Out Interface)
- Six 32-bit PCI Bus slots and one 16-bit ISA slot (wherein one PCI/ISA slot is shared).
- 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 (COMA + COMB)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 2 USB ports and 2 USB connectors
  - 1 IrDA connector for SIR.
  - 1 VGA port

Video

- GMCH chip integrated
- 2D/3D Graphics
- Onboard 4MB Display Cache (optional)

Audio

- ICH chip integrated
- Creative® ES1373 (optional)
  - Running on PCI BUS.
  - Support Direct Sound and Direct Sound 3D
  - AC97' Compliant

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.
- Adjustable FSB CPU core voltage.

Dimension

- ATX Form Factor: 30.5(L)x19.2(W)x4 layers PCB

Mounting

- 8 mounting holes.

System Hardware Monitor

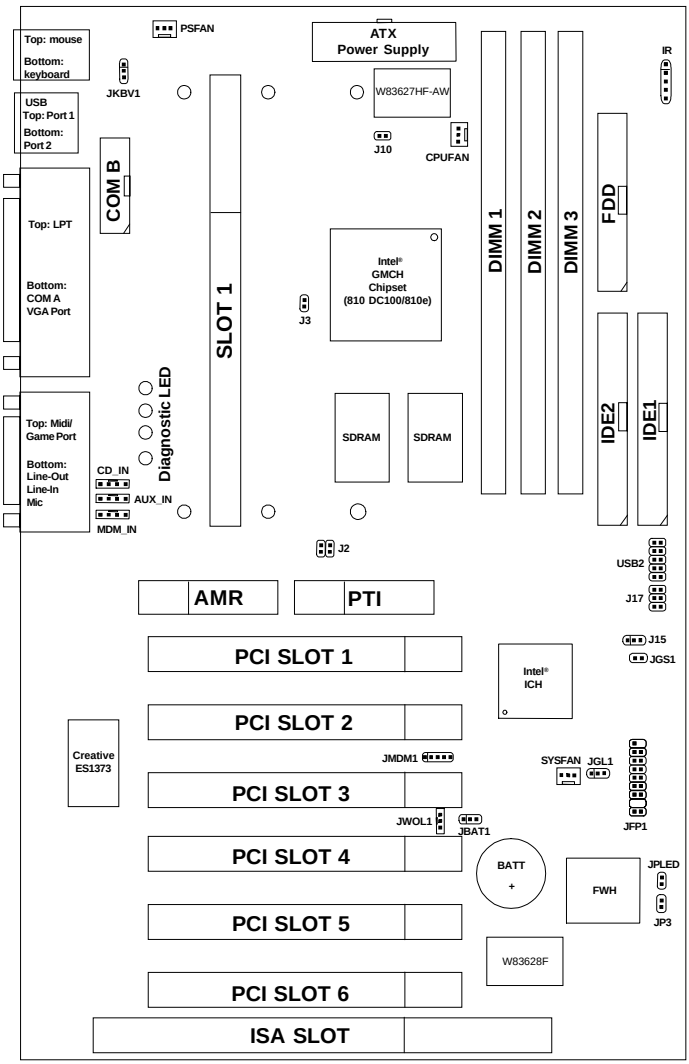
- CPU/Power Supply/Chassis Fan Revolution Detect
- CPU Fan Control (the fan will automatically stop when the system enters suspend mode)
- System Voltage Detect
- CPU Overheat Warning.
- Display Actual Current Voltage

Other Features

- Keyboard Password Wake-Up (reserved)
- LAN Wake-Up
- Internal/External Modem Wake-Up
- Suspend to RAM (STR)

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



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