

Chapter 2

MS-6174 MAINBOARD INTRODUCTION

The MSI Micro-NLX WH3 mainboard is a high-performance all-in-one computer mainboard based on the Intel® Celeron™ PPGA processor. This mainboard combines the leading edge Yamaha 744 PC-based AC'97 Digital Audio Processor and Intel® 82559 10/100M Ethernet for LAN. The Intel® Celeron™ PPGA 370 processor supports MMX (Multimedia Extension Technology).

The mainboard uses the highly integrated Intel® 82810 chipset to support 3D/2D graphics digital video out port, and high speed hub interface. The Intel® 82801AA chipset integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). It also supports up to 6 PCI masters and improves the IDE transfer rate by supporting Ultra ATA/66 IDE that transfers data at the rate of 66MB/s.

The mainboard also supports the System Hardware Monitor Controller which is included on Winbond LPC I/O. Its functions include: CPU/power/system fan revolution detect, CPU/system voltage monitor, system temperature monitor, Top Tech and chassis intrusion detect.

2.1 Features

CPU

- Socket 370 for Intel® Celeron™/Coppermine processor
- Supports 300MHz, 333MHz, 366MHz, 400MHz, 433MHz, 466MHz, and faster.
- Supports Core/Bus Ratios:x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6, or higher

Chipset

- Intel® 82810DC100(82810E)/82801AA chipset.

Clock Generator

- 66.8/75/83.3/90/95/200.2/105/110/114/119/124/129/133.6/138MHz clocks are supported.

Main Memory

- Supports four memory banks using two 168-pin unbuffered DIMM.
- Supports a maximum memory size of 512MB DIMM (128MB SDRAM) only.
- Supports 3.3v SDRAM DIMM.

Slots

- PCI Riser supports three 32-bit master PCI Bus slots.
- Supports 3.3v/5v PCI bus Interface.
- Compliant with *PCI Local Bus Specification Revision 2.2*.

On-Board IDE

- An IDE controller on the Intel® 82801AA Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra ATA/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 connectors (COM 1 + COM 2)
 - 1 parallel port supports SPP/EPP/ECP mode
 - 2 USB ports
 - 1 IrDA connector for SIR.
 - 1 Audio port and 1 Midi/Game Port
 - 1 VGA Port
 - LCD panel link connector

Audio

- Yamaha 744 (optional)
 - PCI 2.2 compliant
 - 64 voice wavetable
 - Support Direct Sound Acceleration
 - AC'97 2.1 Interface
- Yamaha YMF-752 (S/W Audio)
 - AC'97 2.1 Interface
 - 128 Voice Wavetable (S/W)
 - Sound Blaster Emulation

Video

- Intel 82810E chipset.
- 3D graphics with texturing and visual enhancements up to 1024x768x16 at 85MHz refresh rate.
- 2D graphics up to 1600x1200x8 at 85 MHz refresh rate.
- Digital Video Out Port support.

Network

- Intel 82559 10/100M Ethernet
 - WFW baseline & NET PC specs compliant
 - Advanced Power Management (ACPI support)
 - Integrated Alert On LAN™
 - ARP & Flexible frame filtering
 - Software drivers are backwards compatible

I/O Chip

- Winbond LPC I/O W83627HF
 - LPC Spec. 1.0
 - 8042-based keyboard controller (support PS/2 mouse)
 - Support Device Power Management, ACPI
 - Support game port/midi port
 - Hardware monitor function.

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
- Chassis Intrusion

FWH

- 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.
- Register-based and Hardware-based locking.

Dimension

- Micro-NLX form factor : 25.4cm(L) x 20.3cm(W) x 4 layers PCB

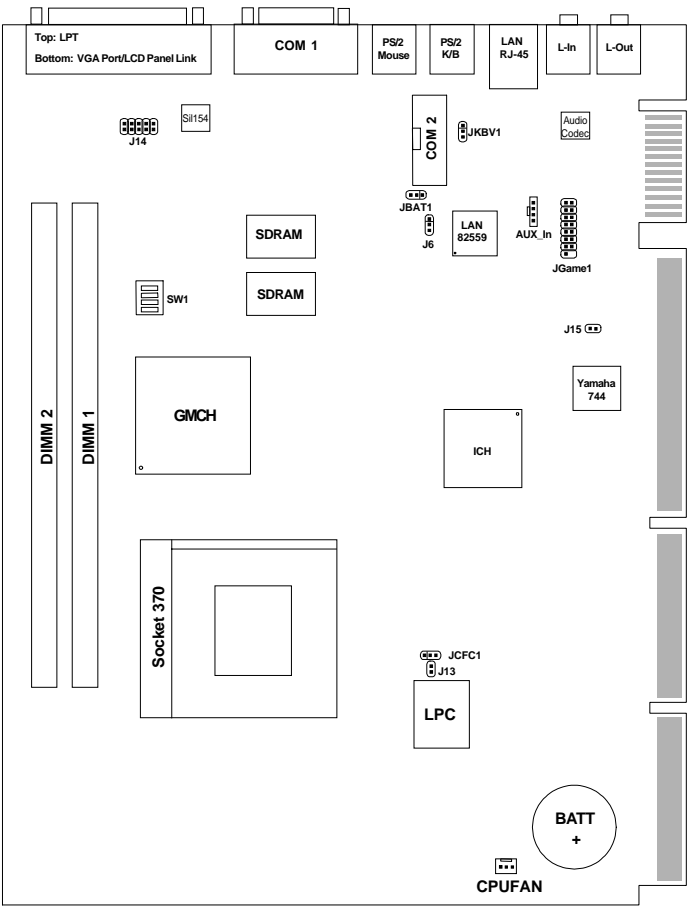
Mounting

- 4 mounting holes.

Other Features

- Keyboard Password Wake-Up
- LAN Wake-Up

2.2 Layout



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