

## Chapter 1

### INTRODUCTION

The PCI Pentium®II NA7 PCI/ISA mainboard is a high-performance personal computer mainboard based on the Pentium®II processor. The Pentium®II CPU supports MMX™(Multimedia Extension) technology.

The mainboard utilizes the Intel®82440FX PCI Chipset which has high integration and provides all system control functions. In addition there is an on-chipset USB and IDE controller which supports IDE PIO/Bus master operation mode for IDE HDD/CD-ROM. The PIO mode supports Mode 0,1,2,3 and 4, with a transfer rate up to 22 MB per/sec. It also supports the Modem Ring wake-up functions, voltage and thermal detect.

## 1.1 Mainboard Features

### CPU

- Two Slot 1 for Dual Pentium®II Processor .
- Supports 233MHz, 266MHz and higher.
- Core/Bus ratios are x3.5, x4, x4.5, and higher.

### Cache Memory

- Internal Level 1 Cache: 16KB instruction code and 16KB data cache.
- Internal Level 2 Cache: 256KB/512KB (depending on CPU)

### VRM

- Two VRM(Voltage Regulator Module) is on board. It provides power for the processor.

### Chip Set

- Intel®82440FX PCI Chipset.

### Clock Generator

- 60MHZ/66.6MHz clocks are supported. Both meet Pentium®II processor and NATOMA(82440FX) Chipset specifications.

### Main Memory

- Supports eight memory banks using four 168-pin unbuffered DIMM sockets.
- Up to 1 GB main memory.
- Supports symmetric or asymmetric memory with ECC(Error Check Correct) function.
- Supports Fast Page (FP) Mode and Extended Data Output (EDO) Mode.

**Note:** **BEDO** and **SDRAM** are not supported.

### Slots

- Five 32-bit Master PCI Bus slots and Three 16-bit ISA bus slots. One shared slot that can be used as ISA or PCI.

**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 ports (COMA + COMB)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 1 IrDA connector or Fast IrDA(reserved).

**On-Board IDE**

- An IDE controller on the Intel®821371SB PCI Chipset provides IDE HDD/CD-ROM with PIO and Bus Master Operation Mode. The PIO Mode supports modes 0, 1, 2, 3 and 4 with a transfer rate of 22 Mbytes per second.

**On-Board USB**

- Supports dual port USB(Universal Serial Bus).

**BIOS**

- The system board BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The system board provides a Desktop Management Interface(DMI) function which records your system board specifications.

**RTC**

- Non-Volatile RTC with 114 bytes of CMOS RAM.

**Keyboard Connector**

- PS/2 keyboard interface and PS/2 mouse interface.

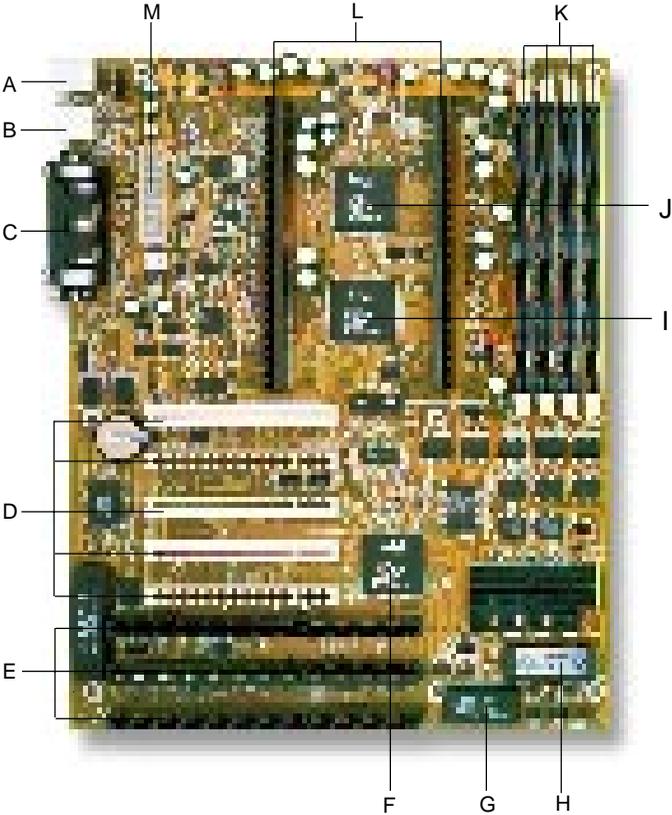
**Dimension**

- ATX Form Factor: 30cm(L) x 24.5cm(W) x 6 layer PCB.
- Double deck I/O connectors, compatible with Intel® Venus Motherboard.

**Mounting**

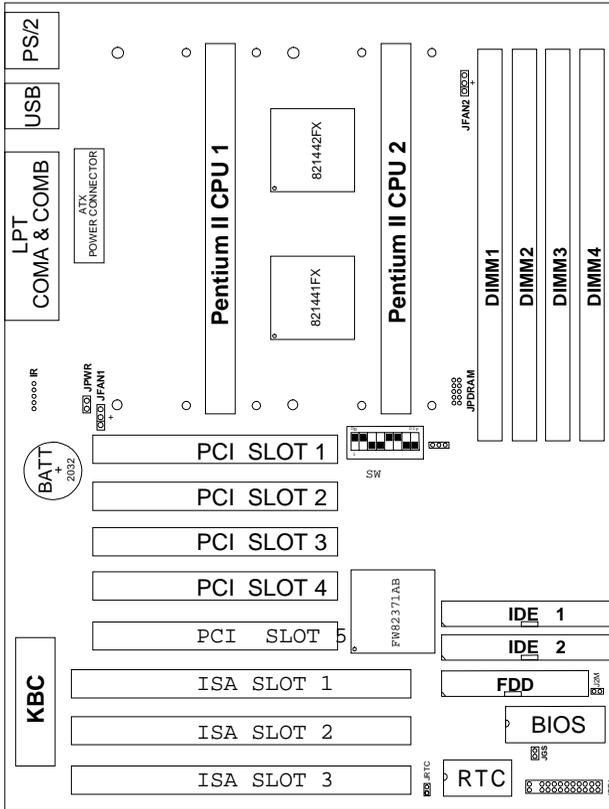
- 8 mounting holes.
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### 1.2 Parts of the Motherboard



|          |   |  |
|----------|---|--|
| <b>A</b> | <b>PS/2 Port</b>                                | <b>Top: Mouse</b><br><b>Bottom: Keyboard</b>                 |
| <b>B</b> | <b>USB Port</b>                                 | <b>Top: Port 1</b><br><b>Bottom: Port 2</b>                  |
| <b>C</b> | <b>COM/LPT Ports</b>                            | <b>Top: Parallel Port</b><br><b>Bottom: Two Serial Ports</b> |
| <b>D</b> | <b>Five 32-Bit PCI SLOTS</b>                    |  |
| <b>E</b> | <b>Three 16-Bit ISA SLOTS</b>                   |  |
| <b>F</b> | <b>PCIsset 82371SB PIIX 3</b>                   |  |
| <b>G</b> | <b>Non-Volatile RTC</b>                         |  |
| <b>H</b> | <b>Flash BIOS</b>                               |  |
| <b>I</b> | <b>PCIsset 82441FX</b>                          |  |
| <b>J</b> | <b>PCIsset 82442FX</b>                          |  |
| <b>K</b> | <b>Four 168-PIN DIMM SOCKETS</b>                |  |
| <b>L</b> | <b>Two Slot 1 for Dual Pentium II Processor</b> |  |
| <b>M</b> | <b>ATX 20-Pin Power Connector</b>               |  |

### 1.3 Mainboard Layout



MS-6110